European Commission

Remuneration and Pensions

Methodology Manual

Calculation of

Intra-EU correction coefficients

in accordance with the EU Staff Regulations

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Main Text

EUROSTAT

Preface

This document describes the calculation of correction coefficients applicable to the remuneration of staff working in Intra-EU duty stations. Separate manuals describe the calculation of Extra-EU correction coefficients[1], and the index to monitor temporal evolution of consumer prices in headquarters duty stations[2]. Another manual describes the calculation of specific indicators and control indicators in accordance with Article 65 of the Staff Regulations[3].

These adjustments are a direct component of the remuneration of EU staff and, by analogy, also affect many other persons. They are therefore of great interest to many groups, including the Commission and other Institutions, staff representatives, the Member States, other international organisations.

Eurostat therefore considers it important to provide a comprehensive document, where people interested in this subject can find information on the legal background, on the basic principles and definitions and also on details of the practical procedures concerning this issue.

This document is based on the Staff Regulations of Officials of the European Communities[4] and other relevant elements of the legal framework. The Working Group on Articles 64 and 65 is a platform for the discussion of the methodology. It comprises Member States delegations and representatives of the Commission and it is chaired by Eurostat.

As the remuneration system for EU officials and the methodological details for the calculation of correction coefficients develop and evolve over time, this document has to be seen as a snapshot of the current state of the art.

This version of the manual supersedes and replaces all previous versions.

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1 Document A6465/14/60 rev4 (version 2020) : Extra-EU correction coefficients

2 Document A6465/14/58 rev2 (version 2020) : Joint Belgium Luxembourg Index

3 Document A6465/14/26 rev4 (version 2020) : A65 specific indicators and control indicators

4 Council Regulation No 259/68 as modified most recently by Regulation (EU, Euratom) No 1023/2013 of the European Parliament and of the Council of 22 October 2013

History

The approach to calculation of correction coefficients has remained broadly unchanged since originally conceived in the Staff Regulations (currently enshrined in Article 64 and Annex XI) and practical procedures regarding price data collection have also remained broadly similar (currently enshrined under Regulation 1445/2007 establishing common rules for the provision of basic information on Purchasing Power Parities and for their calculation and dissemination). Nevertheless, Eurostat seeks constant improvement and there have been various developments in the practical implementation methodology over time.

Previous methodology text versions[5] include:

2020 (this text)	Doc.A6465/14/59rev4 *(59 pages 6 appendices)*	Methodology for the calculation of Intra EU Correction Coefficients in accordance with the Staff Regulations (update all references and appendices, numeric examples, ECP organisation structure, nomenclature changes; reflect Brexit; add new appendices: Education, FBS, CC diagram)
2019	CRS2019/ *(3 pages)*	*What is equi-characteristicity and why is it important for spatial cost-of-living comparisons?*
2019	CRS2019/ *(7 pages)*	*100 years of theory: why a fixed-basket approach is less appropriate for international cost–of–living comparisons*
2018	KS-GQ-17-015-EN-N (*360 pages*)	*Eurostat methodological manual on harmonised indices of consumer prices (HICP)*
2016	Doc.A6465/14/59rev3 *(59 pages 7 appendices)*	Methodology for the calculation of Intra EU Correction Coefficients in accordance with the Staff Regulations (add Education PPP, Healthcare PPP, publication/transparency)
2015	Doc.A6465/14/59rev2 *(50 pages 7 appendices)*	Methodology for the calculation of Intra EU Correction Coefficients in accordance with the Staff Regulations (correction LT rents)
2014 July	Doc.A6465/14/59rev1 *(50 pages 7 appendices)*	Methodology for the calculation of Intra EU Correction Coefficients in accordance with the Staff Regulations (add version history, clarify ECP, clarify FBS)
2014 March	Doc.A6465/14/59 *(50 pages 7 appendices)*	Methodology for the calculation of the Intra EU Correction Coefficients in accordance with the Staff Regulations
2012	KS-RA-12-023-EN-N (*441 pages*)	*Eurostat-OECD methodological manual on purchasing power parities*

[5] See document A6465/14/58 rev2 (version 2020) for history of Joint Belgium Luxembourg Index

2011	Doc.A65/11B/03 (*111 pages*)	*Summary of Eurostat simulation studies and numeric examples of Commission orientations for reform - focus on A64 and A65 elements – provisional calculations*
2011	Doc.A64/11/27 + appendices (*57 pages*)	Methodology for the calculation of intra-EU correction coefficients and for the calculation of the Brussels International Index
2009	Doc.A64/09/13 + appendices (*57 pages*)	Methodology for the calculation of intra-EU correction coefficients
2006	Doc.A64/06/03rev (*75 pages*)	Methodology for the calculation of intra-EU correction coefficients - draft manual
2005	KS-BE-06-002-EN-N (*267 pages*)	*Eurostat-OECD methodological manual on purchasing power parities*
2002	KS-BE-02-005-EN-N (*39 pages*)	Methodology for the calculation of intra-EU correction coefficients - draft manual

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I - INTRODUCTION

According to Annex XI of the Staff Regulations the adjustment of salaries of EU officials is determined by the following factors:

- changes in the purchasing power of salaries of national civil servants in central government (Specific Indicator)[6];
- changes in the cost of living in Brussels and Luxembourg (joint Belgium Luxembourg index);
- economic parities between Brussels and the other duty stations in the Member States (Correction Coefficients)[7].

The **joint Belgium Luxembourg index (JBLI)** is a Laspeyres-type index. Its aim, as stated in Annex XI of the Staff Regulations, is '*to measure changes in the cost of living for officials of the Communities in Brussels*' (Article 1.2 of Annex XI). The methodology used to calculate the JBLI is described in a separate document[8].

Changes in the cost of living in places of employment other than Brussels and Luxembourg are derived indirectly from the value of the adjustment for Brussels and Luxembourg and changes in the economic parities between Brussels and those other places. The object of the economic parities is to compare the relative costs of living of European institution officials in Brussels (reference cities) and in each of the capitals and other duty stations where EU staff are serving.

The method used is to compare the price of a basket of goods and services purchased by the average official in Brussels with the price of the equivalent basket in each of the other duty stations. For this purpose, National Statistical Institutes (NSI) in co-operation with Eurostat carry out a number of **price surveys** (see ***chapter II***). Since the collection of prices is time-consuming and expensive, the pricing of the full list of items is spread over a 3-year period with two surveys per year covering each one a broad category. Housing costs are treated differently from other prices for two reasons:

a) They are the largest single item of expenditure (typically at least 20–25% of total spending).

b) Housing is different from any other type of good or service because of its uniqueness. No two dwellings are alike, especially when one takes account of all the secondary attributes which affect the price, such as the quality of the district, access to shops, transport, schools and so on.

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6 The calculation of Specific Indicators and Control Indicators in accordance with Article 65 of the Staff Regulations is described in a separate manual – see doc.A6465/14/26 rev4 (version 2020).

7 The calculation of Correction Coefficients for Extra-EU duty stations in accordance with Annex X of the Staff Regulations is described in a separate manual – see doc.A6465/14/60 rev4 (version 2020).

8 See doc.A6465/14/58 rev2 (version 2020)

For these reasons and in view of the rapid fluctuations in the housing market**, rent surveys** are conducted every year and not every three years, as with the other items (see ***chapter V*** and ***chapter VI*** and ***chapter VII***).

Specific approaches are also applied for Healthcare (see ***chapter III***) and Education (see ***chapter IV***) which can also be comparison resistant.

The total range of goods and services constituting the consumption of the average EU official is grouped into **80 basic headings** for which a price ratio between Brussels and the duty station is calculated. The average of all the price ratios is called 'economic parity' or Purchasing Power Parity (PPP). The overall economic parities, used for salary adjustment in duty stations other than Brussels and Luxembourg, are based on 80 elementary parities aggregated together using consumption weights.

For each place, the weights are estimated for each of the 80 basic headings and are expressed as percentages of total expenditure, according to their relative importance in the consumption basket. The weights normally reflect the expenditure pattern of the average EU official in each duty station.

To estimate expenditure patterns for EU officials, every five to seven years Eurostat carries out **Family Budget Surveys (FBS**)[9] in the different duty stations among the staff serving at that time; the average result is established as the consumption pattern of the duty station until the next survey. The purpose of these surveys is to determine the relative amounts of expenditure on different items of consumption. The methodology of the FBS is presented in ***chapter VIII***.

The ratio between the economic parity and the exchange rate (where applicable) used to pay the remuneration is called a **correction coefficient.** It operates as a percentage adjustment to salaries to take account of the cost differences between Brussels and the duty stations. The method of calculation is shown in ***chapter IX***.

Since 2004, Staff Regulations also require the estimation of country economic parities for **pensioners** to '*establish the equivalence of purchasing power of the pensions of officials paid in the Member States between each Member State with reference to Belgium'*. The methodology is basically the same applied for the salaries; differences are explained in ***chapter X***.

9 Formerly known as Surveys of Household Expenditure (SHE)

II – THE EUROPEAN COMPARISON PROGRAMME (ECP) PRICE SURVEYS

1. Introduction

The price surveys, together with the rent surveys, form the basis of the calculations of the intra-EU correction coefficients (CC). The surveys are an essential part of the 'European Comparison Program' (ECP) and as such, the preparation is crucial if any comparison between all participating countries is to take place. In short, the results produced have to be comparable and therefore, the goods and services chosen for comparison need to be of similar standards.

The prices used for the capitals are derived from the price surveys carried out by NSIs in the framework of the ECP, the coordination being ensured by Eurostat. For the other duty-stations similar surveys are carried out by Eurostat, assisted by the NSI.

Price surveys used for the purpose of calculating the correction coefficient can, therefore, be divided in:

- Price surveys conducted in the capitals as part of the ECP programme

  The NSIs are responsible for the price collections in their countries. Furthermore, it is their duty to ensure that the consumption pattern of the country is well represented among the products for which prices are collected. This means that an adequate number of representative consumer goods should be included in each product group. The price surveys are co-ordinated by Eurostat and the group leader countries (see ***chapter II section 3***).

- Price surveys conducted in other EU duty-stations outside the capitals[10]

  This point concerns the surveys conducted in DE (Bonn, Karlsruhe and Munich), IT (Varese) and UK (Culham). These surveys are the responsibility of Eurostat; but the NSIs assist and help Eurostat to validate the results.

The latter surveys are used only for the calculation of CCs: the methodology applied, the product definition and the timing is the same as for the surveys conducted in the capitals.

[10] NB. UK left the EU in February 2020; coverage of Bonn ceases with effect from 2020.

2. The surveys and the pre-survey work

Since the collection of prices is time-consuming and expensive, the pricing of the full list of products is conducted in a 3-year cycle, with two surveys every year, each covering a broad category of goods/services. At any point in time, there are several surveys in progress, each at different steps of the process (e.g. item list definition, fieldwork preparation/coordination, results processing/validation). The price surveys for the calculation of CCs are representative of most of the goods and services consumed by EU-officials' households. There are six broad categories:

- **Food, drinks and tobacco:** food; non-alcoholic beverages; alcoholic beverages; tobacco.

- **Personal appearance:** clothing; footwear; goods and services for personal care, personal effects.

- **House and garden:** materials for the maintenance and repair of the dwelling; household appliances; glassware, tableware and household utensils; tools and equipment for house and garden; products for routine household maintenance; audio-visual, photographic and information processing equipment; games, toys, hobbies, gardens, plants, flowers and pets; newspapers, books and stationery.

- **Transport, restaurants and hotels:** personal transport equipment; spare parts and accessories; fuels and lubricants for the operation of personal transport equipment; equipment for sport, camping and open-air recreation; catering services; accommodation services.

- **Services:** Cleaning, repair and hire of clothing and footwear; maintenance and repair services for the dwelling; water supply and miscellaneous services relating to the dwelling; electricity, gas and other fuels; domestic and household services; maintenance and repair services for personal transport equipment; transport services; postal services; telephone and telefax services; maintenance and repair services for major durables; veterinary and other services for pets; recreational and cultural services; education services; financial services and other services not elsewhere specified.

- **Furniture and health:** Furniture, furnishings, carpets and other floor coverings; household textiles; medical products, appliances and equipment; out-patient services.

3. Organisational aspects of price surveys

One of the biggest problems encountered when trying to conduct a European wide price survey is the problem of item definition. Not only are the definitions difficult to establish for practical reasons, but the cultural and linguistic differences that exist between the countries participating in the price surveys exacerbate this problem. More specifically potential problems concern products or services not being available in certain countries or regions, potential differences in quality perception by consumers and of misunderstandings in the survey guidelines used by the price collectors.

In order to address some of these problems the **pre-survey work** has been altered to accommodate the great variety of consumption patterns that exist among the European countries

in question. Effective pre-survey work has a favourable impact on the quality of the results, including:

- Improved comparability of the survey results
- Reduced bias as a consequence of a better representation of the consumer pattern of each country
- Improved coverage of basic headings
- Guarantees of an adequate number of price quotations per item

The exercise is coordinated by Eurostat. Prior to 1999 the exercise was run for the EU15 as a whole. Subsequently, the locations included in the price surveys were for practical reasons divided into four regional groups[11] and a Member State national statistics office was appointed as group leader in each region. Since 2013 the participating countries have been coordinated as a single group. Currently, a consortium of experts from Statistics Portugal, Statistics Finland and two external consultants assists Eurostat with overall coordination. Countries meet at least twice a year to produce the final survey list. This process is important since it is necessary to both ensure national representativity and international comparability. A 'European List' is established for each survey: individual countries adapt this for national price collection (e.g. translation, brand/outlet selection) and typically achieve at least 75% coverage.

Specific arrangements are in place for price collection under same methodology in non-capital duty stations.

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[11] Eurostat coordinates the EU member states, EFTA member states, Turkey and the Balkan countries. In the listings below, [square brackets] indicate countries which are not EU member states.

NB. An additional group of countries participates in the programme on a similar basis but under the coordination of OECD instead of Eurostat. Until 2020 this comprised 7 countries (USA, Canada, Mexico, Australia, New Zealand, Japan, South Korea): two additional countries were then added (Chile, Israel). The OECD information is made available to Eurostat in accordance with a Memorandum of Understanding signed in 2010.

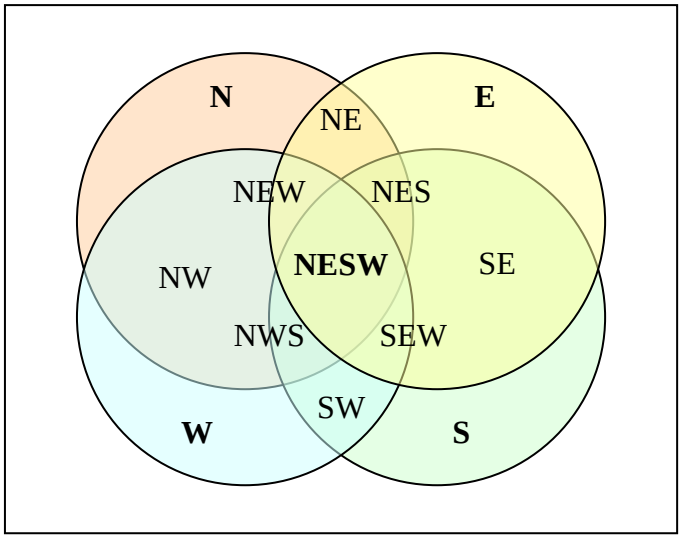
Between 1997 and 2006 the Eurostat composition was: **Northern Group**: Denmark, Estonia, Finland, [Iceland], Ireland, Latvia, Lithuania, [Norway], Sweden, United Kingdom. **Central Group**: Austria, Belgium, Czechia, Germany, Hungary, Luxembourg, Netherlands, Poland, Slovakia, Slovenia, [Switzerland]. **Southern Group**: Bulgaria, Cyprus, France, Greece, Italy, Malta, Portugal, Romania, Spain, [Turkey]. *Total: 31 countries/36 duty stations.*

Between 2006 and 2009 the Eurostat composition was: **Northern Group**: Belgium, Denmark, Estonia, Finland, [Iceland], Ireland, Latvia, Lithuania, Netherlands, [Norway], Sweden, United Kingdom. **Central Group**: Austria, Croatia, Czechia, Germany, Hungary, Luxembourg, Poland, Slovakia, Slovenia, [Switzerland], [North Macedonia]. **Southern Group**: Bulgaria, Cyprus, France, Greece, Italy, Malta, Portugal, Romania, Spain, [Turkey]. **Balkan Group** (effectively a sub group of the Central Group): [Albania], [Bosnia-Herzegovina], [Montenegro], [Serbia], Slovenia. *Total: 38 countries/42 duty stations.*

Between 2009 and 2013 the Eurostat composition was: **Northern Group**: Denmark, Estonia, Finland, [Iceland], Latvia, Lithuania, [Norway], Poland, Sweden. **Western Group**: Belgium, Czechia, France, Germany, Ireland, Luxembourg, Netherlands, Poland, [Switzerland], United Kingdom. **Eastern Group**: Austria, [Bosnia-Herzegovina], Bulgaria, Croatia, Hungary, [Montenegro], Romania, [Serbia], Slovakia, Slovenia. **Southern Group**: [Albania], Cyprus, [North Macedonia], Greece, Italy, Malta, Portugal, Spain, [Turkey]. *Total: 38 countries/42 duty stations.*

For A64 CC purposes the minimum requirement is that there is an overlap between Brussels and each duty station of a sufficient number of products or services (cf. examples of item specifications in ***chapter II section 5***) in all 80 basic headings. It is not necessarily required for the same product or service items to be represented in all the countries simultaneously.

The following Venn diagram illustrates the situation. The North/South/East/West concept is used on the assumption that there is some similarity in items for countries with similar geographical/cultural/economic circumstances. In practice, the common 'NESW' item specifications represent some 75% of the total list. Of course, this does not mean that all countries in each group are able to price all of those items, or that they are representative items for all of those countries, but this common element does go some way to facilitating the comparison exercise.



4. The price collection

When conducting the price surveys several outlets are visited to establish an average price. During the pre-survey work each NSI determines the approximate importance of the areas where they want to carry out the price collection. Prices are collected in those outlets likely to be most frequented by the general public as reflected by the share of their sales in the total consumption. For instance, in some countries a few supermarket chains account for the majority of food sales. Therefore, to obtain an average price, the prices of the dominant supermarkets should be weighted higher than those of food shops with smaller turnover of the products in question.

In most countries the outlets are selected by the NSI and a list of the selected shops is given to each price collector. If, for some reason the outlets cannot be selected by the NSI, the price collectors themselves will have to make the selection in the field. The selection must in such cases strictly adhere to the detailed instructions provided by the NSI. Such instructions should specify:

- The type of outlet (department store, supermarket, market, etc.)
- The part of the city the outlet should be located (centre, off-centre, suburb)
- The type of city area (residential, shopping, industrial)
- The price/quality profile of shops.

5. Item specifications

The item specifications used in the European Comparison Programme (ECP) are either *'brand and model specific'* or '*generic*'. A '*brand and model*' specification designates the particular brand or model to be priced. A '*generic'* specification lists only the relevant technical parameters of the item to be priced; it does not identify any brand. A '*brand and model'* specification has a tight definition; countries pricing a specification stipulating a specific brand and model are, in principle, pricing identical products. A *'generic'* specification has a looser definition; countries pricing a generic specification are, in principle, pricing comparable items. A hybrid specification identifies brand clusters considered to be of similar quality. It is of the highest importance that item specifications, particularly *'generic'* specifications, are sufficiently detailed to ensure that participating countries price items of the same quality. ***Table 1*** below gives some examples

Table 1: Examples of item specifications

Product	Technical parameters
11.01.11.5 Spaghetti	*Brand*: Buitoni, Barilla, Panzani *Made from*: hard wheat (durum) *With eggs*: no *Length*: approximately 30 cm *Cooking time*: approximately 11 minutes *Quantity*: 500 g +/- 100 g *Specify*: brand(s) *Reference quantity*: 500 g
11.01.12.4 Chicken for roasting	*Fresh or frozen*: fresh *Free range*: yes *With head and feet*: no *With heart, liver and gizzard*: yes *Weight*: 1.1 kg +/- 0.1 kg *Reference quantity*: 1 kg
11.03.12.2 Women's trousers	*Brand*: upper cluster of well-known brands *Type*: jeans *Composition*: 95% cotton and 5% elasthane *Style*: low waisted; straight leg; bootcut or flared; no tucks or pleats; with belt loops *Colour*: single *Lining*: no *Fastener*: buttons in front *Pockets*: three front pockets, two back pockets *Finishing*: well-finished button holes and seams *Specify*: brand(s) *Reference quantity*: one pair
11.04.32.1 Plumber	*Service*: replacement of two old taps by two new taps (one for hot water, the other for cold water) in a wash basin of a bathroom by a qualified worker; no changes to existing pipes required *Time*: during the working day *Include*: any travel cost charge, 30 minutes each way *Exclude*: cost of materials *Specify*: price for the complete service and travel costs *Reference quantity*: one service
11.05.11.1 Kitchen chair	*Brand*: well-known brand *Type*: straight back chair, backrest with slats *Made from*: solid pine, lacquered *Dimensions (H x W x D)*: approximately 90 x 45 x 40 cm *With*: struts *Without*: arms and upholstery *Specify*: brand or shop (see guidelines) *Reference quantity*: one chair

Product	Technical parameters
11.05.31.1 Cooker	*Brand*: lower cluster of well-known brands *Energy source*: gas *Cooking surface*: four burners with safety system *Covering hood*: yes *Oven heating*: conventional *Grill in the oven*: no *Dimensions (H x W x D)*: 85 x 50-60 x 60 cm *Pull-out system*: conventional *Easy to clean*: no *Timer*: no *Colour*: white *Specify*: brand(s), model, parameters and energy efficiency if available *Reference quantity*: one cooker

6. Data processing

Whilst the control and verification of the end results for all the countries is important, the review process in Brussels is particularly important as a mistake in a Brussels price will affect all other countries participating in the Article 64 exercise through the miscalculation of bilateral parities.

After the data collection is completed by the NSIs they check their own results. This process is facilitated by standardised formatting and reporting software, which includes automated identification of 'outlier' prices (individual price observations which exceed normal tolerance limits, defined in various ways). Countries are required to make an initial check of their own data against those of neighbouring/similar countries.

In a subsequent stage, the data are reviewed within each group to minimise any inconsistencies. If there are results that seem to be very different for one country the group leader will request a verification or correction of the result.

For the purpose of identifying unexpected price variations, suspicious-looking price levels and other inconsistencies, Quaranta Table analytical reporting software is used. This table provides the main diagnostic tool for the checking and approval of the survey results. It works by providing information about both the basic headings and the specific items in the basic headings. ***Table 2(a)*** below gives an example of a Quaranta Table followed by a brief description of how to read them correctly in ***Table 2(b)***.

If the price is found to be wrong, due to for instance mistaken reference quantity or translation problems, different solutions are possible. It may be possible to 'split' the product definition (e.g. into two packet sizes) and redistribute prices accordingly, allowing better comparisons between countries. Alternatively, a country may have to delete individual price observations (especially where they are a particularly extreme outlier). Occasionally the country will have to delete the whole set of collected prices for a product definition (unless, in exceptional circumstances, it is able to undertake a new price survey for that particular item). Such deletion may not be problematic if there is an adequate number of prices for other item definitions, especially where the product concerned is not representative for the country concerned (i.e. no asterisk is attributed).

Table 2(a): An example of a Quaranta table

EUROSTAT- PPP: QUARANTA TABLES **SURVEY:** 2003-I Central group (final version) **Date:** 08.01.2004 **Page:** 1

[1] **11.01.11.1 Rice** *[2]* **Av. Weight:** 59 *[3]* **No. of it.:** 8

[4] EKS method; Selected options: limits for XR-. PPP-indices = 80%. 125%. with *. without L/P limits *[5]* **Var. Coef. (%):** 19.7

[6]	*[7]* XR 'NC/EURO'	*[8]* PPP 'NC/CUP'	*[9]* PLI (%) PPP/XR	*[10]* Weight/ 100000	*[11]* No. of Items	*[12]* Var. Coef.	*[6]*	*[7]* XR 'NC/EURO'	*[8]* PPP 'NC/CUP'	*[9]* PLI (%) PPP/XR	*[10]* Weight/ 100000	*[11]* No. of Items	*[12]* Var. Coef.
OS	1.00000	1.01637	101.6	23.8	7: *4	13.8	LUX	1.00000	1.29062	129.1	74.0	6: *3	22.3
BE	1.00000	1.40005	140.0	34.6	8: *6	22.7	NL	1.00000	1.04821	104.8	40.6	7: *4	24.5
CH	1.54110	1.64876	107.0	58.3	5: *5	16.9	PL	4.35350	2.63721	60.6	47.5	5: *3	13.7
CZE	31.3910	18.9608	60.4	63.9	7: *4	25.7	SVK	41.0920	24.8722	60.5	149.5	7: *5	18.3
DE	1.00000	1.68260	168.3	13.8	7: *7	19.3	SVN	232.959	230.491	98.9	95.3	7: *3	13.4
HUN	245.180	199.895	81.5	91.1	7: *3	21.5	DE2	1.00000	1.61527	161.5	13.8	7: *7	16.3

1 *[13]* **11.01.11.1aa = CNS – Rice. long grain. 500 – 1000 g. specified brand. (reference quantity = 1000 g)** *[14]* **Var. Co.:** 16.6

[15]	*[16]* NC-price	*[17]* *	*[18]* Qts.	*[19]* Var. Co.	*[20]* Wn	*[21]* EURO-pr.	*[22]* EURO-In.	*[23]* Wn	*[24]* CUP-price	*[25]* CUP-In.	*[26]* Wn
						[27] **GM=>** 2.74			*[28]* **GM=>** 2.64		
OS	3.04	*	4	5.1		3.04	111		2.99	114	
BE	3.01	*	13	16.8		3.01	110		2.15	82	
CH	4.58	*	9	21.2		2.97	109		2.78	106	
CZE	52.80		5	4.4		1.84	67	<	3.05	116	
DE	3.18	*	12	14.2		3.18	116		1.89	72	<
HUN	533.20		5	8.6		2.17	79	<	2.67	102	
LUX	3.46	*	5	9.1		3.46	126	>	2.68	102	
NL	2.63	*	9	14.2		2.63	96		2.51	96	
SVK	82.08		10	7.7		2.00	73	<	3.30	126	>
SVN	720.08		5	7.5		3.09	113		3.12	119	
DE2	3.33	*	8	8.9		3.33	122		2.06	79	<

2 *[13]* **11.01.11.1ac = CN – Rice. long grain. 500 – 1000 g. well known brand. (reference quantity = 1000 g)** *[14]* **Var. Co.:** 15.0

[15]	*[16]* NC-price	*[17]* *	*[18]* Qts.	*[19]* Var. Co.	*[20]* Wn	*[21]* EURO-pr.	*[22]* EURO-In.	*[23]* Wn	*[24]* CUP-price	*[25]* CUP-In.	*[26]* Wn
						[27] **GM=>** 1.69			*[28]* **GM=>** 1.71		
OS	1.76	*	3	2.7		1.76	104		1.73	101	
BE	2.75	*	9	12.4		2.75	162	>	1.96	115	
CZE	24.53	*	4	14.6		0.78	46	<	1.29	76	<
DE	3.39	*	7	19.1		3.39	200	>	2.02	118	
HUN	318.50	*	2	25.0		1.30	77	<	1.59	93	
LUX	1.66	*	8	35.9	>	1.66	98		1.29	76	<
NL	1.86		5	30.1		1.86	110		1.77	104	
PL	4.63	*	6	15.3		1.06	63	<	1.76	103	
SVK	50.10	*	7	10.4		1.22	72	<	2.01	118	
SVN	356.67	*	14	24.7		1.53	90		1.55	91	
DE2	3.25	*	10	10.2		3.25	192	>	2.01	118	

Note: In Germany, both the present capital, Berlin, and the former capital, Bonn. are surveyed. DE is Berlin and DE2 is Bonn. Their prices are validated separately and then combined as unweighted arithmetic means. The asterisks from Berlin determine representativity.

Table 2(b) : Reading the Quaranta Table

	Basic heading table
[1]	The basic heading covered by the table.
[2]	**Av. Weight** or average weight: The average expenditure weight for the group of countries covered by the Quaranta Table. The unweighted arithmetic mean of the national weights in column *[10]*. Like the national weights it is scaled to 100.000.
[3]	**No. of It.** or number of items: The number of goods and/or services specified for the basic heading. The number of product tables comprising the Quaranta Table.
[4]	Identifies the options selected when preparing the Quaranta Table – namely: the method used to calculate the PPPs for the basic heading PPPs in column *[8]*; and the range in which the EURO-indices in column *[22]* and the CUP-indices in column *[25]* should lie if they are not to be flagged as outliers in column *[23]* or column *[26]*. In this case, the EKS method, with representativity (*), without limits on the Paasche-Laspeyres spread, has been used to calculate the PPPs; and the range in which the EURO-indices and CUP-indices should lie is 80 to 125. Selected options can be changed as required.
[5]	**Var. Coef.** or variation coefficient: The unweighted arithmetic mean of the variation coefficients of the products at *[14]*. The average variation of the standardised price ratios of the products priced for the basic heading.
[6]	Abbreviated names of the countries covered by the Quaranta Table.
[7]	**XR 'NC/EURO'**: The market exchange rates (XR) of the countries expressed as the number of units of national currency (NC) per euro. The exchange rate is 1.00000 for countries in the Euro area.
[8]	**PPP 'NC/CUP'**: The PPPs for the basic heading calculated as specified in *[4]* – that is, the EKS method - and expressed as the number of units of national currency (NC) per conventional unit for expressing parities (CUP). The CUP is obtained by first standardising the EKS PPPs and then multiplying them by a coefficient to scale them to the euro. The scaling coefficient is defined as the unweighted geometric mean of the NC/EURO exchange rates in column *[7]*. The prices used to calculate the PPPs are the average survey prices in national currencies that countries report for the products they priced for the basic heading – that is, the NC-prices in column *[16]*.
[9]	**PLI (%) PPP/XR** or price level indices. The PPPs in column *[8]* expressed as a percentage of the exchange rates in column *[7]*.
[10]	**Weight/100000**: National expenditure weights scaled to 100.000. That part of a country's household individual consumption expenditure that is spent on the basic heading when both expenditures are expressed in national currency and valued at national price levels. Household individual consumption expenditure is defined by the domestic concept, before adjusting for net purchases abroad.
[11]	**No. of items**: Number of products that are priced by each country and the number of products priced by each country that are representative – that is, the number of products assigned an asterisk (*).
[12]	**Var. Coef.** or variation coefficient: The standard deviation expressed as a percentage of the arithmetic mean of the indices of PPP converted prices – that is, the CUP-indices in column *[25]* - for all products priced by the country irrespective of whether they are representative or unrepresentative. CUP-indices of products priced by only one country are not included.
	Product table
[13]	Code, name and summary definition of the product covered in the subsequent product table.
[14]	**Var. Co.** or variation coefficient: The standard deviation expressed as a percentage of the arithmetic mean of the indices of PPP converted prices for a product – that is, the CUP-indices in column *[25]*.
[15]	Abbreviated names of the countries pricing the product.
[16]	**NC-price**: Average survey price in national currency (NC).
[17]	Representativity indicator. Generally, representativity is marked by an asterisk (*), but in the case of rents numerical weights (percentages) are shown.
[18]	**Qts.** or quotations: The number of price observations on which the average survey prices - the NC-prices - in column *[16]* are based.
[19]	**Var. Co.** or variation coefficient: The standard deviation expressed as a percentage of the arithmetic mean of the price observations underlying the average survey price in column *[16]*.
[20]	**Wn** or warning: Variation coefficients in column *[19]* that have a value which is greater than the selected crucial value of 33 per cent are flagged by **>**.
[21]	**EURO-pr.** or EURO-prices: The prices in national currency – the NC-prices – in column *[16]* converted to euros with the exchange rates in column *[7]*.
[22]	**EURO-In.** or EURO-indices: Indices based on the exchange rate converted prices – the EURO-prices – in column *[21]*. The EURO-prices expressed as a percentage of their geometric mean at *[27]*. Referred to in the text as 'standardised price ratios based on exchange rate converted prices'.
[23]	**Wn** or warning: Flags the indices of exchange rate converted prices – the EURO-indices – in column *[22]* that have a value which falls outside the selected range of 80 to 125 *[4]*. Values that are below 80 are flagged by **<,** values above 125 are flagged by **>**.
[24]	**CUP-price**(s): The prices in national currency – the NC-prices – in column *[16]* converted to the conventional unit in which to express parities (CUP) with the PPPs in column *[8]*.
[25]	**CUP-In.** or CUP-indices: Indices based on the PPP converted prices – the CUP-prices – in column *[24]*. The CUP-prices expressed as a percentage of their geometric mean at *[28]*. Referred to in the text as 'standardised price ratios based on PPP converted prices'.
[26]	**Wn** or warning: Flags the indices of PPP converted prices – the CUP-indices – in column *[25]* that have a value which falls outside the selected range of 80 to 125 *[4]*. Values that are below 80 are flagged by **<,** values above 125 are flagged by **>**.
[27]	**GM** or geometric mean of the exchange rate converted prices – the EURO-prices – in column *[21]*. The use of a geometric here and in *[28]* insures invariance with respect to choice of numeraire.
[28]	**GM** or geometric mean of the PPP converted prices – the CUP-prices – in column *[24]*. It will be the same as *[27]* when all countries covered by the Quaranta Table have priced the product.

7. Review of consumer price surveys for Art.64 purposes

As product price data is obtained from the European Comparison Programme, it is therefore already reviewed and validated by Member States and Group Leaders. As already indicated in ***chapter II***, this review and validation is an iterative process, initially conducted at country level, then multilaterally within a small geographical group of countries, then multilaterally within the whole group of countries. In a sense there is also a final validation stage following use of survey results for computation of overall parities at aggregate level.

For the non-capital duty stations specific arrangements are put in place to collect and process data in the same way.

With coverage of all EU Member States, additional non capital city duty stations in certain Member States, and a further set of countries for which Eurostat is responsible under the ECP (see ***chapter II section 3*** for listing and organisation), and with c.1000 item definitions in the ECP price surveys conducted each year, a detailed additional review of item price data for Art.64 purposes could be time-consuming. Nevertheless, there is a potential justification for an additional review for Art.64 purposes due to the important method differences between the ECP calculations and the Art.64 calculations.

(a) For the final ECP calculations, the prices used are national, annual averages. By contrast, Art.64 PPPs use 1st July prices, and Art.64 PPPs for staff use capital city prices (see ***chapter IX***). Currently the same PPPs are also used as an input into the calculation of correction coefficients for pensioners (see ***chapter X***). In practice, spatial adjustment factors are typically at or near 1.00 for most items for most countries.

(b) The PPPs computed at basic heading level and reported in the Quaranta Tables for the ECP are transitive EKS PPPs. They are initially computed as Laspeyres-type/Paasche-type indices (geometric mean of ratio of average prices just for the most representative items for base/home country, where representativity is identified by the attribution of asterisks). By contrast, Art.64 PPPs currently use all the average prices (i.e. representativity asterisks are not taken into account), and Art.64 PPPs are bilateral with Brussels, not multilateral (so additional information from indirect linkages is not taken into account).

(c) A more detailed basic heading structure is used for the ECP calculation process than the 80-position structure used for Art.64 purposes, which effectively changes the implicit weighting of item groups within the basic headings.

(d) The consumption expenditure weightings are another important difference between the ECP and Art.64 PPP calculations. Expatriate EU officials can have quite different incomes and spending habits to the national average population (e.g. to retain links with their country of origin).

These method differences could mean that the standard ECP checking process overlooks price ratios which may be problematic for A64 purposes.

Generally, the A64 team receives average prices as validated for ECP purposes, often long after the survey has taken place. For this reason, it was agreed that a review for Art.64 purposes may be undertaken in parallel to the review for ECP purposes. This has been happening with effect from survey E08-2.

8. Treatment of missing values

Aggregation from BH PPP to overall PPP is done using detailed expenditure weights (see ***chapter IX***). This process requires the matrix of BH PPP to be complete. If for a given country there are no average prices for any of the product definitions within a basic heading, for which one or more of the definitions were however priced in Brussels, then the PPP for that BH will have to be imputed.

A theoretically neat solution would be to require such imputation using PPP from the next COICOP level of aggregation (e.g. BH 02.1.2 'Wine' using Group 02.1 'Alcohol'). However, in practice not all the items from a COICOP group may be covered by the same consumer price survey. A pragmatic alternative is therefore to estimate the missing BH PPP using just the set of PPP for BH which are available from the survey. Strictly this should be done using Laspeyres and Paasche weighted average PPPs and calculating the Fisher geometric mean PPP. In practice, a simple geometric mean of the relevant PPP may be sufficiently accurate.

III – HEALTHCARE PARITIES

1. Introduction

The healthcare component is long acknowledged to be comparison-resistant due to the different service delivery systems in Member States. EU officials are entitled to reimbursement of some or all of their expenditure under the Joint Sickness Insurance Scheme (typically 80% depending on the nature of the intervention but sometimes more and sometimes less). Nevertheless, the balance of the unreimbursed expenditure on prescription medical care plus any expenditure on non-prescription medical care, still represents on average around 1.9% of total consumption in Brussels and around 1.4% in other duty stations (source: expenditure weights used for July 2014 aggregation calculation).

The ECP consumer price survey on healthcare compiles full prices (market prices and/or subsidised prices + subsidy) for doctor and paramedical services, dentist services; therapeutic equipment; other medical products and a long list of pharmaceutics. In the ECP programme these are five separate basic headings: in the A64 calculations the data is combined into a single healthcare basic heading.

For ECP purposes, an input cost approach is applied to compare expenditures on hospital care (another basic heading). Until the July 2015 exercise this approach was not used for A64 purposes: hospital care was not taken into account at all. To the extent that the level of full market prices for hospital care is different when compared to Brussels than is the case for comparison of other medical goods and services to Brussels, there was consequently a potential bias.

With effect from the July 2015 exercise, following test calculations, a new approach was adopted and implemented by the ECP, and is now integrated for use in the A64 exercise.

2. The new ECP approach to establish output-based measure for hospital care

ECP documents 13/P2/07 'New methodology for hospital PPPs' and 14/P2/06 'Publication of hospital PPPs', DELSA/HEA/WD/HWP(2014) 'Comparing hospital and health prices and volumes internationally' and IARIW/33/6A 'Comparing hospital prices and volumes across countries: a new approach' describe recent developments in the European Comparison Programme regarding the calculation of PPPs for hospital care. The ECP team now publish an analytical category PPP for hospital services on the Eurostat free data website. This PPP is integrated for the calculation of global PPP with effect from reference year 2013.

The new approach is output based. A set of 28 model cases is defined, describing typical medical and surgical interventions in hospitals. These were selected for representativity of intervention types and percentage of expenditure. International Classification of Disease codes are used to ensure comparable clinical diagnoses and procedures. Only lengths of stay within 1.5 days of the national mean are included. The list has been refined during pilot phases of the project 2007-2012. Quasi prices are then compiled for these services. Input costs for component elements are built up to an overall amount. These then approximate closely to what market price might have been (what government/insurance purchaser would be prepared to pay and what hospital provider would be prepared to accept). Data is compiled from a defined sample of representative hospitals in each Member State (up to 100%). Routinely-collected administrative information is used for this purpose.

Analysis of pilot results showed that several countries exclude consumption of fixed capital from their input costs calculation. To account for these differences, 4.8% was added for 8 Member States (Bulgaria, Denmark, Germany, Ireland, Croatia, Latvia, Lithuania, Hungary) - the percentage estimate is derived from national accounts data. The analysis also showed that some countries include research and development costs in their calculation. To account for these differences, 1.3% was removed for 8 countries (Bulgaria, Denmark, Estonia, Spain, Malta, Netherlands, Portugal, Romania) – the percentage estimate was also derived from national accounts data. Similarly, some countries included training and education costs in their calculation, and 1.2% was removed for the same 8 countries plus Ireland – also on the basis of national accounts data.

For the 2015 and subsequent surveys, ECP work will be contracted to an external company with extensive experience in health cost comparisons. Additional model cases will be added for long-term care (chronic pulmonary disease, acute bronchitis, concussion, multiple sclerosis).

3. Integrating the new ECP data for A64 purposes

The chosen approach is to integrate the new PPP for hospital care as part of a weighted arithmetic average, by recalculating intermediate PPP for medical and paramedical services, dentist services, therapeutic equipment, other medical products and pharmaceutics (using price data from the most recent ECP survey on healthcare), and combining this with the new intermediate PPP for hospitals for the same year. The most recent detailed ECP breakdown of final household consumption expenditure is used as weights. The result is a single basic heading parity 'Healthcare'. This approach is used with effect from the July 2015 calculation.

IV – EDUCATION

1. Introduction

Education is long acknowledged to be a comparison-resistant component due to the different systems adopted in Member States for organising and delivering this service. Possible scenarios include:

- Full payment by household at point of purchase, whether or not subsequently reimbursed by government or non-profit institution or private employer.
- Part payment by household at point of purchase, with balance of price paid directly to the supplier by government or non-profit institution or private employer.
- Full payment by government or non-profit institution or private employer at point of purchase.

It is important that full-market prices in Brussels or a duty station are not compared directly with subsidised prices or free-at-point-of-delivery items in a duty station or Brussels.

Market prices for education can generally be identified in most Member States, although the degree to which they are representative of consumption will vary. In many Member States, Education is mainly a non-market service, with the majority of pupils and students receiving their education from non-market producers either free or at prices that are not economically significant. This makes Education comparison resistant because:

- there are no prices with which to value output;
- the units of output are more difficult to define and measure;
- the differences in the quality of output between countries are less easily identified and quantified.

In this case, instead of compiling and comparing market prices for a defined item, the principal cost components have to be identified, and the aggregate compared:

- Compensation of employees (wages, salaries and allowances that general government pays employees in selected occupations, such as teaching professionals, school administrators and support staff);
- Intermediate consumption (supplies, including overheads);
- Consumption of fixed capital.

A problem with this approach is that the result does not reflect productivity differences.

2. Approach for Article 64 purposes

Data was requested from PMO in 2011 and received in 2014. This consisted of information extracted from individual education declarations about schools attended by pupils of EU officials.

To complement this information, Eurostat collected additional data about costs in the European School system, costs in national systems (public schools), and prices in national systems (private schools).

Data sources for the calculations by School type:

School type	Pupil numbers	Cost data	Price data
European School (type I)	PMO/DGHR	Website, Board Of Governors	-
Non-fee paying	PMO/DGHR	UoE database	-
Fee-paying	PMO/DGHR	-	Individual school websites

On this basis, individual parities were established for European Schools (input costs), for state schools (quality adjusted input costs) and for private schools (output prices). A weighted average parity was then calculated using the pupil numbers as weights.

2.1 Cost data for European Schools

Costs for Type 1 European Schools are extracted from the Board of Governors central secretariat website. They are Category II fees, which are set equal to average cost per pupil (all cycles combined).

The value for Brussels is an average of the four schools (Woluwe, Uccle, Ixelles, Laeken). The cost data for European Schools in DE-Frankfurt, BE-Mol, LU-Luxembourg and LU-Mamer was not used as these are not duty stations for which CC are currently established. By contrast the data for ES-Alicante was included as this is the largest concentration of EU staff in Spain and there is no European School in Madrid, and the data for NL-Bergen is used as there is no European School in The Hague. There are no Type 1 European Schools in most Member States.

The data for Type 2 and 3 'accredited' European Schools is not used here, as although they offer the same curriculum leading to the same qualification, the delivery process is very different (notably use of locally-recruited staff rather than seconded teachers from national systems, and they operate under national law and funding).

2.2 Cost data for national non-fee paying schools

In the case of the non-fee paying schools, for each Member State the national annual average expenditure **in EUR** per pupil for primary and for secondary education level is provided by the Eurostat European Comparison Programme Team as a by-product from the annual ECP calculation exercise. This data is already quality adjusted for PISA outcomes. The detailed pupil numbers for primary and for secondary level (from PMO) are then used as weights to obtain an average cost (primary and secondary combined).

2.3 Price data for fee paying Schools

For the fee paying schools, the data received from PMO about schooling choices of EU officials is examined, as a guide for the selection of fee-paying schools located in duty station towns/cities.

Price data from individual school websites in national currency is then compiled by members of the Eurostat Remuneration Team. An arithmetic average (weighted by pupil numbers) price for all

schools in each duty station town/city is then computed. An example item definition is included (see ***appendix 3***).

The school fee data is analysed separately for:

- Anglophone international schools (e.g. COBIS, IB, American curriculum)
- Other international schools (e.g. French AEFE, German ZfA curriculum)
- European Schools (Category III pupils)
- Local private schools (i.e. national curriculum)

2.4 Overall parity for Education

Parities for the European Schools are established by expressing the input cost data for each location relative to the cost for Brussels.

Parities for the national non-fee paying schools are established by expressing the input costs for each country relative to the cost for Belgium.

Parities for the fee paying schools are established by expressing the average price in national currency for each duty station relative to the average price for Brussels.

In order to derive an overall PPP for Education, a weighted arithmetic mean using pupil numbers is computed using (1) the input cost PPPs for European Schools and (2) the input cost PPPs for non-fee paying schools, and (3) the market price PPPs for fee paying schools.

Pupil numbers for Brussels are used to establish Laspeyres-type overall PPPs and those of duty station (inverse PPP) are used to establish Paasche-type PPPs. Finally, a Fisher-type PPP is then calculated as the geometric average (i.e. square root) of the Laspeyres and Paasche values.

3. Practical issue

There is no need for Member States to collect and submit data as use is made of information available from existing databases and a specific survey by Eurostat.

Due to the data collection workload on the Eurostat Remuneration Team, this survey and calculation is done on a three yearly cycle, with similar timing to the frequency of the ECP 'Services' survey. In between these calculations, the updating of the Education basic heading parity will be done with the Education sub-index of the HICP[12].

Apart from any change in costs/prices over time, under the proposed method a big change in pupil numbers in a given duty station (e.g. due to staff mobility or pupil aging) may affect relative shares primary/secondary, and may therefore affect average cost/price. However, as such changes cannot easily be forecast and should occur without systematic bias towards one or the other category, and as the intention is not to measure evolution but to produce the best snapshot at each point in time, this approach is considered acceptable.

The current focus is on education for school age children, not pre-school care or university studies, and not consumption of adult education and training services by EU officials themselves.

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[12] The HICP sub-index is established using market prices for fee-paying schools.

V - ESTATE AGENCY RENT SURVEYS

1. General remarks

Correction coefficients are used to ensure equality of purchasing power of salaries of EU officials in the different duty stations. The rent paid for an apartment or house, due to its high weight in the total expenditure structure, plays a significant role in determining the overall correction coefficient. The rent parities are based on market rents obtained from special surveys of estate agencies. The scope of these surveys is to compare the average market rent for some specific kinds of dwellings in some pre-specified representative areas of Brussels with similar dwellings in similar (representative and comparable) areas in other EU capitals and duty stations. In practice it is very difficult to identify types of dwellings and districts of residence that are comparable to those selected for Brussels. The current methodology has arisen over many years of discussion and refinement.

Because of dwellings' uniqueness, housing cannot be dealt in such a precise way as other items, for which Eurostat draws up detailed specifications (often even with brand and model). However, Eurostat tries to obtain the best possible comparison, given the various constraints involved. The present method of calculating rent parities was introduced with effect from the 1990 quinquennial review of remuneration and is currently used for the annual reviews since 1991. It is mainly based on two elements:

- an objective annual survey of estate agencies conducted jointly by Eurostat, the International Service for Remuneration and Pensions (ISRP) of the Co-ordinated Organisations[13] and national statistical institutes (NSI) in each duty station, including Brussels, and
- a moving average model representing the occupancy length over a six-year period.

This chapter is concerned only with the rent surveys themselves. ***Chapter VII*** deals with the moving average model used to calculate rent parities.

2. The survey

In each place the survey is usually conducted the second quarter of the year (between end of March and end of June) by a team of normally 2 surveyors from the NSI (plus an observer either from Eurostat or ISRP[14]). The surveyors visit a certain number of experienced estate agents in order to obtain a good estimate of current rental values for pre-defined types of accommodation in some pre-selected neighbourhoods. At least ten agencies are visited in the larger cities, while in the smaller places it is possible to cover the market adequately with a smaller number. However, six agencies are regarded as the absolute minimum. Agents are asked for current rents for

[13] The Co-ordinated Organisations are the North Atlantic Treaty Organisation (NATO), the European Space Agency (ESA), the Organisation for Economic Cooperation and Development (OECD), the Council of Europe (CoE), the European Centre for Medium-range Weather Forecasts (ECMWF) and the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT).

[14] Due to increase in number of duty stations over time, observers visit Member States on a rotational basis, with visits generally taking place every second year.

dwellings in the middle-to-upper range of quality (i.e. above average but not luxury) and they are asked to give figures based on properties currently or very recently on offer.

Overall average rents by type of dwelling are calculated aggregating all the agencies' results and discarding extreme values.

The quality of the rent parities depends on the quality of the rent surveys. Poor estimates of the rent levels will not lead to good parities even if highly sophisticated methods are applied. Close attention is therefore paid to the organisation and conduct of rent surveys. Here the NSIs play a vital role. The surveyors are provided with guidelines, which are revised by Eurostat and approved by the Article 64 Working Group.

The selection of dwelling types used in the survey is similar to the method used for all other items. A set of carefully specified dwelling types (currently 13) is established. All 13 are included in the Brussels survey, while in other places a selection is made which corresponds to locally representative dwelling types.

Table 3 shows the 13 possible dwelling specifications used at present and the kind of information collected in each place. So, for example, the 3-bedroom flats comparison between Paris and Brussels is based on the 110-130 m^2 flats, while the 140-160 m^2 flats are used to compare Athens to Brussels and the 80-100 m^2 flats to compare Helsinki to Brussels.

3. The questionnaire

A copy of the current rent survey guidelines – including example questionnaire – is annexed (see ***appendix 2***). These include information about location and characteristics.

Location: The areas are described as 'good quality' residential areas favoured by expatriates and professional people such as civil servants, university staff, doctors, managers, etc. The quality should be good to very good, but not luxurious.

Characteristics of accommodation: These are specified in the questionnaire. Living area includes cellars and attics if habitable.

Accommodation types: At present, there are a total of 6 broad categories of dwelling:

- Detached house
- Non-detached house (i.e. terraced or semi-detached)
- 3-bedroom flat
- 2-bedroom flat
- 1-bedroom flat
- Studio flat

Within each of these types, there are different sizes for total living space, depending on the styles commonly found in different places (e.g. UK[15] and Ireland are generally smaller overall). The questionnaires are pre-printed with the sizes, which have already been established as being most commonly found in each place. In total, there are 13 different combinations of dwelling type and

15 NB. UK left the EU in February 2020

size, but it is only in Brussels that all 13 are priced. In other places, it is just one size-band for each dwelling type.

Table 3: Estate agencies rent survey - information collected in each place

	studio	3-bedroom flat			2-bedroom flat		1-bedroom flat		non-detached house			detached house		
	(30-40m²)	(140-160m²)	(110-130m²)	(80-100m²)	(80-100m²)	(60-80m²)	(60-80m²)	(40-60m²)	(140-160m²)	(110-130m²)	(80-100m²)	(190-220m²)	(150-180m²)	(110-140m²)
Brussels (BE)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sofia (BG)			✓		✓		✓					✓		
Prague (CZ)			✓		✓		✓			✓			✓	
Copenhagen (DK)			✓			✓		✓		✓			✓	
Berlin (DE)			✓		✓		✓			✓			✓	
Bonn (DE)			✓		✓		✓			✓			✓	
Karlsruhe (DE)			✓		✓		✓			✓			✓	
Munich (DE)			✓		✓		✓			✓			✓	
Tallinn (EE)				✓		✓		✓		✓			✓	
Dublin (IE)			✓			✓		✓			✓			✓
Athens (EL)		✓			✓		✓		✓1			✓1		
Madrid (ES)			✓			✓		✓	✓1			✓2		
Paris (FR)	✗		✓		✓			✓		✓1			✓1	
Zagreb (HR)			✓		✓		✓			✓		✓		
Rome (IT)	✗		✓		✓		✓			✓		✓2		
Varese (IT)			✓		✓		✓			✓		✓		
Nicosia (CY)			✓		✓		✓		✓			✓		
Riga (LV)			✓		✓		✓		✓			✓		

✓ data collected and used for calculating rent parities

✗ data collected but not used by Eurostat for calculating rent parities

✓1 with effect from 2013

✓2 with effect from 2014

Table 3: Estate agencies rent survey - information collected in each place (cont.)

City (Country)	studio (30-40m²)	3-bedroom flat (140-160m²)	3-bedroom flat (110-130m²)	3-bedroom flat (80-100m²)	2-bedroom flat (80-100m²)	2-bedroom flat (60-80m²)	1-bedroom flat (60-80m²)	1-bedroom flat (40-60m²)	non-detached house (140-160m²)	non-detached house (110-130m²)	non-detached house (80-100m²)	detached house (190-220m²)	detached house (150-180m²)	detached house (110-140m²)
Brussels (BE)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lithuania (LT)				✓		✓		✓		✓			✓	
Budapest (HU)			✓			✓		✓	✓			✓		
Valetta (MT)			✓		✓			✓		✓		✓		
Den Haag (NL)			✓		✓		✓			✓			✓ 1	
Vienna (AT)	✗		✓		✓		✓			✓			✓	
Warsaw (PL)			✓		✓			✓		✓		✓		
Lisbon (PT)		✓			✓		✓		✓				✓	
Bucharest (RO)			✓		✓			✓					✓	
Ljubljana (SI)			✓		✓			✓		✓			✓	
Bratislava (SK)			✓		✓		✓			✓			✓	
Helsinki (FI)				✓		✓		✓		✓			✓	
Stockholm (SE)			✓		✓		✓			✓			✓	
London (UK)[16]	✗			✓		✓		✓			✓			✓ 2
Culham (UK)[16]				✓		✓		✓			✓			✓

✓ data collected and used for calculating rent parities

✗ data collected but not used by Eurostat for calculating rent parities

✓ 1 with effect from 2013

✓ 2 with effect from 2014

[16] NB. UK left the EU in February 2020.

Monthly rent: This is the actual rent currently payable for the various types of dwelling, whether payable partly in cash or not. Thus, if the asking rent normally has to be supplemented by separate cash payment (as happens in some places) it is the total rent that is considered. The figure excludes deposits, key money and similar one-off payments. Surveyors are instructed to ask for **real** rents (including any 'under the counter' part). This can be particularly important in certain places.

Generally, the information obtained for each of the specified dwelling types is a range of rentals within which most recent contracts have fallen (excluding the luxury end of the market). Sometimes agents prefer to give just an average value. It is clearly mentioned in the questionnaire, that accommodation rented by the employer must be excluded.

Charges made for general services (concierge, common cleaning, lighting of common parts, central heating, lift, etc.) are excluded as well as charges for gas, electricity, water etc., which are covered elsewhere in the correction coefficient calculation.

4. Management of the survey

a) Selection of appropriate districts

The selection criteria for the areas to be surveyed are of great importance. Dwellings and districts cannot be compared by physical characteristics alone as the duty stations vary enormously in both size and desirability. The rent survey covers those districts where professional people such as doctors, professors, lawyers, managers, etc., who pay the rents from their own pocket, actually live. Areas presently covered by the survey in Brussels as well in all other duty stations are reviewed and agreed bilaterally with respective NSIs before the start of each annual round of surveys to take into account the city-specific circumstances.

b) Quality of data: checking and controls

The main problems are extreme values (outliers) and the fact that the estate agent often has no difficulty in estimating the lower value of a range, but the upper value can be open-ended because there is hardly any limit to what can be charged for a dwelling of great luxury.

Eurostat tries to tackle this problem in the following way:

- rent surveyors and local NSI representatives are responsible for the quality of data; they make effort to appreciate in the field whether extreme values are genuine cases or incorrect figures. They report their opinions to Eurostat.

- on the basis of the surveyors' reports. Eurostat decides, case by case, whether extreme values are to be eliminated or not.

All the survey results and the surveyors' reports are stored in Eurostat and analysed, taking also into account all the information contained in the surveyors' reports. Before starting to process the data and integrate it with dwelling type weights derived from staff housing surveys (see ***chapter VI***) to calculate rent parities (discussed in ***chapter VII***), the NSI's agreement to the final rent survey results is requested.

VI - STAFF HOUSING SURVEY AND THE HOUSING INDICES

The Staff Housing Survey (SHS) is carried out every 5 to 7 years in Brussels[17] and the other duty stations.

The survey's main purpose is to obtain the housing-type pattern (for the housing parities). Rents come from the Estate Agencies Surveys which are described in ***chapter V*** of this document.

The questionnaire - sent to the EC staff in all the EU duty stations - asks for:

- the type, the size in square metres and other characteristics of dwellings;
- the monthly rent for the current and previous year.

The rent ratios for each of the dwelling types are aggregated by using a housing weighting structure. Eurostat differentiates two different weighting structures:

a) Weights based on both tenants and owners

As the rent parity for basic heading 20 (actual rents of tenants) is also imputed to basic heading 21 (imputed rents of owner-occupiers) the dwelling-type weights should take into account both tenants and owners.

Table 4 shows how weights are calculated from the SHS for each duty station.

Table 4 Information from the Staff Housing Survey

Kind of dwelling	TENANTS		OWNER-OCCUPIERS		TENANTS+OWNERS
	Number	Global expenditure	Number	Global expenditure (Imputed rent)	Global expenditure (rents + imputed rents)
[1]	[2]	[3]	[4]	[5]	[6]
1 bedroom	tn_1	tx_1	on_1	$ox_1 = on_1 * tx_1 / tn_1$	$tx_1 + ox_1$
2 bedrooms	tn_2	tx_2	on_2	$ox_2 = on_2 * tx_2 / tn_2$	$tx_2 + ox_2$
3 bedrooms	tn_3	tx_3	on_3	$ox_3 = on_3 * tx_3 / tn_3$	$tx_3 + ox_3$
detached houses	tn_4	tx_4	on_4	$ox_4 = on_4 * tx_4 / tn_4$	$tx_4 + ox_4$
non-det. houses	tn_5	tx_5	on_5	$ox_5 = on_5 * tx_5 / tn_5$	$tx_5 + ox_5$
TOTAL	TN	TX	ON	OX	TX+OX

Number of tenants (tn_i) and owners (on_i) by type of dwelling, as well as global expenditure of tenants by type of dwelling (tx_i) are available from the SHS. Imputed global expenditure of owners by kind of dwelling (ox_i) can be calculated as shown in column [5] and global expenditures for tenants and owners are obtained in column [6].

[17] Prior to 2013, staff housing survey was organised every year in Brussels as some of the data was also used in calculation of the Brussels International Index (BII) measure used to monitor consumer price inflation, which is now replaced by the Joint Belgium Luxembourg Index (JBLI).

Housing-type weights (w_i) are the ratios between the global expenditure (tenants + owners) by kind of dwelling and the total expenditure:

$$w_i = \frac{tx_i + ox_i}{TX + OX}$$

b) Weights based only on tenants or only on owners

There can be a relationship between certain characteristics of the reference population and the corresponding housing pattern. In particular there may be differences between patterns for 'permanent' staff (officials staying for long periods in the duty station) and for 'temporary' staff. The fact of staying permanently or temporarily in a place has at least two effects on housing-type patterns:

i) A small flat can be enough for a person working on the basis of a short posting, which may not involve the family and which may need just a minimum standard of comfort. By contrast, in duty stations where officials may stay for quite long periods, people tend to look for a permanent dwelling.

ii) In those places with a large number of permanent officials a high percentage are owners. The dwelling in this case is more frequently a house than a flat. Generally, it is the case that for permanent and temporary staff, there are different *proportions* of houses and flats. Moreover, owners tend to have bigger dwellings than tenants do.

For A64 purposes, a six-year model is applied for rent parity calculation, reflecting the average duration of property occupation. In all duty stations, a weight pattern based on the dwelling choices of both tenants and owners is considered appropriate.

c) Imputed weights for places with insufficient information

There are places for which a correction coefficient has to be calculated, but too few officials are present to obtain specific housing-type weights. In such a case, a European pool tenants' pattern is applied. Before 2010, the European pool structures was based on tenants only. As of 2010, the structure is based on all occupants' pattern.

Table 5 shows an example calculation using data from the 2012 exercise.

Table 5. SHS Calculation for 2012 exercise

SHS weights calculation

Kind of dwelling	TENANTS		OWNER-OCCUPIERS		TENANTS+OWNERS
	Number	Global expenditure	Number	Global expenditure (Imputed rent)	Global expenditure (rents + imputed rents)
1 bedroom	777	703,949	164	148,581	852,530
2 bedrooms	1,053	1,228,393	827	964,749	2,193,142
3 bedrooms	306	459,921	590	886,776	1,346,697
detached houses	139	242,235	1,127	1,964,020	2,206,255
non-det. houses	242	419,543	1,443	2,501,655	2,921,198
TOTAL	**2,517**	**3,054,041**	**4,151**	**6,465,782**	**9,519,823**

Dwelling weights BE-Brussels - 2012		
	Tenants	Total
1 bedroom flat	23.05	8.96
2 bedroom flat	40.22	23.04
3+ bedroom flat	15.06	14.15
Detached house	7.93	23.18
Non-detached house	13.74	30.69
Σ	100	100

A copy of the questionnaire used in the Brussels SHS is annexed in ***appendix 5***. Participation in the survey is not compulsory.

VII - CALCULATION OF RENT PARITIES

1. Introduction

Housing cost is covered by two basic headings: 20 (actual rents of tenants) and 21 (imputed rents of owner-occupiers). The **expenditure weights** of tenants for heading 20 are obtained directly from the Family Budget Survey (FBS), while those for heading 21 are obtained by imputing average rents by dwelling type, also from the FBS. The **parities** for heading 20 are calculated from ratios of rents as reported from the Estate Agency Rent Surveys. These parities are then imputed to heading 21.

In the economic parity calculation, housing is a special case, which is treated in a slightly different way than the other elementary parities. As for any other elementary parity, four stages are needed for housing cost measurement:

(1) the items that will represent the basic heading have to be chosen and defined;
(2) the items have to be priced in the duty station and in Brussels;
(3) the price ratios have to be calculated for each item;
(4) an average has to be calculated which aggregates the different price ratios into one elementary parity.

Housing cost measurement has some specific features concerning how items are priced and how price ratios are aggregated (stages 2 and 4).

2. Moving average model

Estate agency rent surveys are conducted annually in each place of employment for which an intra-EU correction coefficient is required. The purpose is to obtain a good estimate of current rental values for properties recently rented.

For each place of employment a rents table with *n* columns and *i* rows is obtained, where *n* is the number of agencies participating at the survey in that place and *i* is the number of items (dwelling types) priced. These results are then aggregated by type of dwelling, discarding only those values, which appear to be extreme outliers. So finally *i* average prices are obtained.

At this stage a specific procedure (not used for any other basic heading) is applied: In fact the *i* average prices obtained through the rent survey relate to new tenancies only. In reality most of the staff have not moved just in the year of the survey, but have lived in a dwelling for some time and their rents may have increased since the original lease began. This problem is overcome by using a moving average based on a set of agency survey results over a period of years. According to the procedure used currently, weighted average of rent data for the last six years and for each dwelling type is calculated taking a fixed pattern of occupancy length.

Table 6 shows the weights used in the six years moving average model. These weights were derived from the results of the annual Staff Housing Survey (SHS) in Brussels and in the other main duty stations. It shows that the current year has a weight of 25% and the two most recent years a combined weight of 48%.

Table 6 Weights used in the six-year model

Year	Current (t)	t-1	t-2	t-3	t-4	t-5
Weight (%)	25	23	17	13	12	10

Before calculating the moving averages, all rent data used in the model is updated to the current year using the most appropriate price index. The index which is usually considered in a lease contract for updating rents is taken for this purpose. They are provided by the NSIs. The indices currently used are shown in ***table 7***.

Table 7: Indices for updating rents

Country	Place	Index
BE	Brussels	Séries Indice santé/Gezondheidsindex
CZ	Prague	CPI
DK	Copenhagen	Index of net retail price
DE	Berlin	COICOP 4.1+4.4
	Bonn	COICOP 4.1+4.4
	Karlsruhe	COICOP 4.1+4.4
	Munich	COICOP 4.1+4.4
EE	Tallinn	CPI
IE	Dublin	Sub-index rents from CPI
EL	Athens	CPI
ES	Madrid	CPI
FR	Paris	Séries coût de la construction
HR	Zagreb	CPI
IT	Rome	CPI - famiglie di operai e impiegati esclusi tabacchi
	Varese	CPI - famiglie di operai e impiegati esclusi tabacchi
CY	Nicosia	CPI
LV	Riga	CPI
LT	Vilnius	CPI
HU	Budapest	CPI
MT	Valletta	CPI
NL	The Hague	CPI
AT	Vienna	CPI
PL	Warsaw	CPI
PT	Lisbon	CPI
SI	Ljubljana	CPI
SK	Bratislava	CPI
FI	Helsinki	CPI
SE	Stockholm	CPI
UK[18]	London	CPI sub-index for private renters
	Culham	CPI sub-index for private renters

18 NB. UK left the EU in February 2020.

Examples of 6-year results in Brussels and in Munich are shown in ***table 8***

Table 8: Examples of results from surveys

a) Brussels

	3 bedroom flat			2 bedroom flat		1 bedroom flat	
	(140-160m²)	(110-130m²)	(80-100m²)	(80-100m²)	(60-80m²)	(60-80m²)	(40-60m²)
t-5	1,588	1,223	938	924	764	706	573
t-4	1,611	1,226	942	977	769	745	608
t-3	1,636	1,257	992	985	787	753	602
t-2	1,619	1,283	991	1,014	819	764	611
t-1	1,641	1,273	1,013	1,005	838	783	626
t	1,658	1,308	1,071	1,037	829	818	656

	Non-detached houses			Detached houses			Weights (in %)	Price Indices
	(140-160m²)	(110-130m²)	(80-100m²)	(190-220m²)	(150-180m²)	(110-140m²)		
t-5	1,638	1,231	1,049	2,286	1,762	1,452	10	100.0
t-4	1,700	1,333	1,045	2,256	1,813	1,352	12	99.9
t-3	1,685	1,338	1,061	2,171	1,754	1,406	13	101.9
t-2	1,665	1,337	1,100	2,342	1,845	1,469	17	105.3
t-1	1,733	1,385	1,114	2,340	1,902	1,513	23	107.6
t	1,685	1,377	1,047	2,315	1,870	1,514	25	109.4

b) Munich

	3 bedroom flat (110-130 m²)	2 bedroom flat (80-100m²)	1 bedroom flat (60-80m²)	Non-detached house (110-130 m²)	Detached house (150-180 m²)	Weights (in %)	Price Indices
t-5	1,512	1,125	868	1,640	2,313	10	100.0
t-4	1,644	1,215	924	1,770	2,500	12	101.1
t-3	1,644	1,242	959	1,727	2,614	13	102.3
t-2	1,680	1,269	973	1,827	2,873	17	103.7
t-1	1,848	1,395	1,092	1,978	2,948	23	104.6
t	1,908	1,458	1,134	1,996	3,094	25	106.1

The price indices in ***table 8*** are used to update the rent data to the price level of the year t. The resulting rent data are presented in ***table 9***. The last row of ***table 9*** (average rents) is obtained as a weighted average of the figures in each column, where the weights are those in ***table 8b***. Thus, for example, a typical contemporary rent of a detached house in Munich in year (t-5) (2,420 EUR) would have risen by the year t to 2,568 EUR using the ratio of the price indices 106.1/100.0.

Table 9: Updated rents from table 8b (Munich)

	3 bedroom flat (110-130 m²)	2 bedroom flat (80-100m²)	1 bedroom flat (60-80m²)	Non-detached house (110-130 m²)	Detached house (150-180 m²)
t-5	1,582	1,177	908	1,716	2,420
t-4	1,702	1,258	957	1,833	2,588
t-3	1,681	1,270	981	1,766	2,673
t-2	1,696	1,281	982	1,844	2,900
t-1	1,848	1,395	1,092	1,978	2,948
t	1,908	1,458	1,134	1,996	3,094
Average rents	1,695	1,272	983	1,824	2,713

3. Rent ratios

The average adjusted rents for each of the *i* dwelling types are divided by the corresponding data for Brussels, giving *i* rent ratios.

An example of how rent ratios are calculated (in the case of Munich) is shown in ***table 10***.

Table 10: Rent ratios for Munich

	3 bedroom flat (110-130 m²)	2 bedroom flat (80-100m²)	1 bedroom flat (60-80m²)	Non-detached house (110-130 m²)	Detached house (150-180 m²)
Munich Average rents	1,695	1,272	983	1,824	2,713
Brussels Average rents	1,307	1,026	783	1,385	1,908
Rent ratios	1.2968630	1.2397660	1.255427	1.3169675	1.4219077

4 Aggregation of rent ratios

The rent ratios for each of the dwelling types are aggregated by using a specific housing weighting structure. See details of survey in ***chapter VI***.

Various formulae have been developed to aggregate price ratios in order to measure the change between two situations (Brussels and a place *x*). The most common of these are the Laspeyres, Paasche and Fisher indices. These indices do not differ very much as long as the weights do not differ significantly.

Eurostat, in line with many other organisations, uses the Fisher index, which is the geometric average of the Laspeyres and Paasche indices.

(a) Laspeyres is the weighted arithmetic average of the rent ratios, using the weightings of the base period (0):

$$I_L = \frac{\sum_{i=1}^{11} \frac{p_{i1}}{p_{i0}} \times w_{i0}}{\sum_{i=1}^{11} w_{i0}}$$

(b) Paasche is the weighted harmonic average of the inverse of the rent ratios, using the weights of the later period (1):

$$I_P = \frac{\sum_{i=1}^{11} w_{i1}}{\sum_{i=1}^{11} \frac{p_{i0}}{p_{i1}} \times w_{i1}}$$

(c) Fisher is the geometric average of the Laspeyres and Paasche indices:

$$I_F = \sqrt{I_L \times I_P}$$

An example of rent parity calculation is shown in ***table 11***.

Table 11: rent parity for Munich

	3 bedroom flat (110-130 m²)	2 bedroom flat (80-100m²)	1 bedroom flat (60-80m²)	Non-detached house (110-130 m²)	Detached house (150-180 m²)	Totals
Munich Average rents	**1,695**	**1,272**	**983**	**1,824**	**2,713**	
Weights	17.80	17.10	7.80	32.10	25.20	100
Brussels Average rents	**1,307**	**1,026**	**783**	**1,385**	**1,908**	
Weights	13.06	23.53	10.64	30.24	22.53	100
Price ratios	1.29720	1.23960	1.25498	1.31743	1.42145	

Laspeyres index = 1.3706 (using Brussels weights)

Paasche index = 1.3759 (using duty station weights)

Fisher index = 1.373

5. Checks and analyses

As shown in previous paragraphs, several variables influence the final result of the rent parity. The rent parities for the year t are affected by the following factors:

- introduction of rent data for the year t ;
- deletion of the rent data for t-6 from the 6-year moving average model ;
- price indices used for updating the rents for (t-5) to (t-1) to the price level of year t ;
- new dwelling-type weights based on staff housing surveys.

All these effects as well as the total change in rent parities are shown in the example in ***table 12***.

Table 12: Change in rent parities - decomposition of effects (in %)

Places of employment		Deletion of survey	Introduction of survey	Price indexation	Dwelling structure	Total change
		t-6	t	t-5 to t	(new SHS)	
BG	Sofia	-11.6	-0.5	0.8	0.0	-11.4
CZ	Prague	-4.9	-0.6	-0.1	0.0	-5.5
DK	Copenhagen	0.8	-1.5	-0.6	0.0	-1.2
DE	Berlin	2.1	-0.2	-0.2	0.0	1.6
	Bonn	1.2	0.3	-0.2	0.0	1.3
	Karlsruhe	1.5	0.6	-0.2	0.0	1.9
	Munich	4.0	0.6	-0.3	0.0	4.3
EE	Tallinn	-3.2	-1.5	1.5	0.0	-3.2
EL	Athens	-5.9	-2.6	24.2	0.0	13.8
ES	Madrid	-3.9	-1.2	-9.5	0.0	-14.1
FR	Paris	0.6	-0.4	20.1	0.0	20.4
HR	Zagreb	0.5	-1.3	12.8	0.0	11.9
IE	Dublin	1.2	1.6	3.3	0.0	6.2
IT	Rome	-4.9	-1.5	-0.3	0.0	-6.6
	Varese	-2.4	-0.5	-0.3	0.0	-3.2
CY	Nicosia	-2.7	-1.4	-1.2	0.0	-5.2
LV	Riga	-2.2	-0.6	-1.2	0.0	-4.0
LT	Vilnius	-8.2	1.8	-0.3	0.0	-6.9
HU	Budapest	-4.2	-1.1	0.2	0.0	-5.1
MT	Valletta	-1.9	1.0	-0.1	0.0	-1.0
NL	The Hague	-1.8	-0.3	8.1	0.0	5.9
AT	Vienna	-1.3	1.4	0.3	0.0	0.4
PL	Warsaw	-4.1	-0.6	-0.8	0.0	-5.4
PT	Lisbon	-3.9	0.2	-0.5	0.0	-4.2
RO	Bucharest	-8.8	-1.8	3.0	0.0	-7.8
SI	Ljubljana	-5.0	-1.1	0.2	0.0	-5.9
SK	Bratislava	-1.5	-0.7	-0.1	0.0	-2.3
FI	Helsinki	0.6	-0.4	-0.2	0.0	0.0
SE	Stockholm	2.2	1.0	-1.4	0.0	1.8
UK[19]	London	2.0	0.6	-0.4	0.0	2.2
	Culham	1.3	0.9	-0.4	0.0	1.8

19 NB. UK left the EU in February 2020.

VIII - CONSUMPTION WEIGHTS – THE FAMILY BUDGET SURVEY (FBS)[20]

1. Introduction

The calculation of the overall economic parities used for salary adjustment in places of employment other than Brussels, requires the aggregation of the 80 elementary parities ('basic headings') by means of consumption weights. With the methodology in use, each overall economic parity is calculated as a Fisher-type parity (for details see ***chapter IX***). Consumption weights are thus needed not only for Brussels but for all the duty stations for which correction coefficients are calculated.

For each duty station the weights are estimated for each of the 80 basic headings and are expressed as percentages of total expenditure, according to their relative importance in the consumption basket. The weights reflect the expenditure pattern of the average EU official. To use the weighting pattern of the average national household could give a different and quite inappropriate result in the calculation of the overall parities although the information required calculating such weights would certainly be simpler to obtain.

To estimate expenditure patterns for the EU officials, every five to seven years Eurostat carries out a Family Budget Survey (FBS) in the different duty stations among the staff serving at that time; the average result is established as the consumption pattern of the duty station until the next survey. The purpose of these surveys is to determine the relative amounts of expenditure on different items of consumption. To obtain the data, respondents are asked to state their actual expenditure on various items. The overall relative amounts are then calculated on the basis of replies received.

The design and content of the questionnaire has been refined over time to minimise the response burden and maximise the quality of the information collected and since 2016 a harmonised questionnaire has been developed by Eurostat, the United Nations International Civil Service Commission (ICSC) and the International Service for Remuneration and Pensions of the Co-ordinated Organisations (ISRP). The survey is web-based with the possibility to fill it in and return it on paper.

a) Main features of the questionnaire

The questionnaire is divided into five sections:

Section 1 Personal information

Consists of some general information about the status, household composition and accommodation. The information given in this section is essential to validate the survey results and to extend these to the total population of EU officials**.**

Section 2 Dwelling related regular bills in the country

[20] Formerly known as the Survey of Household Expenditure (SHE).

This section concerns the main regular bills such as telephone, electricity, water, local and housing taxes, etc. The usual or average amount which is currently paid, together with the frequency, is shown in this section.

Section 3 Average monthly or yearly household expenses

This section records all other types of household expenditure.

Section 4 Education and health

This section concerns expenditures and reimbursements for education and health care in the last 12 months.

Section 5 Other expenses

Here respondents can describe expenses for which they have not found an appropriate box elsewhere in the questionnaire.

See an example of the most recent survey questionnaire in ***appendix 4.1*** (paper) and ***appendix 4.2*** (online), with the glossary in ***appendix 4.3***.

b) The method to impute rents for owner occupied dwellings

The method followed to impute rents declared in the Brussels FBS to owner-occupiers is to associate the average rents of each dwelling class to all owner-occupiers of the same dwelling class. This procedure is in line with the imputed rents estimation approach for national accounts, recommending the use of stratification characteristics closely connected with housing and based on real rents.

The FBS questionnaire records the following variables connected with housing:

- Type of dwelling (detached house, semi- or non-detached house, flat);
- Number of bedrooms;
- Total area of living space.

Given the sample size constraints, not all the possible classes are used but only those likely to have significantly different average rents. The following classes are defined:

1 Studio
2 Apartment 1 bedroom, <60 m^2
3 Apartment 1 bedroom, ≥60 m^2
4 Apartment 2 bedroom, <80 m^2
5 Apartment 2 bedroom, ≥80 m^2
6 Apartment >2 bedroom, <120 m^2
7 Apartment >2 bedroom, ≥120 m^2
8 House terraced or semi-detached <140 m^2
9 House terraced or semi-detached ≥140 m^2
10 House detached <190 m^2
11 House detached ≥190 m^2

2. The FBS in Brussels and in other places of employment

In accordance with the specific methodology approved for EU purposes, the focus is solely on expenditure in the duty station itself but the current FBS questionnaire is designed to ensure coverage of all 80 basic headings in the current classification. With effect from 2016, the questionnaire also compiles information about out-of-area expenditure, and once the cycle of surveys has been completed it will potentially be possible to integrate this component in all locations.

a) Preliminary remarks

In the duty stations where there are large concentrations of EU staff (e.g. Ispra, Alicante, The Hague) there exists the possibility of obtaining reasonably large numbers of FBS respondents - though not on the same scale as in Brussels.

In some places, the combined number of officials (including staff of EU institutions and EU agencies, and staff of other institutions with similar international profile) – either in a single duty station or combining several places of employment within the same country – is large enough to provide a reasonably reliable estimate of average consumption patterns.

However in those places where there are relatively few officials, there are problems in obtaining enough completed FBS questionnaires to be statistically viable, even if a 100% response were obtained (estimates from small samples will not necessarily represent the target average, particularly if there are changes to composition or profile).

Particular problems in the estimation of consumption weights exist for those countries with more than one place of employment and where a separate correction coefficient is applied to some duty stations (e.g. DE, IT, UK).

All these issues are treated in detail in the following sections.

b) Coordinating FBS responses from multiple participant organisations.

For surveys involving multiple participant organisations - either in a single duty station or combining several places of employment within the same country, and particularly when inviting participation from non-EU organisations alongside EU institutions and EU Agencies - obtaining reliable weights for a sufficiently large combined population requires careful logistical coordination with partners at all stages (notably ex ante preparation, fieldwork, ex post validation).

Under a memorandum of understanding signed with the United Nations International Civil Service Commission (ICSC) and the International Service for Remuneration and Pensions of the Co-ordinated Organisations (ISRP), and bilateral arrangements with other international organisations, it is usually possible to combine results (i.e. conduct joint surveys using a common questionnaire) for expatriate staff working for the European Schools, European Patent Office, EuroControl, OECD, NATO, CoE, ESA, ECMWF and EUMETSAT and other international organisations in the target country. The ICSC use a proprietary questionnaire whose content is largely harmonised.

c) Consumption weights for places with few officials

Until 2009:

The method applied to estimate consumption weights for places with few officials was approved by the Article 64 Working Party in February 1995 and is based on the average of weighting patterns from all places, except Brussels, as they are considered to have similar characteristics. This method treats housing separately from other items of expenditure.

For non-housing items, the method starts from the fact that no basis exists for calculating detailed weights specific to each place: there is no possibility of a special FBS amongst international staff, and the national weights are not relevant. A proxy is therefore sought. Available FBS data show that there is a reasonable degree of similarity amongst the consumption patterns of international officials (at least at a high level of aggregation) regardless of their place of employment. Therefore, a set of average weights at the level of 12 main consumption groups is calculated*. These weights are then disaggregated down to the 80-heading level, excluding housing, using national weighting patterns.

Housing weights are calculated based on the Brussels weight, corrected by the housing correction coefficient for each duty station. After introduction of the housing weights, the 80 basic headings are re-scaled to 1000.

*The places used for the average weighting are all the ones where FBS have been conducted - a sort of European pool excluding Brussels (given that Brussels represents more than 75% of the total population, its inclusion would dominate a weighted average supposed to reflect the numbers of officials in each place of employment). Furthermore, since the purpose of the exercise is to construct a proxy for a Paasche-type 'local' weighting, it would have not been logical to include Brussels as, of course, the Laspeyres part of the final Fisher index is wholly Brussels based. Thus, the solution retained is to calculate an average set of weights based only on FBS responses from places other than Brussels.

From 2009:

A regional weighting structure is constructed, grouping survey responses together for 'low-number-of-staff duty stations' within the socio-politico-economic-geographic groups of the European Comparison Programme. These 'pool' weights are then adjusted for each country by correcting housing expenditure using the rent correction coefficient, and re-scaling to 1000.

d) Consumption weights for countries with more than one place of employment

The estimation of consumption weights, although based where possible on local FBS, presents particular problems for those countries with more than one place of employment and where a separate correction coefficient is applied: Germany, Italy and the UK[21]. Current practices differ according to the country taking into account the size of the population and the response rate to the survey. At present the situation is:

21 NB. UK left the EU in February 2020.

- In Germany, the same weighting pattern has generally been used in all four places of employment (Berlin, Bonn[22], Karlsruhe and Munich*), pooling survey responses together with replies from other places in Germany (e.g. Frankfurt, Köln). However, if there are sufficient replies to justify individual weighting structure for the large staff concentrations in Karlsruhe and in Munich, these could be used with effect from 2020.

- In Italy, Ispra (Varese) has its own survey-based weighting pattern, while Rome has a separate one based on completed questionnaires from Rome and other places in Italy (e.g. Milan, Parma, Turin).

- In the UK[23] the same weighting pattern is used for Culham and London (i.e. the structure established for London is also applied for Culham). Replies for other locations (Belfast, Cardiff, Edinburgh, Reading*) are also integrated.

There are a number of other countries, where there are multiple duty stations, but no separate correction coefficients. For these countries, FBS responses from all locations in the country are aggregated, for example:

- Belgium (Brussels*, Mol);
- Ireland (Cork, Dublin, Grange);
- Greece (Athens, Thessalonika, Heraklion);
- Spain (Alicante, Barcelona, Bilbao, Madrid, Sevilla, Vigo);
- France (Angers, Bretigny*, Cadarache, Lille, Marseille, Paris*, Strasbourg*);
- Netherlands (Amsterdam, Bergen, The Hague*, Maastricht*, Noodwijk*, Petten);
- Portugal (Lisbon, Porto).

*Note: * indicates a high concentration of staff for a partner organisation.*

e) Processing family budget survey responses

The majority of responses from surveys amongst active officials are obtained via an online survey questionnaire tool, but a small number of paper questionnaires are also received and manually coded into similar format for subsequent processing. By contrast the majority of responses to periodic survey amongst retired officials are received in paper (or PDF) format.

Expenditure responses are first converted from quinquennial/annual/monthly format into a common (annual) basis. Information is then reviewed using automatic algorithms and manual checks for reasonableness and completeness. Where possible gaps are filled by imputation. There is a standard linkage table between FBS questionnaire and 80 BH classification (see ***appendix 4.4***).

Analysis includes comparison of results with recent weighting structures from other sources (e.g. national Consumer Price Index, national Household Budget Survey, EU staff housing survey, similar survey amongst United Nations personnel).

[22] Coverage of Bonn ceases with effect from 2020.

[23] NB. UK left the EU in February 2020.

IX - CORRECTION COEFFICIENTS FOR OFFICIALS

1. Introduction

The basic principle behind the application of correction coefficients is that when officials are serving in posts outside Brussels and Luxembourg, they should not have to suffer financially because of higher living costs in their duty station. Equally, if the cost of living at a particular duty station is lower than in Brussels and Luxembourg, officials should not gain an unfair advantage over their counterparts in Brussels and Luxembourg. For this reason, salary adjustment of EU officials outside Brussels and Luxembourg requires to compare relative living costs between Brussels and Luxembourg and the places where these officials are on duty. The technique is to compare the price of a 'basket' of goods and services purchased by the average EU official in Brussels with the price of the same basket in each of the other places of employment.

The full range of goods and services, which comprise the total expenditure of an average EU official is divided into 80 groups, called 'Basic Headings' (such as footwear, local public transport, bread and cereals, tobacco etc.). Within these basic headings, the items are selected and specified in enough detail to allow prices in a reasonably narrow range to be collected. The choice of items is agreed at regular meetings between national statistical institutes (NSI) under the supervision of Eurostat. The potential list is endless, but the selection made must be reasonably small for practical purposes. The overall list contains between 2500 and 3000 items (actual numbers vary from survey to survey).

Between each duty station and Brussels a parity is obtained for each of the 80 basic headings. Each elementary parity is calculated as the geometric mean of the price ratios for the items within the basic heading, which have been priced in Brussels and in the duty station. In order to calculate these elementary parities, prices of as many as possible of the items are collected by NSIs in each duty-station through special price surveys carried out periodically (see ***chapter II***). Several price quotations for each item are obtained and averaged.

The calculation of a global economic parity requires the aggregation of the 80 elementary parities using consumption weights (see ***chapter VIII***). Each overall economic parity is calculated as a Fisher parity (geometric mean of Laspeyres and Paasche parities). Thus, average prices and consumption weights are needed not only for Brussels but also for all the duty stations for which salaries are adjusted (for details see the following sections).

2. From price surveys to elementary parities

Chapter II gives a detailed description of all activities concerning price surveys. The overall list of products and services priced contains between 2500 and 3000 items (actual numbers vary from survey to survey). The items are classified according to the internationally agreed classification system COICOP (Classification of Individual COnsumption by Purpose). COICOP has been adopted as a national accounts classification for consumer expenditure applying to all national accounts as

from 1999[24]. It also applies for the Harmonised Indices of Consumer Prices (HICP), European Comparison Programme (ECP) and national Household Budget Surveys (HBS).

According to COICOP, all products and services are first broken down into 12 main groups:

(1) Food, and non-alcoholic beverages
(2) Alcoholic beverages and tobacco
(3) Clothing and footwear
(4) Housing, water, electricity, gas and other fuels
(5) Furnishings, household equipment and maintenance of house
(6) Health
(7) Transport
(8) Communication
(9) Recreation and culture
(10) Education
(11) Hotels, cafes and restaurants
(12) Miscellaneous goods and services

Each of the 12 groups is then broken down into sub-groups, which in turn are further broken down into more detailed groups. This operation continues until the most detailed level of the classification for which elementary parities are calculated. This level refers to as so-called basic heading. An exhaustive classification for the correction coefficients calculation comprises 80 basic headings (see ***appendix 1***). The basic headings have a dual role:

- first of all, they constitute the most detailed level for which realistic expenditure data (weights) can be obtained by the Family Budget Surveys regularly conducted among the staff serving in the different EU duty stations (see ***chapter VIII***).

- secondly, they match reasonably homogeneous groups of products and services from which a number of items are selected for price surveys (see ***chapter II***).

As mentioned above, average prices for each item and place are calculated at the time of the survey. Price ratios between the duty station and Brussels for each item are then calculated. The geometric mean of these price ratios for the items belonging to the same basic heading is called elementary parity. So, there are in total 80 elementary parities for each duty stations reflecting the relative price levels in these duty stations comparing to those in Brussels.

Once a new price survey is conducted and the elementary parities for the basic headings concerned are calculated, they replace the existing elementary parities (derived from the previous survey and updated using harmonised price indices – HICP, see ***chapter IX section 4***). All elementary parities are then updated to the month of June of the current year for the purpose of annual review (to December, for the purpose of intermediate review).

The 80 elementary parities are then aggregated to one global parity using the consumption weights derived from the Family Budget Surveys (see ***chapter VIII***).

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24 An updated version of COICOP was adopted in 2018: transition to the new classification will be implemented for CC purposes following implementation for ECP, HICP and HBS purposes.

3. Calculation of the global parity

Using the 80 basic parities and the specific weights the overall parity is calculated in two ways: the first uses the consumption pattern for the reference city (Brussels) (this is a type of Laspeyres index); the second uses the consumption pattern for the duty station (this is a type of Paasche index). In accordance with standard practice for international comparisons, both types of index are calculated and the geometric mean of the results (a Fisher index) is the one actually used.

First step is the calculation of the basic parities, which are obtained as geometric means of the price ratios for all the common items between place X and Brussels:

$$ {}_{X}PPA_{B}^{j} = \sqrt[k]{\prod_{i=1}^{k} \frac{P_{iX}}{P_{iB}}} $$

where:

j = *Basic heading 1 to 80*

i = *Item i*

k = *Number of items priced both in Brussels and in place X* $(k \le i)$

P_{iX} = *Average price of item i in place X*

P_{iB} = *Average price of item i in Brussels*

A first possible aggregation of these basic parities can be obtained using the Brussels pattern of consumption in the following formula:

$$ {}_{X}PPA_{B}^{L} = \frac{\sum_{j=1}^{80} PPA_{j} \times W_{Bj}}{\sum_{j=1}^{80} W_{Bj}} $$

where:

PPA_j = *Basic parity j for place X*

W_{Bj} = *Weight of heading j in the Brussels consumption structure*

L = *Laspeyres type index*

Another aggregation can be obtained using place X consumption structure:

$$ {}_{X}PPA_{B}^{P} = \frac{\sum_{j=1}^{80} W_{Xj}}{\sum_{j=1}^{80} \left(\frac{1}{PPA_{j}} \times W_{Xj} \right)} $$

where:

W_{Xj} = *Weight of heading j in the place X consumption structure*

P = *Paasche type index*

The geometric mean of the two aggregated indices gives a Fisher type overall parity:

$$_X PPA_B^F = \sqrt{\left(_X PPA_B^L \times _X PPA_B^P \right)}$$

Derivation of the correction coefficient

Finally, for the non-Euro zone countries it is necessary to take the ratio between the Fisher overall parity and the exchange rate between Euro and the national currency for calculating the Correction coefficient.

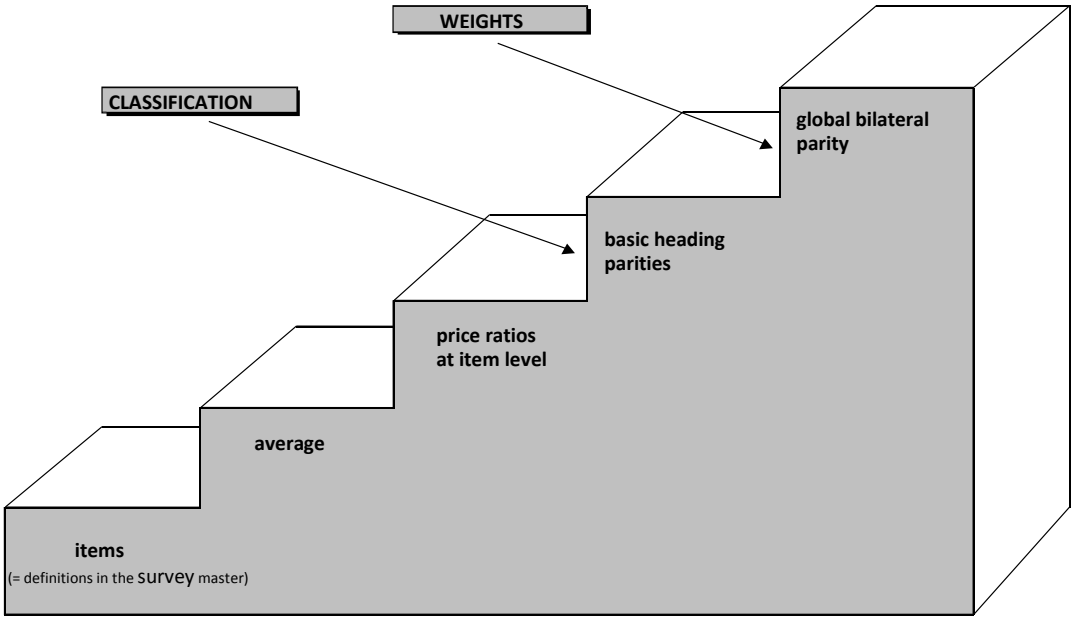
$$_X CC_B = \frac{_X PPA_B^F}{T_{X/B}}$$

where:

$T_{X/B}$ = *Remuneration exchange rate, i.e. the rate used for EU budget, fixed at 1st July each year (for non-Euro zone countries).*

Diagram 1 below schematises the different steps to follow in order to build up a global parity starting from item prices, i.e. from the results of price surveys. This diagram also mentions some tools needed to go up some steps: the classification and the weights. The last step leads to the global bilateral parity, which gives the correction.

Diagram 1: Different steps in calculating global parity



4. Yearly update of the parities

Another element to be considered in the calculation is the temporal dimension since not all the prices are surveyed at the same time. This requires updating with consumer price indices.

The Staff Regulations require each basic parity to be checked by direct survey at least once every five years. In practice checks are carried out at shorter intervals as part of the European Comparison Programme (ECP). At each annual salary review around one third of the basic price parities are replaced by new parities produced by the latest price survey. For instance, for the 2019 annual review, new parities obtained from price surveys were integrated for the following groups:

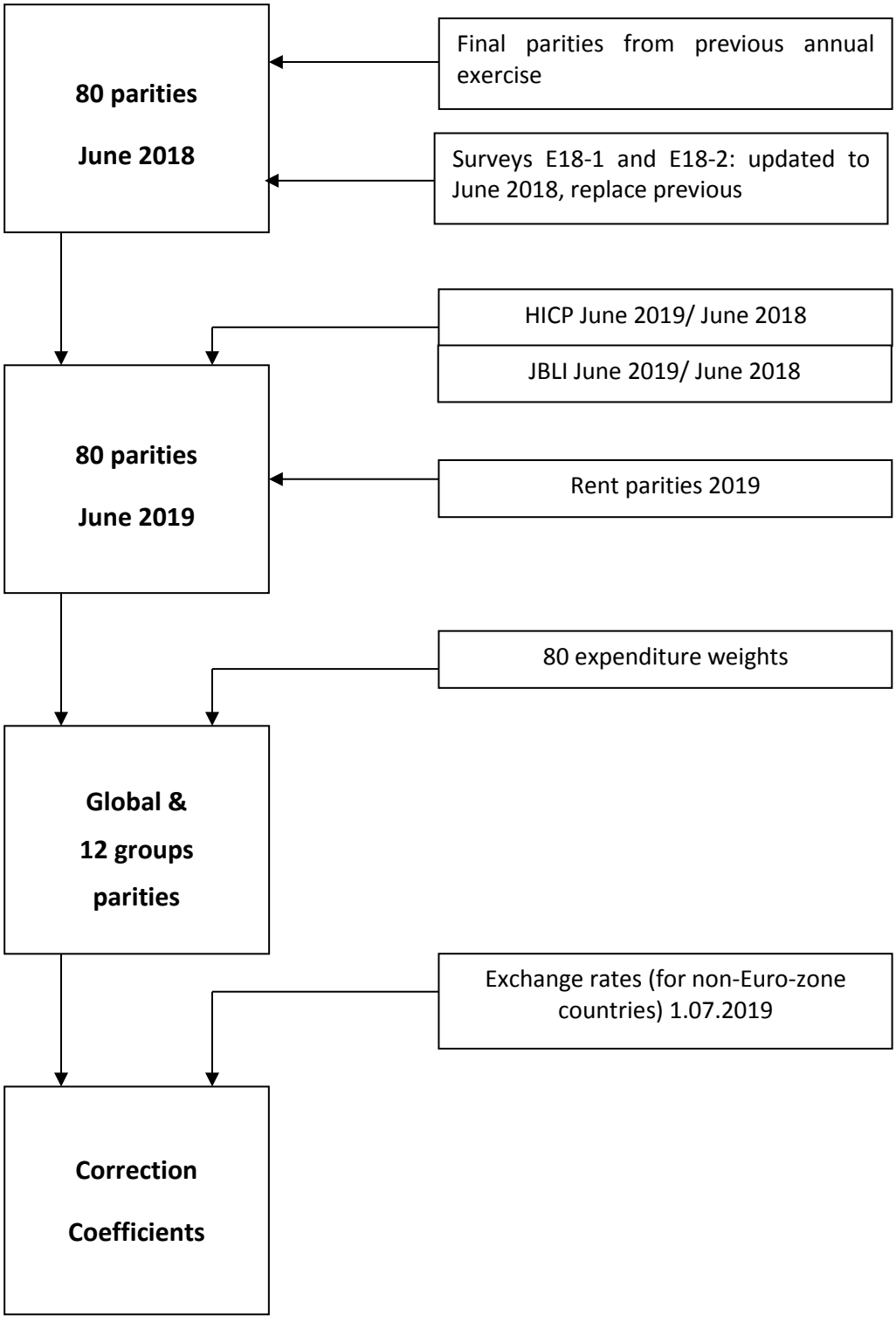
- E18-1 Food, beverages and tobacco (survey spring 2018)
- E18-2 Personal appearance (survey autumn 2018)

The 80 basic parities are then updated using the price index ratio between the place of employment and Brussels. For this purpose the Harmonised Indices of Consumer Prices (HICP) are used. As required by Council Regulation (EC) no. 2494/95 and with the co-operation of Member States, HICPs for each Member State are produced and published monthly. The calculations of HICPs in all Member States are carried out according to the same methodology. They have a common reference base and a common classification. The coverage of the HICPs is defined by the above mentioned COICOP. HICPs are considered by the Commission and the European Central Bank as the best measures of international comparison of consumer price inflation.

In accordance with the Staff Regulations, the HICP for Member States is compared with the JBLI for Brussels.

Diagram 2 below shows, as an example, the 2019 yearly update.

Diagram 2: Illustration of calculation procedure for 2019 annual salary review



An alternative diagram to illustrate the CC calculation is included in ***appendix 6***.

5. Intermediate adjustment

The *'implicit index'* which determines whether or not an intermediate adjustment is applicable for the reference period June (t-1) to December (t-1) for a given location, multiplies (i) the change in the JBLI measured for that period, by (ii) the change between the economic parity established for the start and for the end of that period. Calculation of the JBLI is discussed in a separate manual[25].

The intermediate economic parities are determined by multiplying the final parities at basic heading level from the previous annual exercise (i.e. as at June (t-1)) by the price index ratio between the place of employment and Brussels for the period June-December. For this purpose, HICP and JBLI sub-indices are used (also for rents).

A global parity is then calculated in the same way as for the annual exercise.

Note: for administrative reasons, the correction coefficient which is then produced is computed using the exchange rate applicable at the last annual exercise (i.e. 1st July) rather than the current rate.

[25] Document A6465/14/58 rev2 (version 2020) : Joint Belgium Luxembourg Index

X – CORRECTION COEFFICIENTS FOR PENSIONERS

(a) For the annual exercise

The correction coefficients for pensioners should refer to the country and not to the capital. They are calculated on the basis of the following information:

- Parities for all goods and services, except for rents, as used for the calculation of the correction coefficients for active staff. These parities are based on bilateral comparison of prices of between 2500 and 3000 goods and services between different capital cities and Brussels (for more details see ***chapter II***). The underlying hypothesis is that capital price ratio between the different capital cities and Brussels are equal to the corresponding country ratios.
- Rent parities. The hypothesis applied for goods and services parities on the equivalence between capital and country ratios is not likely to be true for rents, thus rent parities are estimated according to the following procedure: a spatial adjustment factor in the form of national/capital ratio of market rents is derived. With the help of this adjustment factor the capital city rent parity from Article 64 estate agency rent surveys is transformed into the country rent parity.

  With effect from 2017[26], for most countries Eurostat establishes the ratio using the latest available ECP rent PPP and A64 rent PPP (i.e. $PPP^{ECP}_{MS:BE} / PPP^{A64}_{DS:BXL}$). A six-year average of the ECP rent PPPs is used, ensuring consistency between the numerator and denominator of this fraction, as a six-year model is used to establish the A64 rent PPPs. That approach does not work for Belgium/Brussels as the PPP = 1 in both cases, so a specific adjustment factor is instead obtained from the national statistics institute.

- Consumption weights for the pensioners are calculated on the basis of a wide scale Family Budget Survey (FBS). The last FBS among pensioners was carried out in 2013.

With the previous information a method similar to that of officials is applied for the estimation of the country economic parities for pensioners.

The correction coefficients applicable to the EC pensioners are determined on the basis of the relationships between the economic parities and the exchange rates fixed by the Commission and specified in the Staff Regulations for the relevant countries. The correction coefficient operates as a percentage adjustment to pensions to take account of the cost of living differences between Belgium and the other Member States, except Luxembourg where, according to the Staff Regulations, a correction coefficient of 100% is applied.

(b) For the intermediate adjustment

At the Spring 2008 meeting of the Article 64 working group it was decided to apply the same methodology of calculation of correction coefficients for pensioners for the intermediate adjustment as was used for the annual exercise. Thus, the updated parities for staff are amended

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[26] Prior to 2017, each national statistical institute was required each year to check and, if possible, to update their spatial adjustment factor. For some countries, specific solutions were applied. For Germany, because rent information for Berlin, Bonn, Karlsruhe and Munich is compiled, the ratio between the average of those four cities and Berlin was used as a proxy. For Estonia and for Malta, due to the size of the national rent market, the adjustment factor was assumed equal to 1.

for the rent factor (same ratio as was applied for the preceding July calculation) and then aggregated using specific weights for pensioners (same values as were used for the preceding July calculation). The correction coefficient for the intermediate adjustment is established in the same way as for staff.

The difference in the global parity at December (t-1) by comparison to the one for June (t-1), multiplied by the JBLI, gives the implicit index.

XI – PUBLICATION OF THE RESULTS

Information relating to the Article 64 Intra-EU correction coefficients is published in the following ways:

	Annual Report	**Official Journal ****	**Eurostat free data tables**	**Work Group** (CIRCABC) ***
Overall staff CC	**Yes**	**Yes**	**Yes**	**Yes**
Overall pension CC	**Yes**	**Yes**	**Yes**	**Yes**
Exchange rate to Euro	**Yes**	No	No[27]	**Yes**
Overall staff PPP	**Yes**	No	No	**Yes**
Overall pension PPP	**Yes**	No	No	**Yes**
Detailed staff PPP *	**Yes**	No	No	**Yes**
Detailed staff expenditure weights *	**Yes**	No	No	**Yes**
Decompose change in overall PPP	**Yes**	No	No	**Yes**
Detailed rents data	**Yes**	No	No	**Yes**
Pensioners rents adjustment	**Yes**	No	No	**Yes**
Detailed HICP	No	No	**Yes**	No
Detailed price survey data	No	No	No	No

* Overall and at the level of the 12 main COICOP groups, for Annual Adjustment.
** Until 2013, Annual and Intermediate Intra-EU CC values adopted by Council Regulation, Annual Extra-EU CC values adopted by Council Regulation, Intermediate Extra-EU CC values adopted by Commission Decision. From 2014, all values adopted by automatic procedure.
*** A restricted site for nominated national delegates, and a public site for information authorised for release.

Following adoption, correction coefficient figures at July are published on the Eurostat website (http://epp.eurostat.ec.europa.eu/) by clicking on :

Database by themes

.. Economy and finance

…. Prices (prc)

…… Correction coefficients (prc_colc)

…….. Correction coefficients in the European Union (**Countries**), from 2004 - Belgium=100 (Datarefer to 1st July) (prc_colc_nat)

…….. Correction coefficients in the European Union (**Capitals**), total and total without rents - Brussels=100 (Data refer to 1st July) (prc_colc_tot)

[27] These values are published on the DG.BUDG website: http://ec.europa.eu/budget/inforeuro/

The published HICP data can be found nearby:

Database by themes

.. Economy and finance

…. Prices (prc)

…… Harmonised indices of consumer prices (prc_hicp)

The current publication policy for reporting correction coefficients was agreed by the Article 64 Working Group in 1998. It applies to both Extra-EU and Intra-EU results. The policy is repeated below:

a) Eurostat will use all the significant digits available in all intermediate calculations.

b) Parities and exchange rates used for the calculation of correction coefficients will be presented with four significant digits. For countries in the Euro zone they will be presented with three decimal places.

c) Correction coefficients will be presented in reports with one decimal place.

d) Correction coefficients will be presented on website with one decimal place.

On the Eurostat free data website, a time series is published for the global correction coefficient, and the global value excluding rents.

On the DG.BUDG website, a time series is published for the official exchange rate between national currency and the Euro.

In the Eurostat annual report, purchasing power parity values for the current year and the preceding year are published at the level of the 12 COICOP main groups, together with the global value, the global value excluding rents, and the value for rents. Additional tables provide information about the main component factors explaining change by comparison to value calculated for the previous year.

At the annual Article A64&65 Working Group meeting, purchasing power parity values for the list of authorised analytical categories are presented. This list of categories is derived from the Eurostat-OECD methodological manual on the ECP, with minor changes. It includes the 12 main COICOP groups, and adds a selection of basic headings and interim aggregates. In total, there are 35 analytical categories as shown in ***table 13*** below.

Table 13: Analytical categories for correction coefficients

	Analytical category
1	FOOD AND NON-ALCOHOLIC BEVERAGES
2	Food
3	Bread and cereals
4	Meat
5	Fish
6	Milk, cheese and eggs
7	Oils and fats
8	Fruit and vegetables including potatoes and other tubers
9	Other food
10	Non-alcoholic beverages
11	ALCOHOLIC BEVERAGES AND TOBACCO
12	Alcoholic beverages
13	Tobacco
14	CLOTHING AND FOOTWEAR
15	Clothing
16	Footwear, including repairs and hire
17	HOUSING, WATER, ELECTRICITY, GAS AND OTHER FUELS
18	Electricity, gas and other fuels
19	FURNISHINGS, HOUSEHOLD EQUIPMENT AND ROUTINE MAINTENANCE OF THE HOUSE
20	Furniture and furnishings
21	Major household appliances whether electric or not and small electric household appliances
22	HEALTH
23	TRANSPORT
24	Personal transport equipment
25	Transport services
26	COMMUNICATIONS
27	RECREATION AND CULTURE
28	Audio-visual, photographic and information processing equipment
29	EDUCATION
30	HOTELS, CAFES AND RESTAURANTS
31	MISCELLANEOUS GOODS AND SERVICES
32	TOTAL
33	Rents
34	Total excluding rents
35	EXCHANGE RATE

APPENDICES

Appendix 1 **List of 80 basic headings and 12 main groups**

Appendix 2 **Estate Agency Rent Survey questionnaire and guidelines - 2020**

Appendix 3 **Fee-paying schools item definition - 2018**

Appendix 4.1 **FBS questionnaire (paper format) - 2020**

Appendix 4.2 **FBS questionnaire (online) - 2020**

Appendix 4.3 **FBS glossary – 2020**

Appendix 4.4 **Linkage table : FBS questionnaire to 80 basic headings**

Appendix 5 **SHS Questionnaire - 2013**

Appendix 6 **CC calculation diagram**

NB. For the appendices, please see separate files.