LABOUR COST INDEX (LCI) 2019

NATIONAL REFERENCE METADATA IN SINGLE INTEGRATED METADATA STRUCTURE (SIMS)

CONCEPT 1 – CONTACT

Sub-Concept 1.1: Contact organisation

National Statistics Office (NSO)

Sub-Concept 1.2: Contact organisation unit

Unit C2: Labour Market Statistics
Directorate C - Social Statistics and Information Society

Sub-Concept 1.3: Contact name

Kevin Borg

Sub-Concept 1.4: Contact person function

Principal Statistician

Sub-Concept 1.5: Contact mail address

National Statistics Office (NSO),
Lascaris, Valletta VLT 2000, Malta.

Sub-Concept 1.6: Contact e-mail address

kevin.borg@gov.mt

Sub-Concept 1.7: Contact phone number

+356 2599 7665

CONCEPT 2 – METADATA UPDATE

Sub-Concept 2.1: Metadata last certified

26th February 2021.

Sub-Concept 2.2: Metadata last posted

1st March 2021.

Sub-Concept 2.3: Metadata last update

1st March 2021.

CONCEPT 3 – STATISTICAL PRESENTATION

Sub-Concept 3.1: Data description

The Labour Cost Index (LCI) is defined as the Laspeyres index of labour cost per hour worked, chain linked annually and based upon a fixed structure of economic activity at NACE section level. The labour costs are the total quarterly costs incurred by the employer in the employment of personnel.

The main source for the compilation of the LCI is National Accounts data. Moreover, the components used to derive the labour cost per hour are partly based on sample surveys; namely the Labour Force Survey (LFS), Structural Business Statistics (SBS), and Short-term Statistics (STS). A main source for the compilation of the LCI.

Sub-Concept 3.2: Classification system

NACE Rev. 2 (Statistical Classification of Economic Activities in the European Community) is used to code economic activity.

Sub-Concept 3.3: Sector coverage

The Labour Cost Index (LCI) covers NACE Rev. 2 Sections B to S.

Sub-Concept 3.4: Statistical concepts and definitions

Labour Costs: In the context of the Labour Cost Index, Labour Costs are defined as core expenditure borne by employers for the purpose of employing staff, these include:

- Employee compensation (with wages and salaries in cash and in kind);
- Employers' social security contributions and employment taxes (regarded as labour costs minus any subsidies received);
- Employers' expenditure excluding vocational training costs or other expenditure such as recruitment costs and spending on working clothes.

Average Hourly Labour Costs: The quarterly Labour Cost Index measures short-term trends in "Average Hourly Labour Costs", defined as the (total) labour costs divided by the corresponding number of hours worked in the quarter in question. Quarterly changes in hourly labour costs are calculated first for each economic sector (NACE Rev. 2. Sections) and then aggregated to the whole economy keeping a fixed structure (i.e. fixed weights) by industry (Laspeyres index).

Labour costs indices: All labour cost indices are annual chain-linked Laspeyres indices. Trends in average hourly labour costs for an individual economic activity are weighted by the total labour costs associated with that activity, which are fixed for one year in order to obtain activity aggregates. LCI data are presented in the form of index numbers (current reference year: 2016) and annual growth rates (comparison with the same quarter of the previous year). Apart from the overall Labour Cost Index, indices are also available for the labour cost components "Wages and Salaries" and "Employers' social security contributions plus taxes paid minus subsidies received by the employer (Labour costs other than wages and salaries)".

Sub-Concept 3.5: Statistical unit

Enterprises.

Sub-Concept 3.6: Statistical population

All enterprises within sections B to S of NACE Rev. 2.

Sub-Concept 3.7: Reference area

Data are available at NUTS 1 level.

Sub-Concept 3.8: Time coverage

Data are available since the first quarter of 2000.

Sub-Concept 3.9: Base period

2016.

CONCEPT 4 – UNIT OF MEASURE

Index.

CONCEPT 5 – REFERENCE PERIOD

Labour cost indices are transmitted to Eurostat within the 70-day deadline following the reference quarter.

CONCEPT 6 – INSTITUTIONAL MANDATE

Sub-Concept 6.1: Legal acts and other agreements

The Malta Statistics Authority (MSA) Act empowers the NSO to collect, compile, extract and release official statistics related to demographic, social, environment, economic and general activities and conditions of Malta.

LCI data is compiled according to European Regulation (EC) No 450/2003 of the European Parliament and of the Council of 27 February 2003 concerning the labour cost index.

Sub-Concept 6.2: Data sharing

The data are only disseminated to Eurostat via eDamis.

CONCEPT 7 – CONFIDENTIALITY

Sub-Concept 7.1: Confidentiality – Policy

At National level:

The NSO requests information for the compilation of official statistics according to the articles of the MSA Act – Cap. 422 and the Data Protection Act – Cap. 586 of the Laws of Malta implementing the General Data Protection Regulations (GDPR).

Article 40 of the MSA Act stipulates the restrictions on the use of information while Article 41 stipulates the prohibition of disclosure of information. Furthermore, Section IX of the Act (Offences and Penalties) lays down the measures to be taken in case of unlawful exercise of any officer of statistics regarding confidentiality of data.

Since its inception, the NSO has always assured that all data collected remains confidential and that it is used for statistical purposes only according to the articles and derogations stipulated in the laws quoted above. The Office is obliged to protect the identify of data providers and refrain from divulging any data to third parties that might lead to the identification of persons or entities.

During 2009, the NSO has set up a Statistical Disclosure Committee to ensure that statistical confidentiality is observed, especially when requests for microdata are received.

Upon employment, all NSO employees are informed of the rules and duties pertaining to confidential information and its treatment. In line with stipulations of the MSA Act, before commencing work, every employee is required to take an oath of secrecy whose text is included in the same Act.

An internal policy on anonymisation and pseudo-anonymisation is in place to ascertain that adequate methods are used for the protection of data which the office collects and shares with the public in its capacity as the National Statistics Office. The policy is meant to safeguard confidentiality of both personal and business data entrusted to the NSO. The document provides guidance for all NSO employees who process data on a daily basis as to how anonymisation and pseudo-anonymisation methods should be applied. The policy applies to all confidential, restricted and internal information, regardless of form (paper or electronic documents, applications and databases) that is received, processed, stored and disseminated by the NSO.

At European level:

Regulation (EC) No 223/2009 on European statistics (recital 24 and Article 20(4) of 11 March 2009 (OJ L 87, p. 164), stipulates the need to establish common principles and guidelines ensuring the confidentiality of data used for the production of European statistics and the access to those confidential data with due account for technical developments and the requirements of users in a democratic society.

Sub-Concept 7.2: Confidentiality – Data Treatment

Not applicable as data in index form are not deemed as identifying.

CONCEPT 8 – RELEASE POLICY

Sub-Concept 8.1: Release Calendar

Data are not disseminated at a national level.

Sub-Concept 8.2: Release Calendar access

Data are not disseminated at a national level.

Sub-Concept 8.3: User access

An internal policy on dissemination is in place to govern the dissemination of official statistics in an impartial, independent and timely manner, making them available simultaneously to all users.

LCI data can be accessed from Eurostat's website.

CONCEPT 9 – FREQUENCY OF DISSEMINATION

Quarterly.

CONCEPT 10 – ACCESSIBILITY AND CLARITY

Sub-Concept 10.1: News release

Data are not disseminated at a national level.

Sub-Concept 10.2: Publications

Data are not disseminated at a national level.

Sub-Concept 10.3: Online Database

The labour cost index is published by Eurostat on quarterly basis and can be downloaded from Eurostat's online database.

Sub-Concept 10.4: Micro-data access

Not applicable.

Sub-Concept 10.5: Other

Not applicable.

Sub-Concept 10.6: Documentation on methodology

Documentation of steps for the provision of LCI results is available for internal purposes only. Moreover, EC Regulation 1216/2003 sets the criteria and also specifies the chain linking formulae that are to be applied in the compilation of the index.

Sub-Concept 10.6.1: Metadata completeness rate

Information about all required metadata concepts (and sub-concepts thereof) are provided.

Sub-Concept 10.7: Quality Documentation

Procedures used for data analysis (including compilation and imputations) are documented, however, they are currently not available to the public.

LCI SIMS reports are available to the public on the NSO's metadata website including concepts related to metadata and quality.

Moreover, an ESQRS report, which is a detailed standard structure for the collection and dissemination of quality reports, is filled and disseminated to Eurostat.

The NSO has developed an internal Quality Management Framework (QMF) which is built on common requirements of the ESS Code of Practice (ESS CoP). A document was prepared to include a set of general quality guidelines spanning over all statistical domains. Assuring methodological soundness is an integral part of the QMF, nonetheless, the document spans also on other areas related to institutional aspects.

CONCEPT 11 – QUALITY MANAGEMENT

Sub-Concept 11.1: Quality Assurance

Quality assurance is safeguarded by ensuring that updates which are available by the main source for LCI, which is National Accounts, are immediately taken into consideration in the production of the index.

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Every five to seven years, the NSO participates in a Peer Review exercise through which the compliance of its operations with principles of the ESS CoP is assessed by an expert team. Peer Reviews are indeed part of the European Statistical System (ESS) strategy to implement the ESS CoP. Each NSI is expected to provide information as requested by a standard self-assessment questionnaire. Following this an expert team visits the office to meet NSI representatives and main stakeholders. Peer Reviews result in a compliance report and the listing of a set of Improvement Actions which need to be followed up by the NSI. The next round of Peer Reviews is planned to be carried out in 2022.

Sub-Concept 11.2: Quality Assessment

The data from the National Accounts unit are retrieved two weeks prior to the transmission of the index, in order to ensure that revisions are made accordingly in a timely manner. The unit checks for any need of revisions by analysing the trends of the components simultaneously, particularly by checking that the trends of wages and social contributions are in line. Priority is given to the assessment of any sudden changes in the time series. When a level shift or any outlier identification is made, the Labour Market unit confirms the change directly with the National Accounts unit. To this end, LCI data are considered of good quality.

CONCEPT 12 – RELEVANCE

Sub-Concept 12.1: User needs

Main users of this data include:

- International Organisations (such as Eurostat, UNESCO (The United Nations Educational, Scientific and Cultural Organization), OECD (Organisation for Economic Co-operation and Development), and EU's Directorate General for Employment);
- Public Entities (such as Ministries and Authorities);
- Private entities (Research Organisations, Unions, Businesses);
- Research Institutes;
- Universities, and
- Other policy makers.

Sub-Concept 12.2: User satisfaction

The last User Satisfaction Survey was held in 2014 with the aim to collect information about key users' satisfaction with statistical output.

The NSO keeps record of the number of News Releases and publications disseminated on its website; the users to whom statistical products are provided; as well as the number of requests that are processed every year.

News Releases and tailor-made statistical outputs were assessed on account of their quality, timeliness, and on their ability to meet users' needs.

Sub-Concept 12.3: Data Completeness

The data completeness rate stands at 100% as all requested data are provided.

CONCEPT 13 – ACCURACY AND RELIABILITY

Sub-Concept 13.1: Overall accuracy

All efforts are made to ensure that the overall quality of the LCI data is good. Nonetheless, a series of revisions is necessary. Main sources of revisions stem from the need to ensure consistency with National Accounts. LCI data are currently revised on a quarterly basis. These revisions are necessary to reflect changes in employment and compensation of employees' data, which occur in main sources. The overall accuracy is considered to be of good quality.
In line with the National Accounts' revision policy, data from 2011 need to be left open to revisions since newer information from various sources may provide additional updates to wages and salaries data, and data on social contributions. The remaining years of the time series are not subject to any revisions. Up till 2011, the Labour Market Unit applied a conversion matrix to map National Accounts data along the NACE Rev. 1.1. classification to NACE Rev 2.

Data preceding Q4 2016 was subject to a degree of forecasting procedures to maintain coherence between National Accounts' and LCI growth rates. This is no longer required as figures from National Accounts are directly provided for the required points.

Another major revision to the LCI data results from the National Accounts' adoption of the ESA 2010 methodology in 2014. LCI data on employment and compensation of employees was revised for the period 2000 to 2014. These revisions led to shifts in index growth rates for all NACE categories.

Along the years, an improved methodology was introduced to adjust index NACE aggregates through chain-linking as recommended by Eurostat. To this end, the aggregation steps provided by Eurostat were applied to the national methodology.

Sub-Concept 13.2: Sampling errors

The components used to derive the labour cost per hour are partly based on sample surveys; namely the Labour Force Survey (LFS), Structural Business Statistics (SBS), and Short-term Statistics (STS). Other administrative data sources, such as Jobsplus data are also used. This source is used by National Accounts to derive compensation of employees.

Considering that a combination of sources is used, sampling errors cannot be computed accurately. Large companies are directly derived from financial accounts. Actual hours worked by employees are derived from quarterly LFS statistics which are associated with a high standard error by economic activity. In specific, the sample size for a few economic activities such as mining, quarrying, electricity and gas and water supply tends to be small. As a result, the mean actual hours worked by employees (excluding self-employed) is used.

Sub-Concept 13.3: Non-sampling error

Non sampling errors related to the LCI are the result of coding errors in the identification of economic activity, and inaccuracies in the provision of information related to compensation of employees. There may be instances where components of compensation (such as earnings from over time) are left out inadvertently by survey respondents.

Sub-Concept 13.3.1: Coverage error

LCI is derived from secondary sources. Errors in these sources have an impact on the production of LCI.0.

Sub-Concept 13.3.1.1: Over Coverage

National LCI data cover NACE sections B to S (NACE Rev.2) and figures relating to compensation of employees are representative of the whole economy operating under these economic activities.

Figures for the calculation of LCI are compiled from National Accounts data, particularly in relation to employment levels. Information about under or over coverage in the source data are not available.

Sub-Concept 13.3.1.2: Common Units Proportion

Not applicable. There are no common units as the two sources used are applied for different components; National Accounts estimates are used to obtain information on compensation and employment, while the Labour Force Survey is used to obtain information on hours worked per week. National Accounts records refer to enterprises, whereas the LFS dataset refers to private households.

Sub-Concept 13.3.2: Measurement error

Since the LCI does not have a direct survey, measurement errors relate to those within the sources. No specific survey is carried out for the purposes of compiling the LCI.

Sub-Concept 13.3.3: Non-response error

Since LCI data are derived from a combination of sources, it is not possible to quantify the non-response error, i.e. the rate of missing information in the administrative sources themselves.

Sub-Concept 13.3.3.1: Unit non-response

Since LCI data are derived from a combination of sources, it is not possible to quantify the non-response error, i.e. the rate of missing information in the administrative sources themselves.

Sub-Concept 13.3.3.2: Item non-response

Since LCI data are derived from a combination of sources, it is not possible to quantify the non-response error, i.e. the rate of missing information in the administrative sources themselves.

Sub-Concept 13.3.4: Processing error

Processing errors in the individual sources have a direct impact on the LCI compilation.
It is not possible to provide a correct estimate given the wide range of sources used for this index.

Sub-Concept 13.3.5: Model assumption error

Not applicable.

CONCEPT 14 – TIMELINESS AND PUNCTUALITY

Sub-Concept 14.1: Timeliness

All LCI transmissions followed the stipulated deadlines.

Sub-Concept 14.2: Punctuality

Labour Cost Index data have always respected the 70 days deadline, with the date of data transmission often having been transmitted before the pre-established Regulation date.

CONCEPT 15 – COHERENCE AND COMPARABILITY

Sub-Concept 15.1: Comparability – Geographical

Definitions used for the compilation of LCI are comparable geographically, even though the sources used may vary between different countries.

Sub-Concept 15.2: Comparability – Over Time

Total Labour Costs (LCI_TOT): Subsidies which cover labour costs are not deducted from the figures provided by National Accounts. The source for subsidies related to labour costs is the Labour Cost Survey which is carried out once every 4 years and as a result this, the National Statistics Office does not have a quarterly value for this variable. According to LCS 2016, the share of subsides from total labour costs stood at 1.6%.

Differences in the definition used for calculating a sub-component of the LCI, namely, "Actual Hours Worked by Employees" are to be noted. As already explained, actual hours worked are calculated using National Accounts employment estimates along with the LFS averages. Between 2000 and 2003, a specific reference week within a quarter was used to represent the whole quarter. Hence, averages derived from LFSs carried out during this period, are, in fact, based on a specific week within a quarter. From 2004 onwards, the LFS started to be carried out on a continuous basis. In this regard estimates on actual hours worked from 2004 onwards truly refer to the average within the whole quarter.

Sub-Concept 15.3: Coherence – Cross Domain

The index is mainly compiled on data provided by National Accounts, making it comparable to other statistical domains.

Sub-Concept 15.3.1: Coherence – Sub-Annual and Annual statistics

Refer to table 1 in Annex A.

Sub-Concept 15.3.2: Coherence – National Accounts

Not applicable.

Sub-Concept 15.4: Coherence – Internal

Quarterly and annual data are coherent and reconcilable.

CONCEPT 16 – COST AND BURDEN

The LCI is compiled using secondary sources, hence, it is not possible to estimate the cost involved in the compilation of these sources. The cost which is strictly related to the LCI corresponds to 0.5 full time equivalent of a statistician.

CONCEPT 17 – DATA REVISION

Sub-Concept 17.1: Data revision – Policy

At the NSO, there is currently no internal policy governing revisions that occur for all statistics produced. Nonetheless, a revisions policy is being drafted to safeguard a coordinated revisions system across statistical domains.

This policy will take account of the need and causes for revisions; time and frequency of revisions; data and other statistical products affected by such revisions; and length of periods revised.

To date, all statistical domains follow revision guidelines established at ESS level.

Sub-Concept 17.2: Data revision – Practice and Data Revision

Revisions to the index are made on a quarterly basis, depending on revisions done to main data sources (i.e. employment, labour costs and national insurance payments) made by the National Accounts Unit.

The whole series is revised quarterly on every transmission in order to remain in line with updates provided by the National Accounts.

CONCEPT 18 – STATISTICAL PROCESSING

Sub-Concept 18.1: Source data

National Accounts is the source of information for labour costs and employment whereas the Labour Force Survey is used for the estimate of hours worked.

Sub-Concept 18.2: Frequency of data collection

Administrative Data from National Accounts is collected at quarterly intervals.

Sub-Concept 18.3: Data Collection

The LCI is compiled using internal data on hours worked which is sourced by the LFS, whereas data on employment and compensation of employees is compiled by the National Accounts via the use of business surveys such as SBS and STBS.

Sub-Concept 18.4: Data Validation

Validation is carried out by analysing variable trends obtained by National Accounts.

Sub-Concept 18.5: Data Compilation

Compensation of employees by NACE is divided by the number of employees working in each activity. This, in turn, is divided by the number of hours worked in order to derive the hourly labour cost per employee.
Through the base year (2016), the annual average hourly rate per economic activity is derived and each quarterly hourly rate is computed to the base year average by the chain-linking method.

Sub-Concept 18.5.1: Imputation

Imputations for hours worked, employment and compensation of employees is carried out by the sources of LCI data. It is, however, not possible to determine the imputation rate due to the different sources which are used.

Sub-Concept 18.6: Adjustment

All three indices mentioned are made available in working-day adjusted form and on a seasonally adjusted basis. Seasonal adjustment corrects intra-annual variations in the Labour Cost Index which can arise due to recurring events, such as new school and university graduates entering the labour market in Autumn.

Seasonally adjusted series is achieved by taking the working-day adjusted series for each index and running this series using Demetra+.

Sub-Concept 18.6.1: Seasonal Adjustment

All three indices mentioned in Sub-Concept 2 are made available in working-day adjusted form. This means that differences in hourly labour cost which arise due to a varying number of working days are corrected. Moreover, all series are made available on a seasonally adjusted basis. Seasonal adjustment looks for and corrects intra-annual variations in the Labour Cost Index which can arise due to recurring events, such as new school and university graduates entering the labour market in Autumn.

Seasonally adjusted series is achieved by taking the working-day adjusted series for each index and running this series using Demetra+.

CONCEPT 19 – COMMENT

No further comments.

Annex A

Table 1: Annual growth rates (Hourly rate per employee)

NACE	National Accounts				Labour Cost Index			
	Hourly rate		Absolute difference	Growth rate (%)	Hourly rate		Absolute difference	Growth rate (%)
	2018	2019			2018	2019		
B-S	14.12	14.27	0.15	1.07	14.06	14.19	0.13	0.90
B-N	13.31	13.30	-0.02	-0.13	13.26	13.22	-0.04	-0.27
B-E	13.80	14.42	0.62	4.52	13.61	14.18	0.57	4.18
B-F	13.00	13.39	0.39	2.99	12.85	13.20	0.34	2.68
G-N	13.51	13.24	-0.27	-2.01	13.51	13.24	-0.27	-2.02
G-J	12.91	12.46	-0.45	-3.48	12.91	12.45	-0.46	-3.53
K-N	14.11	14.02	-0.09	-0.65	14.11	14.02	-0.09	-0.63
O-S	16.21	16.80	0.59	3.63	16.15	16.70	0.55	3.40
P-S	16.28	16.66	0.38	2.32	16.24	16.53	0.29	1.80
F	9.81	9.26	-0.55	-5.64	9.81	9.26	-0.55	-5.64