

**MAIN ECONOMIC INDICATORS:
COMPARATIVE METHODOLOGICAL ANALYSIS:
WAGE RELATED STATISTICS**

VOLUME 2002

SUPPLEMENT 3

FOREWORD

This publication provides comparisons of methodologies used by OECD Member countries to compile key short-term and annual data on wage related statistics. These statistics comprise annual and infra-annual statistics on wages and earnings, minimum wages, labour costs, labour prices, unit labour costs, and household income. Also, because of their use in the compilation of these statistics, the publication also includes an initial analysis of hours of work statistics. In its coverage of short-term indicators it is related to analytical publications previously published by the OECD for indicators published in the monthly publication, *Main Economic Indicators* (MEI) for: industry, retail and construction indicators; and price indices.

The primary purpose of this publication is to provide users with methodological information underlying the compilation of wage related statistics. The analysis provided for these statistics is designed to ensure their appropriate use by analysts in an international context. The information will also enable national statistical institutes and other agencies responsible for compiling such statistics to compare their methodologies and data sources with those used in other countries. Finally, it will provide a range of options for countries in the process of creating their own wage related statistics, or overhauling existing indicators.

The analysis in this publication focuses on issues of data comparability in the context of existing international statistical guidelines and recommendations published by the OECD and other international agencies such as the United Nations Statistical Division (UNSD), the International Labour Organisation (ILO), and the Statistical Office of the European Communities (Eurostat). The publication also draws heavily on methodological work previously undertaken by those organisations, as well as the Canberra Group and a number of OECD Member country national statistical institutes (NSIs) on wage related statistics.

It is not intended that the information in this publication be as detailed as that provided by national agencies responsible for compiling the statistics. Insofar as possible, the publication contains information enabling the user to access more detailed methodological information available from the national source agency, particularly where such information can be accessed from websites. Nevertheless, it has not been possible to cover all methodological aspects relating to the statistics for every OECD Member country. Indeed, a secondary purpose of the publication is to highlight important areas where, for certain countries, gaps in readily available metadata remain so that the national agencies responsible may take action to disseminate the required information with reference to what is available for other Member countries.

In recent years, many national statistical institutes and international organisations have devoted considerable attention to the quality of the data they compile and/or disseminate. More often than not, the meaning of the term “quality” is taken as given, together with how the “quality” of a statistic can be described, either to the statistics specialist or, more importantly, to the non-statistical specialist user primarily interested in the ability of the data to adequately reflect the phenomena it purports to measure. Varied approaches are applied to measuring statistical quality. These range from the identification of a set of very specific quantitative measures, to the provision of qualitative descriptions of methodologies used in the collection and compilation of the statistics. These and other issues have been the subjects of numerous conferences organised by national and international agencies.

The seemingly simple label “quality” encompasses a myriad of issues and trade-offs underlying the statistics compiled by various organisations, the complexity of which precludes any one approach being completely adequate for all statistical series, for all uses of a specific series and for all users of

the data. The approach adopted in this publication is to narrow the focus to data comparability. However, even this approach is not without difficulty, for example, what specific aspects of data collection and compilation does one actually compare across countries and what impact do any differences identified really have in terms of the use of the data?

International data comparability is but one aspect of the broader issue of “data quality”. Another important dimension of data quality given even more prominence for short-term indicators in recent years is timeliness. In particular, the growing importance of financial markets and the government and non-government institutions that operate within those markets has meant even more pressure on agencies compiling and disseminating indicators to provide reliable data, on time, and as soon as possible after the reference period.

As mentioned above, the comparability of the statistical series published by the OECD is undertaken in the context of existing international statistical “standards”. Even this term raises the issue of what exactly is an “international statistical standard”. Related issues that came to light in the process of identifying statistical standards for use in this publication were: statistical subjects where international standards were either non-existent or in need of revision to take account of new circumstances; the degree of acceptance of a set of guidelines and recommendations as constituting a “standard”; and the often general/broad terms in which the recommendations embodied in the standards are expressed. The authors acknowledge that there is no unique answer to these and other issues raised above and emphasise that the approach adopted here is an initial one.

Considerable prominence in this publication has been given to the extensive international statistical standards for wage related statistics that have evolved over the last 30 years. The aims are to clarify those standards where necessary, to highlight the conceptual interrelationships between the different statistics in this area and to promote their use by national agencies responsible for the initial compilation of such statistics.

The main authors of this publication were Bongho Choi and Denis Ward.

The OECD Secretariat gratefully acknowledges the contribution of the national statistical institutes and other international organisations responsible for the compilation and/or dissemination of the wage related statistics covered in this publication, and thanks them for their co-operation. In particular, the Secretariat would like to thank staff from the Australian Bureau of Statistics, Statistics Canada, Statistics New Zealand, United Kingdom Office for National Statistics, United States Bureau of Labour Statistics, Eurostat, the International Labour Organisation and other experts in the OECD Secretariat for critical comment on early drafts of the publication. The final content of the publication is however the responsibility of the OECD.

Acknowledgement is also given to the UNSD, ILO and Eurostat for both the country methodological information used to supplement and clarify the methodological information provided directly by national statistical agencies, and the extensive literature they have published over the years in most areas of wage related statistics. As mentioned above, extensive use of this material has been made in this publication.

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1. INTRODUCTION

1.1 Necessity for metadata in interpreting data

The OECD collects an extensive range of short-term¹ and annual economic statistics from OECD Member countries. The primary purpose for collecting such information is to provide the various Directorates in the Organisation with a statistical base for their economic studies of Member countries. Such studies include economic surveys, economic analyses and policy recommendations to Member governments in current areas of OECD activity. However, the statistics collected are of similar use to external agencies and institutions (government, private, academic, international, etc.) and the OECD also disseminates most of the information gathered via an extensive range of paper and electronic publications.

The methodologies used by national agencies for the collection and compilation of most OECD statistics are usually well established and documented within each country and in statistical methodological information compiled by international organisations such as the International Monetary Fund (IMF) in their Special Data Dissemination Standard (SDDS). Even so, the methodologies used are not always transparent for a large number of users. In some cases, this may lead to misinterpretation of statistical data and a misunderstanding of economic phenomena, especially when making international comparisons. Undertaking such comparison requires ready access to statistical methodological information (also commonly referred to as “metadata”) that outlines national definitions, sources and methods of compilation, etc., of the indicators in question so that cross-country comparability and/or comparability over time within the same country can be clearly understood.

This publication provides comparisons of methodologies used by OECD Member countries to compile some of their wage related short-term economic indicators and annual statistics. Such statistics comprise annual and infra-annual statistics on wages and earnings, minimum wages, labour costs, labour prices, unit labour costs, and household income. Also, because of their use in the compilation of these statistics, the publication also includes an initial analysis of hours of work statistics. As further discussed below in Section 2, most countries use a combination of different surveys (household, enterprise/establishment) or administrative sources to compile these statistics at different frequencies (monthly, quarterly, annually, etc). The range of wage related statistics made available in many countries and the sheer number of different sources used, prevents complete coverage of all statistics in this field for all 30 Member countries. The statistics described in this publication have been chosen subjectively with a focus on short-term indicators.

The metadata gathered in the process of preparing this publication is also intended to provide a basis for the identification of series suitable for publication by the OECD over the next 18 months in the Organisation’s monthly *Main Economic Indicators* (MEI). Summary forms of the metadata included in this publication will be used to lend transparency to existing and new series published by the OECD. Whilst the focus of work in the preparation of the publication are existing series compiled by national agencies and the concepts in existing international statistical standards, the current publication will nevertheless provide valuable input to the future evolution of those standards,

¹ Short-term economic statistics encompass quarterly national and financial accounts and infra-annual (*i.e.* monthly and quarterly) statistics on prices and costs, output and demand, financial indicators, balance of payments, the labour market and merchandise trade. This publication focuses on short-term indicators for wage related statistics.

identification of best practice and recommendations to achieve further harmonisation of practices across countries. These changes will be the result of discussion at future forums organised by the OECD and other international organisations such as the ILO.

1.2 Aim of this publication

This publication is related to two similar publications previously released by the OECD presenting comparisons in methodology used in the compilation of key short-term economic indicators disseminated in the MEI publication. These publications covered: industry, retail and construction indicators; and price indices. The current publication differs from those published earlier in that it also discusses a number of issues related to the compilation of some annual data for wage related statistics in addition to monthly or quarterly series.

The two main elements used in the comparison of national practices for the statistics covered in this publication are:

- existing international statistical guidelines and recommendations; and
- methodological information outlining current practices and definitions in individual countries. Because of its ready availability and ease of access, particular use has been made of metadata disseminated on the websites of national agencies.

These elements are used in comparisons of current national statistical practices such as those presented in this publication and in reports and assessments of other dimensions of data quality². Existing international statistical guidelines and recommendations are the source of most of the definitions for the statistics published by the OECD. Current national practices regarding the compilation of each of the wage related statistics discussed in this publication are provided by national agencies (again either directly or via other international organisations) in the form of statistical methodological information.

Both components outlined above are used in the comparisons provided in the subsequent parts of this publication. These comparisons comprise:

- a description of the indicator, and very brief background information on the context and use(s). Such information often provides an insight into areas and issues that impact on the comparability of the indicator, an indication to users on how data may be used, limitations to the use of the data, etc.;
- reference to existing international statistical guidelines and recommendations;
- summary comparison tables outlining key methodological aspects of current national practice for each of the statistics covered in this publication (*i.e.* on wages and earnings, minimum wages, labour costs, labour prices, unit labour costs, household income, and hours of work). These tables are provided both in the body of the publication and in more extensive tables provided in the Annexes.

² Such as those used in the OECD Quality Framework referred to in Section 1.4 below.

Resource constraints preclude comparisons of all the methodological issues involved in the collection, compilation and presentation of the statistics compared in this publication. Those included in the comparison tables are (subjectively) thought to have the greatest impact on data comparability. They vary for each wage related statistic.

1.3 International guidelines for short-term economic indicators

Over the last two or three decades an extensive range of guidelines and recommendations for most of the short-term indicators and annual statistics published by the OECD have been prepared by international organisations working with national statistical institutes and other agencies responsible for their compilation and dissemination. The main objective of such guidelines and recommendations is the development of best practice in the collection, compilation and presentation of the statistics. The use of best practice may also contribute to making the indicators more comparable.

A comprehensive list of current international guidelines and recommendations is maintained by the United Nations Statistical Division (UNSD) on their website, *Methodological Publications in Statistics*³. The list includes international guidelines relevant for many of the economic statistics currently published by the OECD. The list is useful in its own right as it provides ready access to what commentators generally refer to as “international statistical standards”. It also helps identify areas where standards are non-existent or out of date. Finally, it provides a reference for those wishing to know whether existing standards are currently being developed or modified. Reference in this publication has also been made, where appropriate, to recommendations of the Statistical Office of the European Communities (Eurostat).⁴ These are also included on the UNSD site.

The OECD has published an extensive glossary (OECD, 2002a) containing definitions for many of the indicators disseminated by the Organisation. The definitions used in the compilation of the OECD Glossary of Statistical Terms were drawn from the international statistical standards located on the UNSD database referred to above. Extensive use was also made of glossaries published by international agencies. Examples of these include the OECD publication, *System of National Accounts, 1993: Glossary*, the *Monthly Bulletin of Statistics* (MBS) data dictionary published by UNSD (UNSD, 2002b), and Eurostat’s *CODED Glossary* (Eurostat, 2003a). In most instances, the definitions in the OECD Glossary are extracted word for word from the relevant international statistical recommendation or guideline. The Glossary also provides precise reference information for each definition. The practice of direct quotation from the standard has been adopted to enable the user to refer to the actual guideline document when further information and/or context are required. Finally, for many of the definitions in the Glossary, additional context information is provided outlining appropriate use of the concept, etc.

The majority of statistics published by the OECD have been prepared by national agencies primarily to meet the requirements of policy departments within their own country. In most instances, the statistics have been developed within international guidelines and recommendations. However,

³ (UNSD 2002a). Most OECD statistical guidelines and recommendations are also available on the Organisation’s website (OECD 2003a). Existing international classifications are also listed on a Eurostat site (Eurostat 2003b).

⁴ Eurostat guidelines, delivered in the form of Council Regulations, are binding for European Union member countries and are therefore normally more specific with regard to the statistical characteristics of data than recommendations issued by other international organisations. These Regulations are also being adopted by many eastern and southern European countries as part of the process for gaining membership to the European Union.

because of resource constraints or specific national requirements, national practices sometimes depart from these guidelines. These departures may impact on the comparability of statistics compiled by different countries. The operative word is “may”, as some departures from international guidelines could in fact have little actual impact on comparability, particularly at the broad aggregate level. It should also be emphasised that national departure from international guidelines and recommendations is not necessarily an indication of diminished data quality as a whole, especially from the perspective of national users.

Examination of the comparison tables in this publication shows that methodologies used for compiling the wage related statistics covered are not completely comparable across countries. The extent of comparability varies from series to series. For some series the differences are significant, for others less so. The tables illustrate the point that international statistical comparability, whilst a desired goal for cross-country analysis, is seldom achieved. In many instances, the most that can be achieved is for countries to compile series within the broad boundaries of existing international statistical guidelines and recommendations, and provide sufficient methodological information to enable the user to assess whether differences in methodology have any significance in relation to the analysis on hand.

1.4 Statistical methodological information for international comparisons

Much of the discussion on the reliability of statistics centres on issues of “data quality”. Without going into too much detail on what is meant by the term, it is sufficient to say that it embodies a number of dimensions (OECD, 2002b) including relevance, accuracy, credibility, timeliness and punctuality, accessibility, interpretability, coherence and, in the international context, comparability.

In recent years, greater emphasis has been given to the importance of ensuring that statistics published by international organisations, national statistical institutes and other agencies are accompanied by adequate methodological information. The provision of such methodological information arises from a desire to lend transparency to the data so that the typical end-user can make an informed assessment of their usefulness and relevance to his or her purpose. However, the notion of the end-user referring to detailed methodological information is somewhat idealistic and seldom occurs in reality. In recognition of this, the approach for presenting methodological information in MEI and other OECD publications is similar to one described by Pellegrino and Vale (2000) in that such information is best presented as layers within a pyramid.

In the model presented in Diagram 1, for any specific statistical series (*e.g.* CPI, PPI, industrial production index, unemployment rate, etc.) methodological information describing the data becomes more detailed as one moves down from the apex of the pyramid. A brief description of each layer in the pyramid in the context of MEI is provided below:

- Table headings and footnotes – Are an integral part of each statistical table published in MEI. The aim is to make table headings clear and as brief as possible. Footnotes are also kept to a minimum and are restricted to those essential for an understanding of the data.
- Explanatory notes – Are provided at the back of the MEI paper publication. They provide a brief general description of the indicator and an outline of key issues that can impact on the use of the data. In the main, the explanatory notes in MEI do not provide much detail on individual country methodology/practices.
- Metadata on national practices, sources and definitions – Provide a brief outline of current national practices for each country. In MEI for example, these are summarised under four

broad headings (definition, coverage, collection and calculation). Sources and definitions metadata are published in a paper publication, on the OECD website (OECD, 2000) and in the MEI CD-ROM where it is updated monthly. The latest paper edition of the OECD publication, *Main Economic Indicators: Sources and Definitions*, was released in July 2000.

The OECD has on occasion published more detailed methodological information on individual country practices collected and disseminated on the basis of a detailed model, template or prompt points. Such models consist of a standard list of methodological items that can be used to describe a statistical series. These encompass the whole range of methodologies involved in describing the source, concepts and coverage, data collection, data manipulation, etc., for the compilation of a short-term economic indicator or annual statistic. There are a finite number of methodological elements that describe a statistical series, from design of the collection frame, actual collection, processing, manipulation, to presentation. Unfortunately, the combination and permutations of such methodological elements have yielded an almost infinite number of methodological templates developed by different international organisations and national agencies. Examples of widely used methodological templates are those developed by the IMF for the Dissemination Standards Bulletin Board (DSBB).

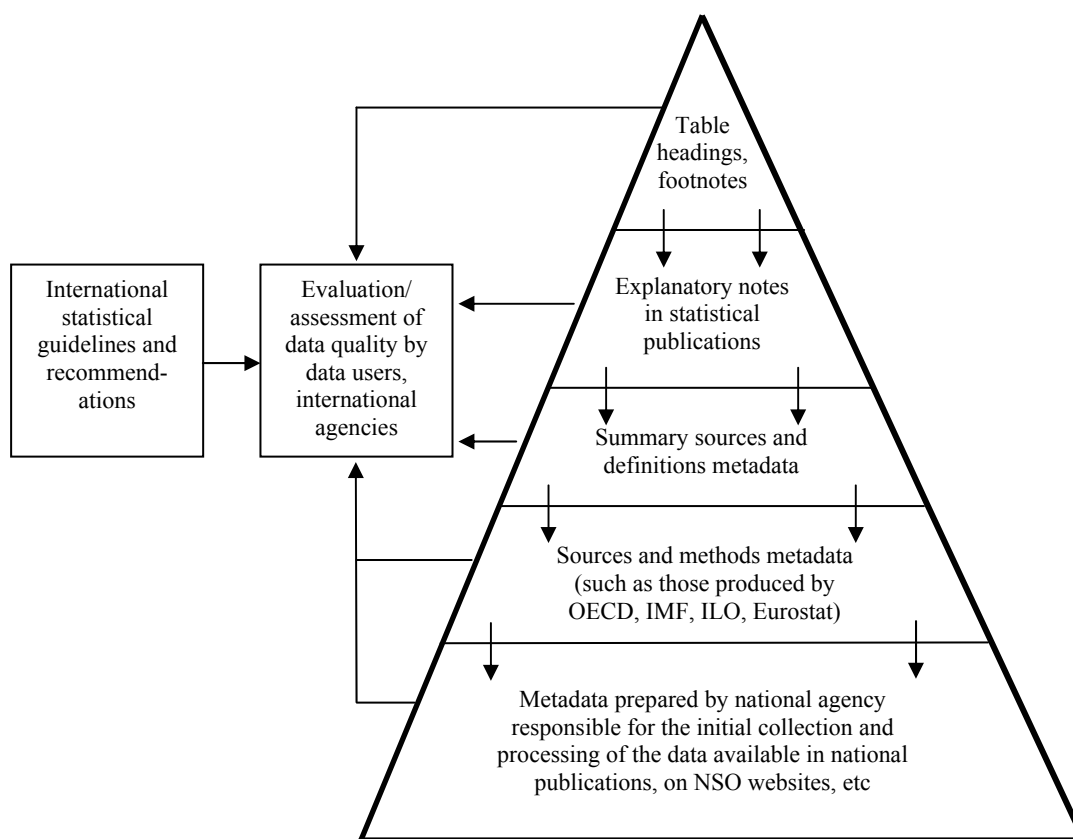
Examples of more detailed methodological information published by the OECD are the various methodological publications produced for CPI, PPI, construction price indices, labour and wage statistics and domestic finance statistics. These are located on the OECD website (OECD 2003a). The IMF, International Labour Organisation (ILO) and Eurostat have also published sources and methods methodological information on short-term indicators.⁵

For the OECD, the tendency in recent time has been to move away from the collection and publication of detailed methodological information describing national practices in favour of more analytical publications such as the current publication, and the provision of links to more detailed national metadata which is becoming increasingly available on national websites.

- Methodological information disseminated by national statistical institutes in publications and/or on websites. These are potentially the source of the most detailed methodological information available. Some (though not all) OECD Member countries publish very detailed concepts, sources and methods for a number of their key annual and infra-annual statistics. The need for provision of more extensive methodological information, and its accessibility to users through dissemination on the web, is now receiving greater recognition. However, national practices of OECD Member countries in this area vary considerably with regard to the amount of methodological detail provided on their websites (even in the national language), frequency of updating, its proximity to the statistics it describes and ease of access by users.

⁵ For example, the IMF provides detailed methodological summaries on its Dissemination Standards Bulletin Board (DSBB) (IMF 2003b). Examples of detailed metadata published by the ILO include the *Statistical Sources and Methods* series published for CPI; employment, wages and hours of work (establishment surveys); economically active population, employment, unemployment and hours of work (household surveys). Eurostat has also published an extensive range of detailed methodological publications for industry statistics, services statistics and household labour force surveys.

Diagram 1: Metadata dissemination model



Most users of methodological information disseminated by the OECD and other international agencies in the context of the dissemination model outlined above (in Diagram 1), merely access the top layer. If they require more detailed information on specific methodological aspects to determine the relevance of the data to their requirements, they may have to search through succeeding layers where more detailed methodological information is provided. They may ultimately need to refer to methodological information disseminated by national agencies.

The normal role of the statistician, in relation to statistical methodological information, primarily entails its collection, verification and dissemination. To this should be added the key task of giving it structure and providing a clear path that enables users to dig as deeply as necessary without being buried in enormous amounts of text. In addition to helping others make use of statistical methodological information, statisticians in international organisations (and elsewhere) also use it in evaluations and assessments of data quality and comparability.

Over the last two decades there has been a trend towards greater convergence in national practice as a result of (i) the development of international statistical standards and their implementation by national agencies, and (ii) improved and more extensive communication between national and

international agencies. The emergence of greater economic interdependence between countries and trading blocs, and the resulting demand by users for more comparable statistics and improved methodological transparency, have provided a significant catalyst for this trend.

As will be shown in the comparison tables presented below in subsequent Sections of this publication, there is no such thing as complete data comparability between countries, owing to methodological differences in national practice arising out of a combination of historical and cultural factors. As mentioned earlier, the real impact and significance of differences in methodological practice between countries is dependent to a large extent on the use of the data. However, it is fair to say that many of the main “headline” short-term indicators and annual statistics are sufficiently comparable to enable broad comparisons of changes in level between countries. Facilitating transparency through the use of methodological information provided by the national agencies responsible for the initial collection and compilation of the indicators is one of the main aims of this publication, the other being promotion of the use of international statistical guidelines and recommendations.

1.5 Collection of methodological information for this publication

The OECD currently is looking at ways of streamlining the collection and maintenance of methodological information through more effective co-ordination with other international agencies (in particular IMF, ILO, Eurostat and UNSD). Essentially, this entails the inclusion of links (hyperlinks) in OECD metadata to more detailed methodological information maintained by other international organisations and national agencies in lieu of direct collection by the OECD. Extensive use of this approach was made in the preparation of the current publication.

There was significant co-operation with national agencies of OECD Member countries, notably national statistical institutes. Wide use was also made of methodological descriptions provided by these agencies on their websites and in some national publications. Some information was drawn from other sources, for example, information collected by international organisations such as the ILO, UNSD and Eurostat. In a few instances, direct contact was made with national agencies, usually to verify a specific aspect of methodology.

It is important to note that the information in the publication was as accurate as possible when the original research was carried out. The accuracy of the information was again checked just prior to publication. However, the compilation practices of Member countries are constantly evolving and given the wide range of subject matter and the number of countries covered, it is likely that methodological changes will occur over time, thus affecting the accuracy of the information contained herein.

1.6 Conclusions

As mentioned above, the focus of this publication is the presentation of comparisons of national practice in OECD Member countries in the compilation of the wage related statistics covered. The methodological information obtained from national agencies and other international organisations was thus sought for a purpose that is probably more specific to the needs of an international organisation such as the OECD, *i.e.* assessment of the comparability of national indicators. The exercise required use of national metadata that was in most cases intended originally to give transparency to the statistics to national users. The process of preparing the comparison tables highlighted the limitations of metadata currently available for use in international comparisons. These limitations stem from

problems of accessibility, differences in semantics (the same term does not necessarily have the same meaning) and the fact that national agencies frequently describe different aspects of the statistical production cycle. It is often difficult to obtain metadata for all 30 OECD Member that describes the same methodological element.

The current publication falls well short of describing in any quantitative way the actual significance that identified differences in national practices have with respect to each of the statistics described. However, notwithstanding these issues, it is possible for users to draw some conclusions regarding the comparability of the indicators described from the information provided in subsequent Sections of this publication. The real significance of the differences identified can really only be made in the context of a specific use of the data.

1.7 Feedback on contents

The OECD welcomes your comments on this publication and suggestions for improvement with respect to contents and presentation. Feedback can be provided by mail, fax or internet to:

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2. OVERVIEW OF WAGE RELATED STATISTICS

2.1 Introduction

OECD Member countries compile a wide range of annual and infra-annual statistics using different sources in the areas of wages, earnings, compensation, unit labour cost and labour cost. A small number of countries also compile labour price indices⁶ and others are currently developing such indicators. These statistics have been developed to meet the myriad needs of national users, in particular, those of government.

The objective of this Section is to outline key issues for wage related statistics through:

- an initial presentation of existing international guidelines and recommendations for these statistics, specifically those promulgated by the ILO, contained in the 1993 System of National Accounts (SNA 93) and in European Commission Regulations. The aim of the review is to highlight differences between those standards (if any) and to flag gaps in existing standards;
- clarification of terminology as the basis for a common understanding of terms contained in existing international standards. Where such standards do not exist (as in the case of labour price statistics), relevant national definitions have been used as a starting point;
- an initial explanation of the relationship between wages, earnings, compensation, unit labour cost, labour cost, labour price and income statistics;
- the provision of a brief overview of the uses of the different wage related statistics indicators by countries in both short-term economic monitoring and structural analyses. The various statistics have been developed to meet a particular need which are so diverse that a single indicator would not meet all user requirements in this area. The purpose of highlighting those needs is to shed light on why a range of such statistics are produced using different data sources. For example, monthly data derived from household surveys address the need for timely information, crossed-classified by age, gender, etc; monthly establishment survey data for short-frequency business cycle analysis; more (classificatory) detailed annual establishment survey data for structural analyses, etc.

Comparisons of current national practices in the compilation of wage related statistics are provided in subsequent Sections and Annexes of this publication.

⁶ This publication uses the term “labour price index” in order to draw a clear distinction to the “labour cost index”. As will be discussed in more detail below in Section 6, there is no existing international standard definition of a labour price index. The United States Bureau of Labour Statistics (BLS) for example states that their “labour price index” is designed to measure changes in the hourly compensation of a fixed basket of jobs. The aim of a labour price index is to provide a pure price index which in common with other price indices such as the consumer price index (CPI) attempt to hold quantity and quality changes constant. Labour cost indices on the other hand measure changes in average hourly labour costs taking into account not only price changes but also changes in the composition and characteristics of the labour input.

OECD Member countries that have developed labour price indices each apply different names to their indices: The United States Bureau of Labour Statistics uses “Employment Cost Index”; the Australian Bureau of Statistics uses “Wage Cost Index”; Statistics New Zealand uses “Labour Cost Index”; INE Portugal uses “Labour Cost Index”.

As mentioned above in Section 1, the very broad range of short-term and annual wage related statistics compiled precludes analysis of all statistics disseminated in this area across all 30 OECD Member countries. The statistics described in this publication have been selected subjectively, and focus on short-term indicators.

2.2 Summary of existing international guidelines and recommendations

Relevant ILO guidelines for earnings, labour cost and income statistics are contained in the following Resolutions adopted by the International Conference of Labour Statisticians (ICLS) (ILO 2003a):

- Measurement of employment-related income – October 1998;
- Measurement of household income and expenditure surveys – 1973;
- An integrated system of wages statistics – October 1973;
- Statistics of Labour Cost – October 1966. This Resolution includes the International Standard Classification of Labour Cost which comprises 10 major cost groups. These are: 1) direct wages and salaries; 2) remuneration for time not worked; 3) bonuses and gratuities; 4) food, drink, fuel and other payments in kind; 5) cost of workers' housing borne by employers; 6) employers' social security expenditure; 7) cost of vocational training; 8) cost of welfare services; 9) labour cost not elsewhere classified; and, 10) taxes as regarded as labour cost.

A similar classification developed by Eurostat separately identifies overtime payments and bonuses paid independently on an irregular basis. Employer social security schemes and pension scheme components are divided into a number of detailed sub-items.

A list of components developed by the Canberra Group (see below), which provides the components of labour costs from the perspective of the household, includes items such as employer reimbursements for non-discretionary work expenses and tips. The item on wages and salaries is also divided into two jobs: main job and other job;

- Resolution concerning statistics of hours of work – October 1962;
- Resolution concerning the development of social security statistics – April-May 1957;
- Resolution concerning statistics of collective agreements - October 1926.

The SNA 1993 (ISWGNA 1993) - This is a comprehensive statistical system covering all sectors and all types of transactions, other flows, and stocks of assets and liabilities. The SNA provides guidelines and recommendations for the statistical measurement of all primary income and secondary distribution of income. In the context of wage related statistics it provides guidelines for compensation of employees (paras. 7.21-7.47), wages and salaries (paras. 7.32-7.42), employer social contributions (paras. 7.43-7.47), household income (in Chapters 7-8), and population and labour inputs including jobs and hours worked (in Chapter 12). Most of these concepts are further elaborated below (in Section 2.3) in the review of key terminology, concepts and definitions for wage related statistics.

There is also specific mention of wages and salaries in a number of other United Nations guidelines and recommendations such as those for statistics in the industrial, distributive trade and construction sectors. These are outlined in the following publications:

- International Recommendations for Construction Statistics, United Nations, New York, 1997, Statistical Papers, Series M, No. 47, Rev. 1;
- International Recommendations for Industrial Statistics, United Nations, New York, 1983, Statistical Papers, Series M, No. 48, Rev. 1;
- International Recommendations on Statistics of the Distributive Trades and Services, United Nations, New York, 1975, Statistical Papers, Series M, No. 57.

European Council regulations, in particular, Council Regulations on Structural Business Statistics (No. 58/97 of 20 December 1996) and Council Regulations on Short-term Statistics (No. 1165/98 of 19 May 1998) call for the collection of annual and short-term statistics on wages and salaries.

Also, over the last few years the Eurostat Working Group on Wages and Labour Cost Statistics has worked on the development of standards for implementation by European Union and candidate countries for wages/earnings, labour cost and, more recently, labour price statistics. A Statistical Programme Committee (SPC) decision (SPC 97/27/14) in 1997 called for the development of quarterly labour cost indices, and Eurostat is currently in the process of formulating the Council Regulation on the quarterly Labour Cost Index⁷. The same SPC meeting decided to consider the possible development of European Union labour price indices as a more long-term operation. In addition to the promulgation of Regulations, Eurostat has also published detailed information on methodologies used by member states in the compilation of household budget surveys and both short-term and structural economic statistics.

Two United Nations City Groups are also involved in the elaboration of concepts and the development of guidelines and recommendations for some of the statistics discussed in this publication:

- The primary objective of the Canberra Group on Household Income Statistics (UNSD 2003a) was to enhance national household income statistics through the development of relevant standards on conceptual and practical issues for the production of income distribution statistics. The work of the Group culminated in the publication of a final report outlining recommendations which was released in 2001⁸.
- The primary objective of the Paris Group on Labour and Compensation Statistics is to examine, assess and reconcile the various sources of information used to measure labour market conditions and compensation and to contribute to improving concepts and their implementation⁹. The Group has met four times since its inception in 1997. The fifth meeting

⁷ The first trial for the compilation of the quarterly labour cost index was made in 1999 with series back-cast from the first quarter of 1996. European Union Member states will begin to transmit harmonised indices to Eurostat from 2003.

⁸ Page 18 of the final report of the Canberra Group [Canberra Group (2001)] provides the components of labour costs from the perspective of the household.

⁹ (UNSD 2003b) for background information on the Paris Group.

to be held in September 2003 (INSEE 2003) will focus on the measurement of working time. The outcome of this meeting will be input into discussion on this topic at the 17th International Conference of Labour Statisticians to be held at the end of 2003.

Section 2.3 below provides definitions of key concepts derived from these international standards. Section 2.4 below describes the relationship between key concepts.

An analysis of existing international guidelines and recommendations indicates that further harmonisation of the components of the various concepts, and clarification of their relationship to each other is required. Furthermore, new forms of payment and indirect remuneration to job holders (for example, bonuses in their various forms¹⁰, stock options¹¹, that operate in many Member countries also need to be incorporated into the concepts. Similarly, existing standards do not adequately cover components for working directors and proprietors (manager and entrepreneur incomes). These issues are further discussed in Section 10 below.

2.3 Terminology, concepts and definitions

The review of surveys and collections currently conducted by OECD Member countries carried out in the preparation of this publication highlighted the need for further clarification of terminology, concepts and definitions for key terms used in wages, earnings, income, labour cost and labour price statistics. In many instances the “label” attached to the survey by the national agency does not either automatically provide a clear indication of the variables being collected, or permit international comparison of even the availability of each of the wage related statistics described in this publication. The definitions provided in the remainder of this Section¹² have mostly been derived from the international standards outlined in the previous Section. The concepts are normally defined in international standards in terms of their respective component elements. An initial view of the relationship between these different concepts is discussed in Section 2.4 below.

Wages and salaries

Historically, there has been a clear distinction between the terms “wages” and “salaries”. For example, the Oxford dictionary (Fowler and Fowler, 1964) defines a “salary” as a fixed periodic payment to persons performing work other than manual or mechanical work. On the other hand, a “wage” refers to an amount paid periodically, especially by the hour or day to persons undertaking manual or mechanical work. Alternatively, “salaries” have also been used in the context of employees whose basic remuneration is expressed as a fixed amount for at least one week, whilst wages are

¹⁰ An example of such bonuses is salary sacrificing which refer to arrangements between an employee and employer where part of the employee’s pre-tax cash remuneration is forgone in favour of receiving non-cash benefits of a similar value. Salary sacrificing, as a component of remuneration packages, has grown rapidly over the last 10 to 15 years and is expected to continue to grow in many OECD Member countries. Other examples are hiring bonuses to induce an individual to accept employment, and referral bonuses paid to employees for recommending an applicant who is hired by the company.

¹¹ There is consensus that stock options are undoubtedly a form of compensation. However, the timing of recording stock options is important since the right to dispose them generally arises at some future date outside the reference period. Eurostat, for example, takes the view that compensation of employees arising from stock options should not be recorded until the vesting date, when the employee has met all of the conditions for taking complete ownership of the stock options, or at the date when the options become tradable. There is also another argument that the cost of options should be measured at fair value from the date they are granted. (Verrinder, 2001) and (Lequiller, s2002)

¹² These and other relevant definitions are to be found in the OECD Glossary of Statistical Terms (OECD 2002a)

payments to employees whose basic remuneration is expressed as an hourly rate. In addition to wage earners and salaried employees, another type of employee is also observed – those whose basic remuneration is in the form of commissions, piece rates, mileage allowances, etc. In this context, wage earners are employees who are not paid if they do not work, while salaried employees are employees who are regularly paid even though they do not work.

Such distinctions between the salary and wage concepts on the basis of frequency, type of work performed, etc, have been eroded in recent decades and have become blurred. Nowadays, the terms are frequently used synonymously, including their use in the SNA 1993 which provides the following definition for wages and salaries in the context of the various components of the components of compensation of employees (described below):

“Wages and salaries include the values of any social contributions, income taxes , etc., payable by the employee even if they are actually withheld by the employer for administrative convenience or other reasons and paid directly to social insurance schemes, tax authorities, etc., on behalf of the employee. Wages and salaries may be paid in various ways, including goods or services provided to employees for remuneration in kind instead of, or in addition to, remuneration in cash.” (ISWGNA 1993, paras. 7.32-7.42)

The SNA then goes on to provide a detailed list of the components of remuneration included in the concept of wages and salaries under the broad headings of: wages and salaries in cash; and wages and salaries in kind. Table 5 below provides a detailed list of the SNA components of wages and salaries.

Eurostat similarly defines wages and salaries as:

“the total remuneration, in cash or in kind, payable to all persons counted on the payroll (including home workers), in return for work done during the accounting period, regardless of whether it is paid on the basis of working time, output or piecework and whether it is paid regularly or not. Wages and salaries include: all gratuities, bonuses, ex-gratia payments, 13th month payments, severance payments, lodging, transport, cost of living, and family allowances, tips, commission, attendance fees, etc. received by employees, as well as taxes, social security contributions and other amounts payable by employees and withheld at source by the employer. Wages and salaries which the employer continues to pay in the event of illness, occupational accident, maternity leave or short-time working may be recorded here or under social security costs dependent upon the unit’s accounting practices.” (Eurostat 1996, Chapter “General Framework” (Annex 1: Definitions of variables))

By and large, statistics on wages compiled in most Member countries generally include the major elements of income received by employees as well as traditional payments in kind, such as receipt of free or subsidised food, fuel, clothing and housing. However, as mentioned above, the range of pay benefits and compensation packages available to persons in paid employment has increased significantly in recent years and some of these are not necessarily included in wages statistics compiled in some OECD Member countries. Furthermore, the concept of wages and salaries can be viewed from two perspectives: as income to an employee; and as a cost to the employer. This theme is taken up further in the discussion of the relationship between wage related statistics concepts in Section 2.4 below.

Wage rates

In a number of OECD Member countries, wage rates are determined by law or regulation through collective bargaining agreements, etc. The statistics compiled on these award rates (which are generally minimum or standard rates) are clearly distinguished from statistics referring to wage rates actually paid to individual workers.

Although the Resolutions of the 12th International Conference of Labour Statisticians (ICLS 1973) do not contain a specific definition of “wages” as such, it recommends (ILO 1979, p. 22) the compilation of wage rate statistics which should include basic wages, cost-of living allowances and other guaranteed and regularly paid allowances, but exclude overtime payments, bonuses and gratuities, family allowances and other social security payments made by employers. Ex gratia payments in kind, supplementary to normal wage rates, are also excluded. Wage rate data should relate to an appropriate time period – hour, day, week or month. Wage rates may be viewed from the perspective of a “price” of labour services.

The term “average collectively agreed pay” is used in many countries, particularly in relation to collective bargaining processes¹³ used for setting rates of pay. However, as would be expected, there is no internationally agreed definition of the concept and national definitions, particularly with respect to the wage components included, are determined on the basis of the current industrial relation and institutional framework within each country. Furthermore, in some OECD Member countries the evolution to more decentralised enterprise based bargaining has meant the loss of economy-wide or industry-wide indicators of the outcomes of collective bargaining.

Earnings

The ILO concept of “earnings” is also based on the Resolution of the 12th International Conference of Labour Statisticians which defines earnings as:

“remuneration in cash and in kind paid to employees, as a rule at regular intervals, for time worked or work done together with remuneration for time not worked, such as for annual vacation, other paid leave or holidays. Earnings exclude employers’ contribution in respect of their employees paid to social security and pension schemes and also the benefits received by employees under these schemes. Earnings also exclude severance and termination pay.” (ILO 1973, para. 8)

The Resolution further recommends that earnings should relate to employees gross remuneration, *i.e.* the total before deductions are made by the employer for taxes, contributions of employees to social security and pension schemes, life insurance premiums, union dues, etc. Year-end, seasonal and other one-time bonuses are regarded by the Resolution as components of earnings, though it also states that monthly and quarterly statistics of earnings should include only those components of earnings normally received on a regular basis. Irregular bonuses and gratuities, for example, year-end and one-time bonuses should be excluded from monthly and quarterly statistics. However, bonus payments made on a monthly or more frequent basis (such as a pay period) under contractual arrangements and relating to work done should be included as direct wages and salaries.

¹³ Usage of the term “collective bargaining” varies considerably across OECD Member countries, as does the importance of such arrangements between sectors of the economies and groups of workers within each country. For example, such processes cover 100% of the workforce in Austria and Belgium, but fewer than 40% in the United Kingdom. (EIRO 2002b)

The concept “net earnings” is also widely used. Net earnings are derived from gross earnings through the deduction of income taxes and social security contributions payable by employees and, where appropriate, after addition of family allowances paid by general government as universal cash transfers in respect of dependent children (Eurostat 2000a). Net earnings may be regarded as a workers’ take-home pay and, as such, a measure of workers’ disposable wage.

Average hourly/weekly/monthly earnings

The concept of average earnings is based on the Resolution of the 12th Conference of Labour Statisticians which states that statistics of average earnings and hours of work should cover all important categories of wage earners and salaried employees in all major economic activities of the country. In situations where the quarterly or monthly surveys used as a source for such data exclude infrequently paid components, the Resolution recommends that the programme of earnings statistics should include the compilation of average earnings statistics including these components once a year. Finally, the Resolution recommends that the time unit in which the average earnings are expressed (*e.g.* hour, day, week, month) should depend primarily on how meaningful the figures would be in the country concerned and the feasibility of collecting the required data. To enable international comparisons, statistics of average earnings and hours of work should be presented on a per week basis (ILO 1973, paras. 22-23).

Employment-related income

The concept “employment-related income” is much broader in scope than earnings. In addition to the components of earnings derived from paid-jobs cited above, the Resolution adopted by the 16th International Conference of Labour Statisticians defines employment-related income as:

“all the payments, in cash, in kind or in services, which are received, over a given reference period, by individuals for themselves or in respect of their family members, by virtue of their involvement in current or former paid employment jobs”. (ILO 1998)

Employment-related income also specifically includes income for self-employment jobs and excludes income unrelated to current or former employment, such as property income, income attributed to private insurance policy holders, and social benefits received without regard to the employment status. The definition applies equally to persons currently in paid employment, retirees, and the unemployed.

The rationale for the ILO’s introduction of the concept of employment related income was outlined in a paper presented at a Joint UNECE-Eurostat-ILO Seminar on Measurement of the Quality of Employment held during May 2000 (ILO 2000). The main argument presented in the paper was that over the last decade remuneration systems have broadened considerably through the proliferation of non-wage benefits and forms of compensation offered by employers to attract and retain employees, and the expansion of employment-related social security benefits. Both aspects, which have an impact on income level and security, were not reflected in existing wages statistics.

In addition to these factors, there has also been a decline in the stability of regular wage employment. Many persons have had to resort to other types of income-earning activities, such as casual or temporary paid employment, part-time employment, multiple jobs, etc., in either the formal or the informal sectors of the economy. Measuring changes in wages or income levels has therefore become a more complex task. Measuring the “quality” of these different types of jobs is even more

complex. The Resolution adopted by the 16th ICLS (1998) on the measurement of income related paid employment seeks to account for the various forms of remuneration which accrue to persons in paid employment by virtue of either current and former involvement in paid employment jobs, irrespective of the form of employment.

Two additional features can be observed from the concept of employment related income. First, in the definition of earnings outlined above, severance pay and redundancy pay are excluded. These are included in the concept of employment-related income. The exclusion of these components from earnings appeared to be due to their irregular and non-recurring nature. They were included in the employment-related income concept as they provide for consumption whilst the recipient looks for another job and serves as a replacement for wages and salaries.

Second, employers' social insurance contributions are excluded from the concept of employee income in employment-related income because they represent "entitlement to future benefits". Some micro-analysts, however, prefer to include such contributions in gross income for consistency with the SNA and to avoid cross-country differences arising out of different national policies on such contributions. One disadvantage is that doing so could lead to double counting as pensions received are also included in gross income. When such contributions are included in gross income, they are sometimes deducted in computing disposable income (ILO 2001).

Total household income and disposable income

Because of its use as an indicator of economic well-being, the broader concept of "income" also receives wide usage, not only with respect to individuals, but also to income accruing to households. Although there is considerable debate on the definitional boundaries of income, for the micro-analyst, whose primary interest is the measurement of income distribution, income is primarily determined on the basis of what an individual perceives to be an income receipt of direct benefit to him or her. Total household income is the broadest measure of income, and in this sense refers to regular receipts such as wages and salaries, income from self-employment, interest and dividends from invested funds, pensions or other benefits from social insurance and other current transfers receivable. Large and irregular receipts from inheritances, etc, are considered to be capital transfers because they are unlikely to be spent immediately on receipt and are 'one-off' in nature (Canberra Group 2001, pp. 3 and 18).

Because it is measured after the receipt of property and transfer receipts, but before any payments are made at the aggregate household level, total household income includes a degree of double counting, the extent of which varies between countries due to differing institutional arrangements. In countries where social insurance schemes are more extensive, the higher total household income will be in relation to, say, income from employment rather than income from property or from current transfers (Canberra Group 2001, p. 24). In fact, the concept of total income of an individual as a measure of the economic well-being of individuals may at best be regarded as a partial measure of well-being in the light of a high proportion of dual-earner, dual-income families that exist in many OECD Member countries. The precise relationship between employment-related income and total income to household income is explored further below in both Section 2.4 and Section 8, the latter in the context of a draft ILO ICLS Resolution to be discussed in 2003.

Several definitions of income have been prepared by the United Nations (in SNA 1993), the ILO and the Canberra Group. The 1993 SNA also refers to the concept of disposable income, which it defines (in para. 8.15) as the maximum amount that a household or other unit can consume without reducing its real net worth. Disposable income as measured in the SNA can be compared to the

concept of income as understood in economics. From a practical point of view, disposable income is calculated as the difference between the total resources and uses of primary and secondary income. This gives the level of saving as disposable income less consumption expenditure. The relationships between these concepts in the SNA are presented in Table 1 below.

Table 1: Wage related income: Components of disposable income in the 1993 SNA

<p>I. Primary Income</p> <p>1. Compensation of employees</p> <ul style="list-style-type: none"> - wages and salaries, and supplementary allowances - benefits in kind - employers' social contributions for the benefit of employee <p>2. Entrepreneurial income</p> <p>3. Property income</p> <ul style="list-style-type: none"> - interest - dividends - reinvested earnings on direct foreign investment - investment attributed to insurance policy holders - rents on land, excluding rents received by owners for the rental of buildings (dwellings) <p>II. Secondary Distribution of Income</p> <p>1. Current taxes on income, wealth, etc.</p> <p>2. Social contributions and benefits</p> <ul style="list-style-type: none"> - social security (or social assistance) benefits - private social insurance benefits - social benefits provided by the employer - wages and salaries paid by the employer in the event of sickness, maternity, etc. <p>3. Other current transfers</p> <p>III. Disposable Income (the total resources and uses of primary and secondary income)</p> <p>IV. Consumption Expenditure</p> <p>V. Saving (III less IV)</p> <p>VI. Adjusted Disposable Income (equals disposable income plus the value of social transfers in kind by government units and non-profit institutions serving households)</p>

The SNA categorizes the concept of disposable income as falling into two parts: primary income and secondary distribution of income. Primary income is income that accrues to households as a consequence of their involvement in the process of production or ownership of assets such as compensation of employees, entrepreneurial income and property income. Secondary distribution of income includes current transfers which are “a transaction in which one institutional unit provides a good, service or asset to another unit without receiving from the latter any good, service or asset in return as counterpart. More precisely, current transfers include: (i) current taxes on income, wealth,

etc.; (ii) social contributions and benefits; (iii) other current transfers.” (ISWGNA 1993, Chapters VII and VIII).

The ILO Resolution concerning household income and expenditure surveys adopted by the 12th ICLS in 1973 (ILO 1973b, para. 14(I)) defines household income as:

“the sum of money income and income in kind and consists of receipts which, as a rule, are of recurring nature and accrue to the household or to individual members of the household regularly at annual or at more frequent intervals.”

As shown in Table 2 below, both Eurostat and the Canberra Group propose components of household income which differ from those of the SNA.

Table 2: Wage related income: Components of income recommended by Eurostat and the Canberra Group

Eurostat	The Canberra Group
<p>I. Primary income and income from housing</p> <p>1. Income from employment (for employees) - net earnings including other income connected with employment as overtime, tips, commission, etc. - income in kind, which are advantages provided within the framework of paid employment (except imputed rent)</p> <p>2. Income from non-salaried activity - gross and/or net income of self-employed person - income in kind</p> <p>3. Property income - net income from property after taxes and deductions, including interest, distributed income from corporations, etc.</p> <p>4. Income from housing - imputed rent (the owners' imputed rent and that of tenants living free of charge - net rent received by owners</p> <p>II. Secondary income</p> <p>1. Pensions, retirements - total net income of retirement and other pensions</p> <p>2. Unemployment benefit including training courses</p> <p>3. Other current benefits (net amount) - pensions for widows and orphans - income connected with the family (family benefits, maternity, single parent benefit, etc.) - allocations connected with illness or disability - allocations in relation to housing situation - other benefits (e.g. student grants, minimum income)</p> <p>4. Other income and current transfers - other income - total of transfers received - total of transfers executed including donations for charity, fines and penalties</p> <p>III. Total income in net amount (sum of above components)</p> <p>IV. Net income (Total income in net amount less income tax)</p>	<p>1. Employee income <i>Cash or near cash</i> 1.1 Cash wages and salaries 1.2 Tips and bonuses 1.3 Profit sharing and stock options 1.4 Severance and termination pay 1.5 Allowances payable for working in remote locations, etc., where part of conditions of employment <i>Cash value of "fringe benefits"</i> 1.6 Employers' social insurance contributions 1.7 Goods and services provided to employee as part of employment package</p> <p>2. Income from self-employment <i>Cash or near cash</i> 2.1 Profit/loss from unincorporated enterprise 2.2 Royalties <i>In-kind, imputed</i> 2.3 Goods and services produced for barter, less cost of inputs 2.4 Goods produced for home consumption, less cost of inputs 2.5 Income less expenses from owner-occupied dwellings</p> <p>3. Rentals 3.1 Income less expenses from rentals, except rent of land</p> <p>4. Property income 4.1 Interest received less interest paid 4.2 Dividends 4.3 Rent from land</p> <p>5. Current transfers received 5.1 Social insurance benefits from employers' schemes 5.2 Social insurance benefits in cash from government schemes 5.3 Universal social assistance benefits in cash from government 5.4 Means-tested social assistance benefits in cash from government 5.5 Regular inter-household cash transfers received 5.6 Regular support received from non-profit making institutions such as charities</p> <p>6. Total household income (sum of 1 to 5)</p> <p>7. Current transfers paid 7.1 Employers' social insurance contributions 7.2 Employees' social insurance contributions 7.3 Taxes on income 7.4 Regular taxes on wealth 7.5 Regular inter-household cash transfers 7.6 Regular cash transfers to charities</p> <p>8. Disposable household income (6 less 7)</p> <p>9. Social transfers in kind received</p> <p>10. Adjusted disposable household income (8 plus 9)</p>

Sources:

- 1) Eurostat, Household Budget Surveys in the EU: Methodology and Recommendations for Harmonisation, 1997;
- 2) The Canberra Group, Final Report and Recommendations of Expert Group on Household Income Statistics, 2001

In its Final Report, the Canberra Group proposed the use of the SNA definition as a basis for the definition of income within the context of income distribution statistics. However, the Group believed that some exceptions, mainly with respect to changes in net worth and the regularity and recurrence requirement, would be necessary due to differences between the objectives of the SNA and those of income distribution analysis. The concern of the SNA is mainly the exhaustiveness, consistency and exclusiveness of the various sectors of the accounting framework, whilst income distribution analysis is primarily concerned with the circumstances of individual households in the household sector, with less concern for consistency with measurements for other sectors (ILO 2001).

Disposable income is defined by the Canberra Group as total income less current transfers paid. Such transfers comprise: employers' social insurance contributions; employees' social insurance contributions; taxes on income; regular taxes on wealth; regular inter-household cash transfers; and regular cash transfers to charities (Canberra Group 2001, pp. 22, 24). This measure of income is usually the preferred measure for income distribution as it is freer of the impact of the institutional arrangements referred to above in the discussion of total income. Disposable income is also a closer approximation of receipts available for individual and household consumption.

Eurostat has introduced the concept of "net income" in the context of the household budget surveys, the rationale being that since household budget surveys are conducted directly in households, it is not possible to collect income data using the breakdown and definitions in the SNA. For these practical reasons it is preferable to use the term "net income" instead of "disposable income". The main differences between the two concepts being:

- income received because of ownership of housing are included in household budget surveys but not in national accounts;
- the treatment of own production, (*i.e.* the value of production produced and consumed within the same household) and imputed rent (*i.e.* the rent which would be paid for housing occupied by their owner or occupied free of charge) is not identical.

In the national accounts, own production and imputed rent are not included directly in disposable income since they appear under resources in the production account (and thus influence the level of value added and indirectly the income) and under final consumption in the use of income account. This is the reason why the ILO resolution recommended their inclusion in total household income in household budget surveys. In the case of benefits in kind, their treatment in national accounts and in household budget surveys is same. Both include benefits in kind in compensation of employees [(ILO 1973b) and (Eurostat 1997)].

In addition, Eurostat also recommends the deduction of taxes and obligatory social contributions from income. This ensures coherence between data collected in terms of consumption expenditure and those collected in terms of income. The amounts under consideration are not introduced on the expenditure side and consequently it is necessary to deduct them from income. This takes into account the fact that the latter is intended for measuring the resources which households have available to consume and save (Eurostat 1997).

Compensation of employees

The components of earnings are broadened even further by the concept “total labour compensation” which includes not only gross wages and salaries accruing to employees but also other costs of labour paid by employers, including employer contributions to social security and pension schemes. The SNA 1993 uses the concept “compensation of employees” which is defined as:

“the total remuneration, in cash or in kind, payable by an enterprise to an employee in return for work done by the latter during the accounting period. Compensation of employees has two main components: i) wages and salaries payable in cash or in kind; ii) the value of the social contributions payable by employers: these may be actual social contributions payable by employers to social security schemes or to private funded social insurance schemes to secure social benefits for their employees.” (ISWGNA 1993, paras. 7.21 and 7.31)

Unit labour costs

Unit labour cost (ULC) statistics are compiled in a number of OECD Member countries as an indicator of productivity. In some instances the statistics are compiled by national statistical institutes and in others by other government and non-government bodies. In broad terms, unit labour costs show how much output an economy receives relative to wages, or labour cost per unit of output. ULCs can be calculated as the ratio of labour compensation to real GDP. It is also the equivalent of the ratio between labour compensation per labour input (per hour or per employee) worked and labour productivity¹⁴. If wages rise but productivity rises faster, unit labour costs fall. Unit labour costs show the combined effect of changes in productivity and wages on the cost of production. Higher relative unit labour costs make it harder to be competitive (Canada, Department of Finance Canada 2003).

The unit labour cost concept has been included in this publication only for completeness, and to highlight its relation to other wage related statistics discussed in more detail. Further work on the clarification of national methodologies used in the compilation of ULCs is currently being undertaken by the OECD. The OECD also plans to compile annual ULCs for Member countries using national account data and structural statistics.

A range of variables are used to compute ULCs in OECD Member countries. These comprise measures of output (*e.g.* value added for manufacturing from national accounts, indices of industrial production), labour input (*e.g.* aggregate hours worked) and compensation. Measures of compensation are normally derived from national accounts and normally include an imputed estimate of labour income for the self-employed.

Labour costs

Statistics of labour costs are based on the concept of labour as a cost to an employer rather than from the perspective of earnings to an employee. The labour cost concept is broader than compensation of employees as it includes expenditure on welfare services, recruitment and training, and other miscellaneous costs including work clothes and taxes on employment. The aim of a labour cost index is to measure changes over time in the cost of employing labour. Such changes can include

¹⁴ A detailed explanation of the different measures of productivity and the variables used in the compilation of different productivity estimates, including labour productivity, is provided in the publication, *Measuring Productivity, Measurement of Aggregate and Industry-Level Productivity Growth: OECD Manual* (OECD 2001a)

both changes in wages or salaries or indirect costs, and changes in the composition and productivity/skill levels of the work force. The labour cost concept is defined in the Resolution of the 11th International Conference of Labour Statisticians as comprising:

“...remuneration for work performed, payments in respect of time paid but not worked, bonuses and gratuities, the cost of food, drink and other payments in kind, cost of workers’ housing borne by employers, employers’ social security expenditures, cost to the employer for vocational training, welfare services and miscellaneous items, such as transport of workers, work clothes and recruitment, together with taxes regarded as labour cost.” (ILO 1966, para 3)

As mentioned in Section 2.2 above, Eurostat is currently formulating a Council Regulation on the quarterly Labour Cost Index. The components of labour cost included in the draft Regulation¹⁵ comply broadly with the ICLS definition. These are summarised below in Table 9, together with the ICLS cost components.

Labour Price Index

The aim of a labour price index (LPI) is to provide a pure price index of changes in the price of labour unaffected by changes in the quality or quantity of work performed. In common with other price indices, the “purity” of an LPI depends on the success in holding quantity and quality changes in labour input constant. These changes which may occur from one period to another comprise a number of short and long-term influences including: movement of employees from one sector to another (e.g. manufacturing to services); shifts from unskilled to skilled employment, from full-time to part-time employment; improvements in employee productivity arising from experience, changes in individual skill, etc.

Labour cost indices, on the other hand, measure changes in average hourly labour costs, including not only price changes but also changes in the composition and characteristics of the labour input. In an LCI therefore, even if there are no changes in wages or salaries or indirect costs attached to individual jobs, the labour cost index can increase or decrease because, for example, the share of overtime hours may have increased or the share of low paid workers in a certain industry increased. As discussed below in Section 6 of this publication, there is variation in the approaches used in Australia, New Zealand and the United States in keeping quantity and quality changes in labour input constant.

There is currently no international definition of an LPI, or international guidelines and recommendations for the compilation of such indicators. The United States Bureau of Labour Statistics (BLS) defines their labour price index (their Employment Cost Index) as an index designed to measure changes in the hourly compensation of a fixed “basket of jobs”. In that sense their LPI is similar to other price indices such as the consumer price index (CPI) which measures price changes in a fixed basket of consumer goods (Ruser 2001, p. 3). The Australian Bureau of Statistics (ABS) alternatively defines their LPI (their Wage Cost Index) as an index that measures changes over time in wage and salary cost for employee jobs, unaffected by changes in the quality or quantity of work performed. Changes in wages and salaries resulting from changes in the composition of the labour market are excluded from ABS LPI movements.

¹⁵ A detailed list of the actual cost components is provided in Council Regulation (EC) No. 1726/1999 (European Commission 1999b) Implementing Council Regulation (EC) No. 530/1999 (European Commission 1999a) concerning structural statistics on earnings and on labour costs as regards the definition and transmission of information on labour costs.

There is also no existing international standard defining the component items of the price of labour services to be included in LPIs. The components of the labour price index compiled by the ABS, BLS and Statistics New Zealand have been determined either on the basis of national user needs or by practical problems (cost and data availability) of collecting information for some of the component items. As a result, the component items included by each country vary¹⁶. All three countries include components of wages and salaries, though there are differences in the inclusion or exclusion of non-wage benefits costs. Although the indices cover a large portion of the components that make up the total price of labour services they cannot be equated with the components of “labour costs” defined above.

The ABS and BLS are currently considering proposals to expand the range of component items included to ensure broader coverage of types of non-wage compensation that are increasingly being used by employers in remuneration packages. For the BLS, the intention is to move closer to the total wage concepts included in their Covered Employment and Wage Program. These proposals are outlined in more detail in Section 6.2 below.

2.4 Relationship between wages, earnings, compensation, unit labour cost, labour cost and labour price concepts

The relationship between the different concepts defined above in Section 2.3 is highlighted when each is viewed from one of three perspectives:

- the “price” of labour services;
- remuneration to an individual job holder or person or groups of persons living in the same household; and
- from the notion of costs to employers in the employment of labour.

Diagram 2 below provides an overview of the component elements of each concept from these three perspectives and their relationship to each other. The relationships illustrated in the diagram are based on United Nations standards and may differ from similar national models due to variation in the components included in each of the main concepts across countries. However, in many instances, such differences may only be at the margin. It should also be emphasised that showing the relationships between the various concepts on the basis of their component elements is only one way of highlighting their relationship to each other. Conceptual relationships could also be illustrated from the perspectives of their use and for different time periods (*e.g.* the receipt of different elements of income weekly, monthly, annually), etc¹⁷. Finally, further work on the relationships between income from

¹⁶ Statistics Canada and the United Kingdom Office of National Statistics (ONS) are either currently developing LPIs or assessing the feasibility or justification for their introduction. The Canadians, for example, plan to publish an experimental quarterly survey in the fall of 2003 for 2001 and 2002. It is expected that this survey will be at least disaggregated by wage and non-wage costs. Both the Statistics Canada and ONS surveys will utilise currently available information as much as possible.

¹⁷ Eurostat also has a long-term plan to look into the relationship between some of the various measures of wage related statistics. Their intention focuses on the development of an integrated system of statistics on earnings and labour costs, where the relationship between different variables will be examined. The main elements of the integrated system will be: the quarterly labour cost index; harmonised annual estimates of structural statistics on earnings and labour costs; annual microdata linking of employee earnings and demographics; and, the four-yearly structural surveys for earnings and labour costs. (Working Group meeting on wage and labour costs statistics, Eurostat, November 2002).

employment and household income, etc, was undertaken by an ILO Meeting of Experts in 2001. The recommendations from that meeting, which will be discussed at the 17th ICLS in 2003, are outlined in detail in Section 8 below.

The diagram is an expansion of a simpler one prepared by the Australian Bureau of Statistics (ABS 2001, p.5, Concepts and Sources, Chapter 11. Earnings, Employee Compensation, Labour Costs and Related Statistics) showing the relationships between the concepts of earnings, compensation of employees, labour costs and employment-related income.

- The notion of the “price” of labour underlies the concept of wage rates and labour prices.
- The notion of wages as remuneration to individuals underlies the concepts of earnings and employment-related income.
- The notion of wages as employer payments for labour services similarly underlies the concepts of compensation of employees and labour costs income.

It should be emphasised that the diagram is an attempt to illustrate conceptual relationships and in this sense the focus is on the components of each concept as defined in existing international standards. Some of the concepts in the diagram entail either the use of additional variable inputs in their calculation (in particular unit labour costs, average earnings) or different methodologies in their collection and compilation (in particular, labour prices).

As the ILO manual on wages statistics notes, statistics on wage rates, earnings, compensation of employees and labour cost as defined above are intended to measure different aspects of wages (ILO 1973b, p. 26). The relationships illustrated in Diagram 2 are further summarised below:

- Wage rates are akin to “price quotations” and may vary according to occupation, skill level, and different kinds of labour. Meaningful international comparisons can only be made where information on the national inclusion or exclusion of specific components such as overtime, irregularly paid bonuses are provided. The wage rate itself does not represent either income to an employee or the cost to employers of employing labour.
- On the other hand, the notion of wages as remuneration to job holders underpins both earnings and employment-related income.
- Earnings comprise remuneration regularly received for time worked or work performed. This includes both direct wages and salaries, and remuneration for time not worked (annual vacation, public holidays and other time off granted with pay). Earnings also include payments in kind and bonuses and gratuities. However, earnings do not include components that underlie the notion of wages as employer payments for labour services such as severance and termination pay, employer contributions to pension schemes, etc. Furthermore, earnings do not measure: all income accruing to employees from their employment; income from self-employment; and property income.
- Average hourly/weekly/monthly earnings, which are derived from the components of earnings, are designed to measure monthly or quarterly changes in that average. However, these statistics can be affected by a number of factors including occupational changes, changes in the labour market and changes in the sample used in each reporting period.

- The concept of employment-related income is broader in terms of its component items and is designed to provide a measure of total employment-related earnings. In this sense it proxies the well-being of employees generated by their activity and includes the remuneration of employees over and above their earnings. It therefore includes employment-related benefits received directly from the employer, from social security or compulsory insurance schemes or the state. Employment-related income also includes income from self-employment jobs. However, employment-related income excludes income unrelated to current or former employment such as property income and social benefits received without regard to employment status (INSEE 1999, pp. 24-25).
- The concept of total income on the other hand is broader still and includes property income and a range of current transfers received including social benefits received without regard to employment status. As mentioned in Section 2.3 above, disposable income provides a closer approximation of the receipts available for individual consumption through the exclusion from total income of social insurance contributions, taxes on income, etc.
- The concepts of compensation of employees and labour costs are closely related. The notion of wages as employer payments for labour services underlies both concepts. Both include not only gross wages and salaries of employees but also other costs of labour paid by employers, including employer contributions to social security and pension schemes. They include components regarded as a cost to the employer for the employment of labour but which cannot be regarded as income to employees. The concept labour compensation is mostly used in the system of national accounts.
- Compensation of employees is also one of the components used in the calculation of unit labour costs. Labour compensation for the calculation of unit labour costs also generally includes imputed labour income for the self-employed. The resultant estimate is used as a numerator in the derivation of unit labour costs. When unit labour costs are compiled from national accounts, either “hours worked” or “number of employees” is used as a denominator depending on the availability of the data.
- The concept of labour costs further extends the concept of compensation of employees through the inclusion of additional cost components paid by employers for the employment of labour services. Movements in a labour cost index reflect both changes in the price of labour and other changes in the composition and characteristics of labour inputs.
- The major difference between a labour cost and a labour price index is that the latter is compiled as a price index, holding quantity and quality changes in labour input constant to ensure that only price changes are reflected in the index.
- In the absence of any existing international standard for labour prices it is difficult at this stage to definitively describe the relationship between labour costs and labour prices in terms of differences in the component items included. As mentioned above, existing LPIs compiled in Australia, New Zealand and the United States are more akin to the wages element in the concepts of earnings and compensation of employees in terms of the components included, though the composition of LPIs is evolving in these countries to include a wider range of items. Just how far the components included in LPIs move towards labour cost indices depends on the uses of the LPI and user requirements.

- If appropriate methodologies in their collection and compilation are applied, an LPI can be the best indicator to obtain information on price development. However, one methodological issue not easily resolved in the compilation of a pure labour price index is the removal of the impact of quality and quantity changes in labour input in the compilation of the index. The implementation of methodologies to achieve this is costly and burdensome from a respondent load perspective. Such issues have resulted in work on the evolution of a European labour price index taking a lower priority in relation to other indicators such as the labour cost index.

The conceptual relationship between the various wage related statistics concepts described above (and shown below in Diagram 2) are further summarised in the following table. Even though the concepts are not presented in the table as a continuous sequence, the table highlights the precise relationship between the concepts (in col. 1) in terms of their component items (in col. 2) and provides information on the concept source, etc (in col. 3). Diagram 2 on the other hand, focuses on the relationships as a continuous sequence of concepts.

Table 2a: Wage related statistics - Relationship between concepts from the perspective of component elements

Relation-ship	Concepts and components	Comments and sources
	1. <u>Wage rates</u> (in ICLS terminology) (basic wages, cost-of-living allowances, and other guaranteed and regularly paid allowances) i) overtime payments ii) bonuses and gratuities regularly paid	BLS terms this as “basic time and piece rates”. ICLS resolution concerning an integrated system of wage statistics, 1973
2 = 1 + i) + ii)	2. <u>Direct wages and salaries</u> (in ICLS terminology) iii) remuneration for time not worked iv) bonuses and gratuities irregularly paid v) payments in kind	Eurostat terms direct wages and salaries as “direct remuneration”, and BLS as “pay for time worked” ^a
3 = 2 + iii) + iv) +v)	3. <u>Earnings</u> (in ICLS terminology) vi) employer contribution to statutory social security schemes or to private funded social insurance schemes vii) unfunded employee social benefits paid by employers in the form of: (a) children’s, spouse’s, family, education or other allowances in respect of dependants; (b) payments made to workers absent from work because of illness, accidental injury, maternity leave, etc.; (c) severance payments ^b viii) personal income taxes ix) social security contributions payable by employees x) family allowances in respect of dependent children	Eurostat terms earnings as “gross wages and salaries”, BLS as “direct pay”, and SNA as “total wages and salaries”. Paras. 7.31 (b) and 7.35 of 1993 SNA Eurostat, Net earnings in the EU – 1998, Statistics in focus, Theme 3 – 7/2000.

Table 2a: Wage related statistics - Relationship between concepts from the perspective of component elements (continued)

Relation-ship	Concepts and components	Comments and sources
4 = 3 – viii) –ix) + x)	4. Net earnings (in Eurostat terminology)	OECD terms net earnings as “net take-home pay of the employee” (OECD, Taxing Wages 2001, p. 11).
5 = 3 + vi + vii)	5. <u>Compensation of employees</u> xi) entrepreneurial income (income from self-employment) xii) property income (interest, dividends, etc.) xiii) current transfers received (social security benefits, etc.)	Compensation of employees, together with the data on labour input (<u>hours of work</u>) is the basis for the calculation of <u>unit labour cost</u> .
6 = 5 + xi) + xii) + xiii)	6. <u>Household total income</u> (in SNA terminology) xiv) current transfers paid (taxes on income, etc.)	Chapters 7 and 8 of 1993 SNA
7 = 6 – xiv)	7. <u>Household disposable income</u> (in SNA terminology) xv) the value of imputed rent of owner-occupiers xvi) the value of home produced and consumed within the same household ^c	ICLS resolution concerning household income and expenditure surveys (1973), and Chapter VIII of 1993 SNA.
8 = 7 + xv) + xvi)	8. <u>Household total income</u> (in household budget survey terminology) xvii) income related to self-employment xviii) current transfers received as a result of the current or former involvement in paid or self-employment, xix) employers’ contribution to social security (deferred benefits) ^d xx) taxes and obligatory social security contributions xxi) the claims or reimbursement received by households xxii) transfers to non-profit institutions serving households (NPISHs) such as donations, fines and penalties payable by households	ICLS resolution concerning the measurement of employment related income (1998), and para. 41 of Report of ILO Working Group Meeting of Experts (2001). Eurostat, Household Budget Surveys in the EU, 1997, para. 6.2
9 = 8 – xx) + xxi) – xxii)	9. <u>Household net income</u> (in household budget survey terminology)	Household net income is intended for measuring the resources which are available for households to consume and save.

Table 2a: Wage related statistics - Relationship between concepts from the perspective of component elements (continued)

Relation-ship	Concepts and components	Comments and sources
10 = 5 + xvii) + xviii) – xix)	10. <u>Employment-related income</u> xxiii) cost of vocational training xxiv) cost of welfare services (<i>i.e.</i> cost of canteens) xxv) labour cost not elsewhere classified (<i>i.e.</i> costs of transport of workers, cost of work clothes, cost of recruitment) xxvi) taxes regarded as labour costs (<i>i.e.</i> taxes on employment or payrolls)	Employment-related income excludes income from other sources such as property, social assistance, transfers, etc., not related to employment. ICLS resolution concerning statistics of labour cost, 1966
11 = 5 + xxiii) + xxiv) + xxv) + xxvi)	11. <u>Labour costs</u> 12. <u>Labour prices</u>	There are no international recommendations specifying the components to be included in the labour price (index). However, the components can be identical to those used in the compilation of labour cost indices.

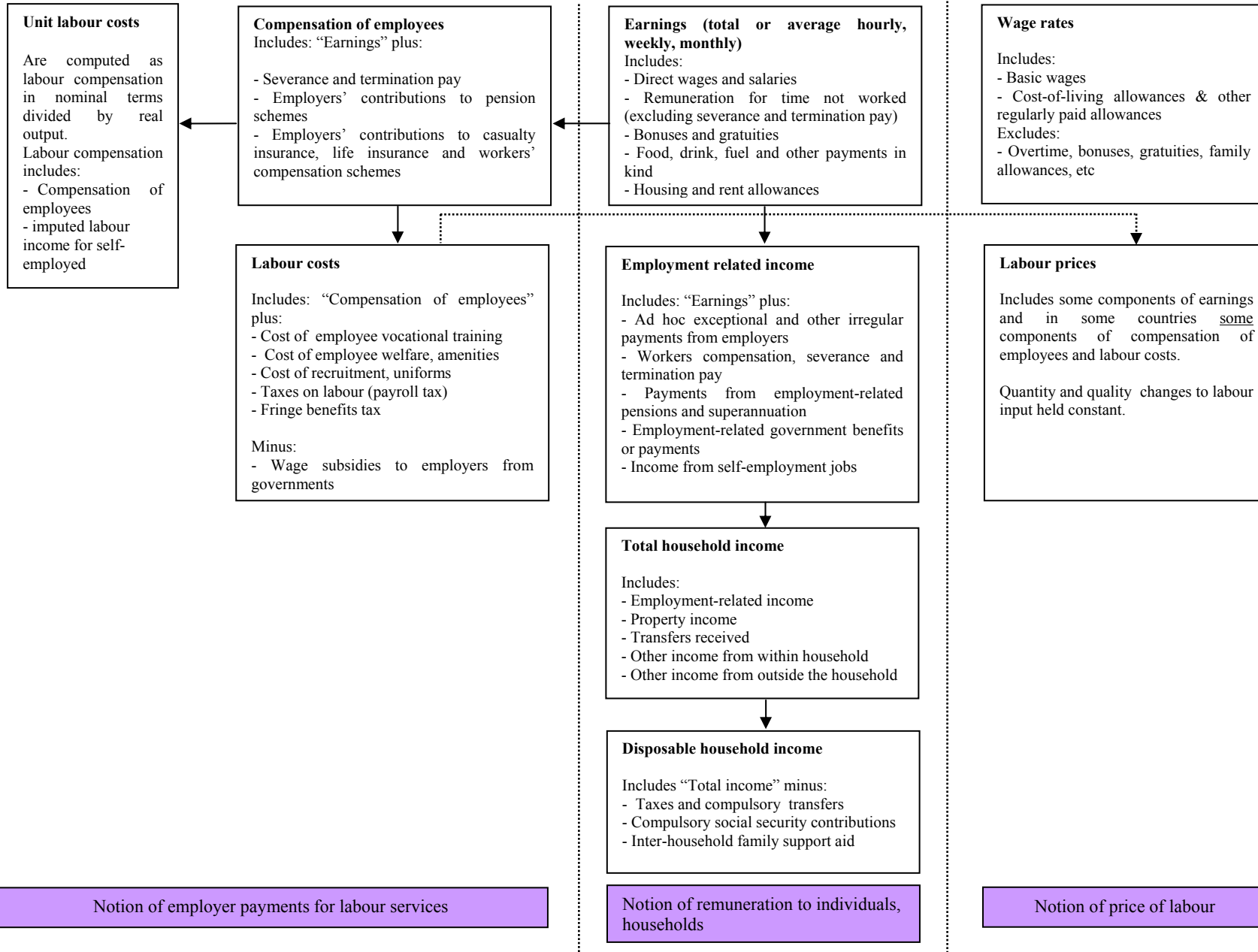
a) Pay for time worked includes only basic time and piece rates plus overtime premiums, shift differentials, other premiums and bonuses paid regularly each pay period, and cost-of-living adjustments. Direct pay includes: (1) pay for time worked; and (2) other direct pay (pay for time not worked (vacations, holidays, other leave except sick leave), seasonal or irregular bonuses and other special payments, selected social allowances, and other the cost of payments in kind).

b) Severance pay is excluded from earnings as this is paid selectively to individual employees when certain events occur. In other words, it has the characteristics of irregularity and non-recurrence.

c) In national accounts, they (*i.e.* xv, xvi) are not included directly in disposable income since they appear under resources in the production account (and thus influence the level of value-added and indirectly, income) and under final consumption in the use of income account.

d) This element (xix, employers' contribution to social security) is excluded from employment-related income, as this does not meet the requirement that income receipts should potentially be available for consumption within the reference period. This is also extensible to the case of stock options which are exercised at some future date outside the reference period. Eurostat also takes the view that compensation of employees arising from stock options should not be recorded until the vesting date, when the employee has met all of the conditions for taking complete ownership of the stock options, or at the date when the options become tradable. (Verrinder 2001).

Diagram 2: relationship between concepts



2.5 Uses of the statistics in short-term economic monitoring

As mentioned in Section 2.1 above, the needs of government and financial institutions such as central banks call for reliable statistics on wage rates, earnings and labour costs. There is also an emerging need in some OECD Member countries for short-term labour price statistics. To meet such demands, national agencies compile a range of statistics, each designed to measure a different aspect of wages, labour costs, etc¹⁸. Wage rate, labour cost and labour price statistics are used to compare the evolution of labour prices both within an individual country and between countries over time. The frequency at which the statistics are compiled is a function of the needs of users, balanced against available resources in the compiling agency and the desire to minimise the reporting burden of respondents.

A comprehensive review of the uses of the statistics described in this publication is provided in the ILO Manual on wage statistics and need not be repeated in detail here (ILO 1979, Chapter 3, Objectives and uses of wages statistics, pp. 15-20). The ILO Manual summarises the uses of wages statistics under the following eight broad headings: measurement of level of living of employees; wage fixing; collective bargaining; economic indicators; income distribution studies; empirical data and wage theories; economic, social and manpower planning, research and analysis; wage, income and price policies. Uses of different wage related statistics may also be summarised by breaking them down into two broad types of data that cut across the different measures – data in levels (in absolute values) and data highlighting trends (in indices).

Level data are generally used in analyses of pay (earnings, labour costs, etc.) gaps (differentials, variations) among various segments of the population such as gender, region, industry, occupation, etc. For example, Eurostat emphasises the importance of level data on labour costs, as knowledge of such cost levels is an essential tool in strategic planning of investment, production, employment policy or wage levels in collective bargaining (Eurostat 2001). Level data (together with trend data) on occupations (or jobs) are also regarded as being very important for both the formulation of labour market policies and monitoring their impact.

Trend data on the other hand, play an important role in providing estimators of inflationary pressures arising from the labour market. Given the close relationship between the processes of wage (earnings, labour costs) formation and price determination, OECD Member countries have for a long time compiled a number of conventional measures such as average earning indices and/or wage rates. However, these conventional indices are not harmonised and no agreement has been reached on a common definition for them. Conventional indices also frequently exclude all or a number of increasingly important non-wage components which has hindered the monitoring of price development, hence, the necessity in some countries at least, for the introduction of labour cost indices and/or labour price indices in recent years.

Another key issue receiving more attention and which impacts on the use of both level and trend data is the extent to which the whole economy is covered in short-term wage related statistics, in particular, the coverage of services. As discussed in the following Sections of this publication, there is considerable variation in sector coverage (especially for services) both between countries and between related indicators published within individual countries.

¹⁸ The demand in Europe for wage and labour cost statistics was intensified with the creation of the Euro area in January 1999 and the adoption of the euro from January 2002. Countries in the Euro area can no longer use exchange and interest rates as mechanisms for adjusting imbalances in economic performance. Wages and labour costs therefore take on an increasingly important role in compensating for such imbalances.

The following overview of the uses of the statistics therefore focuses on the uses of labour cost indices and the current discussion on the need for the compilation of labour price indices, in particular, the need, for infra-annual statistics.

The following table summarising the uses of labour cost information in short-term economic monitoring was presented at a Eurostat workshop¹⁹. The primary benefit to users in the provision of a labour price index is that the availability of such information would complement labour cost statistics as compositional changes (listed above) are theoretically neutralised in the compilation of the price index. This would enable users to distinguish between changes in labour costs due to inflationary pressures on labour markets from changes due to other developments such as increases in overtime or shifts to higher paid jobs.

Table 3: Wage related statistics - Uses of labour cost information in short-term economic monitoring

Mechanism monitored on a short-term basis	Indicator	Rationale
Internal consumption	Change in total real disposable income of employees	Statistics on total gross wages and salaries are usually used as a proxy for income. They originate from administrative sources and/or quarterly national account estimates. In general, employees' social contributions and taxes can be estimated as a fixed portion of gross wages and salaries. However, substantial changes in contributions and tax systems can occur at a particular period, and it is important to know when this happens.
Inflationary pressures	Change in labour price	Traditionally, indices of hourly earnings of certain categories of employees are used as a proxy for: <ul style="list-style-type: none"> - price changes, on the assumption that, on a short-term basis, compositional changes play a negligible role (except for social contributions as mentioned above); and - changes for all categories of employees and most economic activities, on the assumption that labour markets are so sticky that the spread of changes to the whole economy follows a stable model.
Inflationary pressures	Share of labour costs in value-added	This ratio, calculated from quarterly national accounts, is complementary to information on the price of labour. It gives an idea of the overall macroeconomic equilibrium. In a non-inflationary process, it should remain stable (or at least should not increase). The assumption is that employers tend to keep their profit margins stable and thus tend to increase production prices when labour costs increase more rapidly than labour productivity
Competitiveness	Unit labour costs	There are several proxies for this ratio, which in theory ought to be calculated only at a very detailed product level. On a short-term basis, cost competitiveness is mostly calculated with regard to export markets and relative changes in costs, volume of production and exchange rates. Data from industrial enquiries are used. Labour competitiveness is obviously more important when explaining overall competitiveness in labour-intensive industries and a certain activity breakdown is therefore necessary to obtain good analytical results.
Employment	Change in labour costs and their components	On a short-term basis it is assumed that the price elasticity of labour is minimal, and that overall demand or competitiveness is more important when explaining changes. It is assumed that labour costs plays an indirect role – primarily via the other mechanisms mentioned above. However, very rapid estimates of yearly changes are necessary in order to study the impact of policies aimed at reducing the cost of labour, and this is where quarterly data play a role.

Source: Benassi, Marie-Paule and Hubert Charlier, *European short-term labour costs and earning statistics*. Paper presented at the Workshop on the role of labour cost information in short-term analysis in the context of Monetary Union, Eurostat, 1999

¹⁹ Workshop on the role of labour cost information in short-term analysis in the context of Monetary Union, Frankfurt, December 1999.

Discussion in Europe over the last two years centred on:

- the need for the compilation and dissemination of a labour price index, perhaps in addition to the quarterly labour cost indices currently being implemented in accordance with the Council Regulation on labour cost indices;
- the frequency of compilation of a future labour price index; and
- which indicator would be regarded as the main short-term statistic for monitoring changes in earnings and labour costs, if a decision were made to go ahead with the compilation of a European labour price index.

The results of Eurostat investigations on the development of a future European labour price index show that such an index would provide useful information to decompose changes in average earnings into labour price effects and the impact of compositional change. Labour cost indices control some of these changes, though a well designed labour price index could extend the range of factors controlled, e.g. those resulting from occupation shifts, etc.²⁰ Most commentators see labour price indices as providing useful information that complements other statistics in this area. The ability to compare data from different sources obviously requires the use of common definitions and frameworks²¹.

The current situation is that work on the development of a European labour price index will assume a lower priority in relation to the implementation of the labour cost index Regulation. This decision was based on the expense (to national statistical institutes) and burden on respondents of implementing an LPI. There were also concerns on how to reflect quality and quantity changes in labour input in the compilation of LPI. Irrespective of recent developments in Europe it is still worth reviewing reasons for the introduction of LPIs in some of those countries that currently have them.

Factors driving the development of labour price indices in Australia and New Zealand included the loss of economy-wide labour price type indicators based on centralised collective bargaining. The loss of previously available information was the result of changes in the industrial relations environment that led to the development of more decentralised wage agreements, together with the fact that previously available information reflected the “floor” or base wage rather than average levels of pay which included additional wage components. A number of European states currently rely on economy-wide labour price indicators to produce estimates of growth in labour prices. However, as the Office for National Statistics (ONS) noted in their report (ONS 2002, p.3) which evaluated Australian and New Zealand experience in the compilation of labour price indices, can the continued availability of such economy-wide data in Europe be assumed?

In conclusion, any decision on the compilation of labour price indices in Europe and elsewhere will need to be taken in the context of the whole range of short and long-term statistics on wages and earnings and labour costs available either now or in the near future. Resources required to compile

²⁰ The word “could” has been included here as productivity changes are a complicating factor. For example, wage increases may be the result of a combination of wage inflation and productivity increases. Difficulties in controlling changes in the latter may result in difficulty in assessing the impact of productivity on changes in wage levels.

²¹ For example, a framework developed by Statistics New Zealand illustrates the role of their labour price index in relation to various other measures of wages and labour costs, in particular, the relationship between the New Zealand labour price index, producer price inputs (which measures changes in business current costs of production excluding labour and capital costs) and the capital goods price index (which measures changes in business capital costs). These three indexes provide measures of the extent to which changes in business input costs put pressure on the output prices they charge for goods and services.

labour price statistics is obviously an issue, from the perspectives of both national statistical institutes (NSIs) and respondents providing the initial data. One of the factors impacting on the level of additional NSI resources required concerns the feasibility of utilising existing data in lieu of collecting additional information from respondents. The use of such information has been highlighted in recent work in this area by the United Kingdom ONS and Statistics Canada.

2.6 Brief overview of data sources

National agencies use a range of data sources in their compilation of the wage related statistics summarised in the remaining Sections of this publication, the principal ones being enterprise surveys, use of administrative sources and household surveys. Most OECD Member countries use all three sources to produce wage-related statistics. Some countries also compile wage measures from multiple (and different) sources to produce reliable and sometimes internationally comparable data. Because of pressures on national agencies to reduce the reporting load of enterprises, the use of administrative source data is becoming more and more important. The sources used are summarised below in the discussion of each of the wage related statistics covered in this publication. This Section merely provides a brief overview of the relative strengths and weaknesses of each source. A detailed, though more general, discussion of the relative strengths of different data sources is provided in the recent OECD publication for measuring the non-observed economy (OECD 2002c, Chapter 6. Assessment and improvement of data collection programme).

Enterprise surveys

Enterprise surveys are used when there is a requirement for detailed data by economic sector or when precise data are needed for use in the compilation of series such as labour costs. This precision arises from the potential use of records by respondents providing the required information to the national agency. Given the substantial response burden associated with these surveys, it is unlikely that they will be extended to any degree beyond their present application. Reporting burden has been a major issue in discussions on the possible development of short-term labour price indices in countries of the European Union over the last two years.

A major issue impacting on the reliability of statistics derived from enterprise surveys is the coverage of units in register frames. Ideally, the register frame used for the collection of data should contain all the units that are in the target population. Problems here arise from the deliberate exclusion from the register of small enterprises or, if such enterprises are in fact included in the register, problems associated with their maintenance. As mentioned above, the coverage of the service sector is also an issue and an area of difference between countries.

Administrative sources

The use of data derived from administrative sources has received particular attention in recent years in efforts to reduce enterprise reporting burden. Such sources have been created by national agencies in response to a legislative or regulatory requirement. Administrative sources produce two types of data that can be used by statistical agencies for statistical purposes:

- registration data – describing the institutional units that are required to register under specific legislation. Such information are useful in building and maintaining register frames used for the enterprise surveys described above;
- transaction data – describing transactions administered by legislation. This information can be used to supplement or replace enterprise surveys.

The main problems associated with the use of administrative sources arise from the fact that they are frequently not under statistical agency control which may lead to difficulties with respect to data coverage, content, quality and consistency. Furthermore, administrative sources are subject to change in response to new legislation with little (if any) regard for the impact on the statistical series. The timeliness of the availability of administrative data is also an issue in some countries which may limit their usefulness in the compilation of short-term indicators.

Household surveys

Household surveys have become increasingly important over the last two decades as a source of information for wage related statistics, particularly in transition and developing countries. Typically (though not always) these surveys use area frames as a starting point for their household surveys, in particular, for labour force and household budget surveys. A particular strength of household surveys is their ability to obtain information on persons working in more than one job. Another strength is their ability to provide better coverage of persons working in:

- enterprises too small to be recorded in any readily usable administrative list of enterprises, including persons working in the informal economy; and
- the service sector.

Household surveys are used by national statistical agencies to collect a broad range of information, primary examples of such surveys being: the monthly or quarterly labour force surveys conducted in almost all OECD Member countries to collect detailed statistics on employment, unemployment and other labour force data²²; household expenditure (or budget) surveys; and specialised surveys on other topics. Data on wage related statistics are collected either by specialised household surveys or through the inclusion of supplementary questions in labour force surveys, etc, at relatively little extra cost. In summary, household surveys have the advantages of broad activity coverage and the possibility of detailed analysis against demographic and other information (e.g. gender, age, hours worked, education, training). They generally cover the whole population with the exception (in some countries) of persons living in non-private households or communal establishments.

Three types of household surveys are usually applied. These comprise surveys:

- of individuals and households through the application of recall questions;
- through rotation sample designs; and
- through longitudinal surveys.

In the case of first type of survey, the responding unit in household surveys is a person in a household, not an enterprise, thus the data that can be collected about income, costs, etc, are subject to recall problems and may be somewhat limited. In the latter two types of surveys, instead of the absence of recall errors, other disadvantages are observed such as low response rates and high attrition rates, high collection cost, problems of tracking the household over time, etc. (ILO 1999).

²² Detailed descriptions of OECD Member country household labour force surveys are available on the IMF's Special Data Dissemination Standards (SDDS) website (IMF 2003b), or in more summary form in metadata provided in the OECD's annual *Labour Force Statistics* publication (OECD 2003b).

2.7 Comparison of key aspects of national methodologies used to compile the indicators

Table 4 below summarises the availability of earnings, labour cost, labour price and unit labour cost statistics in OECD Member countries. As can be seen from the table, countries normally produce a range of data from several different sources. For example, the United States produces monthly earnings from the Current Employment Statistics Program (establishment data), quarterly and annual wage data from the Covered Employment Wages Program (administrative data), and the quarterly Employment Cost Index from the National Compensation Survey.

As mentioned above, there is inconsistent use of terminology by different countries and the table attempts to show availability on the basis of the consistent use of the concepts described in Section 2.3 above. A more detailed analysis of the differences between each of the series compiled by OECD Member countries is provided in subsequent Sections of this publication.

Table 4: Wage related statistics: Summary of wage related statistics by periodicity of data release on a national basis (as of December 2002)

Country	Wage rates (collectively agreed pay)	Earnings (including average earnings)	Labour cost index/survey	Unit labour cost	Labour price index	Compensation of employees (based on income approach to GDP)	Hours of work
Canada		M		Q		Q	M
Mexico		M		M			M
US		M, Q, A		Q	Q	Q	M
Australia		Q	A-5	Q	Q	Q	M
Japan		M	A-3	M			M
Korea		M, Q	A	Q			M
New Zealand		Q			Q		Q
Austria	M	M	Q			Q	M
Belgium	M	Q	Q			Q	M
Czech R.		Q	A				Q
Denmark		Q	Q			Q	Q
Finland		Q	Q			Q	M
France		Q, A	Q	Q		Q	Q
Germany	M	Q	Q			Q	Q
Greece		Q	Q				Q
Hungary		M					M
Iceland		M					A
Ireland		Q	Q	Q			Q
Italy	M	M	M			Q	M
Luxembourg		M	Q				M
Netherlands	M	Q	Q			Q	Q, A
Norway		Q	A				Q
Poland		Q	A-4				Q
Portugal		M, Bi-A	Q		Q		M
Slovak Rep.		Q					Q
Spain		Q	Q	Q		Q	Q
Sweden		M	Q			Q	M
Switzerland		A					A
Turkey		Q, Bi-A	Ad-hoc	A			Q
United Kingdom		M, A	Q	M, Q		Q	Q

Note:

1) This table focuses on the availability of short-term indicators from national sources. Annual or multi-year structural data compiled by member countries are not exhaustively identified in the table.

2) In the case of unit labour costs, annual data can be available for all OECD Member countries from annual national accounts (*i.e.* compensation per employee in current prices divided by GDP per total employment). However, such availability is not shown in this table.

3) M: monthly; Q: quarterly; A: annual; Bi-A: bi-annual; A-3: every three years.

4) Blanks mean that an internet search of NSO websites indicates non-availability of the series.

5) Although the US uses the term "Employment Cost Index", it is marked in the column "Labour price index" in this table (refer footnote 6).

3. WAGES AND EARNINGS

3.1 Introduction

Information on average wages (earnings) is one of the most important areas of labour market information required by both government agencies and the private sector. Wages form a substantial portion of income that accrues to a large portion of the economically active population, namely persons in paid employment. Information on wage levels is essential for evaluating the living standards and conditions of work and life of this group of workers. The need for information on average wages is particularly important in planning for economic and social development, formulating income and fiscal policies, regulating minimum wages and collective bargaining, and fixing social security contributions and benefits.

The international statistical standards relating to earnings and wages outlined in Section 2.2 above have formed the basis for the collection of data by a number of international organizations including the ILO, Eurostat and the OECD. As described in Section 3.3 below, these standards have provided the basis for the initial compilation of wages and earnings statistics by national agencies, though with some departures to meet national circumstances (ILO 2003c).

Wages and earnings statistics compiled by international organizations comprise:

- ILO earnings data (weekly earnings from household labour force surveys, hourly earnings from labour-related establishment surveys, and hourly/weekly wage rates from collective agreements) maintained in the LABORSTA database (ILO 2003d).
- The Index of Gross Wages and Salaries compiled by Eurostat (Eurostat 2003e) for industry in Sections C to F of ISIC Rev. 3. Such data are collected under the Council Regulation on Short-term Statistics. The collection of data from member states has been extended to cover the whole economy (*i.e.* C to O in ISIC Rev. 3) under the title “Conventional Earning Indices”. Eurostat maintains both series on its NewCronos database.
- Limited earnings data maintained by the OECD in its MEI database. In the main, these comprise monthly and quarterly hourly earnings for manufacturing. The OECD also disseminates data on average annual earnings in national currencies and the tax wedge²³ (*i.e.* the proportion of income tax and the social-security contributions of employees and employers as a percentage of labour costs) per worker in manufacturing for Member countries. The Organisation estimates annual average earnings using national source data on earnings for its analysis on the “tax wedge” on labour and releases the information in the annual publication, *Taxing Wages* (OECD 2001b).

3.2 Basic Concepts

Table 5 below compares the wages and earnings component items defined by the SNA 1993, ILO and Eurostat.

System of National Accounts concept of wages and salaries

As mentioned in Section 2.3 above, the SNA 1993 does not define the concept “wages and salaries” or “earnings” as such. Instead, it presents the concept “compensation of employees”, where wages and salaries are treated as one of two main components - wages and salaries, and the value of

²³ The tax wedge on labour is the difference between worker’s take-home pay and what it costs to employ them. It comprises: i) income tax; ii) social security contributions of employees; and iii) employers’ contribution to social security (Heady 2002).

social contributions payable by employers. The SNA then presents the components to be included and excluded in wages and salaries in detail (ISWGNA 1993, paras. 7.31-7.47).

Table 5: Wage related statistics: Current existing international guidelines and recommendations for components of wages and salaries and earnings

System of National Accounts 1993 concept of wages and salaries (as defined in compensation of employees)	International Labour Organisation concept of earnings	Eurostat concept of wages and salaries
<p><i>Wages and salaries in cash</i></p> <ul style="list-style-type: none"> - wages and salaries payable at regular weekly, monthly or other intervals including: <ul style="list-style-type: none"> - overtime - hazard allowances - expatriation allowances - supplementary allowances payable regularly such as housing, allowances to cover cost of travel to and from work - holidays and other temporary halts in production, except absences due to sickness - ad hoc bonuses and other exceptional payments linked to performance of the enterprise - commissions, gratuities and tips <p><i>Wages and salaries in kind</i></p> <ul style="list-style-type: none"> - meals and drinks including those consumed when travelling on business - housing services and accommodation including those used by all members of family - uniforms and other special clothing - vehicles or other durables provided for personal use of employees - goods and services produced as outputs from the employer's own processes of production - sports, recreation or holiday facilities for employees and families - transportation to and from work - crèches for children of employees <p>Exclusions</p> <ul style="list-style-type: none"> - reimbursement of travel, removal or related expenses to enable the employee to take up new job - reimbursement of expenditures by employees on tools, special clothing etc, needed exclusively to enable them to carry out their work - unfunded employee social benefits paid by employers in the form of: <ul style="list-style-type: none"> - education or other allowances for dependants - wage and salary payments to workers absent from work because of illness, accident, injury, maternity leave - severance payments, etc. 	<p>Remuneration payable to employees in cash or in kind as a rule at regular intervals including:</p> <ol style="list-style-type: none"> 1. Direct wages and salaries including: <ul style="list-style-type: none"> - straight time pay of time-related workers - incentive pay of time-related workers - overtime, shift, night and holiday work - commissions paid to sales and other staff - premiums for skill, dirt, danger, etc - cost-of-living allowances 2. Remuneration for time not worked <ul style="list-style-type: none"> - annual vacation, other paid leave - public and other holidays - other time off granted with pay 3. Bonuses and gratuities <ul style="list-style-type: none"> - year-end and seasonal bonuses - profit-sharing bonuses - supplementary vacation pay and other bonuses and gratuities 4. Food, drink, fuel and other payments in kind 5. Housing and rent allowances <p>Exclusions</p> <ul style="list-style-type: none"> - severance and termination pay - employer's contributions in respect of their employees paid to social security and pension schemes 	<p><i>Wages and salaries in cash</i></p> <ul style="list-style-type: none"> - basic wages and salaries payable at regular intervals - enhanced rates of pay for overtime, night work, weekend work, disagreeable or hazardous circumstances - cost-of-living allowances, local allowances, etc - bonuses based on productivity or profits, Christmas and New year bonuses - allowances for transport to and from work - holiday pay for official holidays or annual holidays - commissions, tips, attendance and director's fees paid to employees - ad hoc bonuses or other exceptional payments linked to the overall performance of the enterprise made under incentive schemes - payments made by employers to their employees under savings schemes - exceptional payments to employees who leave the enterprise, if not linked to a collective agreement - housing allowances paid in cash by employers to their employees <p><i>Wages and salaries in kind</i></p> <ul style="list-style-type: none"> - meals and drinks, including those when travelling on business - own account and purchased housing or accommodation that can be used by all members of the employees' household - uniforms and other special clothing - services of vehicles and other durables provided for personal use of employees - goods and services produced as outputs from the employer's own processes of production - sports and recreation or holiday facilities for employees and their families - transportation to and from work - crèches for children of employees - payments made by employers to works councils or similar bodies - interest foregone by employers in low interest loans to employees <p>Exclusions</p> <ul style="list-style-type: none"> - expenditure by employers which is to their own benefit as well as that of their employees because it is necessary for the production process, e.g. medical examination facilities, meals or drinks necessitated by working conditions, allowances for the purchase of tools - wages and salaries which employers continue to pay to workers absent from work because of illness, accident, injury, redundancy, maternity - other unfunded employee social benefits

Sources: 1) System of National Accounts 1993, paras. 7.32 - 7.42; 2) Resolution of the 12th ICLS concerning an integrated system of wage statistics, 1993, para. 8; 3) European System of Accounts: ESA 1995, Eurostat, 1996, paras. 4.03 - 4.07

ILO concept of earnings

As stated in Section 2.3 above, the ILO concept of earnings (ILO 1973a) relates to remuneration in cash and in kind paid to employees, as a rule at regular intervals, for time worked or work done, together with remuneration for time not worked, such as for annual vacation, other paid leave or holidays. Earnings exclude employer contributions for their employees paid to social security and pension schemes and benefits received by employees under these schemes. Earnings also exclude severance and termination pay.

Statistics on earnings should relate to employee gross remuneration, *i.e.* the total before any deductions are made by the employer for taxes, contributions of employees to social security and pension schemes, life insurance premiums, union dues and other obligations of employees.

Eurostat concept of (gross) wages and salaries

Eurostat defines “wages and salaries” as total remuneration, in cash or in kind, payable to all persons counted on the payroll (including home workers), in return for work done during the accounting period. This is regardless of whether or not wages are paid on the basis of working time, output or piecework and whether or not they are paid regularly (Eurostat 2003e).

Eurostat also uses the concept “conventional earnings indices” in addition to statistics on wages and salaries. Under this concept it defines earnings as gross wages and salaries. Conventional earnings cover remuneration in cash paid directly and regularly by the employer at the time of each wage payment. This is payment before fines, tax deductions, social security contributions payable by wage earners and retained by the employer. Payments for leave, public holidays and other paid individual absences are included in principle, insofar as the corresponding days or hours are also taken into account to calculate earnings per unit of time (Eurostat 2003d).

Table 5 above shows the components of wages and salaries for the SNA, ILO and Eurostat, highlighting their general conformity with the definitions provided in Section 2.3 above. Included, are basic gross wages and salaries, overtime payments, bonuses, and any payments in kind. Excluded, are statutory social contributions payable by the employer, imputed social contributions (social benefits paid directly by the employer). There are however differences for components such as severance pay and stock options.

Severance and termination pay and stock options are not specifically mentioned in the Eurostat concept of wages and salaries as defined in ESA 1995. Severance and termination pay are specifically excluded and stock options are not mentioned in the ILO concept. However, in their metadata posted on the IMF’s Special Data Dissemination Standard (SDDS) website for their Euro indicators Index of Gross Wages and Salaries, Eurostat specifically includes severance and termination pay and excludes stock options as components of wages and salaries (Eurostat 2003e). Despite such apparent inconsistencies, it is not easy to say whether or not there are in fact significant differences between the concepts presented by the ILO (earnings) and the two concepts used by Eurostat (wages and salaries, and conventional earning indices).

3.3 National Practices

The same degree of caution applies when comparing the national application of the ILO and Eurostat concepts of earnings by OECD Member countries. Wages and earnings statistics vary considerably from country to country, and in some cases, the data only cover particular groups of

workers. When comparing countries particular attention should be given to the following issues when using indices on earnings:

- Components of earnings used in each country and how they compare with those used by other countries. Are they consistent with those specified in international guidelines and recommendations?
- Method by which data are collected. Is the index based on survey data or collective agreement data, or a mixture of such sources?
- Basis of calculation of the indicator, *i.e.* in terms of either hourly or monthly earnings per employee. Is the index calculated on an hourly, weekly or monthly basis?
- Coverage of economic activities. Does the index cover the whole economy or only manufacturing industries?
- Category of employees. Does the index on earnings cover all the employees, or does it cover only manual workers?
- Coverage of establishment size used to compile the earnings statistics. Are small establishments in terms of number of employees covered?

These issues are discussed below in the remainder of this Section. Information on national practices are also outlined in Annex Tables 1 and 2, both of which focus on infra-annual sources utilized by OECD Member countries, though Annex Table 2 also contains information on a small number of annual and bi-annual sources. Annex Table 1, which summarises the components of the earnings series included in Annex Table 2, was prepared from national sources, supplemented where necessary with information obtained from other international organizations. Table 7, located at the end of this Section, provides information on the availability of annual data on wages and salaries.

Components

Annex Table 1 shows the inclusion and exclusion of the components for wages and earnings by OECD Member countries. Examination of this table shows considerable variation between countries. Deviations from existing international guidelines take the following forms:

Employers' contribution to social security is included.	Denmark and Luxembourg;
Termination pay is included	Canada
Bonuses regularly paid are excluded	Belgium, France, Germany
Payments in kind are excluded	US, Japan, Korea, Denmark, Greece, Ireland, Portugal, Sweden, Switzerland
Overtime pay is excluded	Finland, Switzerland
Payments for time not worked are excluded	Sweden
Exclusions not specifically listed	Iceland, Luxembourg, Netherlands, Norway, Poland, Turkey, United Kingdom

Data collection method

As shown in Table 6 below and in Annex Table 2, all OECD Member countries except Switzerland compile short-term statistics on wages and earnings, *i.e.* on a monthly, quarterly or bi-annual basis. Most of the statistics are compiled by national statistical institutes, the exceptions being Japan, Korea, France (INSEE in co-operation with the Ministry of Employment and Solidarity) and Portugal where other agencies (such as ministries of labour) are responsible. Statistics on wages and earnings are most frequently derived from surveys, though other sources such as collective bargaining agreements play an important role in some countries (Austria, Belgium, Germany, Italy and Netherlands). Although other countries have systems of collective agreements these are not utilised to produce official statistics on wages and earnings.

Table 6 also shows that some countries use multiple sources of data to produce statistics for wages and earnings (Austria, Belgium, Germany, Italy, Netherlands, Portugal and Turkey). In the main, these tend to be countries that utilise collective agreements.

Table 6: Wage related statistics: Summary of Compilation of Wages and Earnings – OECD Member Countries

	Data collection method			Basis of calculation of the indicator			Coverage of economic activities	
	NSO - survey	NSO – Other method	Non – NSO survey	Hourly only	Monthly and weekly only	Both monthly and hourly	Manufact -uring	Whole economy
Canada	X					X		X
Mexico	X				X		X	
United States	X (BLS)			X				X
Australia	X				X			X
Japan			X		X			X
Korea			X1, X2 (estimate)	X2	X1		X2	X1
New Zealand	X					X		X
Austria	X1	X2 (collective)				X1, X2	X1	X2
Belgium	X1	X2 (collective)		X2		X1	X1	X2
Czech Republic	X				X			X
Denmark	X			X				X
Finland	X					X		X
France	X					X		X
Germany	X1	X2 (collective)				X1, X2		X1, X2
Greece	X					X	X	
Hungary	X				X			X
Iceland	X				X			X
Ireland	X					X	X	
Italy	X1	X2 (collective)			X1	X2		X1, X2
Luxembourg	X				X			X
Netherlands		X1 (collective) X2 (labour accounts)		X2		X1	X2	X1
Norway	X1, X2			X2	X1		X2	X1
Poland	X				X			X
Portugal	X1		X2 (biannual)		X1	X2	X1	X2
Slovak Republic	X				X			X
Spain	X (labour cost survey)					X		X
Sweden	X					X		X
Switzerland	X (annual)				X (annual)			X
Turkey	X1, X2 (bi-annual)					X1, X2	X1, X2	
United Kingdom	X				X			X

Notes:

- 1) "NSO-survey" refers to statistics compiled on the basis of a survey conducted by NSO.
- 2) "NSO-other method" refers to statistics compiled on the basis of information derived from collective agreements or estimates.
- 3) "Non-NSO survey" refers to the statistics compiled by other agencies such as ministries of labour.
- 4) "X1" and "X2" indicates that two sources of data are available in the countries concerned.

Category of employees

Annex Table 2 below shows the categories of persons included in wages and salaries statistics.

In principle, employees refer to all persons who have a direct employment contract with an enterprise or a local unit and who receive remuneration irrespective of the nature of the work, the number of hours worked and the length of the contract. Normally, management staff whose remuneration consists mainly of profits or a lump-sum, family workers, home workers without employment are not covered. Treatment of manual and non-manual workers is not uniform across

countries. For example, owners (proprietors), apprentices, part-time workers, executives, persons working on commission are included in some countries but excluded in others.

As Annex Table 2 shows, the self-employed, unpaid family workers and persons working on commission appear to be excluded from the coverage in all OECD Member countries. Working directors are only included in Australia and Japan. Some countries exclude apprentices and young workers under a specified age: Austria (excludes apprentices and workers under 18 years of age); Finland (excludes population aged below 15 and above 69); Italy (excludes apprentices); Switzerland (excludes people aged under 19 years); and the United Kingdom (excludes young workers below the age of 16).

Basis of calculation of the indicator

With regard to the basis of calculation of the indicator, Table 6 above shows that half of the OECD Member countries produce short-term statistics on wages and earnings only in the form of monthly earnings per employee. This may imply the non-availability of data on hourly earnings. One of the reasons for the absence of such data is that some countries (Australia²⁴, Czech Republic, Iceland, Poland and the United Kingdom) do not include items on hours of work in their monthly or quarterly establishment surveys. In the case of the United Kingdom, hours of work is not covered in the Monthly Wages and Salaries Survey, which is the source of the monthly Average Earnings Index. Hours of work is covered in the annual New Earnings Survey which is the source of structural statistics for the UK. Another reason seems to be the non-release of hourly wage data in some countries, even though the item hours of work is included in their household/establishment surveys.

Hourly earnings data also have a number of shortcomings, one of which being that they may not reflect changes in overtime work. There are also problems in using hourly earnings as an indicator of wage rate change as they are subject to compositional shifts by industry, by region and changes in underlying rates of pay (Statistics Canada 2003).

Another issue in connection with the basis of calculation of data on wages and earnings relates to the type of person included. Most OECD Member countries produce separate series for “hourly earnings for wage earners” and “monthly earnings per salaried employee”. The production of aggregated indices combining both hourly and monthly indices into a single index is rarely found (the exception being Switzerland). This illustrates that category of employee (production or manual workers paid by time rate or salaried employees paid by month) is an important criteria in the presentation of statistics on earnings.

Terms such as “indices on wage rates” and “indices on hourly wages” are commonly used in countries where data are compiled from collective agreements (*e.g.* index on agreed wage rate in Austria and Netherlands, and the index on hourly wages in Belgium, Germany and Italy). Data on wage rates relate to an appropriate time period such as an hour, day, week, month or other customary period used for purposes of determining the wage rates concerned. These wage rates do not usually include overtime payments, bonuses and gratuities, family allowances and other social security payments made by employers, and *ex gratia* payments in kind (ILO 1979). It should also be mentioned that under the Council Regulation on Short-term Statistics all European Union member states compile indices of gross wages and salaries on a monthly or quarterly basis. However, the Regulation requires wages and salaries to be provided only for industry and construction.

²⁴ In the case of Australia, data on hours of work are available on a quarterly basis from the labour force survey and on a biennial basis from the Survey of Employee Earnings and Hours.

Economic activity coverage

The availability of statistics on wages and earnings is ideally required for all economic activities. However such data are more widely available for industry than for other sectors, in particular, services. Traditionally, wage statistics (and the relevant standards) are first developed for the industrial sector, and even today some countries still limit their regular program of wage statistics to this sector, particularly when information is derived from establishment surveys or censuses. Most OECD Member countries (except Mexico, Greece, Ireland and Turkey) compile wages and earnings data that cover the whole economy, though detailed activity disaggregations are seldom available, particularly for short-term statistics on wage and salaries, where disaggregation is restricted to broad sectors of the economy.

Coverage of small, medium and large establishments

In order to make valid international comparisons of earnings statistics, it is necessary to ensure that the coverage of establishments in terms of size are comparable across countries. However, as shown in Annex Table 2, the coverage of establishment size in the compilation of survey-based earnings statistics varies across countries. These differences are summarised below:

Countries which cover establishments of all size	Canada, United States, Australia, New Zealand, Netherlands, Slovak Republic, Spain. However, in these countries the self-employed, proprietors and unpaid family workers are generally excluded.
Countries which only cover establishments with more than 5 employees	Mexico (6 and more employees); Japan, Korea, Finland, Germany (except in industrial sector); Greece (except in manufacturing); Hungary, Sweden.
Countries which cover establishments with more than 10 employees	Belgium, Denmark, France, Germany (industrial sector), Greece (manufacturing), Ireland, Norway, Poland, Turkey
Countries which cover establishments with more than 20 employees	Austria, Czech Republic, Luxembourg, United Kingdom
Countries which cover enterprises with more than 500 employees	Italy

In some OECD Member countries, larger establishments frequently pay higher wages and salaries for their employees. For example, an analysis of Japanese and Korean data for 2002 reveals an approximate 40% difference in the pay between establishments with 5 to 29 employees and those with 30 and more employees²⁵. Therefore, when comparing earnings across countries, differences in the coverage of establishment size may need to be taken into consideration.

The availability of annual data

As mentioned above in the discussion of economic activity coverage, short-term indices seldom provide detailed breakdowns of economic activities. To complement such short-term indices, all Member countries compile more detailed structural statistics on at least an annual basis. The following table shows the availability of annual data on wages and earnings by OECD Member countries. Such data are normally derived from establishment surveys conducted by national statistical institutes.

²⁵ 1. Results of Monthly Labour Surveys, Ministry of Health, Labour and Welfare, available in Japanese language at <http://www.dbtk.mhlw.go.jp/toykei/youran/index-roudou.html>; 2. Results of Monthly Labour Surveys, Ministry of Labour, available in Korean language at <http://labourstat.go.kr>

Table 7: Wage related statistics: Availability of annual data on wages and earnings in OECD database on Structural Statistics for Industry and Services – OECD Member countries

	Type of data				Coverage of economic activities in OECD Structural Statistics Database
	Total wages & salaries of all employed	Wages & salaries of employees/ operatives	Supplements to wages & salaries	Compensation of labour for employees	
Canada		X	X		D
Mexico		X		X	D
United States		X	X		D
Australia		X		X	D
Japan	X	X			C, D
Korea		X			C, D
New Zealand					
Austria		X	X	X	C to F
Belgium		X		X	C to F
Czech Republic		X	X		C to F
Denmark		X	X	X	C to F
Finland		X	X	X	C to F
France		X			C to O except J, M, N
Germany	X				C, D, E
Greece		X		X	D
Hungary		X			C to O except J
Iceland				X	D, E, F
Ireland		X			C to F
Italy	X		X	X	C to O except J
Luxembourg		X	X	X	C to F
Netherlands		X	X	X	C to F
Norway		X	X	X	C to F, G, K
Poland		X			C to O
Portugal	X		X	X	C to O except J
Slovak Republic		X		X	C to O except J
Spain	X		X	X	C, D, E
Sweden		X	X	X	C to O except J
Switzerland		X	X	X	C to O except J
Turkey		X		X	C to O
United Kingdom		X	X	X	C to O except J

Source: OECD, Structural Statistics for Industry and Services - Core Data 1992-1999, 2002

3.4 Concluding remarks

Calculating increases in earnings is far more complicated than measuring increases in the prices of goods. This arises from difficulties in tracking movements in the settlement and payment of wage increases as distinct from changes in the composition of the workforce, etc. The complex nature of the average earning index means there is no internationally comparable index. To facilitate international comparisons and more readily identify problems/issues regarding comparability, it is preferable to use original national raw unadjusted data for pay settlements, bearing in mind that this does not offer the whole picture with respect to growth in earnings.

The US Bureau of Labour Statistics in the introduction to their “International Comparisons of Hourly Compensation Costs for Production Workers in Manufacturing, 1975-2001” (BLS 2002a) comment that comparisons on the basis of readily available average earnings statistics published by many countries can be very misleading. In particular, national definitions of average earnings differ considerably and average earnings do not necessarily include all items of labour compensation. Omitted items of compensation frequently represent a large proportion of total compensation.

Within such an environment it is the role of the statistician to find a way to compile or present internationally comparable statistics on wages and earnings. The BLS international comparisons series provides data on compensation, productivity and employment. The compensation series, in particular, adjusts wages and earnings data for several countries to calculate numerous more comparable components of compensation. These data are produced on an annual basis.

Another example is the development work for the European aggregate Labour Cost Index undertaken by Eurostat. Recognising limitations on the availability and comparability of short-term statistics on earnings and labour costs, Eurostat has attempted to construct a quarterly Labour Cost Index. Specific difficulties that have come to light include differences in the scope of existing earning indices compiled by member states. In many countries, these indices cover only a portion of work contracts (usually full-time jobs) and only a part of earnings. The coverage of economic activity is also limited to industry and construction. Eurostat plans to publish the results this development project (on labour cost index including the service sector) for 25 countries (15 member states and 10 accession countries) from the first quarter of 2004 (Eurostat 1999).

4. MINIMUM WAGES

4.1 Overview

A minimum wage is a minimum level of payment established by law for work performed, and is primarily intended to protect vulnerable low wage workers from exploitation. It is a time-based wage that usually applies to unskilled adults entering work for the first time. As a minimum wage is established by a law, it is legally enforceable. The key purpose of a minimum wage system is therefore social – to prevent poverty. The minimum wage is normally intended to provide sufficient purchasing power to enable a worker to maintain a basic standard of living. The minimum wage may also have an economic objective – to motivate workers, enable them to enjoy the benefits of economic growth, and contribute to the economy (Lee 2002).

Minimum wages normally exclude certain bonuses or benefits and are payable in cash or in kind, directly or indirectly by the employer to the worker for work performed by the latter. In addition, they often do not apply to certain types of workers (*e.g.* those working less than a specified number of hours) or certain activities (Pember and Dupré 1999).

The ILO has defined six criteria, or groups of factors, to be taken into account in determining the level of minimum wages, which are set forth in ILO Recommendation No.135 (ILO 1970a, para. 3). These are the:

- needs of workers and their families;
- general level of wages in the country;
- cost-of-living and changes therein;
- social security benefits;
- relative living standards of other social groups; and
- economic factors, including the requirements of economic development, levels of productivity and the level of employment.

The United States Department of State collects information on minimum wages and presents information on minimum wage practices in its Country Reports on Human Rights Practices for all countries in the world (United States Department of State 2003). Eurostat also maintains minimum wage data in its database for the nine EU Member States that have a statutory national minimum wage system (Belgium, France, Greece, Ireland, Luxembourg, Netherlands, Portugal, Spain and the United Kingdom) (Eurostat 2002c).

4.2 National Practices

National practices on the availability of minimum wage data are summarised in Annex Table 3. This shows that nearly all OECD Member countries have some form of minimum wage-setting

arrangements in place in accordance with one or more of the relevant ILO conventions²⁶. Currently, 21 Member countries have a statutory or national minimum wage which cuts across almost all sectors of the economy. Most countries opt to set a single national minimum rate, although there may be a reduced or “sub-minimum” rate for specific groups such as youth employees and apprentices. Minimum wages are set at both the federal and regional levels in Canada and the United States, and at the regional level only in Japan and Mexico. Premia also exist in a small number of other countries depending on a worker’s experience (Belgium and Greece), qualifications (Czech Republic), and marital and family status (Greece and Luxembourg).

Comparisons of minimum-wage levels can be viewed two ways. The first involves examination of absolute figures of minimum wages set on an hourly, daily or monthly basis. Nine countries fix their national minimum wage at an hourly rate – US, Canada, Japan, Korea, New Zealand, France, Ireland and the UK. The national minimum wage is fixed at a daily rate in three countries (Mexico, Greece and Spain) and at a monthly rate in eight countries (Belgium, Czech Republic, Hungary, Netherlands, Poland, Portugal, Slovak Republic and Turkey).

It is preferable to convert minimum wages into hourly wages, both in national currencies and in US\$. It is, however, not easy to find such statistics directly on the websites of national statistical institutes, and only those for Mexico, France, Luxembourg, Spain, Turkey and the United Kingdom present data on the level of minimum wages in their websites.

Another way of comparing minimum wages across countries is to measure their value relative to some measure of average wages. This is especially important when periodic adjustments are made to the minimum wage rate. Such adjustments are sometimes performed by reference to average wages, with a view to maintaining a particular ratio between the minimum wage and general wage levels. In addition to taking cross-country productivity differences into account, such a ratio also provides an indication of how many workers are likely to be affected by the minimum. However, data on the ratio (minimum wage/general wage level) and the percentage being affected by the minimum wage are not readily available for many OECD Member countries, though data that are available indicates wide variation across countries. For example, it is estimated that the percentage of employees on the minimum wage in 2000/2001 lies between 1.4% and 2.2% in Spain, the UK, the Netherlands and Ireland. In the US, the figure is 1.5%. In contrast, the percentage in Portugal is 6.2%, in France 13.6% and in Luxembourg 15.5%.(Eurostat 2002c).

Countries also differ in how the minimum is initially set, its subsequent “uprating” and whether or not it is automatically indexed for inflation. In most cases, minimum wages are set by government unilaterally or following consultation with, or recommendations by, a tripartite body (Japan, Korea, France, Portugal and Spain). Belgium and Greece have hybrid systems. The minimum is set through a national agreement between social partners, but is legally binding in all sectors. Only Belgium, France and Luxembourg appear to automatically index for price inflation, whilst in Greece, Japan, Portugal and Spain, both price and wage movements are either explicitly or implicitly taken into consideration in annual reviews of the minimum rate. In a few countries, criteria, such as the expected impact on employment and unemployment and on competitiveness, are explicitly taken into account in annual or biennial reviews of the minimum wage (Luxembourg, New Zealand, Portugal and Spain). Canada and the United States are somewhat exceptional in that changes to their minima are relatively infrequent (OECD 1998a, ch. 2).

²⁶ Such as: Minimum Wage Fixing Machinery Convention (No. 26) 1928 (ILO 1928); the Minimum Wage Fixing Machinery (Agriculture) Convention (No. 99) 1951 (ILO 1951); and the Minimum Wage Fixing Convention (No. 131) 1970 (ILO 1970b).

Finally, nine countries (Austria, Denmark, Finland, Germany, Iceland, Italy, Norway, Sweden and Switzerland) do not appear to have a statutory or national minimum wage. In these countries, minimum wages are frequently set through more decentralised collective agreements, and tend to show a higher level of minimum wage than those of countries with a statutory system. In some cases, such agreements are administratively extended to cover entire sectors of activity.

5. LABOUR COSTS

5.1 Overview

Labour cost is the cost incurred by the employer in the employment of labour. As stated in Section 2.3 above, the main elements of labour cost are earnings, the other components of compensation of employees, and additional costs incurred by the employer in employing labour (such as vocational training, welfare amenities, taxes, recruitment costs, etc).

The increasing importance of non-wage labour costs to the employer is graphically illustrated in a paper published in 2001 by the United States Bureau of Labour Statistics (BLS) (Moehrle 2001). The BLS paper maintains that in the early 1900s most workers did not receive anything in addition to their wage as compensation for their labour services. However, by 2000 a typical worker received more than 25% of his or her labour compensation in the form of benefits. These comprise employer-paid items such as health, life and unemployment insurance; retirement and savings plans; and holiday and vacation leave. New forms of payment continue to evolve in both variety and importance (*e.g.* in the form of profit-sharing and stock options, family care, etc.). The evolution of these costs in the United States is illustrated in the following table.

Table 8: Wage related statistics: Developments in compensation package paid in the United States: 1900-2000

	1900	1925	1950	1975	2000
Wages, time-off and reimbursement accounts	Wages	Wages	Wages	Wages and annual bonuses	Wages, and supplements that tie pay to performance
		Paid holidays	Paid holidays and vacations	Paid holidays, vacations, and personal leave	Consolidated leave plan giving employee choice of days off
					Unpaid family leave
					Reimbursement account for child care expenses
Health care and life insurance benefits		Company doctor	Basic medical plan through Blue Cross – Blue Shield	Basic medical plan plus major medical through commercial insurer	Choice of medical plans including Health Maintenance Organizations
				Dental plan	Choice of dental, vision, and prescription drug plans
				Medicare	Medicare and retiree health insurance
		Benevolent association death and disability benefits	Fixed amount life insurance and weekly disability benefit	Life insurance varying with earnings; paid sick leave	Choice of life insurance amounts; paid sick leave
Retirement and savings plans			Social Security benefits available at age 65	Social security benefits available at age 65, with reduced benefits at age 62	Social security full benefits available at age 67, with reduced benefits at age 62, for workers born in 1960 or later
				Defined benefit pension	Combination of pensions and 401 (K) savings plans

Source: Alberte E. Schwenk and Jordan N. Pfunter, Compensation in the later part of the century, *Compensation and Working Conditions*, Vol.6, No.3, Bureau of Labour Statistics, Fall 2001.

A number of organizations have undertaken work to compile internationally comparable data on labour costs in a standardized form, in the form of hourly compensation costs²⁷. Average hourly

²⁷ The United States Bureau of Labour Statistics compiles internationally comparable annual data on hourly compensation costs for production workers in the manufacturing sector for 29 countries (BLS 2003a). The ILO also regards hourly compensation costs as one of the key indicators of the labour market and maintains the BLS series in its KILM database (ILO 2003e).

compensation cost is a wage measure intended to represent employer expenditure on benefits granted to their employees as compensation for an hour of labour. These benefits accrue to employees, either directly – in the form of total gross earnings – or indirectly in terms of employer contributions to compulsory, contractual and private social security schemes, pension plans, casualty or life insurance schemes and benefit plans for their employees. The latter group of benefits is commonly known as “non-wage benefits”. Its equivalent, employer expenditure, is referred to as “non-wage labour costs”. The components of labour costs as defined by the ILO, Eurostat and the Canberra Group are shown in the following table.

Table 9: Wage related statistics: Current existing international guidelines and recommendations for components of labour costs

International Labour Organisation	Eurostat (Commission Regulation No 1726/1999 concerning structural statistics)	Canberra Group*
(International Standard Classification of Labour Cost)	D.1 Compensation of employees	1. Cash wages and salaries
	D11 Wages and salaries (total)	- Wages and salaries (main job)
1. Direct wages and salaries		- Wages and salaries (other job)
2. Remuneration for time not worked	D.111 Wages and salaries (excluding apprentices)	- Payments for fostering children
- Annual vacation, other paid leave	D.1111 Direct remuneration and bonuses	- Parenting payment
- Public and other holidays	D.11111 Direct remuneration	- Employer reimbursements for non-discretionary work expenses (deduct if included in wages and salaries)
- Other time off granted with pay	D.11112 Bonuses	- Employer reimbursements for discretionary work expenses (deduct if included in wages and salaries)
- Severance and termination pay	D.111121 Bonuses paid at fixed period (optional)	2. Tips and bonuses
3. Bonuses and gratuities	D.1112 Payments to employees savings schemes	- Tips
- Year-end and seasonal bonuses	D.1113 Payments for days not worked	- Bonuses
- Profit-sharing bonuses	D.1114 Wages and salaries in kind	3. Profit-sharing including stock options
- Supplementary vacation pay and other bonuses and gratuities	D.11141 Company products	4. Severance pay
4. Food, drink, fuel and other payments in kind	D.11142 Staff housing	5. Allowances payable to military families, expatriate workers, those in remote locations, etc.
5. Housing and rent allowances	D.11143 Company cars	6. Employers' social insurance contributions
6. Social security, pensions, etc.	D.11144 Other	- To private retirement (pension) plans
- Direct payments by employer to employees regarded as social security payments	D.112 Wages and salaries of apprentices	- To private health insurance
- Employers' contributions to social security schemes and pension schemes (statutory and non-obligatory)	D.12 Employers' social contributions (total)	- To life insurance
7. Employer's cost for vocational training	D.121 Employers' actual social contributions (excluding apprentices)	- To other insurance schemes (e.g. disability)
8. Employer's cost of welfare services	D.1211 Statutory social security contributions	- To government insurance schemes (including payroll taxes)
9. Employer's other labour cost	D.1212 Collectively agreed, contractual and voluntary social security contributions	7. Goods and services provided to employee as part of employment package
10. Taxes regarded as labour cost	D.122 Employers' imputed social contributions (excluding apprentices)	- Company cars
	D.1221 Guaranteed remuneration in the event of sickness	- Subsidised meals
	D.1222 Guaranteed remuneration in event of short-term working	- Subsidised (low-interest) loans
	D.1223 Payments to employees leaving the enterprise	- Subsidised housing, electricity
	D.1224 Employers' imputed social benefits	- Subsidised child care
	D.123 Employers' social contributions for apprentices	- Subsidised vacations
	D.2 Vocational training costs (excluding training costs for apprentices)	
	D.3 Other expenditure	
	D.4 Taxes	
	D.5 Subsidies	

*The ILO defines the components of earnings” to be items 1 to 5 above excluding severance and termination pay.

* Restructured from components of household income

Sources:

An Integrated System of Wage Statistics – A Manual on Methods, ILO, 1979, p.30

Commission Regulation (EC) No. 1726/1999 of 27 July 1999 Implementing Council Regulation (EC) No. 530/1999 concerning structural statistics on earnings and on labour costs as regards the definition and transmission of information on labour costs

Final Report and Recommendations of Expert Group on Household Income Statistics, The Canberra Group, 2001, p. 18

However, data disseminated by the BLS and the ILO (sourced from the BLS) are confined to annual statistics covering only production workers in manufacturing industries. This is because hourly

labour costs of production workers in manufacturing meet a number of criteria for international comparisons, such as their availability: on the basis of uniform definitions; at the same level of aggregation; for the same period; against the same reference variable. Nonetheless, even here international comparisons are subject to a number of problems. First, they do not incorporate all workers performing administrative tasks or research and development in manufacturing. Second, the definition of hourly labour costs is not the same as the ILO definition of total labour costs specified in the Resolution of the 11th ICLS. The costs of recruitment, employee training, and plant facilities and services – such as cafeterias and medical clinics – are not included because such data are not available for most countries. It is estimated that the labour cost components not included in hourly compensation costs account for some 4% to 5% of total labour costs in any country for which data are available.

The limitations outlined in the previous paragraph would exist in any effort to compile comparable cross-country comparisons of labour cost or compensation. For example, Eurostat data collected from European Union member countries uses NACE industry classification system which does not incorporate employees performing administrative tasks or research and development in manufacturing, but rather in services. Also, the lack of data on labour costs excluded from the BLS international compensation series, such as employee training, plant facilities and services, is a problem that would be confronted in any comparison effort. Also, some countries pay for benefits, such as health care, out of general tax revenue rather than through a direct employer tax. Such structural differences in benefit provision cannot be fully addressed in any comparative series on labour costs or compensation.²⁸

Eurostat also collects data on labour costs from its member states, though the survey is only conducted every four years. Harmonised labour cost surveys commenced in 1992, the statutory basis being Council Regulation (EC) No. 530/1999. The most recent round of surveys was carried out by all member states during the first half of 2001 for the reference year 2000.

The OECD collects annual data on non-wage costs (referred to as “supplements to wage and salaries”). However, these data are available only for 12 of the 30 Member countries (OECD 2003c). Also, annual data on non-wage costs together with income tax and employee contributions to social security for all Member countries are released in the annual publication, *Taxing Wages*. Furthermore, the OECD provides annual expenditure data on non-wage costs by public and private institutions through the Social Expenditure Database. Such benefits with a social purpose are maintained across the following areas in the database: old-age cash benefits; occupational injury and disease; sickness benefits; services for the elderly and disabled; survivors; family services; active labour market programmes; unemployment compensation; housing benefits; public health expenditure; and other contingencies (Adema 2001).

With regard to short-term labour cost data, Eurostat has developed the quarterly labour cost index for European Union member states. It will legislate the Commission Regulation on the Labour Cost Index in 2003, and plans to publish the results covering 25 countries (15 member states and 10 accession countries) from the first quarter of 2004. The initial compilation of the quarterly labour cost index commenced in 1999, with back-series data from the first quarter of 1996. However, it is envisaged that Eurostat will collect and publish data only in index form and not as levels (Eurostat 2003c).

²⁸ Comments made by the BLS to a draft of this publication – April 2003.

National statistics providing an absolute cash value for average hourly labour costs across the entire economy are relatively scarce for OECD Member countries. Given the importance of labour costs, the absence of national data on many aspects of the subject (including absolute value and structure of labour costs) is perhaps surprising. Even annual data are available (from the internet) for only few countries (such as Korea, Czech Republic, Ireland, Norway, and Sweden).

The United States is currently the only country producing data on labour costs in absolute terms on a quarterly basis. The method commonly used to compile short-term data on labour costs is to develop the series in index form - the rate of change in labour costs. Such indices of total labour cost provide both an understanding of how specific labour markets adjust to changes in the demand and supply of labour, and a timely measure of wage pressures. A labour cost index is also invaluable in understanding the role of variable pay and benefits in overall compensation, and whether such forms of compensation result in increasing wage flexibility (Statistics Canada 2002).

5.2 National Practices

Table 10 below and Annex Tables 4 and 5 summarise national practices in LCI compilation. At the moment, only European Union member states compile short-term labour cost indices (*i.e.* quarterly). Some non-EU OECD Member countries (United States, Australia, New Zealand) compile quarterly labour price indices. Other countries (*e.g.* Mexico, Japan, Korea) compile neither LCIs or LPIs on a short-term basis, though almost all compile multi-annual labour cost data.

Table 10: Wage related statistics: Summary of Compilation of Labour Price Index and Labour Cost Index – OECD Member Countries

	Labour price index		Labour cost index		Features
	Quarterly	Multi-annual	Quarterly	Multi-annual	
Canada	X				Under development.
Mexico					
United States	X				Absolute figures are available every quarter.
Australia	X				Non-wage costs are not yet covered.
Japan				X	
Korea				X	
New Zealand	X				Designed to measure changes not levels.
Austria			X		
Belgium			X		
Czech Republic				X	
Denmark			X		
Finland			X		
France			X		
Germany			X		
Greece			X		
Hungary					
Iceland				X (?)	
Ireland			X		
Italy			X		
Luxembourg			X		
Netherlands			X1, X2		Index on hourly contractual labour costs is also compiled from collective agreements.
Norway				X	
Poland				X	
Portugal	X				
Slovak Republic					
Spain			X		
Sweden			X		There exists the Swedish Standard Classification of Labour Cost, SIAC 1989.
Switzerland					
Turkey				X	
United Kingdom			X		

Note: X1 and X2 indicates that two data sources are used in the countries concerned.

Components

All countries include a wide range of labour cost components in their labour cost statistics. However, examination of the individual components summarized in Table 11 below and Annex Table 4 reveals that they are not fully harmonized in their inclusion or exclusion of individual component items. It is expected that labour cost components will become more harmonized, at least among EU member states and the ten accession countries, when the Commission Regulation on labour cost index is implemented in 2003.

The tables also show variation in the relative importance of the components of labour costs across countries. Such large variation in the case of employer contributions to social security is not surprising, given the wide differences in systems for financing social security between countries. In countries where social protection is financed mainly through tax-funded general government, social contributions made by employers are often smaller (*i.e.* Australia, New Zealand, Ireland, Denmark, Norway, United Kingdom). In contrast, in countries where the main source of financing is through contributions paid partly by employers and partly by the protected person (employees, self-employed, pensioners and others), social contributions made by employers are found to be larger (*i.e.* Belgium, France, Germany, Italy, Netherlands, Portugal, Spain) (Eurostat 2000b).

**Table 11: Breakdown of labour costs for selected OECD Member countries
(*i.e.* countries where data are readily available)**

Japan (1998)		Korea (2000)		Czech Republic (2000)		Hungary (2000)		Italy (2000)	
Total	100.0	Total	100.0	Total	100.0	Total	100.0	Total	100.0
		(2 777 300 Won or US\$ 2 456 per month, or US\$ 12.0 per hour)		(129.08 in CZK or US\$ 3.3 per hour)		(3.83 Euro or US\$ 3.5 per hour)		(16.4 Euro per hour or US\$ 15.1)	
Wages & salaries	81.2			Direct costs	70.8	Wages and salaries	67.1	Earnings	70.8
Non-wage costs	18.8	Cash payments	62.7	-wages	63.9	-direct remuneration	50.8	(11.6 Euro per hour)	
-statutory welfare costs	9.5	-regular payments and overtime pay	48.6	-payments for days not worked	6.9	-bonuses	6.7		
-voluntary social benefits	2.9	-special cash pay	14.1	Indirect costs	29.2	-payments to employees savings schemes	0.0		
-retirement allowances	5.5	Labour cost other than cash payment	37.3	-social benefits	1.7	-payments for days not worked	6.3		
-others(allowances paid in kind, training costs, taxes, subsidies)	0.8	-severance pay	22.6	-statutory social security contributions	26.4	-wages and salaries in kind	3.4		
		-payments in kind	0.1	-personal expenditures	1.2	Employers' actual social contributions			
		-statutory welfare services	6.6	-taxes and subsidies	-0.1	-statutory	27.5		
		-non-obligatory welfare services	6.1			-collectively agreed, contractual and voluntary	26.6		
		-cost of recruitment	0.1				0.9		
		-cost of vocational training	1.4			Employers' imputed social contributions	2.8		
		-others	0.4			Other labour costs	2.6		

**Table 11: Breakdown of labour costs for selected OECD Member countries
(i.e. countries where data are readily available) (continued)**

Norway (2000)		Poland (2000)		Slovak Republic (2000)		Spain (2001 Q3)		Sweden (May 2002)	
Total	100.0 (352 776 Kroner or US\$ 40 103 per year)	Total	100.0 (4.48 Euro or US\$ 4.1 per hour)	Total	100.0 (3.06 Euro or US\$ 2.8 per hour)	Total	100.0 (2 315 Pesetas or US\$ 12.5 per hour)	Total	100.0 (203.98 SEK or US\$ 19.3 per hour)
Direct costs	82.6	Wages and salaries	76.2	Wages and salaries	72.4	Regular wages and salaries	67.3	Payment for hours worked	59.0
-payments for days worked	80.5	-direct remuneration	67.9	-direct remuneration	58.5	Bonuses	7.1	Payments for hours not worked	13.1
-payments for days not worked	2.1	-bonuses	1.4	-bonuses	2.4	Statutory social security contributions	23.8	Employers' social security expenditures	25.3
Indirect costs	17.4	-payments to employees savings schemes	-	-payments to employees savings schemes	0.1	Other	1.8	Other statutory employment taxes and a general payroll tax	2.7
-salaries in kind	2.7	-payments for days not worked	6.9	-payments for days not worked	9.2				
-safety & health	0.3	-wages and salaries in kind	-	-wages and salaries in kind	2.3				
-employers' social contributions	2.4	Employers' actual social contributions	14.0	Employers' actual social contributions	12.0				
-training costs	1.3	-statutory	14.0	-statutory	11.8				
-taxes deducted		-collectively agreed, contractual and voluntary	-	-collectively agreed, contractual and voluntary	0.2				
subsidies	10.6	Employers' imputed social contributions	2.2	Employers' imputed social contributions	1.4				
		Other labour costs	7.6	Other labour costs	7.6				

Sources: Japan - data are based on monthly averages in manufacturing sector (<http://www.jil.go.jp/eSituation/pdf/5.pdf>); Korea - are based on monthly averages of regular employees in enterprises, ISIC C to O with more than 10 employees (<http://www.molab.go.kr>, in Korean); Czech Republic - data are based on hourly averages of employees in whole economy, ISIC A to O (<http://www.czso.cz/eng/figures/3/31/311401/311401.htm>); Italy - data are based on hourly labour costs and earnings of employees in industry (<http://www.istat.it/Impresse/Struttra-/index.htm>); Norway - data are based on annual total per full-time equivalent employee in manufacturing (http://www.ssb.no/english/subjects/06/05/arbkost_en/tab-2002-01-11-04-en.html); Spain - data are based on labour costs by effective hour for whole economy (<http://www.ine.es>); Sweden - data are based on hourly labour costs for wage earners in industry sector, (C+D+E). Cost for vocational training, medical care and other staff welfare services are excluded from the LCI (http://www.scb.se/sm/AM39SM0208_tabeller10.asp and http://www.scb.se/sm/am39sm0208_inenglish.asp); Hungary, Poland and the Czech Republic - data are based on hourly labour costs in economic activities C to K. (Eurostat, Labour Costs Survey 2000, Statistics in focus, Theme 3 – 23/2002).

Volume of work measure

Examination of Annex Table 5 shows the absence of harmonisation between countries in the volume of work measure used to compile the hourly labour cost index. When calculating an hourly labour cost index two major elements need to be defined and measured. First, total labour costs in the specific time period. Second, the total number of hours equivalent to the period in which labour costs are measured. The total number of hours should cover all hours worked, including overtime, as well as hours paid for. Due to the non-availability of the required data on hours, a number of countries instead use the number of employees or the number of full-time equivalent employees (Belgium, Ireland, Italy, Norway, Poland, Sweden and the United Kingdom).

Data collection method

There is also considerable variation in methods used to collect data for the compilation of the labour cost index. In some countries (*e.g.* Austria, Denmark, etc.), labour costs have been calculated only once for the first base period. Thereafter, labour costs are updated directly with changes in the trend of labour costs. For some other countries (*e.g.* Finland, etc.), labour costs have been calculated only for earnings, and non-wage costs have been added afterwards in proportion to earnings. A third method (*e.g.* Belgium, etc.) involves a combination of different approaches for different economic activities. Only on rare occasions are labour cost indices compiled using one data source. No non-EU OECD Member countries currently compile quarterly labour cost indices. Countries such as Australia, Japan, Korea and Turkey conduct labour cost surveys at less frequent intervals.

Coverage of economic activities

Eurostat's requirement for the coverage of economic activities is for the inclusion of ISIC Rev. 3 activities C to K. These cover all economic activities except agriculture, fisheries, forestry, education, health, entertainment, information and personal services activities. Most countries produce indices corresponding to this requirement, except Austria, Germany and Ireland.

Category of employees

Eurostat also requires the European labour cost index to represent all employees (full-time, part-time, manual, non-manual, apprentices and those who have commenced or finished work during the reference period) who are employed in all sizes of enterprises undertaking economic activities outlined above. However, some countries (*e.g.* Ireland) do not cover all employees and include only full-time workers. Information provided in Annex Table 5 also reveals large variation in the use of enterprise size cut-offs, ranging from all sizes of enterprises (Belgium) to enterprises with 500 employees and more (Italy).

Estimation

Although the method of weighting used to compile labour cost indices is not specifically presented in any of the tables in this publication, it is still worthwhile mentioning some salient features in this area. If weighting has been used in calculating the index from its elements (by different labour cost items, by groups of employees, by enterprises, and/or by economic activities), the weighting structure, and changes to it, influences index series results. In this connection Eurostat points out that methods in the European Union are not harmonised. The effect of the weighting design varies and can make interpretation and comparison of the national indices difficult. Some of the index series may show the effect of changing structures and some may show such changes only partially (Eurostat 2003c). However, fixing weights does not necessarily eliminate structural effects on a LCI unless data are compiled at an homogeneous level equivalent to the weight. Removing the impact of structural change is usually dependent on the level of sampling.

5.3 Concluding remarks

The following main features can be reiterated from the above discussion. The components for the compilation of the labour cost index are not yet fully harmonised with respect to the components outlined in ILO and Eurostat guidelines. Most countries, for example, do not include costs for vocational training and welfare services. The situation is similar to that for earnings statistics. Terminology is also not uniform. Some countries categorise labour costs into wage and non-wage cost, some into direct and indirect costs, and some into wages and employer contribution to social security.

The volume of work measure is not harmonised. When calculating the labour cost index, the denominator should be a specific time period, preferably all hours worked. Countries such as Austria, Denmark, Finland, Germany, Portugal and Spain use “hours worked” as the volume of work measure. However, due to the non-availability of sufficient data on hours worked, countries alternatively use number of “hours paid” (France, Luxembourg and Netherlands) or the number of “employees” (Belgium, Ireland, Italy, Sweden and United Kingdom).

6. LABOUR PRICE INDEX

6.1 Overview

In terms of the component items to be included, a labour price index is conceptually similar to a labour cost index. However, a labour price index is a measure of changes in the price of labour, defined as the price to the employer of engaging one hour of labour service where the labour service being priced is identical over time. A labour cost index on the other hand is a measure of the rate of change in total labour costs. Both indices measure changes in the cost of compensation not only for wages and salaries, but also for an extensive list of benefits. The rationale for compiling a labour price index is that theoretically it controls for changes over time in a number of factors, namely shifts in the:

- composition of the workforce across industries (*e.g.* moves away from the production sector towards services);
- composition of the workforce within industries (*e.g.* full-time/part-time splits);
- improvements in employee performance (*e.g.* those that arise from experience);
- quality of the workforce within industries (*e.g.* shifts towards higher skilled occupation), and
- human capital of the labour force, which might be measured by the level of educational attainment of employees (ONS 2002).

Labour cost indices address some of these issues by controlling some of the factors. For example, its compilation as an annually chain-linked Laspeyres index reduces the potential effect of shifts in the composition of the workforce within an industry. Similarly, depending on the level at which data are compiled, use of hours worked as a denominator controls for shifts in the composition of the workforce within industries (*e.g.* full-time/part-time splits) and minimises the impact of volume changes in the number of hours worked. However, labour cost indices are still subject to compositional effects from occupational and human capital shifts. The labour price index, priced to constant quantity and quality, in theory, controls for all of the factors cited above²⁹. An important feature of the labour price index is that the observation unit of data collection is the job (or occupation).

If all of these measures (*i.e.* adopting annually chain-linked Laspeyres formula using data on hours of work, and pricing to constant quantity and quality) were adopted they would enable separate identification of changes in average wages, arising from compositional effects, quality effects and price effects. This is of interest to policy makers for monitoring inflationary pressures and assessing labour market policies. Additionally, the deconstruction of such differences would give an indication of the contribution of quality and compositional changes to gains in labour productivity.

²⁹ A relevant BLS study published in 1997 outlined a methodology to compare labour cost and other labour price measures when they are derived from the same data collection programme. The study showed that when data for a labour cost measure is sample-based, sample replacement can generate volatility in the labour cost measure that is unrelated to labour price movements. In contrast, sample replacement does not affect the BLS labour price index (the Employment Cost Index) as comparisons are limited to the same job over time so as to control, for labour quality. (Lettau, Loewenstein and Cushner 1997)

As mentioned in Section 2.3 above, over the last 18 months Eurostat has undertaken work to formulate a development strategy for a possible European labour price index in the context of a system of European Union earnings and labour cost statistics. A final report on the future of the labour price index will be submitted to the European Union Statistical Policy Committee.

In reality, it is not easy to keep the quality of labour input constant over time in the compilation of the labour cost index and/or the labour price index. Thus, studies on the use of hedonic methods are currently underway to control quality differences (or structural changes) in constructing the index. Work by Statistics Finland has shown that hedonic imputation produces results at least as, or more, reliable than traditional index calculations based on very detailed classifications. The Finnish study only looked at quality from the point of view of jobs, rather than persons. Key aspects of the Finnish work were (Statistics Finland 1999):

1. it determined the different kinds/qualities of labour as well as possible;
2. it obtained an estimate of the expected wage for each labour type in the base and current period; and
3. used the estimates from (2) as inputs in the index number formula.

The UK Office for National Statistics is also carrying out studies on the use of the hedonic regression approach in its monthly Average Earnings Index. A recent Statistics Canada study looks at changes in quality across workers rather than jobs (Wulong *et al* 2002). A BLS study published in 1993 (BLS 1993) also examined labour quality by measuring changes in the education and work experience of the employed from labour force surveys rather than establishment based surveys. This approach was continued in the ongoing BLS multifactor productivity measurement programme.

6.2 National Practices

At the moment only four countries currently produce a quarterly labour price index (under different names – refer footnote 6 above) – Australia, New Zealand, Portugal and the United States. Metadata for their compilation is shown in Annex Table 5. Canada plans to publish an experimental quarterly index in the fall of 2003.

National labour price index definitions

Definitions applied by national agencies currently disseminating labour price indices are outlined in Section 2.3 above. The United States Employment Cost Index (ECI) is a quarterly measure of the change in the price of labour, defined as compensation per employee hour worked. The ECI is an indicator of cost pressures within companies that could lead to price inflation for finished goods and services. The index measures changes in the cost of compensation not only for wages and salaries, but also for an extensive list of benefits. When first published in 1976, the ECI was limited to wage and salary changes in private industry. Since then, data on employee benefits were added in 1980, and data for the state and local government sectors were added in 1981. The ECI uses fixed employment weights (Laspeyres index type), updated periodically, to free the index from the effects of employment shifts among industries and occupations (Ruser 2001).

Australia and New Zealand have adopted a similar definition for their labour price indices. Australia defines their Wage Cost Index as a price index which measures changes over time in wage and salary cost for employee jobs, unaffected by changes in the quality or quantity of work performed. Changes in wages and salaries resulting from changes in the composition of the labour market are excluded from the Wage Cost Index movements. New Zealand does not give an explicit definition for

its Labour Cost Index, though gives the purpose for the compilation of the index as being the measurement of changes in base salary and ordinary time wage rates, overtime wage rates, and non-wage labour related costs.

Sample Size

The observation unit for data collection is the job (or occupation). The four countries currently compiling labour price indices keep track of a basket of occupations. In the case of the United States, (in June 2001) 7 365 private-industry establishments provide data on about 31 000 occupations, 790 State and local government operations provide data for about 3 800 occupations. Australia and New Zealand respectively track data for about 19 000 jobs and 5 000 jobs each quarter. The Portuguese LPI covers about 7 500 professional categories among the 2 500 establishments sampled on a quarterly basis.

Frequency

All four countries currently compile their LPI on a quarterly basis. One of the issues being discussed in Europe at the moment concerns the desired frequency of any possible future European LPI. A decision in this area depends to a large extent on the volatility of structural changes in the evolution of average wages or labour costs, especially over short periods of time, *i.e.* less than a year. If such changes were significant over short periods then the case for the compilation of a labour price index in addition to other short-term wage/labour statistics would be stronger. There is a strong belief in a number of countries that the structure of the labour force does not change fast enough to justify the compilation of an infra-annual labour price index.

Component items included

As mentioned above in Section 2.3, there is currently no international standard for the components that should be included in an LPI, and Table 12 and Annex Table 4 show that the labour cost components are not the same for the four countries. The components they include also do not coincide with the components specified by either the ILO or Eurostat for labour cost indices. The trend in the four countries however is towards broadening the range of components included in their LPIs.

One way of determining which components should be included in a labour price index is through analysis of detailed labour costs data to identify their relative significance. Such an analysis would obviously call for the inclusion of regular wages and salaries. When determining which other components should be included, consideration of the monthly and quarterly volatility of each component would also need to be taken into consideration. The compilation practices of those countries currently compiling labour price indices reflects this and less volatile components (*e.g.* social security contributions) are collected at less frequent intervals or excluded altogether.

The Australian labour price index does not include employer contributions to social security. The ABS intends to include a range of non-wage items (paid leave, employer funded superannuation, payroll tax, workers' compensation, fringe benefits and fringe benefits tax). Current plans are for non-wage data to be collected on an annual basis, rather than quarterly. Paid leave and superannuation data were collected for the first time in June 2002, other non-wage costs items (*i.e.* payroll tax, workers' compensation, fringe benefits and fringe benefits tax) will probably be sourced from administrative data. As a result, information will not be published until after June quarter 2004 (expected late 2004). The decision to collect data annually reflects the fact that prices in these areas are generally set through legislation and there is no advantage gained in collecting such information quarterly. (ABS

2001, Chapter 11. Earnings, Employee Compensation, Labour Costs and Related Statistics) and information provided to OECD by ABS].

The New Zealand labour price index excludes irregular salary and wage payments such as irregular bonuses, commissions and on-off payments in lieu of wage increases. The index also excludes performance-based increases in wages and salaries, promotions and service increments. There are also no regional or gender breakdowns. Finally, information on the average dollar value of wages is not available as the sample is not randomly selected, is relatively small and is designed to measure changes not levels. Indexes of non-wage labour costs are available only for the June quarter each year from 2000 onwards (Statistics New Zealand 2003)

The BLS now includes measurement of hiring costs in their Employment Cost Index (Moehrle 2000). The Bureau, as part of its National Compensation Survey program, undertook the second phase of a test study of stock options granted to workers by their employers in 2000. This survey was designed to collect information on the frequency at which stock options are awarded and their characteristics, such as vesting period and option type. The BLS found that 1.7% of all private industry employees received stock options in 1999 (Crimmel and Schildraut 2001). The Bureau has no current plans to include measurement of the costs of employee stock options their Employment Costs Index. The BLS also publishes absolute figures for labour costs on a quarterly basis in addition to data in index form.

Table 12: Breakdown of labour costs for countries which produce the labour price index

Canada (under development)	United States (2002 Q1)	Australia (for quarterly Wage Cost Index)	New Zealand (1992-2001)	Portugal (1995)
Total 100.0	Total 100.0	Total 100.0	Total 100.0	Total 100.0
Wages and salaries	Wages and salaries 72.4	Ordinary time payments	All salary and wage rates 83.0	Basic salary 54.9
Non-wage benefits	Benefits 27.6	- award, agreed payments	- salaries and ordinary time wage rates 80.3	Regular bonuses and allowances 7.6
- Statutory (employment insurance, provincial health taxes)	- paid leave 6.9	- payments for leave taken during the pay period, e.g. sick leave, annual leave	- overtime wage rates 2.7	Irregular bonuses and allowances 7.7
- Non-statutory	- supplemental pay (premium, shift differentials) 2.4	- casual loadings	All non-wage labour costs 17.0	Payment for hours not worked 8.0
- salary dependent benefits (life insurance, pension benefits, disability benefits)	- insurance (life, health, disability) 7.0	- value of any salary sacrificed	- annual leave and statutory holidays 11.1	Employers' social security contributions 20.6
- fixed dollar value benefits (health, dental benefits)	- retirement and savings 3.5	- retainers	- superannuation 2.2	Other 1.2
	- legally required benefits 7.8	- piecework payments	- ACC (Accident Compensation Corporation) employer premiums 1.7	
	- other benefits (including severance pay supplemental unemployment benefits) 0.1	- higher duties allowances which relate to the selected jobs	- motor vehicles available for private use 1.5	
		Overtime payments	- medical insurance 0.3	
		Bonus payments	- low interest loans 0.1	
			- other non-wage labour costs 1.9	

Sources:

1) For Canada, the components are based on the data model developed by Statistics Canada. (<http://www.statcan.ca/english/freepub/71-586-XIE/71-586-XIE01001.pdf>)

2) For U.S., the data are based on employer costs per hour for civilian workers. (<http://www.bls.gov/news.release/ecec.toc.htm>)

3) For Australia, the components are taken from Information Paper – Wage Cost Index 2000, ABS Catalogue No. 6346.0 (<http://www.abs.gov.au>).

4) For New Zealand, the data are the base weights for the compilation of the Labour Cost (Price) Index for all sectors combined. (Labour Cost Index changes – Information on the reweight of the labour Cost Index using 1996 Census Population and Dwellings available at <http://www.stat.govt.nz>.)

5) For Portugal, the data are from a paper presented at Eurostat's Working Group meeting on wages and labour cost statistics.

Data collection method

The United States uses a three-stage sampling method:

- primary sampling units - geographic areas;
- secondary sampling units - business establishments and state and local government operations; and as
- ultimate sampling units - employees having specific jobs.

After the sample of establishments is selected, occupations are selected using a probability-proportional-to-employment size technique. A fixed number of occupations are selected in each establishment giving occupations with greater employment a higher chance of selection. The number selected is a function of total establishment employment. Normally, establishments and jobs within them remain in the ECI sample for approximately 5 years, contributing data every quarter for the pay period that includes the 12th day of the survey months: March, June, September and December. Data on the cost of compensation are collected for all employees in sampled jobs. Due to business closings, the elimination of jobs, and the refusal of respondents to participate further in the survey, some establishments and some jobs drop out of the sample, an event termed “attrition”. To reduce the burden on respondents, rebuild the attrition-depleted sample, and keep the sample relevant to changes in the economy, establishments in the sample are replaced using a sample replacement procedure. Since 1997, the sample is divided into five approximately equal groups that are replaced every 5 years (Ruser 2001).

In Australia, a two-stage sampling procedure is used. In the first stage around 4 100 private and public sector businesses are selected. In the second stage, employers are asked to select a random sample of up to 10 employees from their payrolls using instructions provided by the ABS. The respondent then identifies the jobs occupied by the employees. Effective construction of the price indexes requires the application of specification pricing, which involves the use of fixed pricing specifications. In the Wage Cost Index, fixed pricing specifications enable the employer to uniquely identify the selected employee job, as well as detailing the complete set of price determining characteristics of the job. These pricing specifications include a job identifier as well as characteristics of the job being priced, such as job title, grade or level, location and tasks. Also, only matched jobs contribute to index calculation each quarter. For a job to match in two consecutive quarters, all pricing specifications must be unchanged between those two quarters (ABS 2000).

In New Zealand, information used for calculating the index is obtained from a quarterly postal survey of employers, where a separate questionnaire for each of the seven wage and non-wage costs is used. Wage and salary rates for a fixed set of job descriptions are surveyed for the pay period which

includes the 15th of the middle month of the quarter. Information on superannuation costs and annual leave entitlements are also collected at this time. To further assist the measurement of movements in pay rates for a fixed level of labour input, job specifications are specified in detail. Surveyed job descriptions typically specify the duties involved, qualifications required, years of service and number of hours worked. In theory, in New Zealand, these job descriptions should remain fixed between index revisions. In practice, many descriptions change over time, usually as a result of changes to contractual arrangements or because specific employees are being tracked through time. If a newly negotiated contract involves an increase in the number of ordinary time hours worked per week, the description is amended and an adjustment is made to ensure that the pay rate movement used in the index relates to the same quantity of work as specified in the new contract.

In Portugal, a two-stage sample procedure is also used. In the first stage, a sample of approximately 2 500 establishments is selected. In the second stage, for each establishment selected in stage one, a set of “professional categories” (jobs) is chosen with probability proportional to the corresponding number of employees. The number of professional categories chosen is as follows: four professional categories in each establishment with 10 – 49 employees; six in each establishment with 50 – 249 employees; and eight in each establishment with 250 or more employees. At the moment, the survey covers 1 150 professional categories (in the future, it will cover about 7 500 professional categories). Then, data on hourly labour costs by components are collected by personal interview for the baseline survey and by mail questionnaire for subsequent quarterly surveys³⁰.

To summarize, jobs (in Australia and the United States), occupations (in New Zealand) and professional categories (in Portugal) are ultimate sampling units. Therefore, when an employee moves jobs, the survey stays with the job (occupations, professional categories) rather than following the employee to maintain a fixed qualitative and quantitative structure of the workforce.

Estimation

The Australian Wage Cost Index is based on an annually chain-linked Laspeyres formula, with re-weighting and chain-linking in the September quarter each year. The expenditure weights use data derived from the 5-yearly census (volume) and structural surveys conducted by the ABS (prices). Other survey sources are also used to update the weights as they become available (ABS 2000). However, a review is currently in progress to examine the frequency (annual versus quin-quennial) updating of weights. The review was necessitated by changes in surveys used to update the weights, and the need to assess whether or not updating weights annually introduces some ‘noise’ into the data.

The New Zealand Labour Cost Index also uses a Laspeyres formula, although it is not annually chain-linked. Expenditure weights are derived from the 5-yearly population census (at the 5-digit occupation level) for volume information combined with price estimates derived from the base period information from the survey (Statistics New Zealand 2003).

The United States Employment Cost Index is also calculated using the Laspeyres formula. Thus, the ECI is calculated as the weighted sum of changes in compensation costs for all industry (in 2-digit) and major occupation cells, where the weighting factor for each cell is its share of total labour compensation in the base period. Since March 1995, 1990 employment counts from the BLS Occupation Employment Survey have been used to calculate base-period weights for ECI cells. However, in order to reflect changes in the industrial-occupational composition of employment over

³⁰ Summary methodology of the Portuguese labour cost index presented on the IMF Dissemination Standards Bulletin Board (IMF 2003b).

time, the new distribution of employment is being introduced into the calculation of index infrequently (Ruser 2001).

The Portuguese Labour Cost Index uses a method similar to that used in the United States. By controlling for employment shift across industries and major occupations, the LCI shows how average total compensation paid by employers would have changed over time if the industrial-occupational composition of employment had not changed from the base period (INE Portugal 2003).

As seen above, all four countries use the Laspeyres formula in principle. However, there are differences between countries in the weights applied. Australia and New Zealand use weights (expenditure weights; weights of component cost) in addition to weights for industry and occupation. Use of this approach requires information on the expenditure structure of labour costs.

The expenditure-aggregate Laspeyres index formula used in Australia and New Zealand is as follows.

$$\text{Index} = \frac{\sum (P_{it}Q_{io})}{\sum (P_{io}Q_{io})} \times 1,000 = \frac{\sum E_{io} \frac{P_{it}}{P_{io}}}{\sum E_{io}} \times 1,000$$

Where P_{it} = Price of item i ($i = 1, \dots, m$) in period t

P_{io} = Price of item i ($i = 1, \dots, m$) in the base period

Q_{io} = Quantity of item i purchased in the base period

E_{io} = Expenditure on item i purchased in the base period = $P_{io}Q_{io}$.

Table 12 above also shows the structure of labour costs for OECD Member countries, where such data are readily available from the internet. These are very similar to weights derived from household expenditure surveys used for the compilation of consumer price indices. In order to compile the labour price index, the expenditure weights by components from the employers' perspective are also required. It is also seen from this table that there is variation in the relative importance of the components and the absolute value of labour costs across countries. This situation is very similar to that of the labour cost index. For example, the proportion of employer social security contributions is found to be high in Portugal, low in the United States, and very low in New Zealand.

7. UNIT LABOUR COSTS

7.1 Overview

Unit labour costs are designed to complement statistics on average (hourly/monthly) earnings and labour cost and prices described in previous Sections of this publication. Unit labour cost data play an important role in economic analysis, especially for information they provide on price formation. The series is also one of the indicators of competitiveness. The international competitiveness of a national economy is determined by price and cost factors on the one hand, and non-price factors such as product quality, customer service, punctual delivery and innovation on the other. Labour costs are a significant cost factor impacting on international competitiveness. There is therefore particular interest in the relationship between labour costs and productivity, *i.e.* unit labour costs.

Labour price indices, as discussed in the previous section, generally do not adjust for productivity changes. In contrast, unit labour cost data do adjust for productivity changes, and there is evidence that they also tend to parallel inflation movements. Thus, unit labour cost data are preferred by the majority of institutions including the European Central Bank (ECB) which has a preference for the availability of timely and comparable unit labour cost data calculated per hour worked in addition to series per person employed. The ECB position is that nominal wage growth in excess of labour productivity growth will ultimately tend to be reflected in prices, albeit with a time lag.

In their simplest derivation, a unit labour cost (ULC) is defined as nominal compensation of employment divided by a volume measure of output, typically value-added or gross output at constant prices. In other words, the ULC is total labour cost expended in the production of one unit of output. ULCs are calculated as $ULC = C/Q$, where C stands for labour cost at current prices and Q for a measure of output at constant prices.

ULCs, as in the case of all other ‘unit value’ measures, reflect both pure changes in the price of labour and compositional effects of labour input. For example, a gradual shift towards higher skilled employees will translate into a rise of ULC – everything else being equal, and without any change in the wage rate for a given skill. These compositional effects have to be borne in mind when interpreting ULC results.

With data on the volume of labour input available H (such as total number of hours or total number of persons employed), the ULC measure can be usefully decomposed as follows:

$$ULC = (C/H)/(Q/H)$$

Thus, the level of ULC is the ratio of compensation per unit of labour input (C/H) over the volume of output per hour or labour productivity (Q/H). This decomposition is of interest because it shows, for example, how a rise in labour productivity may partly or fully compensate the effect on ULC that comes with a rise in hourly wages. Further decomposition of labour productivity is also possible, provided there is data on capital input: Q/H can be broken down into an element that reflects the degree of capital intensity and an element that captures the level of multi-factor productivity (OECD 2001a). These analytical tools permit, for example, an assessment of the effects of technical change on ULC and international price competitiveness.

At first glance it would appear that the concept and calculation of ULC as expressed in the above equations are fairly straightforward. However, in reality, the derivation of an internationally

comparable measure of ULC is not such an easy task. The problems of measurement and comparability of each variable were outlined by Bart van Ark and Erik Monnikhof (Ark and Monnikhof 2000). The main difficulties they identified are summarised below:

Output is defined as gross value-added (or, in national accounts terms, gross domestic product), which is the total domestic production value minus the value of purchased intermediate inputs. These data are primarily obtained from national accounts statistics which are calculated according to a common conceptual framework, the System of National Accounts (SNA). However, the extent to which this can compensate for differences in the nature and quality of available statistics is unclear. Measurement problems that arise in the compilation of GDP also apply to the derivation of ULCs. In particular, three problem areas have been raised with regard to international comparisons of real GDP:

- poor measurement of the service sector due mainly to the conceptual difficulty in defining the quantity of service delivered when compared to quantities of tangible goods;
- absence of harmonisation in weighting systems used to aggregate individual goods and services into GDP measures at constant prices;
- variation in the coverage of the informal economy across countries.

Labour costs are normally derived from the income side of GDP, which in turn is based on employment from establishment and household surveys, hours of work, and average hourly earnings. The advantage of using the national accounts is that the definition of compensation is the most comprehensive. It includes not only gross wages and salaries of employees, but also labour costs paid by employers. However, national account measures of labour costs only refer to employee compensation, and therefore do not include compensation of self-employed persons which is by definition part of other income. It is therefore necessary to impute labour income for self-employed persons assuming the same labour compensation per employee and per self-employed person.

Labour input is measured by either hours worked or number of employees. However, comprehensive estimates of working hours are difficult to obtain and their international comparability is limited. For example, hours often refer to paid hours rather than hours actually worked. For a number of countries, estimates of hours actually worked could be directly obtained from labour force survey information. National practices for the compilation of hours of work statistics are discussed in Section 9 below.

On the surface it appears easier to obtain employment data than data on hours of work. Estimates of employment relate to the average number of persons with one or more paid jobs during the reference period. However, even here problems with the availability of accurate data on employment are still experienced in many countries. For most countries, employment estimates are derived from labour force or population surveys. Using these sources in combination with those from the national accounts assumes that the same population of establishments should be covered in both series. With an adjustment for self-employed persons, which may introduce part of “grey” economy into the labour measures, this assumption may not hold, in particular, for developing countries.

In order to make valid international comparisons of ULCs (especially comparisons of levels), in addition to ensuring the above three variables are coherent, it is also necessary to express the ULC in some international currency (for comparison of levels across countries) as well as in real terms (for comparison of levels over time).

Labour costs, in contrast to productivity measures (O/H), are expressed in current prices and not adjusted for relative price differences between countries. As a result, the unit labour cost measure is constructed from a numerator (labour costs) in nominal terms and a denominator (output) in real terms. This apparent contrast can be understood when interpreting the unit labour cost measure as an indicator of cost competitiveness. It then adequately represents the current cost of labour per “quantity unit” of output produced. Similarly, in order to obtain comparable data on levels over time, it is necessary to convert the labour costs in the national currency into the labour costs in US dollars.

It is also necessary for output to be converted to US dollars on the basis of exchange rates in order to have comparable data on levels across countries. However, comparisons based on exchange rates do not necessarily reflect the relative purchasing power of different currencies. At best, market exchange rates only represent the relative prices of goods and services that are traded internationally, not the relative value of total domestic output which includes goods and services not traded internationally. Exchange rates are also affected by influences unrelated to the relative values of goods and services, such as currency traders’ views of the stability of foreign governments, relative interest rates in different countries, and incentives for holding assets in one currency versus another. Hence, the method of converting the output to a common currency by means of purchasing power parities (PPPs)³¹ is found to be a good alternative for the comparison of levels across countries (Capdevielle and Sherwood 2002).

The equation shown above can be replaced by the following equation which is more suitable for comparisons of levels of unit labour costs:

$$\text{ULC of country A} = \frac{\text{hourly labour costs of country A in A's prices/exchange rate between country A \& B}}{\text{hourly output of country A in A's prices/ PPP between country A \& B}}$$

Following this procedure, three aspects explain differences in the levels of ULC between country A and country B, *i.e.* differences in:

- nominal labour cost per person;
- nominal labour productivity (that is unadjusted for differences in price levels); and
- relative price levels (the ratio of market exchange rate to PPPs).

All three components contribute in their own way to differences in cost competitiveness between the two countries (Ark and Monnikhof 2000). Indicators of relative trade-weighted ULCs by industry may also be constructed.

Finally, it is also worthwhile noting that, because of the problems associated with developing comparative levels of ULC, much of the work on international comparisons is based on comparative trends (growth rates) in unit labour costs. This reduces measurement errors arising from methodological differences between countries because many of these errors remain relatively constant over time and therefore drop out when the trend is calculated.

Table 13 below shows the availability of unit labour cost data on databases maintained by international agencies and some national agencies. The ILO maintains annual unit labour cost

³¹ Purchasing power parities (PPPs) are rates of currency conversion that eliminate differences in price levels between countries and permit volume comparisons (Schreyer and Koechlin 2002).

estimates for manufacturing on its databases (ILO 2003b). The European Central Bank (ECB) calculates unit labour costs using national agency source data. Data in this series have been compiled from 1985 onwards and are presented in the ECB *Monthly Bulletin*. Data are only available for seven European Union countries. The OECD presents quarterly unit labour cost in the monthly *Main Economic Indicators* and annual data in the bi-annual *OECD Economic Outlook* on an ad-hoc basis. MEI presents data for only a small number of countries (Canada, United States, Japan, Germany and the United Kingdom).

The United States Bureau of Labour Statistics compiles comparative productivity and unit labour cost data for the manufacturing sector. These data are available for 14 countries in the Economic Releases and Special Data Tables section on the Foreign Labour Statistics home page starting from 1950 (BLS 2003b). The data refer to annual trend of output per man hour, hourly compensation in national currency, ULC in national currency and in US dollars. The BLS ULC series have been derived mostly from aggregates of output and labour compensation compiled by the national source-agencies for their national accounts. The BLS adjusts national data to achieve greater international comparability.

Table 13: Wage related statistics: Sources of unit labour cost statistics

	National availability (short-term basis)	OECD		ILO – Multi-annual growth rate	European Central Bank – quarterly index	United States. BLS (annual)	Income approach to GDP	
		MEI (Q)	Outlook (A)				Q	A
Canada	X	X	X	X		X	X	X
Mexico	X		X	X				+
United States	X	X	X	X		X	X	X
Australia	X		X	X			X	X
Japan	X	X	X	X		X		+
Korea	X		X	X		X		+
New Zealand			X					+
Austria			X	X			X	X
Belgium			X	X	X	X	X	X
Czech Republic			X					X
Denmark			X	X		X	X	X
Finland			X	X	X		X	X
France	X		X	X	X	X	X	X
Germany		X	X	X	X	X	X	X
Greece		X	X	X				X
Hungary			X					X
Iceland			X					+
Ireland	X		X	X				X
Italy			X	X	X	X	X	X
Luxembourg								X
Netherlands			X	X	X	X	X	X
Norway			X	X		X		X
Poland			X					X
Portugal			X	X				X
Slovak Republic								X
Spain	X		X	X	X		X	+
Sweden			X	X		X	X	+
Switzerland			X	X				+
Turkey				X				+
United Kingdom	X	X	X	X		X	X	X

Sources: 1) OECD, Main Economic Indicators 2) OECD Economic Outlook
3) ILO, Key Indicators of the Labour Market (http://www.ilo.org/public/english/employment/strat/kilm/ind_20.htm) and (<http://www.ilo.org/public/english/employment/strat/publ/ep00-5.html>)
4) European Central Bank (http://www.ecb.int/stats/mb/ecb_bull_5.4note.pdf)
5) U.S. BLS, Data Availability (<http://www.bls.gov/fls/availability.htm>)
6) OECD, Quarterly National Accounts
7) OECD, Annual Report on National Accounts of OECD Countries

Notes: 1) "Q" refers to data on a quarterly basis and "A" on an annual basis.

2) Data on unit labour cost for Greece in MEI is up to 1998.

3) Some countries marked "+" do not produce separate annual data using two components (compensation of employees, wages and salaries) for the whole economy from the income approach to GDP. Examples are as follows: i) Mexico presents data on wages and salaries only for manufacturing industries, ii) Both Japan and Korea do not present data on wages and salaries, iii) New Zealand, Switzerland and Turkey only present total compensation of employees, iv) Spain only presents total wages and salaries, and v) Sweden presents data on wages and salaries, but does not present data on compensation of employees.

7.2 National practices

Summary metadata for the compilation of unit labour cost statistics are presented in Annex Table 6. Ten OECD Member countries present their national unit labour cost statistics on their websites. One reason for the absence of such data for other countries may be the non-availability of compensation data from quarterly national accounts. Among OECD Member countries, only 14 compile quarterly GDP using the income approach (refer Table 13 above).

Annex Table 6 also shows that unit labour cost data for Mexico, Japan, Korea, Ireland and Turkey are restricted to the manufacturing sector. Data for the remaining countries (Canada, Australia, France, Spain and the United Kingdom) cover the whole economy. With regard to the concept of output, indexes of industrial production are used for the denominator in Japan, Korea, Ireland and monthly data in the United Kingdom. GDP data are used in the remaining countries. Caution is needed where industrial production indices are used as it is necessary to check whether or not the coverage (enterprise size cut-off) of the numerator (compensation of employees) and denominator (industrial production indexes) are identical. Use of data with different coverage will result in either overestimation of absolute ULC levels or the generation of incoherent trends.

8. HOUSEHOLD INCOME

8.1 Overview

A detailed outline of the concepts of income, household income and disposable income recommended by the United Nations (in the SNA 1993), the ILO, Eurostat and the Canberra Group is provided in Section 2.3 above.

The measurement of household income can be approached two ways – the micro approach through household budget surveys (or other household surveys specifically designed to collect a broad range of the components of income), and the macro approach through the SNA. Although one of the major purposes of household budget surveys is to provide key data for the compilation of national accounts, both approaches are not identical to each other.

In the micro approach an important requirement is that income receipts should potentially be available for consumption within the reference period, as the interest of the micro analyst is the measurement of current economic well-being. At the macro level however, the SNA does not use this criterion (*i.e.* current economic well-being) in the definition of primary income but introduces it implicitly in the definition of disposable income through the definition of current transfers.

From this perspective, there is a difference between the two approaches in the measurement of household income in the treatment of deferred benefits or “forced savings”, such as employer contributions to social insurance schemes, profit-sharing pay to employees in the form of profits actually distributed at retirement or at some future date outside the reference period (*e.g.* stock options). For example, the ILO Resolution adopted by the 16th ICLS in 1998 excludes deferred benefits (employer contributions to social security funds, insurance or other institutional units responsible for social insurance schemes) from employment-related income on the grounds that they represent “entitlement to future benefits” (ILO 2001, para. 50). However, the same Resolution also states that all components of income related to paid employment provided by the employer should be included when the objective is to measure the income-generating capacity of a job (ILO 1998, Income related to paid employment section, para. (iii)).

In addition to the treatment of deferred benefits, other differences can be also seen between the two approaches. These involve the treatment of taxes and obligatory social contributions and non-monetary components of income (*e.g.* benefits in kind, own production, imputed rent (*i.e.* the rent which would be paid for the housing occupied by their owner or occupied free of charge)). These differences are outlined in the following table.

Table 14: Wage related statistics: Summary of treatment of some items of Employment Related Income (in Household Budget Survey) and Disposable Income (in the SNA)

	Employment related income (Household Budget Survey)	Disposable income (SNA)
Employers' contributions to social security (deferred benefits)	No, from the view-point of individual's employment related well-being.	Yes, from the view-point of the income-generating capacity of a job.
Benefits in kind	Yes	Yes, as one of compensation components
Imputed rent (income received because of ownership of housing)	Yes, but there are some cases where this item is not included in household income.	Yes, but this is not included under property income. The sums paid by tenants are recorded as final consumption since the owners of dwellings provide a service.
Own production	Yes	Yes, but this, together with imputed rent, is not included directly in the disposable income since it appears under resources in the production account (and thus influences the level of value added, and, indirectly the income).
Taxes and obligatory social contributions	Yes, but there is a proposal for the exclusion of these items in HBS.	Yes

Sources: 1) Resolution concerning the measurement of employment-related income, adopted by the 16th ICLS, 1998, <http://www.ilo.org/pub/ic/english/bureau/stat/res/empinc.htm>.

2) Eurostat, Household Budget Survey in the EU: Methodology and Recommendations for Harmonization, 1997.

There are also differences between the two concepts (and the two sources) from the viewpoint of consumption expenditure. The coverage of household budget surveys is not fully compatible with the national account concept of consumption on the economic territory. First, frequently, only private households are surveyed whereas in the national account system the expenditure of collective (or institutional) households, as well as that of foreign tourists on the national territory, forms part of the final consumption of households. Second, for reasons of feasibility in data collection, certain concepts differ between the two sources. For example, insurance premiums, consumption of health and education service and second-hand goods are not treated in exactly the same way.

The ILO plans to revise the concept of household income and to introduce recommendations on the components of household income which will be presented for discussion at the 17th ICLS to be held at the end of 2003. The draft definition prepared by an ILO Meeting of Experts in 2001 is as follows:

Household income consists of receipts in cash, in kind or in services, that are usually recurrent and regular and are received by the households and by individual members of the household at annual or at more frequent intervals. During the reference period when they are received, such receipts are potentially available for current consumption and, as a rule, do not reduce the net worth of the household.

The proposed definition introduces the notion of potential and current availability for consumption as well as the concept of non-reduction of net worth. The regularity and recurrence notions are taken from the existing resolution adopted by the 12th ICLS. The proposed components of household income are outlined below in the following table.

Table 15: Wage related statistics: Proposed components of Household Income recommended by ILO Meeting of Experts (2001)

1. Income from employment	
Employee income	Wages and salaries Cash bonuses and gratuities Commissions and tips; profit-sharing bonuses, etc. Remuneration for time not worked Free or subsidised goods and services from employer Termination and redundancy payments Employer social contributions (?)
Income from self-employment	Profit or loss from own unincorporated enterprise Imputed value of own-produced goods
2. Property income	
	Interest, dividends Net rent Royalties
3. Transfers received	
Social security pensions, benefits and allowances from government-sponsored schemes	State pension Child allowance Unemployment benefits, etc. Government non-cash transfers provided under social security schemes
Pensions and insurance benefits from schemes other than government sponsored schemes	Pensions and benefits paid as part of social insurance schemes: - from former employer - other
Social assistance benefits from government	Private pensions, annuities and benefits provided by government but not under a social scheme
Current transfers from NPISHs	Regular cash, goods and services from charities and other institutions
Current transfers from other households	Alimony, child support, parental support Regular receipts from inheritances, etc. Gifts from other households
4. Other income from within household	
	Imputed value of services from owner-occupied dwelling Imputed value of services from other consumer durables Imputed income from home production of services
5. Other income from outside the household (?)	
	Imputed value of social transfers in kind Imputed value of services transferred from other households
6. Total income	
<i>Minus</i>	
7. Taxes and compulsory transfers	
<i>Minus</i>	
8. Compulsory social security contributions	
	Employee social security contributions Employer social contributions
<i>Minus</i>	
9. Inter-household family support aid	
	Alimony, child support, etc. Regular in-kind transfers
<i>Equals</i>	
10. Disposable income	
	(6-7-8-9)

Note: To be presented to the 17th ICLS at the end of 2003
Source: ILO, Report of the ILO Meeting of Experts (2001)

As can be seen from the above table, the ILO proposal for the components of household income are in keeping with the definition of income in the existing Resolution concerning the measurement of employment-related income adopted by the 16th ICLS in 1998. This Resolution states that employee income consists of direct wages and salaries, cash bonuses and gratuities, commissions and tips, profit-sharing bonuses and other forms of profit-related pay, remuneration for time not worked, free or

subsidized goods and services from an employer as well as termination and redundancy payments. Employee income can be in cash or in kind.

Finally, in order to fully understand the economic well-being of households, it is increasingly necessary to look further than income estimates traditionally derived from household budget surveys. Financial considerations such as bank accounts, investments, ownership of buildings and land, pensions and debt levels also need to be taken into consideration to obtain an accurate picture of the true economic well-being of households. Examples of such stock surveys are rare among OECD Member countries. The United Kingdom Office for National Statistics plans to conduct a stock survey for the first time in 2006. The survey will also furnish information on different life stages to provide a clearer picture of how wealth changes throughout an individual's lifetime, from their 20s into retirement.

8.2 National practices on household income

Both the ILO and Eurostat have compiled information on national practices for household income and expenditure surveys. The ILO has published extensive metadata in its methodological series, *Sources and Methods: Labour Statistics*. Volume 6, Sources and Methods on Household Income and Expenditure Surveys (ILO 1994). This publication, published in 1994, contains detailed information on national methods for data collection, coverage, concepts and definitions, classifications, historical changes, technical references, etc. The ILO is now in the process of revising this volume for distribution at the 17th International Conference of Labour Statisticians to be held at the end of 2003.

Eurostat has established guidelines on household income and expenditure statistics. In 1997, it published a manual on household budget surveys containing guidelines on concepts, definitions, classifications, data collection methodology and analysis (Eurostat 1997). The manual reflects current practices within European Union member countries and presents recommendations based on existing national common practices, the overall objective being to move towards harmonisation of the statistics produced by those countries.

Comparisons of national practices in OECD countries in the compilation household income statistics are presented in below in Tables 16 and 17 and in Annex Table 7.

Examples of national concept of household income

Examples of national concepts of household income are presented below in Table 16. The limited ready availability of information has restricted the coverage of the table to only five OECD Member countries, however, the point of the table is purely to illustrate typical national practice with regard to inclusions and exclusions of the components of income. Examination of the definitions presented in the table shows that, in the main, the countries presented more or less adhere to the definition in the ILO Resolution. The notions of regularity and recurring nature of income are embodied in the definitions presented. However, the notions of potential and current availability of income components for consumption and the concept of non-reduction of net worth are not explicitly mentioned in the definitions.

All five countries have adopted the concept of gross income. Furthermore, they all deduct income tax payments, national insurance contributions and other deductions at source (e.g. payments into enterprise social clubs, superannuation schemes, etc.) from normal pay. Similarly, all countries use the basic concept of monetary income (cash income). However, there is some variation with regard to the treatment of non-monetary elements of income. Imputed rent is excluded in all five countries, though on the other hand, benefits-in-kind are included in the national definitions of two countries (Australia and Ireland), and use of own production is included in only one country (Ireland).

Table 16: Wage related statistics: Examples of national definitions of household income in five OECD Member countries

Country	Definition
Australia	<p>Income relates to usual cash income, that is, gross receipts of recurring and usually regular cash flows. Income is collected according to following sources.</p> <ol style="list-style-type: none"> 1. Employee income <ul style="list-style-type: none"> - usual weekly pay such as wages & salaries, tips, commissions, piecework payments, penalty payments and shift allowances, remuneration for time not worked and workers' compensation through the payroll - average weekly receipts from leave loading and regular bonuses - average weekly value of selected in-kind income from employers 2. Own business income 3. Property income <ul style="list-style-type: none"> - returns from financial assets (interest, dividends), from non-financial assets (rent) and from royalties 4. Cash transfer income <ul style="list-style-type: none"> - government pensions and allowances, other pension and life assurance annuity benefits, and other current cash transfers <p><i>Receipts which are not recurring and usually regular or are not cash flows are excluded. Examples include: i) capital transfers received such as inheritances; lump sum compensation for injuries, etc.; ii) capital gains and losses such as profit buying and selling shares unless as a business; iii) receipts from running down assets such as withdrawals from savings and loans; iv) most income-in-kind such as the value of home produced goods unless received from own business.</i></p>
Korea	<p>Household income refers to current cash and non-current cash income, which are recurring and regular. Current cash income consists of: i) wages and salaries of employees; ii) income from self-employment; iii) property income; iv) cash transfer including social security benefit and from other households.</p> <p>The following are excluded: imputed rent, and profit buying and selling real estate. In the cases of severance pay and winnings from betting, the amounts consumed for household expenditure are regarded as income.</p>
New Zealand	<p>In general, income is regarded as all receipts which are received regularly or are recurring in nature. Household income is defined as the sum of gross income from the following sources.</p> <ol style="list-style-type: none"> 1. Wages and salaries 2. Self-employed income 3. Social welfare benefits, New Zealand Superannuation and war pensions 4. Income from investment (including interest, dividends, rent (net of expenses), royalties) 5. Other regular income
Ireland	<p>Household income is defined to include all money receipts of a recurring nature which accrue to the household regularly at annual or more frequent intervals, together with the value of any free goods and services regularly received by household members (in particular, benefits-in-kind supplied by employers) and the retail value of own farm or garden production consumed by the household. Gross receipts (<i>i.e.</i> before deduction of income tax and social insurance contributions) of individual household members are converted to weekly equivalent amounts and combined to give average gross weekly income for households.</p>
United Kingdom	<p>The standard concept of income is that of gross weekly cash income, <i>i.e.</i> before the deduction of income tax actually paid, national insurance contributions and other deductions at source.</p> <ol style="list-style-type: none"> 1. Wages and salaries of employees 2. Income from self-employment 3. Income from investment, including receipts from sub-letting part of the dwelling (net of the expenses) 4. Social security benefits <p>The following are excluded: i) winnings from betting, lump-sum gratuities, ii) the value of income in kind, iii) loans and money received in repayment of loans, etc.</p>

Sources: 1) Australian Bureau of Statistics, Household Expenditure Survey, <http://www.abs.gov.au>.
2) Statistics New Zealand, Information about the Household Economic Survey, <http://www.stats.govt.nz>
3) Ireland Central Statistical Office, 1999-2000 Household Budget Survey, <http://www.cso.ie>
4) UK Office for National Statistics, 2000-2001 Family Expenditure Survey, <http://www.statistics.gov.uk>.

Household budget surveys - frequency

As shown in Annex Table 7, all national statistical institutes of OECD Member countries conduct household budget surveys. In terms of the frequency of these surveys, two distinct patterns are found, annual surveys and surveys carried out at a multi-year interval. All annual surveys are also continuous in the sense that the field work takes place on a continuous basis throughout the year.

Annual surveys are carried out in 17 of the 30 OECD Member countries. Japan, Korea and Germany have a dual system of household budget surveys, annual for a small sample and multi-year for a large sample of households. Of the 17 countries conducting annual surveys, only five (Japan, Korea, Germany, Hungary and the United Kingdom) produce survey results on a quarterly basis. The remaining 11 countries produce results on an annual basis. Table 17 also shows that data on disposable income from quarterly GDP are only available for 11 Member countries, indicating the difficulties in developing short-term indicators on household income. A small number of countries (Canada, Belgium, Denmark and Switzerland) over recent years have also changed the frequency of their surveys, from a multi-year to an annual survey.

Household budget surveys - coverage

The household budget surveys of OECD Member countries are normally restricted to the population living in private households. Collective or institutional households (old persons' homes, hospitals, hostels, boarding houses, prisons, military barracks, etc.) are excluded, as are the households of foreigners and persons without a fixed place of residence. In most European Union countries this results in the exclusion of around 2% of the total population. Obviously, this exclusion could have a greater impact on specific sub-populations such as elderly persons and the homeless. Other countries, such as Korea also exclude single-person households.

With regard to geographical coverage, most household budget surveys cover the entire population residing in private households in the national territory. For reasons of cost and practicality, some remote areas with very small populations are excluded without noticeably affecting the results of the surveys. For example, the Canadian survey covers about 98% of the population in the 10 provinces, whilst coverage is restricted to 81% in the Yukon Territory, 92% in the Northwest, and 89% in Nunavut. Australia and Denmark also do not cover remote and sparsely settled areas, whilst France excludes overseas territories. In Korea, the survey only covers urban areas.

Household budget surveys - sample size

The sample size for household budget surveys varies across OECD Member countries, ranging from 1 000 ~ 2 000 households in Belgium, Denmark, Finland, Iceland, Netherlands and Sweden to more than 60 000 in Germany. The size of the sample has some relationship to the size of the population of the country, though the relationship is far from uniform due to a number of practical factors. It is worth mentioning that sample size is not the sole criteria for assessing the magnitude of response burden on households included in the survey. Some countries require sampled households to maintain diaries recording all their expenditure over a one year period (*e.g.*, Japan, Korea), whilst the diary record-keeping burden in other countries is restricted to a two week period in a year (*e.g.* the Netherlands and the UK) or two separate one week periods in a year (*e.g.* the United States).

Table 17: Wage related statistics: Summary of compilation of household income – OECD Member countries

	Continuous survey throughout the year	Survey with multi-year interval	Availability of quarterly GDP for disposable income at current prices	Availability of quarterly GDP for household final consumption expenditure
Canada		X		++
Mexico	X			++
United States	X		+	++
Australia		X	X	++
Japan	X1	X2	+	X
Korea	X1	X2	+	X
New Zealand		X		++
Austria		X	X	X
Belgium	X		X	X
Czech Republic	X			X
Denmark	X		X	X
Finland		X	X	X
France		X	X	X
Germany	X1	X2	X	X
Greece		X		
Hungary	X			X
Iceland		X		++
Ireland		X		++
Italy	X		X	X
Luxembourg		X		
Netherlands	X		X	++
Norway	X			X
Poland	X			X
Portugal		X	X	X
Slovak Republic		X		X
Spain	X			X
Sweden	X		X	X
Switzerland		X		++
Turkey		X	+	++
United Kingdom	X			X

Source: 1) OECD, Quarterly National Accounts

Note: 1) "+" refers to the Gross National Income.

2) "++" refers to total private final consumption expenditure

9. HOURS OF WORK

9.1 Overview

Statistics on time spent at work are important for a number of reasons:

- Data on hours of work are used as the denominator for the compilation of various labour market indicators such as hourly earning indices, hourly labour cost, unit labour cost, labour productivity, etc. Hours of work are commonly regarded as a more appropriate measure, compared to data on the number of persons employed, as they avoid the effects of compositional changes in the workforce.
- Hours of work are a sensitive short-term barometer of labour demand as employers generally prefer to increase or decrease hours worked before hiring or laying off workers in response to movements in sales, profits, orders, inventory-sales ratios, or planned production schedules. This is particularly the case when changes in the demand for labour are small or are expected to be temporary (Frumkin 2000).
- Statistics on the volume of working hours are also essential for the study of working conditions, living standards and the quality of life of the working population. For example, weekly hours of work are used as the threshold for classifying employees by full-time/part-time status in the labour force survey as well as for estimating the level of under-employment.

Both the ILO and Eurostat categorise hours of work into three elements: normal hours of work; hours actually worked; and hours paid. Definitions of these concepts are provided in Table 18 below. Examination of the table shows that the basic concepts for normal hours of work and hours actually worked are same for both organisations, though the wording is a little different. However, the ILO does not use the concept of hours paid, as there are significant differences between countries regarding wage payments for holidays and other periods when no work is performed. This precludes the formulation of an international standard. The ILO does not normally publish data on hours paid, though it collects and disseminates such data in its publications if countries can only provide statistics on this basis.

In addition to the above three concepts, the concept ‘usual hours worked’ is also widely used. Although there is no international definition for this term, ‘usual hours worked’ data are generally collected in household surveys and typically (in this case, in the United States) defined as follows:

The data on usual hours worked pertain to the number of hours a person usually worked during the weeks worked in the designated calendar year. The respondent is to report the number of hours worked per week in the majority of the weeks he or she worked in the designated calendar year. If the hours worked per week varied considerably during the designated calendar year, the respondent is asked to report an approximate average of the hours worked per week. People who report that they usually worked 35 or more hours during the week are classified as “usually worked full-time”; people who report that they usually worked 1 to 34 hours are classified as “usually worked part-time”. (United States Bureau of the Census 2003)

This concept may correspond to related concepts such as hours paid, standard hours of work, negotiated hours or contractual hours which are used in establishment surveys or derived from

administrative sources. The difference between usual hours data worked from household surveys and paid hours of work from establishment surveys, etc., is that usual hours measures often include regularly occurring overtime hours. For this (and other) reason(s), measures of usual hours from household surveys may be greater than measures derived from establishment surveys and other sources.

The Paris Group will undertake further work on the measurement of working hours at its next meeting scheduled for early September 2003. This work will be used as input to further discussion of this topic at the 17th ICLS later in 2003.

Table 18: Wage related statistics: Definitions of hours of work

International Labour Organisation	Eurostat
<p>Normal hours of work</p> <p>The hours of work fixed by or pursuant of laws and regulations, collective agreements or arbitral awards.</p>	<p>Normal basic hours</p> <p>This is the number of hours which the employee is expected to work in the pay period excluding main meal breaks and all overtime hours, even if some of these are worked regularly or contractually. This involves the number of hours (weekly/monthly) which the employee is obliged to work under the terms of a contract, regulation or rules in force in the local unit.</p>
<p>Hours actually worked should include:</p> <ul style="list-style-type: none"> i) hours actually worked during normal periods of work; ii) time worked in addition to hours worked during normal periods of work, and generally paid at higher rates (overtime); iii) 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; iv) 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; v) time corresponding to short rest periods at the workplace, tea and coffee breaks. <p>Hours actually worked should exclude:</p> <ul style="list-style-type: none"> i) hours paid for but not worked such as paid annual leave, paid public holidays, paid sick leave; ii) meal breaks; iii) time spent on travel from home to work and vice versa. 	<p>Hours worked</p> <p>The total number of hours worked represents the aggregate number of hours actually worked for the output of the observation unit during the reference period.</p> <p>This variable excludes hours paid but not actually worked such as for annual leave, holidays and sick leave. It also excludes meal breaks and commuting between home and work.</p> <p>Included are hours actually worked during normal working hours, hours worked in addition to those, time which is spent at the place of work on tasks such as preparing the site and time corresponding to short periods of rest at the work place.</p> <p>If the exact number of hours actually worked is not known, it may be estimated on the basis of the theoretical number of working hours and the average rate of absences (sickness, maternity, etc.).</p>
<p>Hours paid for</p> <p>Because of the wide difference among countries with respect to wage payments for holidays and other periods when no work is performed, it does not seem feasible to adopt international definitions of hours paid for.</p>	<p>Paid hours</p> <p>Paid hours cover normal and overtime hours, remunerated during the reference period. Hours not worked during the reference period but nevertheless paid are counted as "paid hours" (annual leave, sick leave, official holidays and other hours paid such as for medical examinations). Using this method, it is necessary to ensure that there is consistency between the "paid hours" and the hours to which the salary corresponds. Paid hours are calculated by deducting hours lost due to sickness, maternity leave, etc., from the normal basic hours.</p>

Sources: 1) ILO, Resolution concerning statistics of hours of work adopted by the 10th ICLS (1962), <http://www.ilo.org/public/english/bureau/stat/res/hours.htm>.

2) Eurostat, Glossary of Business Statistics, <http://forum.europa.eu.int/irc/dsis/coded/info/data/essai/en/gl000133.htm>.

Sources of data on working time

Statistics on hours of work may be collected from either establishment surveys or household surveys. Some data (such as negotiated or contractual hours) are also derived from administrative sources. Establishment surveys have the advantage of yielding more accurate results, as the information collected are generally based on company records. For European Union countries, establishment surveys also have other advantages. The requirement of the European labour cost index (which require an hourly measure) have led a number of countries to run surveys which collect statistics on employment, hours, wages and salaries on the same establishment questionnaire. This helps ensure consistency in the data for these series. However, establishment surveys rarely cover the self-employed and often omit certain sectors of the economy (*e.g.* agriculture, the public sector). Furthermore, in the main, businesses only keep records for basic hours and overtime and do not normally maintain records of unpaid overtime unless specifically kept to ensure that working time regulations are met. Similarly, records of sick pay leave or holiday leave (unless they are part of factory or plant closures) may not be readily available (Eurostat 2003f).

On the other hand, household sample surveys have the advantage of better coverage of a wider section of the working population. It is also possible to obtain information on total hours worked for each person surveyed, particularly when they have several jobs. Questions on weekly hours worked in labour force surveys generally include: i) basic hours; ii) paid overtime; iii) unpaid overtime; and iv) actual hours worked. This enables the SNA definition to be followed and extensive analyses to be undertaken. However, a major disadvantage of household surveys as a source of information on hours worked is that they are dependent on informant recall which is subject to a higher response error than data collected in establishment surveys where records may be referred to if necessary.

An overview of estimation methods

There are essentially two general methods used to estimate annual hours actually worked the:

- component method - which entails estimating the components of variation in working time from some measurable norm (which could be, for example, contractual hours, negotiated hours, usual working hours, paid hours) and adjusting the norm of these variations. The components can include overtime hours, vacation and holiday time, time lost as a result of strikes, absence due to illness, maternity and accidents, etc;
- direct method - which entails estimating directly hours actually worked.

In practice, the methods used in countries involve variations on these two approaches, for example, to correct for imperfect coverage and known biases. Some national methods are hybrids of the two approaches, where some of the components are estimated independently and some are implicitly accounted for in a direct measure.

There are no obvious statistical grounds for preferring one method to the other. In situations where a norm can be established and measured, estimating the components of variation from this norm using the best available sources can be an appropriate strategy. However, there still remains the question of whether the norm makes statistical sense and whether all sources of information about variations need to be considered (OECD 1998b).

Examination of procedures applied shows that most estimates of working time begin with a measure of “standard“ hours of work. In establishment surveys, this corresponds to negotiated hours,

contractual hours or paid hours (which may or may not include overtime hours). In labour force surveys, it is the “usual” or “normal” hours of work concept briefly referred to above. Actual hours of work are then estimated by taking into account any deviations from these standard hours. As mentioned previously, in the case of labour force surveys, usual hours measures are often said to include, in addition to normal hours, regularly occurring overtime hours. If this is so, one would expect measures of usual hours for workers, derived from labour force surveys, to be greater, or at least different, from measures hours worked or hours paid from establishment surveys, due to differences in factors such as coverage, sample and reference period. It should be noted, for example, that usual hours for workers in labour force surveys may be less than measures in establishment surveys if part-time workers are covered in the former but not the latter.

Table 19 below outlines possible sources of data on hours of work from the ILO, OECD and Eurostat. The ILO publishes statistics in their Key Indicators of the Labour Market (KILM) database on: annual number of hours worked per person; and percentage working less than 20 hours, or more than 40 hours per week. The database provides information for around 45 countries. The statistics are derived from a variety of survey sources and are not adjusted to enhance their comparability. National differences from the ILO norm are indicated in table notations (ILO 2003f). The ILO also publishes statistics on hours worked or hours paid by economic sector for almost every country which collects such data in its *Yearbook of Labour Statistics*.

Table 19: Wage related statistics: Sources of data on hours of work

	National (short-term basis)		OECD		ILO		Eurostat
	Household	Estab.	MEI (Q)	Employment Outlook (A)	Household (A)	Estab. (A)	
Canada		X	X	X		X	
Mexico		X	X	X	X	X	
United States	X	X	X	X		X	
Australia	X		X	X	X	X	
Japan		X	X	X		X	
Korea		X		X		X	
New Zealand	X			X		X	
Austria		X	X		X	X	X
Belgium		X		X		X	X
Czech Republic	X			X		X	
Denmark	X	X		X		X	X
Finland	X		X	X	X		X
France		X		X		X	X
Germany	X	X	X	X	X		X
Greece		X	+	X	X	X	X
Hungary		X	X			X	
Iceland	X			X	X		
Ireland		X	X	X	X		X

Table 19: Wage related statistics: Sources of data on hours of work (continued)

	National (short-term basis)		OECD		ILO		Eurostat
	Household	Estab.	MEI (Q)	Employment Outlook (A)	Household (A)	Estab. (A)	Hours worked quarterly index based on establishments
Italy		X		X	X		X
Luxembourg		X	X			X	X
Netherlands	X	X		X		X	X
Norway	X			X	X		
Poland	X					X	X
Portugal		X			X	X	
Slovak Republic		X		X		X	
Spain	X		X	X	X		X
Sweden		X	X	X	X	X	X
Switzerland		X		X		X	
Turkey		X	X			X	
United Kingdom.	X			X	s	X	X

Sources: 1) OECD, Main Economic Indicators

2) OECD, 2002 Employment Outlook

3) ILO Labour Statistics Database (<http://laborsta.ilo.org>)

4) Eurostat, Short-term Business Statistics- National Methodologies http://forum.europa.eu.int/irc/dsis/bmethods/info/data/new/nat_meths.html

The OECD presents data on average annual hours actually worked per person in employment for its Member countries in its annual *Employment Outlook* publication. These data are similar to the ILO figures in that they are not adjusted for comparability. In the notes to the table, the OECD specifically states that the data are not suitable for comparing the levels of average annual hours of work for a given year between countries because of differences in their sources (OECD, *Employment Outlook*, 2002). The OECD also publishes limited short-term indicators on hours of work in its monthly *Main Economic Indicators* (MEI). However, the data are presented for only half of the 30 Member countries and are also derived from a variety of sources which also severely limits international comparability.

Eurostat provides an hours worked index as one of its short-term indicators, the data being derived from harmonised statistics obtained from national surveys of establishments. For the calculation of Euro-zone and EU15 aggregates, Eurostat applies the direct method described above. Gross data from member states are used to calculate a weighted mean that gives the gross Euro-zone and EU15 estimates (Eurostat 2003f).

The European Industrial Relations Observatory (EIRO) publishes an annual report on working time developments, including collectively agreed and statutory maximum weekly hours worked, as well as collectively agreed and statutory annual leave (vacation days and personal leave days). The series only covers Europe (EIRO 2002a). Finally, the United States Bureau of Labour Statistics presents an overview of hours of work statistics and the work of international organizations in this area on the BLS website (BLS 2002b).

9.2 National practices

National practices of OECD Member countries for the compilation of short-term indicators (primarily) of hours of work are presented in Annex Table 8.

Frequency and sources of data

All Member countries, except two, conduct surveys on hours of work on a short-term basis. Iceland and Switzerland conduct such surveys on an annual basis. There is considerable variation in the sources of information used. Ten countries derive hours of work data from their household labour force surveys (US, Australia, New Zealand, Czech Republic, Finland, Iceland, Norway, Poland, Spain and the United Kingdom). Denmark and the Netherlands (for annual data) publish estimates of their data using Working Time Accounts or Labour Accounts. The remaining OECD Member countries derive data on hours of work from establishment surveys³².

Coverage of economic activities

Countries that derive their hours of work data from household surveys cover the whole economy. The activity coverage of countries obtaining data from establishment surveys, in the main, also cover the entire economy, though some only cover manufacturing (Mexico, Austria, Belgium, Ireland, Portugal and Turkey only cover ISIC Rev. 3 Sections C (mining and quarrying), D (manufacturing), E (electricity, gas and water supply)).

Format of data presentation

Belgium, Italy, Netherlands and Portugal present their hours of work data in the form of indices rather than as absolute figures. Turkey presents its data as a percentage change over a year earlier. Other OECD Member countries present their data in absolute values, though in a variety of formats: in weekly hours worked (Canada, United States, Australia, New Zealand, etc.); in monthly hours worked (Mexico, Japan, Korea, Greece, Hungary, Slovak Republic, etc.); in quarterly total hours worked (Denmark); and in annual total hours worked in million hours (Finland).

Availability of overtime hours and hours paid for

Only a few OECD Member countries explicitly present data for overtime hours (Canada, the United States, Japan, Korea, Italy, Sweden, Switzerland and the United Kingdom). Among these countries, Italy and Sweden present data on overtime hours in the form of share of overtime out of total working hours.

Only three countries present data on hours paid for (Austria, Switzerland, and the United Kingdom).

³² As shown in Annex Table 8, the US Bureau of Labour Statistics compiles hours worked data from its monthly Current Employment Statistics establishment survey in addition to hours data obtained from the monthly Current Population survey.

10. CONCLUDING REMARKS AND FUTURE WORK

10.1 International perspective

Wage related statistics cover a diverse range of variables including: wage rates, earnings, compensation of employees, labour costs, labour prices, unit labour costs, employment-related income, household income, disposable income and hours of work. As the preceding Sections of this publication show, an equally diverse range of international statistical guidelines and recommendations cover most of the statistics discussed. These guidelines are first presented in Section 2.2, then discussed in terms of the main elements of terminology in Section 2.3 and in more detail in subsequent Sections for each specific wage related statistic.

The guidelines show that there are three notions in connection to wage-related statistics. Some measures are based on the concept of wages as income to the employee, others correspond to the concept of wages as cost to the employer. Finally, others (minimum wages and the labour price index) correspond to the notion of the price of labour. Section 2.4 above shows that the precise relationship between the different wage measures is dependent on the components of each measure. These relationships (in terms of the ten main components outlined in the ILO International Standard Classification of Labour Cost – refer Section 2.2) are summarised in the following statements:

- *Labour costs*: I. Direct wages and salaries, II. Remuneration for time not worked, III. Bonuses and gratuities, IV. Payments in kind, V. Housing and rent allowances, VI. Social security, pensions, etc., VII. Cost for vocational training, VIII. Cost of welfare services, IX. Employers' other labour, X. Taxes regarded as labour cost.
- *Earnings*: major groups of I to V (excluding the severance pay).
- *Compensation of employees*: major groups of I to V (including severance pay) + employers' contributions to social security + unfunded employee social benefits paid by employers.
- *Employment-related income*: major groups of I to X (including severance pay) excluding statutory and non-obligatory employers' contributions to social security + incomes of self-employed persons + current social benefits received from the employer, from compulsory insurance or the State, or as a result of former employment.
- *Disposable income* (the difference between the total resources and uses of primary and secondary income): compensation of employees + incomes of self-employed persons + property income + own production + net of secondary distribution of income.
- *Household income*: employment-related income + property income + own production + statutory taxes and obligatory social contributions paid by households.
- *Unit labour cost* (data on the numerator): compensation of employees + incomes of self-employed persons.

These relationships are presented in the ILO publication, *An Integrated System of Wage Statistics* (ILO 1979, p.30).

In terms of the evolution of international statistical standards, further work is required in the following areas:

- The element of severance pay is excluded from earnings, but is included in the employment-related income concept. This component is sometimes included in national labour cost definitions. The exclusion of this component in earnings seems to arise from its irregular and non-recurring characteristics. However, the reason for its inclusion in employment-related income is because it provides for consumption while the recipient looks for another job and serves as a replacement for wages and salaries. There is a need to further clarify the appropriate treatment of severance pay in the compilation of labour cost and labour price indices.
- Social security benefits are included both in compensation of employees and in employment-related income. However, their treatment in the SNA and the employment-related income concept differ. The SNA categorises them as funded and unfunded social benefits, whilst employment-related income categorises them as receipts from the employer, compulsory insurance or the State, and as a result of former employment. There is a possible need to consider options for the future harmonisation of these two approaches.
- In the concept compensation of employees, remuneration in kind provided to employees to enable them to be able to carry out their work (*e.g.* special protective clothing) are treated as intermediate consumption by the employer. Remuneration in kind not necessary for work and which can be used by employees in their own time, at their own discretion to meet their own needs or wants are regarded as the compensation of employees (ISWGNA 1993 para. 7.39). Compensation of employees also excludes any taxes payable by the employer on the wage and salary bill (*e.g.* a payroll tax) (ISWGNA 1993 para 7.21). On the other hand, these elements are included in the concept of labour costs. Although these differences are widely recognised, there is a need to harmonise the treatment of these elements between the concept of labour costs and the concept of compensation of employees.
- There is no mention of emerging forms of payment such as stock options in the concept of labour cost. Stock options are a complex issue and not one which is especially relevant for all countries, particularly developing countries. However, it is still an area of work for wage related statistics to refine and propose ways of measuring stock options rather than to produce actual guidelines.
- Unit labour cost statistics uses data on compensation of employees from the national accounts. However, it uses the term “labour cost”. There is a need to clarify the use of the term “labour cost” when used in the context of unit labour costs.

10.2 Availability of national wage related statistics

The availability of short-term data on wage-related statistics shows considerable variation across OECD Member countries as illustrated in Table 4 above, which describes the availability of the statistics by periodicity.

Short-term statistics on earnings and hours of work are available for all OECD Member countries (except Switzerland for earnings and hours of work, and Iceland for hours of work). Meanwhile, other

short-term measures of wages are shown not to be fully available for all OECD Member countries. Countries for which related data on wage measures are available are:

- Indices of agreed wage rates are available for five countries (Austria, Belgium, Germany, Italy and Netherlands). The indices are compiled using data from collective agreements.
- Quarterly labour cost indices are available for 14 countries (all being European Union member states).
- Quarterly labour price indices are currently available for four countries (United States, Australia, New Zealand, and Portugal) with Canada in the final stage of development.
- Quarterly unit labour cost data are published nationally in 10 countries (Canada, Mexico, United States, Australia, Japan, Korea, France, Ireland, Spain, United Kingdom).
- Quarterly data on compensation of employees from the income approach of GDP are available for 14 countries (Canada, United States, Australia, Austria, Belgium, Denmark, France, Germany, Italy, Netherlands, Norway, Sweden, United Kingdom).
- Quarterly data on household income are available for six countries (Japan (monthly), Korea, Germany, Hungary (?) and the United Kingdom).

As emphasised in the above sections, for each of the individual wage related statistics there is considerable variation in national methodologies and practices used in the compilation of the indicators across OECD Member countries and caution should be exercised when making international comparisons. For example:

Wage related statistic	Remarks on comparability
Wage rates	All five countries that produce indices of agreed wage rates from collective agreements also have other sources of data on earnings statistics.
Earnings	<p>Countries use a variety of terms such as index on hourly wages (Belgium), index on monthly costs (Luxembourg), average monthly wages and salaries (Poland, Spain, Switzerland), wage index (Iceland) and cash earnings (Japan, Korea) to describe their series. These series are regarded as the concept of 'earnings' since they refer to earnings irrespective of terminology.</p> <p>However, the basic features such as components of earnings, data capture method, category of employees, coverage of economic activities and time-period (hourly, weekly, monthly) vary from country to country. In order to use earnings statistics in international comparisons, it is essential to have an understanding of precisely what is measured and what is not measured.</p>
Labour cost indices	There are differences between countries in a range of methodological areas including: component items, source(s) of data, volume of work measure, coverage of economic activities and category of employees.
Labour price indices	<p>Again, there are differences between those countries currently producing labour price indices in a number of areas such as: sample size, components of remuneration included, method of data collection.</p> <p>Perhaps the main difficulty is that of ensuring pricing to constant job quality and quantity over time in the occupations included in the survey and here again there are differences in the approaches used by those countries.</p>

Wage related statistic

Remarks on comparability

Unit labour cost	Variations in the coverage of economic activities and the data used for output measures are also apparent between the countries producing unit labour cost data. Some countries use GDP data, whilst other countries use indices of industrial production indices for output measure.
Household income	In principle, it appears that countries adhere to international guidelines in their definition of household income. However, minor differences in the concept of household income are found for the treatment of non-monetary income (e.g. benefits in kind, own production, imputed rent). Meanwhile, variations in survey frequency, production cycle of the results, sample size, response rate, substitution and imputation are also observed.
Hours of work	A variety of different data sources are used for the compilation of data on hours of work. Three types of methods are used by different countries – household labour force surveys, establishment surveys and the estimation method. Accordingly, differences in the coverage of economic activities, time period (weekly, monthly, annually), format of data presentation (index type, absolute figures, growth rate) and the availability of overtime hours are observed.

10.3 Need for an integrated system of wage related statistics

The field of wage-related statistics is very complex and one that is still evolving as new forms of payment emerge. As the discussion in previous Sections of this publication shows, the relationships between the various specific indicators are complex and the sheer variety of related statistics can give cause to confusion by users. It is therefore indispensable to approach this field with an integrated system covering the whole range of wage related statistics described in this publication, rather than from a series of seemingly unrelated indicators. In this context, a revised, and perhaps expanded, integrated system of wages statistics from that published by the ILO in 1973 needs to be developed by international organisations. As mentioned above in footnote 17, Eurostat also plans to develop an integrated system of statistics, though the scope is restricted to earnings and labour cost statistics.

The following factors need to be taken into consideration in establishing such an integrated system:

- Harmonisation of terminology between international guidelines. For example, the term ‘earnings’ is not used in the SNA where terms such as ‘compensation of employees’ and ‘wages and salaries’ are used. Another example, is the term ‘unit labour cost’ where the labour cost refers to compensation of employees. Some cases are also found where household income is used as the proxy for earnings.
- There is need for guidelines on the treatment of severance pay, social security benefits (deferred benefits) and taxes regarded as labour cost. The treatment of these elements is not identical among the concepts of earnings, compensation of employees and employment-related income.
- Guidelines on best practice and appropriate sources of data for each statistic are required. In the case of wage rates, labour cost index, labour price index, unit labour cost and household income, the sources of data for the compilation of those statistics are already available. However, for earnings and hours of work, different kinds of data sources (household surveys, establishment surveys, estimation from a mixture of surveys) are used. Although

each source has advantages and disadvantages, this is one of the barriers for international comparisons³³.

- There is need for guidelines to promote the availability of level data (absolute figures) for wage-related statistics that are internationally comparable. Although level data are not provided for reasons of costs and respondent burden an alternative method could be to continue publishing indices but with absolute data for the base year.
- There is a need for guidelines outlining the relative importance and priority to be given to the inclusion of the different components of remuneration/cost in each of the measures in national statistics, in particular, for infra-annual labour cost and labour price statistics. Where they exist, current international guidelines include comprehensive lists of the components that are included in the concept, though not necessarily with any indication of their relative importance. For example, only components such as basic wages and salaries, statutory employers' contribution to social security, bonuses paid regularly and payments for days not worked should perhaps be included in a minimum list of key labour cost components, especially for the compilation of infra-annual statistics
- Finally, there is a need for guidelines on the appropriate inclusion/exclusion in each concept, of components of remuneration not yet specifically mentioned - such as payments for working directors and proprietors, and other new forms of pay (*e.g.* stock options, etc.).

³³ An analysis of United States data by Abraham in 1998 indicated differences between data sources even within the US since the middle of the 1970s, notably: labour compensation from the national accounts; earnings from the monthly Current Employment Statistics (CES); and earnings from the monthly Current Population Survey (CPS). Reasons for the discrepancies between the different data sources were attributed to:

- variations in the concept and inclusion or exclusion of certain items on payments;
- differences in the sample framework (for instance, under-representation of small-sized establishments in CES);
- differences in the coverage of workers (only the production and non-supervisory workers in CES);
- variations in non-sampling errors (different response rates) between the sources;
- variations in the survey unit (establishment, enterprise, household).

Similar differences no doubt exist for other countries. (Abraham et al. 1998)

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ANNEX TABLES: METHODOLOGY SUMMARIES

Annex Table 1: Comparison of components of earnings - OECD Member Countries

Canada	Mexico	United States (I)	United States (II)	Australia	Japan
<p>Hourly & Weekly Earnings</p> <ul style="list-style-type: none"> - regular pay - overtime pay - bonuses and commissions regularly paid - salaries of working directors - payment for time not worked - irregular pay (including termination pay) and regular payments that do not relate exclusively to the reference period are collected separately and are adjusted to coincide with the reference period 	<p>Monthly Wages and Salaries</p> <ul style="list-style-type: none"> - basic wages and salaries - overtime pay - bonuses, incentive pay - commissions (except commissions paid to salespersons who receive no wage - payments for vacations or leave of absence 	<p>Hourly and Weekly Earnings</p> <ul style="list-style-type: none"> - overtime pay - shift premiums - pay for holidays, vacations, sick leave paid directly by the firm - other paid leave - bonuses paid at each pay period - incentive pay and commissions paid monthly 	<p>Weekly Earnings</p> <ul style="list-style-type: none"> - wage and salary payments - bonuses (regular and irregular) - overtime and shift premiums - incentives, commissions, lump sum payments paid irregularly - tips - some stock options - wages and salaries for sick, maternal, annual and other leave - termination pay - cash values of meals and lodging 	<p>Weekly Earnings</p> <ul style="list-style-type: none"> - ordinary earnings - overtime earnings - penalty payments - shift and other allowances - payments for leave - commission and retainer - payments under profit sharing schemes usually paid each pay period - incentive and piece-work payments - all workers' compensation payments paid through the payroll - bonuses paid regularly 	<p>Monthly Total Cash Earnings</p> <p>i) Contractual cash earnings</p> <ul style="list-style-type: none"> - scheduled cash earnings (including allowances for house rent, transport, family, cost-of-living paid regularly) <p>- non-scheduled cash earnings (<i>i.e.</i> overtime payment)</p> <p>ii) Special cash earnings including payments such as summer and year-end bonuses</p>
<p>Excluded are:</p> <ul style="list-style-type: none"> - employers' contribution to social security - dollar amount that are taxable allowances and benefits - certain types of non-wage compensation, annual special payments 	<p>Excluded are:</p> <ul style="list-style-type: none"> - social benefits for employees including employers' contribution to social security - payments for unavoidable dismissal - the value of uniforms and work clothes - travel expenses at the cost of the establishment 	<p>Excluded are:</p> <ul style="list-style-type: none"> - bonuses, commissions, other lump sum payments irregularly paid - retrospective pay - annual pay for unused leave - tips - the value of free rent, fuel, meals, other payments in kind - employers' contribution to social security 	<p>Excluded are:</p> <ul style="list-style-type: none"> - cash values of fringe benefits 	<p>Excluded are:</p> <ul style="list-style-type: none"> - employers' contributions to social security, health insurance and pension schemes - benefits received by employees under those schemes - severance pay and termination payments - irregular bonuses paid less frequently 	<p>Excluded are:</p> <ul style="list-style-type: none"> - profit-sharing bonuses - earnings in kind
<p>Monthly Survey of Employment, Payrolls and Hours (ILO)</p>	<p>Monthly Industrial Survey (ILO)</p>	<p>Monthly Current Employment Statistics Survey (ILO, IMF)</p>	<p>Quarterly and annual Administrative (ES-202) Covered Employment and Wage Program (http://www.bls.gov/cew/)</p>	<p>Quarterly Survey of Average Weekly Earnings (ILO, IMF)</p>	<p>Monthly Labour Survey (ILO, IMF)</p>

Annex Table 1: Comparison of components of earnings - OECD Member Countries (continued)

Korea	New Zealand	Austria	Belgium	Czech Republic
<p>Monthly Total Cash Earnings</p> <p>i) Regular payment</p> <ul style="list-style-type: none"> - basic pay paid to all workers basically - regular allowances - other allowances <p>ii) Overtime payment</p> <p>iii) Special cash payment such as bonuses, retrospective pay due to wage increase, etc.</p>	<p>Hourly and Weekly Earnings (the gross total pay-out)</p> <ul style="list-style-type: none"> - ordinary time payout (including all shift, penal and other allowances as well as including bonuses, paid leave and commissions if they are earned in the pay week) - overtime pay-out 	<p>Hourly and Monthly Earnings</p> <ul style="list-style-type: none"> - pay for normal time worked - overtime pay - incentive pay - regular bonuses - cost of living allowances - remuneration for time not worked - bonuses and gratuities paid irregularly - earnings in kind <p>* These components may be different with those of agreed wage rate.</p>	<p>Gross wages per hour (hourly earnings)</p> <ul style="list-style-type: none"> - wages - payments for overtime 	<p>Monthly Earnings</p> <ul style="list-style-type: none"> - total basic wages and salaries - personal bonuses - additional money, bonuses and wage compensation - bonuses for being on call to work - other salary/wage components based on a work contract - wage in kind (cost value of a motor vehicle for employee's official and personal use) - money paid from usable profit, funds of bonuses and other funds
<p>Excluded are:</p> <ul style="list-style-type: none"> - payments in kind 	<p>Excluded are:</p> <ul style="list-style-type: none"> - payments not earned in the pay week (e.g. back-pay, redundancy, severance pay) and non-taxable payments such as tool money 	<p>Excluded are:</p> <ul style="list-style-type: none"> - family allowances - allowances for house rent and transport - any form of severance pay - employers' contribution to social security 	<p>Excluded are:</p> <ul style="list-style-type: none"> - bonuses 	
<p>Monthly Labour Survey (ILO, IMF)</p>	<p>Quarterly Survey of Labour Cost Index (http://www.stats.govt.nz, - Survey Directory)</p>	<p>Monthly Industrial Production Statistics (ILO, Eurostat)</p>	<p>Quarterly Survey on Indices of Hourly Wages (IMF)</p>	<p>Quarterly Registered Employment and Earnings (IMF)</p>

Annex Table 1: Comparison of components of earnings - OECD Member Countries (continued)

Denmark	Finland	France	Germany (I)	Germany (II)	Greece
<p>Average Hourly Earnings</p> <ul style="list-style-type: none"> - direct wages and salaries - overtime pay - remuneration for time not worked - cost-of-living allowances - bonuses and gratuities paid irregularly - profit-sharing bonuses - employers' contributions to pension scheme - irregular payments - the taxable value for fringe benefits (i.e. company car, telephone, etc.) 	<p>Hourly Wages and Monthly Salary Earnings</p> <ul style="list-style-type: none"> i) basic pay (earnings for regular working hours) ii) bonuses and allowances paid on the following grounds <ul style="list-style-type: none"> - duration of employment - professional competence - nature of duties 	<p>Hourly Wages and Monthly Salaries (Earnings)</p> <ul style="list-style-type: none"> - basic pay <p>* A new indicator encompassing total compensation (including bonuses and overtime) will be published in the future.</p>	<p>Agreed hourly and weekly wages of wage earners, and salaries of salaried employees.</p> <ul style="list-style-type: none"> - basic wages and salaries 	<p>Gross wages and salaries</p> <ul style="list-style-type: none"> - Gross wages and salaries include all regular payments which are actually paid to wage earners or salaried employees during the reference period, including remuneration for time not worked (e.g. for annual leave, vacation, public holiday). 	<p>Hourly and Monthly Earnings</p> <ul style="list-style-type: none"> - basic wages and salaries - overtime pay - Premium pay for shift work - commissions for sales - incentive pay - cost of living and family allowances - remuneration for time not worked - bonuses and gratuities paid regularly
<p>Excluded are:</p> <ul style="list-style-type: none"> - payments in kind 	<p>Excluded are:</p> <ul style="list-style-type: none"> - compensation for overtime - holiday pay - bonuses and other sub-items 	<p>Excluded are:</p> <ul style="list-style-type: none"> - bonuses - allowances - other forms of compensation 	<p>Excluded are:</p> <ul style="list-style-type: none"> - bonuses - family allowances - wages in kind - employers' contribution to social security - irregular payments (annual bonuses, allowances for vocational absence) 	<p>Excluded are:</p> <ul style="list-style-type: none"> - employers' contribution to social security - bonuses paid on a one-off basis or at longer intervals - statutory child allowances, even if they are paid by the employer, as in the civil service - payments in kind (except free meals and accommodation), etc. 	<p>Excluded are:</p> <ul style="list-style-type: none"> - retrospective payments - house rent and transport allowances - bonuses irregularly paid - payments in kind
<p>Monthly Statistics of Industrial Employment and Labour Costs (ILO, IMF)</p>	<p>Quarterly Wages of Industrial Workers and Salaries of Industrial Employees (ILO, IMF)</p>	<p>Quarterly Survey on the Economic Activity and Working Conditions of Labour Force (INSEE's URL)</p>	<p>Monthly Survey of Collective Bargaining Agreements (IMF)</p>	<p>Quarterly Survey of Earning in Industry and Commerce (ILO)</p>	<p>Quarterly Payroll Survey (ILO)</p>

Annex Table 1: Comparison of components of earnings - OECD Member Countries (continued)

Hungary	Iceland	Ireland	Italy	Luxembourg
<p>Average Monthly Gross Earnings</p> <ul style="list-style-type: none"> - basic wages and salaries - overtime pay - payment in kind - payment for time not worked - supplementary payments for special circumstances (bonuses paid irregularly) - premiums (pay made from the enterprise's profit) - other bonuses paid regularly 	<p>* Monthly Wage Index for the whole economy is compiled on a monthly basis. The component items are not readily available.</p>	<p>Average Hourly and Weekly Earnings</p> <ul style="list-style-type: none"> - basic wages and salaries - overtime pay - service pay - shift and other allowances - commissions - production and regular bonuses 	<p>Earnings per hour and per employee</p> <ul style="list-style-type: none"> - basic pay - all bonuses specified in national agreements - bonuses paid periodically (<i>i.e.</i> 13th month) <p>* The components may be different from those of the Survey of Large Firms which produces monthly gross earnings per employee.</p>	<p>Average Monthly Gross Wages and Salaries</p> <ul style="list-style-type: none"> - regular payments including monthly wages - employer's share of social contributions - productivity bonuses - overtime payments - occasional payments such as 13th month pay and other bonuses
<p>Excluded are:</p> <ul style="list-style-type: none"> - cost-of living or dearness allowances - allowances for house rent and transport - family allowances - free or subsidised housing 		<p>Excluded are:</p> <ul style="list-style-type: none"> - irregular bonuses - back-pay - redundancy payments - the value of payments in kind 	<p>Excluded are:</p> <ul style="list-style-type: none"> - bonuses related to individual performances and individual working conditions - supplementary payments agreed at the economy level - bonuses paid after the month in which they were earned. 	
<p>Monthly Survey (ILO, IMF)</p>	<p>http://www.statice.is/stat/monthly.htm</p>	<p>Quarterly Industrial Inquiry, Employment, Earnings and Hours of Work (ILO, IMF)</p>	<p>Quarterly Index on Wages (IMF)</p>	<p>Monthly Survey on Industrial Activity (Eurostat)</p>

Annex Table 1: Comparison of components of earnings - OECD Member Countries (continued)

Netherlands	Norway	Poland	Portugal	Slovak Republic
<p>Gross Hourly Wages</p> <ul style="list-style-type: none"> - fixed by law, collective agreements or arbitral awards - for hours normally worked including guaranteed allowances (e.g. holiday allowances) 	<p>Average Monthly Earnings</p> <ul style="list-style-type: none"> - fixed monthly wages and salaries - a monthly average of cumulative bonuses, commission, etc. * Data on bonuses, commissions, irregular payments are separately collected and calculated as the sum of the cumulative payments to the end of the quarter 	<p>Average Monthly Earnings</p> <ul style="list-style-type: none"> - personal earnings in accordance with existing labour contracts, paid for time worked as well as time not worked (e.g. lay-offs, holidays and sick leave) - payments from distributed profits and balance surpluses in co-operatives - additional wages and salaries paid to employees of budgetary entities 	<p>Average Monthly Wages and Salaries</p> <ul style="list-style-type: none"> - regular payments for hours worked and hours not worked (holidays) - regular subsidies and bonuses (seniority, productivity, etc.) 	<p>Average Monthly Wage</p> <ul style="list-style-type: none"> - basic wages - bonuses - overtime premiums - hardship premiums - payments for time not worked - wages in kind
			<p>Excluded are:</p> <ul style="list-style-type: none"> - payment in kind (vehicles, dwellings, gasoline tickets, credit cards) - the products of the enterprise at subsidised prices - canteens, medical centres 	<p>Excluded are:</p> <ul style="list-style-type: none"> - manager and entrepreneurial incomes
<p>Monthly collection of collective agreements (IMF)</p>	<p>Quarterly collection for monthly earnings index (IMF)</p>	<p>Quarterly Reports on Employment and Earnings (IMF)</p>	<p>Quarterly Survey of Labour Cost (IMF)</p>	<p>Quarterly Survey of Enterprises (IMF)</p>

Annex Table 1: Comparison of components of earnings - OECD Member Countries (continued)

Spain	Sweden	Switzerland	Turkey	United Kingdom
<p>Average Hourly and Monthly Wages</p> <ul style="list-style-type: none"> - base salaries - bonuses, - payments for extra hours of work (overtime pay) - extra-ordinary payments (13th and 14th month pay, profit sharing, and other non-regular payments) - cost-of-living and other adjustments - arrears 	<p>Hourly Earnings and Monthly Salaries</p> <ul style="list-style-type: none"> - pay for normal time worked - ay for overtime and shift work - bonuses and premiums paid regularly 	<p>Average Gross Wages and Salaries</p> <ul style="list-style-type: none"> - gross pay - 13th month wage - additional payment for inflation compensation 	<p>Average Gross Monthly Earnings</p> <ul style="list-style-type: none"> - basic wages for hours worked and hours not worked (average monthly gross wages) - bonuses and premiums - payments due to differences between consecutive collective agreements if these exist - social allowances 	<p>Monthly Gross Earnings</p> <ul style="list-style-type: none"> - gross wage and salaries - bonuses - holiday pay - pay arrears <p>* These components may be different from those of Annual New Earnings Survey.</p>
<p>Excluded are</p> <ul style="list-style-type: none"> -termination payments 	<p>Excluded are:</p> <ul style="list-style-type: none"> - payments for time not worked (holiday, vacation, sick, lay-off pay) - the value of earnings in kind - bonuses and premiums paid irregularly 	<p>Excluded are:</p> <ul style="list-style-type: none"> - payments in kind - overtime pay - profit related pay and bonuses 		
<p>Quarterly Labour Costs Index Survey (IMF)</p>	<p>Monthly Survey on Wages and Employment (ILO)</p>	<p>Administrative data (IMF)</p>	<p>Bi-annual Employment and Earning Survey (IMF)</p>	<p>Monthly Wages and Salaries Survey (IMF)</p>

Sources: 1) ILO, Sources and Methods: Labour Statistics, 2nd Edition, 1995

2) IMF refers to the Special Data Dissemination Standard (SDDS). Available at <http://dsbb.imf.org>

3) Eurostat refers to Short-term Business Statistics: National Methodologies. Available at <http://forum.europa.eu.int/irc/dsis/bmethods/info/data/new/sts%20sources%2018-09-00.pdf>

Annex Table 2: Summary metadata for wages and earnings - OECD Member countries

Country	Main indicators produced (National URLs)	Period-icity	Source	Activity coverage	Persons covered	Enterprise size cut-offs	Features
Canada (Statistics Canada)	Average hourly earnings and weekly earnings including overtime (during the last 7 days of the month)	M	Survey of Employment, Payrolls and Hours 1. Statistics Canada http://ecn-rce.statcan.ca/cgi-bin/folioisa.dll/testbase.nfo/quiry=[jump!3A!27survey+of+employment!2C+payroll+and+hours!27]/doc/!@9959!? 2. IMF 3. OECD	All except A (but forestry is covered), B, P, religious organisations and defence services	Full-time and part-time employees. Excluded are owners or partners of unincorporated businesses, self-employed, unpaid family workers, persons working outside Canada, military personnel.	Census of administrative records for employers with 100+ employees and a sample of records for employers with less than 100 employees.	The survey comprises both administrative records and monthly Business Payrolls Survey.
Mexico (INEGI)	Index on real average monthly earnings by total, wages & salaries and social benefits, 1993=100	M	Monthly Industrial Survey 1. INEGI http://fractal.inegi.gob.mx/coesme/coesmeingles/htmls/arbol.html , 2. IMF 3. OECD)	D	All employees. Excluded are persons exclusively receiving a fee or commission, and unpaid family workers.	A sample of about 6 000 establishments with 6 and more employees	The item on social benefits is also covered in the survey. http://dgenesyp.inegi.gob.ms/pubcoy/short-term/
	Index of real hourly earnings	M	Monthly Industrial Survey (Same sources as above)	D	Same as above	Same as above	The data are shown as annual percentage variation.
United States (Bureau of Labour Statistics)	Average hourly and weekly earnings	M	Current Employment Statistics Survey 1. BLS. http://www.bls.gov/bls/wages.htm , 2. IMF 3. OECD	All except A (but agricultural services are included), B, P, armed forces	Full and part time workers holding production and non-supervisory jobs on non-farm payrolls. Excluded are self-employed and others not on a regular civilian payroll.	A sample of 345 000 establishments of all sizes representing 7.6 m establishments	The survey uses non-farm payroll data.
	Quarterly total earnings	Q	ES-202 Covered Employment and Wage Program (http://www.bls.gov/cew)	All except A (about half of A is included for some states), B, armed forces	All employees, full and part time. Excluded are self-employed.	All sizes are included.	A near census of all business establishments with employees covered by Unemployment Insurance. Over 8 m. establishments are included. Data are released 7 months after the reference quarter.

Annex Table 2: Summary metadata for wages and earnings - OECD Member countries (continued)

Country	Main indicators produced (National URLs)	Period-icity	Source	Activity coverage	Persons covered	Enterprise size cut-offs	Features
Australia (Australian Bureau of Statistics)	Average weekly earnings (for a specified pay period within a quarter). There are three kinds of data: full-time adult ordinary time earnings; full-time adult total earnings; and all employees' total earnings.	Q	Survey of Average Weekly Earnings 1. ABS Catalogue No.6302.0 http://www.abs.gov.au , 2. IMF 3. The relevant Part 1 subject table of the OECD Main Economic Indicators publication	All except A, B, P, Q, defence forces	All wage and salary earners (including all permanent, temporary, casual, managerial and executive employees)	A census of establishments with 1000+ employees and sample survey for establishments with less than 1 000 employees	Hours of work are not covered. OECD MEI presents hourly wage rates for all activities in Part 2 Country table from ABS Wage Cost Index Survey.
	Quarterly Earnings for the sum of employees' earnings for all pay periods in a quarter for use of GDP	Q	Survey of Employment and Earnings (same as above)	Same as above	Same as above	A live sample of 9 500 management unit/state	This was introduced in 1983 Q3.
Japan (Ministry of Health, Labour and Welfare)	Monthly gross cash earnings	M	Monthly Labour Survey 1. Min. of Health, etc http://www.mhlw.go.jp/english/database/db-1/m-explanation.html , 2. IMF 3. OECD)	All except A, B, P, government services	Regular employees, including working directors. Excluded are proprietors, self-employed, unpaid family workers	A sample of 33 000 establishments with 5+ employees	Special survey is conducted for establishments having 1- 4 employees as of June each year.
Korea (Ministry of Labour)	Monthly gross cash earnings	M	Monthly labour Survey 1. Ministry of Labour http://laborstat.molab.go.kr , in Korean only 2. IMF 3. OECD	All except A, B, administration, armed forces, education	Regular employees	A sample of 5 600 establishments with 5+ employees	The data are released in absolute figures in national currency
	(Korean Productivity Centre) Index on hourly earnings, 1995=100	Q	Estimates based on Monthly Labour Survey http://www.kpc.or.kr , in Korean only	D	Regular employees	Establishments with 10+ employees	Index only.
New Zealand (Statistics New Zealand)	Average weekly and hourly earnings. These are also divided into total and ordinary time earnings	Q	Quarterly Employment Survey 1. Statistics NZ http://www.stats.govt.nz - Quarterly Employment Survey in Survey Directory, 2. OECD)	All except A, B, P, owning and leasing of real estate, armed forces	Full-time and part-time employees including working proprietors. Excluded are self-employed.	A sample of 19 500 geographic units	The samples are expanded each February.

Annex Table 2: Summary metadata for wages and earnings - OECD Member countries (continued)

Country	Main indicators produced (National URLs)	Period-icity	Source	Activity coverage	Persons covered	Enterprise size cut-offs	Features
Austria (Statistics Austria)	Index of agreed wage rate by wage earners, salaried employees, civil servants, 1986=100 (hourly, weekly and monthly wages & salaries are collected, but the index refers to monthly income)	M	Monthly collection of new collective agreements and payment schemes 1. IMF 2. OECD	All industrial branches of Federal Chamber of Commerce	Full-time and part-time employees over 18 years of age. Apprentices are excluded.	A total of 1 507 index positions at the end of 1986	Quarterly data can be found at WIFO's http://www.wifo.ac.at as well as at National Bank's http://www.oenb.at .
(Statistics Austria & Austrian Institute of Economic Research)	Average hourly earnings for wage earners and monthly earnings for salary earners	M	Monthly Industrial Production Statistics Survey 1. Eurostat 2. OECD	C, D, E, F	Wage and salary earners	A sample of establishments with 20+ employees	Same as the above. Data are shown on a quarterly basis.
Belgium (Statistics Belgium)	Index on gross hourly wages Oct. 1980 = 100	Q	Sample Survey 1. Statistics Belgium http://www.statbel.fgov.be/indicators/wsh_en.asp 2. IMF 3. Eurostat 4. OECD	C, D, E, F excluding mining of coal and manufacture of basic iron and steel.	Male industrial workers aged over 21 years	A sample of establishments with a staff of 10+	Indices of wages and salaries with 1995 = 100 covering all workers are also available at http://www.statbel.fgov.be/indicators/wsi_en.asp
(Ministry of Employment and Labour)	Index of hourly wages for manual workers and monthly salaries for non-manual workers as well as overall index for manual and non-manual, 1997 = 100	Q	Collection of new collective agreements 1. Min. of Emp. & Labour http://www.meta.fgov.be 2. OECD	A to P except L	Manual and non-manual workers		Indices are shown at National Bank's web site: http://www.nbb.be/belgostat/
Czech Republic (CZSO)	Average monthly earnings and as an index	Q	Registered Employment and Earnings (mail survey) 1. CZSO http://www.czso.cz/eng/topical/bsi/2002/apmz/apmz0603.htm , 2. IMF 3. OECD	All except armed forces	Registered employees including all permanent and temporary employees who have signed a contract and receive remuneration for their work	Enterprises in business sphere having 20+ employees and all financial and non-business sector since 1997.	

Annex Table 2: Summary metadata for wages and earnings - OECD Member countries (continued)

Country	Main indicators produced (National URLs)	Period-icity	Source	Activity coverage	Persons covered	Enterprise size cut-offs	Features
Denmark (Statistics Denmark)	Average earning index per hour, Feb. 1996 = 100 (This new index of average earnings replaces the index of hourly earnings for workers in manufacturing industry from 1998)	Q	Sample Survey of Business Enterprises 1. Statistics Denmark http://www2.dst.dk/internet/varedeklaration/en/v00865.htm 2. IMF 3. Eurostat 4. OECD	All in private sector except A, B	All employees including apprentices and young people under 18 years of age	A sample of 4 700 private enterprises with 10+ employees. All enterprises with 100+ employees	The concept of the indices is total earnings, including employees' or employers' share of any pension contributions.
Finland (Statistics Finland)	Index on hourly earnings for wage earners and monthly earnings for salaried employees, 1995 = 100 (There is also index of wage & salary earning)	Q	Sample survey mainly collected from employer organisation 1. Statistics Finland http://www.stat.fi/tk/tp/tasku/taskue_palkat.html 2. IMF 3. Eurostat 4. OECD	All (Private sector, Central and Local government) except B, P, Q	Full-time employees. Excluded are population below aged 15 and above 69 years	A sample of 2 400 enterprises with 5+ employees. The Confederation of Industry and Employers is responsible for this collection.	Earnings are measured for regular working hours only. Compensation for overtime and holiday are not included.
France (Ministry of Employment and Solidarity in consultation with INSEE)	Basic hourly earnings for manual workers. Basic monthly earnings for non-manual workers Wages and salaries in industries, commerce and services	Q A	Survey on the Economic Activity and Working Conditions of Labour force (ACEMO) 1. INSEE http://www.insee.fr/indicateur/indic_conj/liste_indice.asp , 2. IMF 3. Eurostat 4. OECD Annual declarations of payroll data to central tax office and social protection agencies (DADS) (Same as the above)	All excluding A All excluding A	Blue colour workers and all full-time employees All wage earners	A sample of 45 000 local units with 10+ employees A sub-sample of 4 000 firms out of ACEMO sample.	April 1993 = 100. OECD uses the term as "hourly rates". This survey complements the quarterly surveys. Fully tabulated since 1993.

Annex Table 2: Summary metadata for wages and earnings - OECD Member countries (continued)

Country	Main indicators produced (National URLs)	Period-icity	Source	Activity coverage	Persons covered	Enterprise size cut-offs	Features
Germany (Federal Statistical Office)	Index on agreed hourly/weekly wages of wage earners, and monthly salaries of salaried employees	M	Survey of collective bargaining agreements 1. FSO http://www.destatis.de/themen/e/thm_wages.htm 2. IMF 3. OECD - wage rate	C to J, parts of (L to O)	Full-time workers and employees who are subject to collective bargaining agreements	A sample of 650 collective bargaining agreements	Indices are shown at http://www.destatis.de/indicators/e/lug110ae.htm .
	Average gross hourly, weekly and monthly earnings	Q	Survey of Earnings in Industry and Commerce 1. FSO http://www.destatis.de/basis/e/logh/loghtxt.htm 2. Eurostat 3. OECD – hourly earnings	C to F for wage earners, in addition, G and J for salaried employees	Full-time wage earners and salaried employees	A sample of local units with 10+ employees in C, D, E, while local units with 5+ in other sectors	There has also been an annual survey of gross annual earnings since 1971.
Greece (National Statistical Office)	Hourly earnings of blue-collar workers and monthly earnings of white-collar workers	Q	Survey on Employment, Hours Worked, Wages and Salaries 1. Eurostat 2. OECD	C, D, Handicrafts, E	All employees aged 14+	A sample of establishments with 10+ employees in manufacturing and with 5+ in other sectors	
Hungary (Central Statistical Office)	Average monthly gross earnings	M	Monthly Survey 1. HCSO http://www.ksh.hu/pls/ksh/docs/eng/emodsz/emodsz02.html 2. IMF 3. OECD	All (A to Q)	All full-time and part-time employees	A census of economic units employing 50+ and sample survey for establishments with 5 – 49 employees	There is also an annual survey.
Iceland (Statistics Iceland)	Monthly wage index for whole economy, private sector, public sector and banks, 2000 Q1=100	Q	1. Statistics Iceland http://www.statice.is/stat/monthly.htm 2. OECD	Whole economy, Private sector, Public sector	All wage earners and salaried employees		Monthly data are available for whole economy only with 1988 = 100
Ireland (Central Statistical Office)	Index on average hourly and weekly earnings	Q	Industrial Inquiry on Employment, Earnings and Hours of Work 1. CSO http://www.cso.ie/foi/ch08.html 2. IMF 3. Eurostat 4. OECD	All industries (C, D, E)	All industrial, managerial, clerical workers	A sample of industrial local units with 10+ persons	Sept. 1995 = 100. Data on average weekly earnings are also produced for the public sector, banking, insurance and building societies.

Annex Table 2: Summary metadata for wages and earnings - OECD Member countries (continued)

Country	Main indicators produced (National URLs)	Periodicity	Source	Activity coverage	Persons covered	Enterprise size cut-offs	Features
Italy (ISTAT)	Index on wages according to collective agreements per hour and per employee, Dec. 1995 = 100	M	Monthly Survey on Negotiated Wages 1. ISTAT http://www.istat.it/Anews/retcon.html 2. IMF 3. OECD	All except B, K, P, Q, J 67 & O91-93	Full-time employees excluding apprentices and executives of the private sector	A large selection of collective labour agreements	
	Index on monthly gross average earnings per employee	M	Survey on Employment, Hours Worked and Earnings (Eurostat)	C to J except F	Employees excluding persons working on commission, etc.	All enterprises with 500+ employees (About 1 500 local units)	
Luxembourg (STATEC)	Index on monthly wage costs	M	Monthly Survey on Industrial Activity 1. STATEC www.statec.lu - Note de conjoncture, Annexe statistique, 2. Eurostat 3. OECD	Whole economy, Manufacturing, Steel industry	Manual and non-manual workers and apprentices excluding home and family workers that are not on the payroll	All establishments with 20+ employees	Data for the energy sector are collected by the relevant ministry.
Netherlands (Central Bureau of Statistics)	Index on hourly and monthly wage rate including bonuses, 1990 = 100	M	Collected from collective agreements 1. CBS http://www.cbs.nl/en/figures/keyfigures/sip_defz.htm 2. IMF 3. OECD	All	Employees in all industries	A sample of 350 (405 of all) agreements covering about 75% of all employees (in 1990)	The base year will be 2000 = 100 by the end of 2002. Data are released quarterly.
	Gross hourly and annual wages	Q	Labour Accounts (Employment and Wages Survey) 1. CBS http://www.cbs.nl/en/figures/keyfigures/sip_defz.htm 2 Eurostat	C to F (C to K for data on person employed)	Employees	A sample of small enterprises and total coverage of large enterprises. (Sample is expanded in Q4 every year)	The survey started in 1995, replacing Annual Survey of Employment and Wages.

Annex Table 2: Summary metadata for wages and earnings - OECD Member countries (continued)

Country	Main indicators produced (National URLs)	Periodicity	Source	Activity coverage	Persons covered	Enterprise size cut-offs	Features
Norway (Statistics Norway)	Index on average monthly earnings	Q	Reported data from companies 1. Statistics Norway http://www.ssb.no/english/subjects/06/05/lonnkvar_t_en/about.html 2. IMF 3. Eurostat 4. OECD	C, D, Oil and Gas, F, G, I, K	Full-time employees	A sample of enterprises with 10+ for C & D, and 5+ for other sectors	1998 Q1 = 100. This was first published in July 1999.
	Hourly earnings in industry (available in Norwegian)	Q	Statistics Norway http://www.ssb.no/english/subjects/06/05/lonnhoe_en/main.html	Industry, Private building and construction				Establishments in Norwegian Confederation of Business & Industry
Poland (Central Statistical Office)	Average monthly gross wages and salaries	M, Q	Reports on Employment and Wages and Salaries 1. CSO http://www.stat.gov.pl/english/index.htm 2. IMF 3. OECD	All except farms in individual agriculture	All employees based on labour contracts on a full-time and part-time basis	Units with more than 9+ persons for monthly & quarterly collection. All units irrespective of size for annual collection from 2000.	Since 1999, mandatory contribution for social security (pensions, disability and social security benefits) has been included.
Portugal (Ministry of Labour and Social Security) (National Institute of Statistics)	(Hourly) wages and (monthly) salaries	Bi-A	Survey on Earnings Min. of Labour and Social Security http://www.mts.gov.pt	All except A, B, L, P, Q	Employees in undertakings	Staffing lists of all undertakings	OECD presents the Labour Cost Index in MEI.
	Average monthly wages and salaries	M	Survey for Turnover and Employment in Industry 1. INE http://www.ine.pt/prodser/v/destaque/d020910-2/d020910-2.html 2. Eurostat	C to E			

Annex Table 2: Summary metadata for wages and earnings - OECD Member countries (continued)

Country	Main indicators produced (National URLs)	Period-icity	Source	Activity coverage	Persons covered	Enterprise size cut-offs	Features
Slovak Republic (Statistics Office)	Average monthly wages per employee	Q	Quarterly Survey of Enterprises 1. Statistics Office http://www.statistics.sk/webdata/english/english/index2_a.htm 2. IMF 3. OECD	All (A to O)	All employees. Excluded are entrepreneurs and partners, armed forces, persons on maternity leave	A census of enterprises with 20+ employees and sample survey for enterprises with up to 20.	Data can be found at http://www.statistics.sk/webdata/english/tab/amw/amw02.htm .
Spain (INE)	Average hourly and monthly wages (labour cost) in absolute figures and as an index	Q	Labour Cost Index Survey 1. INE http://www.ine.es/dacoin/dacoinci/icl/inoticl.htm 2. IMF 3. Eurostat 4. OECD	All (C to O except L)	All wage earners except employees working on a commission basis	A census of establishments with 500+ employees and sample survey for establishments with 1 – 499 employees	In 2001, this survey replaced the Quarterly Wage Survey. Data is collected monthly, but the reference for release is the quarter.
Sweden (Statistics Sweden)	Average hourly earnings (including overtime pay) of wage earners and monthly salary of salaried employees	M	Survey on Short Term Wages and Salaries 1. Statistics Sweden http://www.scb.se/eng/arbetsmarknad/arbetsmarknad.asp , 2. IMF 3. Eurostat 4. OECD	All private sector in C to O, except L	Wage earners and employees	A sample of 5 000 establishments with 5+ employees	Employment data are collected, separately, through a quarterly business survey.
Switzerland (Federal Statistical Office)	Index on gross wages and salary index	A	Administrative data provided by National Accident Insurance 1. FSO http://www.statistik.admin.ch/stat_ch/ber03/eckdaten/eckdaten.htm 2. IMF	All except A (but horticulture & forestry are covered), L, M, N, O, P	Full-time adults. Excluded are people under 19 years of age.	250 000 records each year	1993 = 100. It will continue to produce only annual data.

Annex Table 2: Summary metadata for wages and earnings - OECD Member countries (continued)

Country	Main indicators produced (National URLs)	Period-icity	Source	Activity coverage	Persons covered	Enterprise size cut-offs	Features
Turkey (State Institute of Statistics)	Average monthly gross earnings (and hourly wages)	Bi-A	Employment and Earning Survey 1. SIS http://www.die.gov.tr/ENGLISH/SONIST/ISGUCU/kazanc/041201.htm , 2. IMF	C, D, E	Paid employees	Complete for establishments having 232+ employees and sample survey for establishments having 10-231 employees.	This was first held in 1996, and the data are released for three concepts – basic wages, gross wages & salaries, and gross earnings.
	% change of the index on wages per production worked hours and index on earnings per production workers	Q	Quarterly Manufacturing Industry Production Survey (1 http://www.die.gov/ENGLISH/SONIST/UCRET/19602hi.html , 2.OECD)	D	Production and other workers	Establishments representing 90% of the value added of the large scale manufacturing industry.	
United Kingdom (Office for National Statistics)	Average (weekly) monthly earning index (for the last pay week for the weekly paid, and for the calendar month for the monthly paid)	M	Monthly Wages and Salaries Survey 1. ONS http://www.statistics.gov.uk/themes/labour_market/pay_and_earnings/default.asp 2. IMF 3. Eurostat 4. OECD	All sectors of the economy except armed forces (whole, private sector, public sector, manufacturing, and services)	Employees in employment. Out of scope are working proprietors and working directors, young workers below the age of 16, and unpaid family workers	A sample of firms with more than 20 employees.	The index is not designed to measure levels of earnings. Hours of work are not covered.
	Levels on earnings by industry, occupation and negotiating groups	A	annual New Earnings Survey ONS http://www.statistics.gov.uk/themes/labour_market/default.asp	All except armed forces	Same as the above	A one percent sample of employees selected from taxation system through the Employee Identification Number	

Notes : 1) IMF refers to the Special Data Dissemination Standard (SDDS) website, available at <http://dsbb.imf.org>.

2) Eurostat refers to Short-term Business Statistics-National Methodologies, available at <http://forum.europa.eu.int/irc/dsis/bmethods/info/data/new/sts%20sources%2018-09-00.pdf>.

3) OECD refers to Monthly Main Economic Indicators (MEI).

4) The alphabetic references in Activity coverage refer to the tabulation categories of ISIC Rev. 3 published in 1990: A. Agriculture, hunting and forestry, B. Fishing, C. Mining and quarrying, D. Manufacturing, E. Electricity, gas and water supply, F. Construction, G. Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods, H. Hotels and restaurants, I. Transport, storage and communications, J. Financial intermediation, K. Real estate, renting and business activities, L. Public administration and defence; compulsory social security, M. Education, N. Health and social work, O. Other community, social and personal service activities, P. Private households with Employed persons, Q. Extra-territorial organisations and bodies.

Annex Table 3: Summary metadata for minimum wage rate - OECD Member countries

Country (Year of introduction)	Minimum wage rate per hour (Data source)	Age cut-off	Effective period	Features
Canada (Women:1918-30; Men: 1930s-50s) (Canadian Council on Social Development)	C\$ 5.50 ~ 8.00 (http://www.ccsd.ca/fs_minw.htm)	Adult workers	2001 ~	The rates are set by each provincial and territorial jurisdiction.
Mexico (1917; 1962 in current form) (Minimum Wage National Commission)	39.74 pesos per day (about US\$ 5) (http://www.inegi.gob.mx/difusion/ingles/fbuscar.html)	...	1 January .2002 ~	There is variation among the regions and occupations. Roughly, 20 % of Mexico's work force earns the minimum wage.
United States (1938)	US\$ 5.15 (Federal minimum wage) (http://www.dol.gov/esa/whd/flsa/)	Over 20	1 September 1997 ~	
Australia (Australian Council of Trade Unions)	A\$ 11.25 (A\$ 431.40 for a standard 38-hour week) (http://www.actu.asn.au/public/about/minimumwage.html)	...	April .2001 ~ March .2002	The Workplace Relations Act 1966 stipulates that the award system remain in place to provide a safety net of fair and enforceable minimum wages and conditions .
Japan (1959; 1968 in current form) (Ministry of Health, Labour and Welfare)	664 Yen (http://www.jil.go.jp/emm/vol.5/regionalminimumwages.htm)	...	1 October 2001 ~	Minimum wages are set by region and by industry. There is a central body which provides guidelines for minimum wage adjustments.
Korea (1988) (Minimum Wage Commission and Ministry of Labour)	2,275 Won (http://www.molab.go.kr , in Korean)	Over 18	1 September 2002 ~ 31 August 2003	Minimum Wage Commission. Less than 3% of employees currently working at minimum wage level.
New Zealand (1945; 1983 in current form) (Department of Labour)	N\$ 8.00	Over 20	18 March 2002 ~	

Annex Table 3: Summary metadata for minimum wage rate - OECD Member countries (continued)

Country (Year of introduction)	Minimum wage rate per hour (Data source)	Age cut-off	Effective period	Features
Austria	The estimated accepted unofficial minimum gross income is 12 210 euros per year.	-	-	There is no legislated national minimum wage.
Belgium (1975) (Ministry of Labour)	1 163 euros per month (Eurostat)	Over 21	1 February 2002 ~	The wage is set by bi-ennial national agreements and final agreements are signed in the National Labour Council.
Czech Republic (1991)	5, 00 Czech Crowns (approximately US\$ 154) per month	...	1999	The monthly average wage is 13 473 Czech Crowns (US\$ 364) per month.
Denmark	The lowest wage paid is approximately 85 Kroner (US\$ 10) per hour	-	-	No national minimum wage is mandated legally.
Finland		-	-	There is no legislated minimum wage, but the law requires all employers to meet the minimum wages agreed to in collective bargaining agreements in the respective industrial sector.
France (1950; 1970 in current form)	6.83 euros (1,154.27 euros per month for 169 hour's work) (http://www.insee.fr/en/indicateur/smic.htm)	Over 18	1 July 2002 ~	The administrative determined minimum wage is revised whenever the cost-of-living index rises 2 percentage points.
Germany – West East	9.80 euros 8.63 euros (collectively agreed rate)	-	~ 31 Aug. 2002 ~ 31 Aug. 2002	There is no legislated or administratively determined minimum wage.
Greece (1953; 1990 in current form) (Ministry of Labour)	21.19 euros per day for manual workers. 472.9 euros per month for non-manual workers. (Eurostat)	Over 18 for manual workers and over 19 for non-manual workers	1 July 2001 ~	Collective agreed rate. The Ministry of Labour routinely ratifies the minimum wage.
Hungary (1977; 1992 in current form) (Ministry of Economy)	40 000 HUF (approximately US\$ 140) per month	...	2000	The minimum wage is only about 42% of the average wage.
Iceland	-	-	-	No minimum wage is mandated by law, but the minimum wage negotiated in various collective bargaining agreements apply to all employees in those occupations.

Annex Table 3: Summary metadata for minimum wage rate - OECD Member countries (continued)

Country (Year of introduction)	Minimum wage rate per hour (Data source)	Age cut-off	Effective period	Features
Ireland (2000) (Department of Enterprises, Trade and Employment)	6.35 euros	Experienced adult employees over 18	1 October 2002 ~	A national minimum wage went into effect on 1 April 2000.
Italy	7.06 euros for a single worker	Over 18	-	Minimum wages are not set by law, but rather by collective bargaining agreements.
Luxembourg (1944)	7.46 euros (http://statec.lu/html_en/statistiques/luxembourg_en_chi/fres/index.html)	Over 18	June 2002 ~	The law provides for minimum wage rates that vary according to the worker's age and number of dependants.
Netherlands (1968)	Approximately 1 206.6 euros per month (Eurostat)	Over 23	1 January 2002	Employers pay 2 723 euros a year in premiums for social security benefits, which includes medical insurance..
Norway		-	-	There is no specified minimum wage, but wages normally fall within a national scale negotiated by labour, employers, and the government.
Poland (1990)	760 PLN (approximately US\$ 180) per month in state-owned enterprises	...	2001	The Ministry of Labour, the unions and employers' organisations negotiate a revised national minimum wage every 3 months.
Portugal (1974) (Ministry of Employment and Social Security)	348 euros per month (Eurostat)	Over 18	1 January 2002	The percentage of employees on the minimum wage is 6.2% of total wage earners in 2000. Final decision is made by the National Assembly
Spain (1963; 1976 in current form) (Ministry of Labour and Social Affairs)	14.74 euros per day (442.20 euros per month) (http://www.ine.es/indexweb.htm)	Over 18	1 January 2002	The rate is updated annually according to government forecasts of inflation.
Slovak Republic (?) (Ministry of Labour)	4 920 SKK (approximately US\$ 105) per month	...	...

Annex Table 3: Summary metadata for minimum wage rate - OECD Member countries (continued)

Country (Year of introduction)	Minimum wage rate per hour (Data source)	Age cut-off	Effective period	Features
Sweden		-	-	There is no national minimum wage (law).
Switzerland		-	-	The Swiss Association of Trade Unions found from a 1999 survey that 3.4 % of full-time workers fall below the poverty line (earnings of less than 22 900 SF)
Turkey (1971) (Ministry of Labour and Minimum Wage Fixing Commission)	139.95 million TL per month (approximately US\$ 100) (http://www.die.gov.tr/ENGLISH/SONIST/ISGUCU/ka_zanc/210601.htm)	Over 16	1 July 2001 ~ 30 June 2002	Minimum wage increased to 250.875 million TL (equivalent of US\$ 154) for 1 July 2002 ~ 31 December 2002.
United Kingdom (1999) (Low Pay Commission)	4.10 pound sterling (http://www.statistics.gov.uk/themes/labour_market/pay_and_earnings/measuring_low_pay.asp)	22 and over	1 October 2001 ~	The first minimum wage went into effect on 1 April 1999.

Notes: 1) Eurostat, Minimum Wages in the EU – 2002, Statistics in focus, Theme 3 – 5/2002

2) Unless the URLs for national sources of data are specified, all the information came from the Country Reports on Human Rights Practices, 2001, U.S. Department of State (<http://www.state.gov/g/drl/rls/hrrpt/2001/>)

3) The same information contained in the Country Reports on Human Rights Practices can be also found at an URL of a private institute “Economic Research Institute” (<http://www.eriari.com/freedata/hrcodes/COUNTRIES.htm>)

4) In Mexico, for most industrial workers, the true workweek is 42 hours, although they are paid for 7 full 8-hour days.

5) The statutory minimum wage usually applies to all employees in the economy and all occupations, but may be modified to take account of age, length of service, skills, the physical and mental capabilities of the employee or the economic conditions affecting the firm.

Annex Table 4: Comparison of Components of Labour Costs and Labour Prices - OECD Member Countries

Canada (Labour Cost Index)	United States (Wage Cost Index)	Australia (Wage Cost Index)	Japan (Labour costs)	Korea (Labour costs)
<p>1. Wages and salaries</p> <p>2. Non-wage benefits</p> <p>Statutory benefits</p> <ul style="list-style-type: none"> - EI - C/QPP - Provincial health taxes <p>Non-statutory benefits</p> <ul style="list-style-type: none"> - Life insurance - Pension benefits - Disability benefits - Health benefits - Dental benefits 	<p>1. Wages and salaries</p> <ul style="list-style-type: none"> - production bonuses - incentive earnings - commission payments - cost of living adjustments <p>2. Employers' cost of employee benefits</p> <ul style="list-style-type: none"> - paid leave (vacations, holidays, sick leave) - other supplemental cash payments (overtime pay, shift differentials, lump-sum payments in lieu of wage increases) - insurance benefits - retirement and saving benefits - legally required benefits - other benefits (severance pay) 	<p>Ordinary time payments</p> <ul style="list-style-type: none"> - Award, agreed payments - Payments for sick & annual leave - Casual loadings - Value of any salary sacrificed - Retainers - Piecework pay - Higher duties allowances <p>Overtime Payments</p> <p>Bonus payments</p>	<p>1. Wages and salaries</p> <p>2. Non-wage costs</p> <p>Statutory welfare costs</p> <ul style="list-style-type: none"> - welfare insurance - health insurance - labour insurance - employment insurance - others <p>Retirement allowances</p> <p>Non-compulsory benefits (meals, housing, cultural activities, etc.)</p> <p>Training & education costs</p> <p>Other labour costs</p>	<p>1. Cash earnings</p> <ul style="list-style-type: none"> - regular payment - overtime payment - special cash payment <p>2. Labour cost other than cash earnings</p> <ul style="list-style-type: none"> - severance pay - payment in kind - employers' contribution to social security - non-obligatory welfare services - recruitment cost - vocational training cost - other labour cost
<p>http://www.statcan.ca/english/IPS/Data/71-586-X1E.htm</p>	<p>Quarterly Survey of Employment Cost Index</p> <p>1. BLS http://www.bls.gov/ncs/ect/home.htm</p> <p>2. IMF DSBB</p>	<p>Quarterly Wage Cost Index</p> <p>1. ABS http://www.abs.gov.au, ABS Catalogue No. 6345.0</p> <p>2. IMF DSBB</p>	<p>1998 General Survey of Wages and Working Hours System (http://www.jil.go.jp/eSituation/pdf/5.pdf)</p>	<p>Annual Survey on Labour Cost of Enterprises (http://laborstat.molab.go.kr/, in Korean)</p>

Annex Table 4: Comparison of Components of Labour Costs and Labour Prices - OECD Member Countries (continued)

New Zealand (Labour Cost Index)	Austria (Feasibility study)	Belgium (Labour Cost Index)	Czech Republic (Labour cost)	Denmark (Labour Cost Index)
<p>1. Wage and salary component</p> <p>2. Non-wage labour cost component</p> <ul style="list-style-type: none"> - annual leave and statutory holiday costs - employer superannuation costs - workplace accident insurance costs - other non-wage costs (medical insurance, motor vehicles available for private use, employment related low interest loans) 	<p>1. Gross wages</p> <p>2. Premium pay and bonuses</p> <ul style="list-style-type: none"> - allowance for work performed outside of normal working hours - bonuses linked to results not paid at each period - other bonuses not paid at each period - benefits in kind - payments for days not worked - payments to employees savings schemes <p>3. Employer's share of statutory social security</p> <ul style="list-style-type: none"> - pensions - sickness - unemployment - other statutory <p>4. Employer's share of non-statutory social security</p> <ul style="list-style-type: none"> - supplementary pension, sickness and unemployment insurance schemes <p>5. Direct social benefits</p> <p>6. Payroll taxes</p>	<p>1. Gross wages and salaries</p> <ul style="list-style-type: none"> - ordinary gross wages and salaries - dismissal pay - bonuses - shares of profits - thirteenth month - gratuities and other similar advantages - double holiday allowances for white collar employees in the private sector - pay for time spent waiting by lorry drivers <p>2. Employers' contributions to social security</p>	<p>1. Direct costs</p> <ul style="list-style-type: none"> - wages - payments for days not worked <p>2. Indirect costs</p> <ul style="list-style-type: none"> - social benefits - social security contributions statutory and other - personal expenditures - taxes and subsidies 	<p>1. Employees' earnings</p> <ul style="list-style-type: none"> - remuneration for working hours - remuneration for non-working hours <p>2. Other labour costs</p> <ul style="list-style-type: none"> - contributions to social schemes and funds - canteen subsidies - total payrolls costs (direct and indirect taxes calculated on the basis of the number of employees) <p>* There were greater changes in measuring the components of paid absenteeism and irregular remuneration.</p>
<p>Quarterly Survey of Labour Cost Index (http://www.stats.govt.nz, Labour Cost Index in Survey Directory)</p>	<p>The European Employment Price Index: Implementation and Feasibility Study, Austrian Journal of Statistics, Vol.27, No.3, 1998</p>	<p>Quarterly Index of Labour Cost (http://statbel.fgov.be/indicators/lci_en.asp)</p>	<p>Annual Labour Costs Survey (http://www.czso.cz/eng/figures/3/31/311401/311401.htm)</p>	<p>Quarterly Index of Labour Cost (http://www2.dst.dk/internet/varedeklaration/en/V00863.htm)</p>

Annex Table 4: Comparison of Components of Labour Costs and Labour Prices - OECD Member Countries (continued)

France (Labour Cost Index)	Ireland (Labour costs)	Netherlands (Labour Cost Index)	Norway (Labour cost)	Poland (Labour cost)
1. Base wages, including contributions by employees 2. Bonuses 3. Remuneration of extra hours 4. Employers' contributions to social securities	1. Total wages and salaries - regular wage and salary (including payments for normal hours and overtime) - irregular and infrequent payments - holiday pay - maternity and sick pay - redundancy payments 2. Employers' contributions to social security - statutory employers' PRSI - voluntary contributions made by the firm	1. Gross wages for social insurance schemes - a fixed amount per hour or month - tips - remuneration in kind (clothes, accommodation, options, day care centre) 2. Employer's contributions to social insurance schemes (Unemployment Act, Medical expenses Act, pension and early retirement schemes) * In the Netherlands, there is also another concept of 'Gross employee income'. It includes remuneration for work done and the continued payments in the event of sickness or weather problems, etc. It can be divided into regular wages and special payments such as bonuses, holiday allowances and profit sharing.	1. Direct Costs - wages and salaries - holiday pay - other costs for days not worked 2. Indirect Costs - salaries in kind - costs for safety and health - social contributions - taxes and training	1. Total wages and salaries - Basic wages and salaries - Long service bonuses - Bonuses paid according to company rules - Overtime pay - Holiday pay - Annual extra paid by entities financed from the state budget - Remuneration for work performed on the basis of contracts 2. Employers' contribution to pension and accident insurance 3. Labour fund contribution 4. Expenses for work safety 5. Payments arising from share in profit or balance sheet surplus
Eurostat	2000 Labour Costs Survey (http://www.cso.ie – Survey Forms)	Labour accounts (http://www.cbs.nl/en/figures/keyfigures/sip_defz.htm)	Survey for Labour Costs (http://www.ssb.no/english/subjects/06/05/arbkost_en/main.html)	Labour Costs Survey 2000 (http://www.stat.gov.pl/english/publikacje/PQS/iii.htm)

Annex Table 4: Comparison of Components of Labour Costs and Labour Prices - OECD Member Countries (continued)

Portugal (Labour Cost Index)	Spain (Labour Costs Index)	Sweden (Labour Cost Index)
<p>1. Average wages and salaries</p> <ul style="list-style-type: none"> - regular payments for hours worked - payments for hours not worked such as holidays - regular subsidies - bonuses (seniority, productivity, etc.) - remuneration in kind (products of the enterprise at subsidised prices, vehicles, dwellings, gasoline tickets, credit cards) <p>2. Employer's contributions to social security, labour accidents and professional diseases insurance</p> <p>3. Other contributions (pensions for retirement, diseases subsidy, life and accident insurance, but the canteens, medical centres and Christmas festivities are not included)</p>	<p>1. Wages</p> <ul style="list-style-type: none"> - base salaries - bonuses - payments for extra hours (overtime pay) - extraordinary payments (13th & 14th month pay, profit sharing) - cost-of-living and other adjustments (arrears) <p>2. Non-wage costs</p> <ul style="list-style-type: none"> - statutory social security contributions - others 	<p>1. Average hourly earnings for hours worked</p> <ul style="list-style-type: none"> - earnings from time work or piecework - incentive pay and other remuneration varying according to work performance - bonuses for special or temporary work - bonuses for shift work and inconvenient and staggered working hours - overtime bonuses <p>2. Average hourly earnings for hours not worked</p> <ul style="list-style-type: none"> - pay for public holidays - holiday pay - sick pay - stand-by remuneration - on-duty pay - other cash payments - payments in kind <p>3. Employers' social security expenditures</p> <p>4. Special payroll tax</p>
<p>Quarterly Survey of Labour Cost (DSBB of IMF)</p>	<p>Quarterly Labour Cost Index Survey</p> <ol style="list-style-type: none"> 1. INE http://www.ine.es/dacoin/dacoinci/icl/inotiel.htm 2. IMF DSBB 	<p>Quarterly Labour Cost Index Survey (http://www.scb.se/eng/arbetsmarknad/lonessummor/aki/meromaki.asp)</p>

Annex Table 5: Summary metadata for Labour Costs Index and Labour Price Index - OECD Member Countries

Country	Main indicators produced	Period-icity	Sources	Activity coverage	Volume of work measure (and persons covered)	Enterprise size cut-offs	Features
Canada	Labour Cost Index by wage and non-wage costs (http://www.statcan.ca/english/IPS/Data/71-586-XIE.htm)	Q	-	-	-	-	Concept of LPI. There is a plan to publish an experimental quarterly LCI in the fall of 2003.
Mexico	-	-	-	-	-	-	There is a survey item on social benefits in Monthly Industrial Survey.
United States	Employment Cost Index by compensation, wage & salaries, benefits, June 1989 = 100 1. BLS (http://www.bls.gov/ncs/ect/home.htm) 2. IMF DSBB	Q	National Compensation Survey	Civilian non-farm and state and local government employment. Federal government civilian employment is excluded from coverage.	Hours worked (private non-farm workers excluding proprietors, the self-employed and household workers)	23 000 occupational observations from sampled 4 400 private non-farm establishments ,and 6 000 from 1 000 government establishments	Concept of LPI. ECI statistics were first published for 1975 Q3. Absolute figures for hourly costs are available every quarter.
Japan	Labour Costs by components (http://www.jil.go.jp/eSituation/pdf/5.pdf)	Triennially	General Survey on Wages and Working Hours System	D	...	....

Annex Table 5: Summary metadata for Labour Costs Index and Labour Price Index - OECD Member Countries (continued)

Country	Main indicators produced	Period-icity	Sources	Activity coverage	Volume of work measure (and persons covered)	Enterprise size cut-offs	Features
Korea	Average monthly Labour Costs by various components (http://laborstat.molab.go.kr/ , in Korean)	A	Survey on Labour Cost of Enterprise	C to O	Number of regular employees	Enterprises with 10+ employees	Annual Report on Labour Cost Survey of Enterprises
New Zealand	Labour Cost Index by various components of labour costs, 1992 Q4 = 100 (http://www.stats.govt.nz , Labour Cost Index in Survey Directory)	Q	Survey of Labour Cost Index (This is designed to measure changes not levels)	All industries except domestic services	Hours worked (all employees aged 15+ in all occupations)	A sample of 5 100 job descriptions plus 1 000 overtime descriptions in a sample of 2 600 employers	Concept of LPI. From 2000 onwards, the indexes of non-wage costs are available for only the Q2 of each year.
Austria	Quarterly index of labour cost (Eurostat)	Q	Monthly Earnings & Working Time Survey, a multi-annual survey on the voluntary social security benefits	C, D, E, F	Total hours worked	Enterprises with 10+ employees	There is a feasibility study on implementing LPI in 1998.
Belgium	Quarterly index of labour cost, 1996 = 100 1. Statistics Belgium http://www.statbel.fgov.be/indicators/lci_en.asp 2. Eurostat	Q	Administrative quarterly files from National Social Security Office, and administrative annual files from Bank of Belgium	C to K	All employees including apprentices, on a full-time, part-time or casual basis	All employers whatever the size of their enterprise	Data are available from the first quarter of 1995.
Czech Republic	Hourly, monthly and annual labour costs by 5 components	A	Annual Sample Survey (http://www.czso.cz/eng/figures/3/31/311401/311401.htm)	All (A to O)	...	...
Denmark	Quarterly index of labour cost 1. Statistics Denmark http://www2.dst.dk/internet/varedeklaration/en/V00847.htm 2. Eurostat	Q	Index on average earnings index, annual structural statistics on earnings, annual labour costs survey	C to K	Total hours worked	Enterprises with 10+ employees	

Annex Table 5: Summary metadata for Labour Costs Index and Labour Price Index - OECD Member Countries (continued)

Country	Main indicators produced	Period-icity	Sources	Activity coverage	Volume of work measure (and persons covered)	Enterprise size cut-offs	Features
Finland	Quarterly index of labour cost 1. Statistics Finland http://statfin.stat.fi/statweb/start.asp?LA=fi&lp=catalog&clg=palkat in Finnish 2. Eurostat	Q	Index on wages and salary earnings, annual structural statistics on earnings, monthly LFS, national accounts, annual labour cost statistics	C to K	Total hours worked	Enterprises with 5+ employees	There was a study in 1999 on the use of the hedonic method to control structural changes of labour input.
France	Quarterly index of labour cost (Eurostat) Index on labour costs, October 1997 = 100 (http://www.insee.fr/fr/indicateur/indic_conj/donnes/icht.pdf)	Q M	Estimates from national accounts and ACEMO Hourly base wage and legal contribution rates	C to K For 4 divisions – engineering (NAF 74), textile (NAF 17), NAF 18-19, NAF 28-35	Number of hours paid Manual workers	Firms with 10+ employees	The index is not officially published, but is provided to Eurostat.
Germany	Quarterly index of labour cost (Eurostat)	Q	Monthly Earnings Statistics, the 1996 Labour Cost Statistics	C to J except H, I	Total hours worked	Enterprises with 10+ employees	
Greece	Quarterly index of labour cost (Eurostat)	Q	Survey on Earnings, the 1996 Labour Cost Statistics				
Ireland	Quarterly index of labour cost (Eurostat)	Q	Quarterly industrial earnings series, the 1992 Labour Cost Survey, quarterly release of Banking and Insurance and Building Societies	C, D, E, J, F	Full-time equivalent employees	In F, managerial employees are excluded. In C, D, E, only enterprises with 2+ employees and in F, only enterprises with 9+ employees are included.	
Italy	Quarterly index of labour cost (Eurostat)	Q	Monthly Survey on Large Enterprises	All services and industry except construction	Number of employees	Enterprises with 500+ employees	

Annex Table 5: Summary metadata for Labour Costs Index and Labour Price Index - OECD Member Countries (continued)

Country	Main indicators produced	Period-icity	Sources	Activity coverage	Volume of work measure (and persons covered)	Enterprise size cut-offs	Features
Luxembourg	Quarterly index of labour cost (Eurostat)	Q	Administrative files from Social Security Administration	...	Number of hours paid	...	
Netherlands	Quarterly index of labour cost 1. CBS http://www.cbs.nl/en/figures/keyfigures/sip_defz.htm 2. Eurostat	Q	Quarterly labour accounts (including Employment and Wages Survey)	C to K	Number of hours paid	...	The index is not officially published, but is provided to Eurostat.
	Index on contractual labour costs per hour including bonuses, 1990 = 100 (http://www.cbs.nl/en/figures/keyfigures/sip_460z.htm)	M	Collected from collective labour agreements	All	Employees	A sample of collective agreements	Data is collected monthly, but the reference for release is the quarter.
Norway	Average labour costs per employee by direct and indirect costs	4 years	Labour Costs Survey 2000 (http://www.ssb.no/english/subjects/06/05/arbkost_en/main.html)	C to O except L	433 000 full-time equivalent employees in the survey in 2000	A sample of 3 477 enterprises with 10+ employees	
Poland	Labour costs per 1 employee (monthly average), 1 hour paid and 1 hour worked	4 years	Labour Costs Survey in 2000 (http://www.stat.gov.pl/english/publikacje/QOS/iii.htm)	All except O, P, Q	All employees	A sample of 115 000 entities with 10+ employees	
Portugal	Index on Labour Cost Index 1. INE http://www.ine.pt/pesquisa/pesquisa_eng.asp 2. Eurostat 3. IMF DSBB	Q	Monthly industrial survey, quarterly survey on earnings by occupation, monthly statistics on collective agreements, semi-annual survey on working hours	C to K from 2000	Total hours worked	About 7 500 occupation from sampled establishments with 10+ employees	Concept of LPI. The index was designed to measure changes in the prices of a fixed set of labour services of constant quantity and quality.

Annex Table 5: Summary metadata for Labour Costs Index and Labour Price Index - OECD Member Countries (continued)

Country	Main indicators produced	Period -icity	Sources	Activity coverage	Volume of work measure (and persons covered)	Enterprise size cut-offs	Features
Spain	Labour Cost Index by total, cost of wage, other cost 1. INE http://www.ine.es/dacoin/dacoinci/icl/inoticl.htm 2. Eurostat 3. IMF DSBB	Q	Quarterly national accounts, Labour Cost Index Survey, Survey of Earnings	C to O except L	Total hours worked	A census of establishments with 500+ employees and sample survey for establishments with 1 - 499 employees	Data is collected monthly, but the reference for release is the quarter.
Sweden	Labour Cost Index for private sector, for wage earners, for salaried employees, 2000 = 100 1. Statistics Sweden http://www.scb.se/eng/arbeitsmarknad/lonsummeor/aki/meromaki.asp 2. Eurostat	Q	A combination of data (monthly Short-term Wage Statistics, Annual Survey on Structure of Earnings, administrative annual data from Employers Federation and insurance companies)	All private sector	Number of employees for non-manual workers in services and number of hours worked for industry.		Swedish Standard Classification of Labour Cost, SIAC 1989, was made.
Turkey	Labour costs (http://www.die.gov.tr/yayin/12_5.htm)	ad hoc	Labour Market Information	...	...	...
United Kingdom	Quarterly index of labour cost (Eurostat)	Q	Monthly AEI, the annual NES, data on statutory social security rates from Government Actuary Department		Number of employees	Enterprises with 25+ employees	

Notes : 1) The IMF source refers to the DSBB available at <http://dsbb.imf.org>.

2) The Eurostat source refers to the URL: http://europa.eu.int/comm/eurostat/newcronos/info/notmeth/en/theme1/euroind/lm/lmlc_q.htm

3) The alphabetic references in Activity coverage refer to the tabulation categories of ISIC Rev. 3 published in 1990. 4) U.S. Bureau of Labour Statistics has undertaken the compilation of "hourly compensation costs for production workers in manufacturing industries in selected countries". Documents can be found at <http://www.bls.gov>

Annex Table 6: Summary metadata for Unit Labour Cost – OECD Member Countries

Country	Main indicators produced	Period-icity	Source	Activity coverage	Concept of variable used in the numerator	Concept of output	Features
Canada	Index on Unit Labour Cost (http://www.statcan.ca/english/sdds/1402.htm)	Q	Estimates from national accounts	For overall business sector. Excluded are non-business production activities as well as the rents of owner-occupied dwellings	Total compensation of employees including the self-employed	Real GDP	The series are available from Q1 of 1987. Micro-economic Analysis Division of Statistics Canada
Mexico	Index on Unit Labour Costs, 1993 = 100 (http://dgcnesyp.inegi.gob.mx/pubcoy/short-term/competi/Cosacti.html)	M	Monthly Industrial Survey and economic indicators of the Bank of Mexico	D	....	...
United States	Index on Unit Labour Costs (http://www.bls.gov/lpc/lpcover.htm)	Q	Derived data from national accounts	Sectors by business, non-farm business, non-financial corporations & manufacturing	Total compensation (wages and salaries of employees, employers' contributions for social insurance & private benefit plans, and an estimate of these payments for the self-employed)	Real GDP	U.S. Bureau of Labour Statistics also publishes unit labour costs for 12 countries in manufacturing industries.
Australia	Index on Unit Labour Costs, 1986-87 = 100, seasonally adjusted (http://www.treasury.gov.au)	Q	Estimates	Non-farm sector	Nominal hourly labour costs (compensation of employees, payroll tax, fringe benefits)	Real gross non-farm product per hour worked by all employed persons	
Japan (Japan Institute of Labour)	Annual % change of Unit Wage Cost (http://www.jil.go.jp/estatis/eshyo/200205/e0106.htm)	M	Estimates	D	Indices of nominal wage (for establishments with 5 employees and over)	Indices of industrial production	
Korea (Korean Productivity Centre)	Index on Unit Labour Costs (in Korean only) (http://www.kpc.or.kr)	Q	Estimates by Korea Productivity Centre	D	Index on hourly earnings (for establishments with 10 employees and over)	Index on industrial production	

Annex Table 6: Summary metadata for Unit Labour Cost – OECD Member Countries (continued)

Country	Main indicators produced	Period -icity	Source	Activity coverage	Concept of variable used in the numerator	Concept of output	Features
New Zealand	(http://www.treasury.govt.nz/workingpapers/1999/99-5.asp)	-	-	-	-	-	A joint study was undertaken by the Department of Labour, Reserve Bank and Treasury to measure productivity in 1999.
Finland (Statistics Finland)	Index on Unit Labour Cost, 1990 = 100 (European Central Bank)	Q	Estimates	Whole economy	Compensation for employee	GDP at constant prices per person employed	
France	Index on Unit Labour Cost 1. INSEE http://www.insee.fr/en/indicateur/cnat_trim/tableaux/t_907_26_4.htm 2. ECB)	Q	Estimates	Whole economy	Index of compensation per employee (gross wages and salaries, employers' social contributions)	GDP at market prices per person employed	
Germany (Bundesbank)	Index on Unit Labour Cost (ECB)	M	Estimates by Bundesbank	Whole economy	Compensation per employee	Real GDP per employee	
Ireland (Central Statistical Office)	Index on Unit Wage Costs, 1985 = 100 (http://eirestat.cso.ie/QIFQvarlist.html)	Q	Estimates	D	Index of average hourly earnings	Index of industrial production volume per hour	
Italy (ISTAT)	Index on Unit Labour Costs (ECB)	Q	Estimates	Whole economy	Labour cost per employee	Value added at 1995 constant prices	
Spain (Bank of Spain)	Index on Unit Labour Costs 1. Bank of Spain http://www.bde.es/homee.htm , Economic Indicators 2. ECB	Q	Estimates	Whole economy, Manufacturing	Index of compensation per employee (gross wages and salaries, employers' social contributions)	GDP at market price per person	National data are shown in annual percentage changes.

Annex Table 6: Summary metadata for Unit Labour Cost – OECD Member Countries (continued)

Country	Main indicators produced	Period -icity	Source	Activity coverage	Concept of variable used in the numerator	Concept of output	Features
Turkey (Central Bank of Turkey)	Unit Wage Index, 1997 = 100(http://www.tcmb.gov.tr/yeni/evds/yayin/parapol02q1/eng/q202mp9.pdf)	A	Estimates	Private manufacturing industry	...	...
United Kingdom (Office for Official Statistics)	Unit Wage Costs for - whole economy - manufacturing (http://www.statistics.gov.uk/productivity)	Q M	National account, Productivity Jobs IPI, Productivity jobs and monthly Wages & Salaries Survey	Whole Manufacturing			Concept of ULC. (www.statistics.gov.uk/productivity)

Annex Table 7: Household Income and Expenditure Surveys - OECD Member Countries

Country	Survey title	Survey frequency (Time required for household recording)	Sample size for latest survey (Response rate)	Coverage of households/ population	Geographic coverage	Other
Canada http://www.statcan.ca/english/sdds/3508.htm (Statistics Canada)	Survey of Household Spending	Annual (but not continuous) since 1997 (Data are collected for a previous calendar year by a personal interview only). Published yearly.	Over 20 000 households (73.2% for 1999 survey)	Civilian and non-institutionalised population	Nation-wide (98% of the population in 10 provinces)	This survey replaced the biennial Family Budget Survey. The Household Facilities and Equipment Survey was also integrated. Missing responses are imputed using the nearest neighbour method.
Mexico http://fractal.inegi.gob.mx/coesme/coesmeingles/htmls/arbol.html (INEGI)	National Household Income and Expenditure Survey	Not established, but usually being conducted biennially.	11 781 households	Usual residents of private dwellings	Nation-wide	The most recent survey was conducted over the period 11 August to 17 November 2000.
United States http://www.bls.gov/cex/csxovr.htm (Bureau of Labour Statistics)	Consumer Expenditure Survey	Quarterly for interviewer survey, weekly for diary survey (2 weeks for each household). Published yearly.	7 600 households quarterly for Interview Survey (response of 78.0% out of 38 840 eligible households in 2001) and 7 700 households annually for Diary Survey (response of 74.9% out of 20 563 eligible diaries in 2001)	All non-institutionalised population	Urban and rural	Data collection is carried out by the Bureau of Census under contract with BLS. Ratio adjustments for non-response and frame under-coverage are undertaken.
Australia http://www.abs.gov.au , ABS Catalogue 6527.0 (Australian Bureau of Statistics)	Household Expenditure Survey	Five-yearly (to keep diary for 2 weeks).	6 893 households (77.4% out of 8 908 eligible households)	Usual residents of private households	All areas except remote and sparsely settled area	The most recent survey was conducted over 1998-99. Field work was spread evenly over the 12 month survey period.

Annex Table 7: Household Income and Expenditure Surveys - OECD Member Countries (continued)

Country	Survey title	Survey frequency (Time required for household recording)	Sample size for latest survey (Response rate)	Coverage of households/population	Geographic coverage	Other
Japan http://www.stat.go.jp/english/data/kakei/1560.htm (Statistics Bureau) http://www.stat.go.jp/english/data/zensho/5.htm (Statistics Bureau)	Family Income and Expenditure Survey	Continuous. Published monthly.	8 000 households	Private households excluding single person households, and households in institutions or establishments	Nation-wide	The Survey of Single-Person Households is conducted separately.
	National Survey of Family Income and Expenditure	Five-yearly.		Private households excluding households in institutions or establishments	Nation-wide	The first survey was conducted in 1959. The most recent survey was conducted from October to November 1999.
Korea http://www.nso.go.kr , in Korean (National Statistical Office) http://www.nso.go.kr , in Korean (National Statistical Office)	Household Income and Expenditure Survey	Continuous. Published quarterly.	4 400 (80 ~ 83%)	Private households excluding farmers' and single-person households, and households in institutions or establishments	Urban area only	The results are released on a quarterly basis. Household income is compiled only for wage earners' households.
	National Survey of Household Income and Expenditure	Five-yearly.	29 000	Same as the above except the inclusion of single-person households	Nation-wide	The first survey was conducted in 1991. The most recent survey was conducted over the period 7-18 May 2001.
New Zealand http://www.stats.govt.nz , (Statistics New Zealand)	Household Economic Survey	Triennial since 1998, before annual. (respondents maintain a diary recording their expenditure for two weeks)	2 808	Private households, excluding persons living in institutions or establishments	Nation-wide	The most recent survey was conducted over the period 1 July to 30 June 2001.
Austria http://www.oestat.gv.at/fachbereich_15/heft1.shtml	Household Budget Survey	Before the 1999/2000 survey, there were surveys in 1984 and 1993/94.	6 604 for the 1993/94 survey (42%)	Private households	Nation-wide	The most recent survey was the 1999/2000 survey.

Annex Table 7: Household Income and Expenditure Surveys - OECD Member Countries (continued)

Country	Survey title	Survey frequency (Time required for household recording)	Sample size for latest survey (Response rate)	Coverage of households/ population	Geographic coverage	Other
Belgium http://www.statbel.fgov.be/studies/calstudy.pdf (National Institute of Statistic)	Household Budget Survey	Continuous survey since 1999 (for one month). Prior to this the survey was undertaken irregularly.	Current sample is 1 000 households. In case of 1995/96 survey, the sample was 2 750 households (26%)	Private households	Nation-wide	.Sample frame is the National Register of physical persons.
Czech Republic http://www.czso.cz/eng/figures3/30/300101/m300101.htm	Household Budget Survey	Continuous. (for one month). Published yearly.	1 800 households of employees - 300 of farmers, 450 of self-employed, 700 of pensioners	Private households	Nation-wide	Quota sampling has been used.
Denmark http://www.dst.dk/dst.asp?o_id=60	Household Budget Survey	Annual since 1994 (continuous throughout the year)	1 000 intensive interviewers per year. In case of 1994/95 survey, the sample was 2 800 households (67 %).	Private households	Nation-wide except Greenland and the Faroe Islands	Before 1994, the survey was undertaken every 5 years.
Finland http://www.stat.fi/tk/tp/ta/asku/tasku_tult.html	Household Budget Survey	Triennial since 1998	About 2 000 households for the 1994/95 survey (63–67 % in 1994)	Private households		The most recent survey was conducted in 2001.
France http://www.lisproject.org/techdoc/fr/fr94survey.pdf (INSEE)	Household Budget Survey	Five-yearly from 1979 onwards (for 2 weeks)	10 038 (73 % for the 1994/95 survey)	Private households	Nation-wide excluding overseas territories	The recent survey was conducted over the period Oct.1994 to Oct.1995.
Germany (http://www.destatis.de/basis/e/evs/budgtxt1.htm) (Federal Statistical Office) http://www.destatis.de/basis/e/evs/budgtxt2.htm	Sample Survey of Income and Expenditure Continuous Household Budget Survey	Five-yearly Monthly (Analysis is undertaken on a quarterly basis). Published yearly.	62 000 households for 1998 survey Three sets of 2 000 households	Households, excluding foreigners' households and persons living in collective housing units Excluded are households of self-employed persons	Nation-wide Nation-wide	 The surveys cover in particular the degree which households are equipped with consumer durables

Annex Table 7: Summary metadata for Household Income and Expenditure Surveys – OECD Member Countries (continued)

Country	Survey title	Survey frequency (Time required for household recording)	Sample size for latest survey (Response rate)	Coverage of households/population	Geographic coverage	Other
Greece http://europa.eu.int/com/eurostat/ramon/geninfo/geninfo_en.html#general	Family Budget Survey	Irregular, but about quinquennial or longer intervals	6 756 for 1993/94 survey (74 %)	Private households	Nation-wide	The most recent survey was conducted over October 1993 to September 1994.
Hungary http://www.ksh.hu/pls/ksh/docs/news/hidden.html	Household Budget Survey	Annual (for one month)	7 559 households and 20 073 individuals for 1997 survey	Private households	All communities with a population of 15 000 and more	
Iceland HTM">http://www.hagstofa.is/talnaefn/NK95/FORMALI>HTM	Household Budget Survey	Five-yearly from 1985.	1 378 for the 1995 survey (50.9 %)	Private households	Whole country	The recent survey was conducted in 1995.
Ireland http://www.cso.ie/pressreleases/hbs.pdf (Central Statistical Office)	Household Budget Survey	Five-yearly (for 2 weeks)	7 644 (55% for the 1999-2000 survey). Undertaken by 5 full-time field supervisors and 50 part-time interviewers.	All private households	Nation-wide	The most recent survey was conducted over the period June 1999 to July 2000. Integration with the National Farm Survey was also undertaken
Italy http://www.istat.it/Anews/poverty99.pdf (ISTAT)	Household Budget Survey	Annual (continuous throughout the year). Published quarterly	Around 21 000		Nation-wide	There is a homogenous time series only since 1997.
Luxembourg http://www.statec.lu	Survey of Household Budgets	About decennial, but quinquennial from 1993	About 3000 for the 1993 survey (38 %)	Private households	Nation-wide	
Netherlands http://www.cbs.nl/en/figures/keyfigures/cpi-info.htm (Central Bureau of Statistics)	Household Budget Survey	Annual (for two weeks). Published yearly.	2 069	All private households	Whole country	

Annex Table 7: Summary metadata for Household Income and Expenditure Surveys – OECD Member Countries (continued)

Country	Survey title	Survey frequency (Time required for household recording)	Sample size for latest survey (Response rate)	Coverage of households /population	Geographic coverage	Other
Norway http://www.ssb.no/english/subjects/05/02/fbu_en – (Statistics Norway)	Survey of Consumer Expenditure	Annual since 1974. Published yearly.	1 300 ~ 1 390 per year (61 % for 1992-94)	Private households	Nation-wide	
Poland http://www.lisproject.org (Central Statistical Office)	Household Budget Survey	Annual (for one month) (continuous throughout the year)	31 428 households and 99 791 individuals for 1999 survey			
Portugal http://www.ine.pt/prodserv/destaque/d020314-2/d020314-2.html , in Portuguese	Family Budget Survey	Five yearly.	10 020 for the 2000/2001 survey (82 % for the 1994/95 survey)	Private households, excluding institutional households	Nation-wide	The most recent survey was conducted over the period 17 January .2000 to 14 January 2001.
Slovak Republic http://forum.europa.eu	Family Budget Survey	Continuous (for one month)				Quota sampling has been used.
Spain http://www.ine.es/dacoin/dacoinme/notecpf/8597in.htm	Household Budget Continuous Survey	Quarterly (for each one week per eight quarters)	4 000 for Diary survey, 8 000 for Interview survey	Private households	Nation-wide	Estimation of annual change of total expenditures has been made and released on a quarterly basis with Base 1997.
Sweden http://www.scb.se/statinfo/1996/pr0601.asp , in Swedish	Household Budget Survey	Annual since 1995. Published yearly.	2 000 households per year (64.5 % for the 1995 survey)	Private households	Nation-wide	
Switzerland http://www.statistik.admin.ch/stat_ch/ber06/puk/eev8te01.htm	Household Budget Survey	There was an 8 year interval between the 1990 and 1998 survey. But the survey is updated annually from the year 2000 with a smaller sample of 3 000 to 4 000 households.	9 300 (775 per month) for 1988 survey	Private households	Nation-wide	Field work was undertaken by two private market research institutes. The 1998 survey was conducted over 12 months.

Annex Table 7: Summary metadata for Household Income and Expenditure Surveys – OECD Member Countries (continued)

Country	Survey title	Survey frequency (Time required for household recording)	Sample size for latest survey (Response rate)	Coverage of households/ population	Geographic coverage	Other
Turkey http://www.die.gov.tr (State Institute of Statistics)	Household Consumption Expenditures Survey	Five-yearly or longer intervals				The most recent survey was the 1994 survey. The next survey was planned to be conducted in January 2002.
United Kingdom http://www.statistics.gov.uk/ssd/surveys/family_expenditure_survey.asp (Office for National Statistics)	Family Expenditure Survey	Annual since 1957 (for two weeks) Each individual in sampled households maintains a diary of daily expenditures for two weeks.	6 115 (58.8% out of 10 406 eligible households for 2000/2001 survey) * The set sample is 11 424 addresses a year. However, about 11% of the addresses prove to be ineligible because they are for institutions or businesses.	Private households	Nation-wide	From April 2001 onwards, the survey has been merged with the National Food Survey giving the title as the Expenditure and Food Survey.

Annex Table 8: Summary metadata for Hours of Work – OECD Member countries

Country	Data produced	Period-icity	Source	Coverage of activities	Features
Canada (Statistics Canada)	Average weekly hours paid for and overtime hours as for employees paid by hours, and usual hours of work as for salaried employees	M	Survey of Employment, Payrolls and Hours (http://www.statcan.ca/english/sdds/2612.htm)	All except A, B, P	
Mexico (INEGI)	Monthly hours worked by manual and non-manual workers	M	Monthly Industrial Survey (http://www.dgcnesyyp.inegi.gob.mx/pubcoy/short-term/industria/secmani.html) (http://dgcnesyyp.inegi.gob.mx/pubcoy/short-term/industria/secmani.html)	D only	The data are released as annual percentage variation with 1993 = 100.
United States (Bureau of Labour Statistics)	Average weekly hours (all hours worked, and hours paid for holidays, vacations and sick leave). Overtime hours are published separately for manufacturing industry only.	M	Current Employment Statistics Survey (http://www.bls.gov/ces/home.htm)	All except A, B, P	Starting Fall of 2003, the adjustment to hours worked will be made using data from the National Compensation Survey.
United States (Bureau of Labour Statistics)	Annual averages of persons in agriculture and non-agricultural industries by hours of work. Monthly numbers of persons at work in agriculture and related and in non-agricultural industries by weekly hours of work.	M	Current Population Survey (http://www.bls.gov/cps/cps_over.htm#available)	The civilian non-institutional population aged 16 years and over	Sample of 60 000 households. Data are collected by personal and telephone interviews. Basic labour force data are gathered monthly. Data on special topics are gathered in periodic supplements.
Australia (Australian Bureau of Statistics)	Aggregate weekly hours worked in million hours and average weekly hours worked	M	Household Labour Force Survey (http://www.abs.gov.au , – Themes – Labour – Hours and work patterns)	Whole economy	Data collection is undertaken on a monthly basis, but the results are shown on an annual basis.
Japan (Ministry of Health, Labour and Welfare)	Monthly hours actually worked split by scheduled and non-scheduled hours of work	M	Monthly Labour Survey (http://www.mhlw.go.jp/english/data/base/db-1/index.html)	All except A, B, P, Government services	
Korea (Ministry of Labour)	Monthly hours actually worked split by regular and overtime	M	Monthly Labour Survey (http://www.molab.go.kr/English/lsta/sub_Content1.jsp)	All except A, B, Administration, Education, Armed forces	

Annex Table 8: Summary metadata for Hours of Work – OECD Member countries (continued)

Country	Data produced	Period -icity	Source	Coverage of activities	Features
New Zealand (Statistics New Zealand)	Total actual hours worked for an average week	Q	Household Labour Force Survey (http://www.stats.govt.nz , - Labour Force Survey in Survey Directory)	Whole economy	
Austria (Statistics Austria)	Monthly hours paid for and hours actually worked for wage earners only	M	Monthly Industrial Production Statistics Survey (Eurostat, Short-term Business Statistics: National Methodology)	C to F	
Belgium (Statistics Belgium)	Indices of hours worked in industry and construction, 1995 = 100	M	Monthly Survey of Industrial Activity (http://www.statbel.fgov.be/indicators/hwi_en.asp)	Industry, Construction	Ministry of Labour also compiles indices on duration of work based on collection of collective agreements.
Czech Republic	Weekly hours usually and actually worked	Q	Household Labour Force Survey (http://www.czso.cz/eng/figures/3/31/3102021q/data/3102q134.pdf)	Whole economy	
Denmark (Statistics Denmark)	Quarterly total hours of work performed	Q	Estimates from Working Time Accounts (http://www2.dst.dk/internet/varedeklaration/en/v70784.htm)	Whole economy	The Working Time accounts produce consistent time series on employment, jobs, compensation of employees, hours worked and full-time equivalent acquired through integration of various data sources and based on SNA definitions.
Finland (Statistics Finland)	Annual hours worked and annual total hours worked in million hours by full-time and part-time.	M	Estimates from Household Labour Force Survey (www.stat.fi/tk/tp/tasku/taskue_tyoelama.html)	Whole economy	The data collection is undertaken on a monthly basis, but the results are shown on an annual basis.
France (Ministry of Employment and Solidarity)	Average weekly hours of work	Q	Survey on the Economic Activity and Working Conditions of the Labour Force (http://www.travail.gouv.fr/etudes/etudes_i.html)	All except A	

Annex Table 8: Summary metadata for Hours of Work – OECD Member countries (continued)

Country	Data produced	Period-icity	Source	Coverage of activities	Features
Germany (Federal Institute for Employment and Federal Statistical Office)	Quarterly hours worked per persons engaged and total hours worked of all persons engaged	Q	Estimates (http://www.destatis.de/presse/english/pm2002/p0620031.htm)		
Greece (National Statistical Service)	(Monthly) hours actually worked	Q	Quarterly Survey of Industrial Activity (Eurostat, Short-term Business Statistics: National Methodology)	Industry	
Hungary	Monthly hours actually worked by full-time manual workers	M	Employment and Earnings Survey (http://www.ksh.hu/pls/ksh/docs/eng/emodsz/emodsz02.html)	A to Q	
Iceland	Actual hours worked during the reference week	A	Labour Force Survey (http://www.hagstofa.is/talnaefn/vinna2001/english/cap2.htm)	Whole economy	
Ireland (Central Statistics Office)	Average weekly hours worked	Q	Industrial Inquiry, Employment, Earnings and Hours Worked (http://www.cso.ie/publications/indemp/indeam.pdf)	C, D, E	
Italy (ISTAT)	Index of actual hours worked per employee for manufacturing and services Sector, 1995 = 100 and share of overtime out of working hours	M	Statistical Survey of Large Enterprises (http://www.istat.it/English/Press-rele/ln-calenda/largfirmLabourmay.htm)	C to J except F	
Luxembourg (STATEC)	(Monthly) hours worked index	M	Monthly Survey on Industrial Activity (Eurostat, Short-term Business Statistics: National Methodologies)	Whole economy	
Netherlands (Statistics Netherlands)	Index of contractual working hours, 1990 = 100	Q	Statistics of wage rates collectively agreed (http://www.cbs.nl/en/figures/keyfigures/sip_450z.htm)	Whole economy	
	Annual working hours of employee (paid hours)	A	Labour accounts (http://www.cbs.nl/en/figures/keyfigures/sip_420z.htm)	Whole economy	

Annex Table 8: Summary metadata for Hours of Work – OECD Member Countries (continued)

Country	Data produced	Period-icity	Source	Coverage of activities	Features
Norway	Actual working hours per week by salaried employees, self-employed and family workers	Q	Household Labour Force Survey (http://www.ssb.no/english/subjects/06/01/aku_en/tab-2002-08-05-10-en.html)	Whole economy	Total hours worked in millions are also available from the national accounts on an annual basis.
Poland	Hours worked per week	Q	Household regular survey (http://www.stat.gov.pl/english/index.htm , - Programme of Statistical Survey)	Whole economy	Data can be found at the Labour Yearbook.
Portugal (National Institute of Statistics)	Worked hours index on industry, 1995=100	M	Statistical Survey of Enterprises (http://www.ine.pt/prodserv/indicadores/quadros_eng.asp?CodInd=34)	C, D, E	The data are shown as variation in percentage.
Slovak Republic	Monthly hours worked	Q	Quarterly Survey of Enterprises (http://www.statistics.sk/webdata/english/english/index2_a.htm)	Whole economy	There is also a survey item on actual hours of work in Labour Force Survey 2000.
Spain (National Institute of Statistics)	Average weekly hours worked	Q	Household Active Population Survey (http://www.ine.es/inebase/cgi/buscar)	Whole economy	
Sweden (Statistics Sweden)	Monthly total hours worked for wage earners and percentage of overtime hours	M	Survey on Short Term Wages and Salaries (http://www.scb.se/sm/AM38SM0203_tabeller11.asp)	C to O	
Switzerland	Normal annual working hours, annual hours of absence, annual overtime hours	A	Statistics on Volume of Work (http://www.statistik.admin.ch/stat_ch/ber03/eckdaten/eeckdaten.htm)	?	Weekly normal working hours in enterprises for full-time employees are also available on an annual basis.
Turkey	Production worked hours as percentage change over a year earlier	Q	Manufacturing Industry Survey (http://www.dic.gov.tr/ENGLISH/SONIST/IMSANUR/20602hi.html)	C, D, E	
United Kingdom (Office for National Statistics)	Average actual weekly hours of work including overtime (paid and unpaid) and excluding meal-breaks	Q	Household Labour Force Survey (http://www.statistics.gov.uk , - Search: hours of work)	Whole economy	There is also a survey item on hours of work in the Annual New Earning Survey.