

Methodology for the calculation of intra-EU correction coefficients

Draft manual



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THEME 2
Economy
and
finance

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I - INTRODUCTION

According to Annex XI of the Staff Regulation 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);
- changes in the cost of living in Brussels (joint index and Brussels index);
- Economic parities between Brussels and the other duty stations in the Member States (correction coefficients).

The **joint index** is a cost-of-living index. Its aim, as stated in Annex XI of the Staff Regulation, is “*to measure changes in the cost of living for officials of the European Communities in Brussels*”. (Article 1 of Annex XI). The methodology used to calculate the joint index is described in chapter II.

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 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 city) 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 same 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 III). Since the collection of prices is time-consuming and expensive, the pricing of the full list of products is spread over a 3-year period, with two or three surveys each covering a broad category each year. Housing costs are treated differently from other prices for two reasons:

- a) They are the largest single item of expenditure (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.

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

The total range of goods and services constituting the consumption of the average EU official is grouped into 84 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 84 elementary parities aggregated together using consumption weights.

For each place, the weights are estimated for each of the 84 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 EC official in each duty station.

To estimate expenditure patterns for EC officials, every five years Eurostat carries out **Family Budget Surveys** (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 FBS is to determine the relative amounts of expenditure on different items of consumption. The methodology of the FBS is presented in chapter VI.

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 VII.

II - THE JOINT INDEX

1. Introduction

The name "joint index" reflects the fact that it was developed jointly between the various international organisations involved in setting remuneration changes for their staff - in particular the European Commission and the Co-ordinated Organisations, whose remuneration questions are the responsibility of the Inter-Organisations Section of OECD.

The joint index is a cost-of-living index. Its aim, as stated in the Staff Regulations, is “*to measure changes in the cost of living for officials of the European Communities in Brussels*”. (Article 1 of Annex XI). As such, the joint index is not a part of the correction coefficient methodology, but the underlying statistical work is related to prices rather than salaries. Therefore all the statistical problems concerning the establishment of the joint index are examined by the Working Party on Article 64 of the Staff Regulations, as laid down in Article 13 of Annex XI.

As with any other temporal price index, the main components of the joint index are:

- i) a set of detailed price indices, and
- ii) a set of corresponding weights relating to detailed expenditure headings.

The price indices are - with the sole exception of those for housing - sub-indices of the Belgian official consumer price index relating to Brussels. The housing indices are directly calculated by Eurostat, on the basis of the Staff Housing Survey, carried out annually among EC staff employed in Brussels. The weights are derived from the Family Budget Survey held periodically amongst EC and International staff families in Brussels.

The joint index is calculated twice per year:

- i) for the annual adjustment of the remuneration (change June t / June t-1) and
- ii) for the intermediate adjustment (change December t / June t).

2. Detailed price indices

The Belgian Ministry of Economic Affairs (MEA) provides Eurostat with the consumer price index (Brussels capital component of the Belgian index) each month. The basket of goods and services considered by the MEA is composed of 689 basic headings, while the Eurostat basket contains 84 basic headings¹, 2 of which relate to housing.

The MEA conducts the price surveys and evaluates the price changes for their 689 basic headings. Eurostat then aggregates these detailed indices into its own 82 basic headings, using

¹ This level of 84 basic headings is the same as is used to compare the relative cost of living of European institution officials in Brussels and in each of the capitals and other places of employment.

the 689 weights provided by the MEA, which are obtained from a family budget survey conducted on a sample of households living in Brussels. For example in the Eurostat list there is one basic heading “bread”, while in the Belgian list there are five different headings for bread (pain 900 g, pain spécial 400 g, pain spécial 800 g, pain gris 800 g, pistolet). The five Belgian indices are weighted by the corresponding Belgian weights to obtain a single bread index. (The proportions of different kinds of bread bought by EU officials are assumed to be the same as those of the general population).

In summary, prices are collected by the Belgian authorities and used to calculate 689 indices. These are aggregated by Eurostat to obtain 82 basic indices (the complete basket less the two housing indices).

3. Staff Housing Survey and the housing indices

Eurostat carries out every year - in June - the Staff Housing Survey (SHS), which has two main purposes:

- to calculate Brussels housing indices (for the joint index);
- to obtain duty stations housing-type patterns (for the housing parities).

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;
- rent;
- charges, property taxes, etc.

A copy of the questionnaire is annexed (see annex A). Participation in the survey is not compulsory.

The indices for the basic headings for accommodation costs for tenants (BH 20: rents index) and for owner-occupiers (BH 21: imputed rents index) are calculated on the basis of the Brussels results of the SHS. The level of these two indices was fixed at 100 in 1988 and is updated each year using the changes recorded by the SHS.

An easy way to calculate this change would consist of a comparison - based on tenants only - of the average rent per square metre derived from two consecutive SHS. However the information recorded allows a better procedure, taking into account:

- i) the variability of housing costs depending on certain characteristics and
- ii) both tenants and owner-occupiers.

First of all the sample is stratified using the following variables connected with housing:

- Type of housing (Studio, 1-room apartment, etc.)
- Size in square metres
- Garage.

This enables stratification based on the same classes as for the Brussels Family Budget Survey, i.e.:

- 1 Studio
- 2 1 bedroom Apartment, with garage
- 3 1 bedroom Apartment, without garage
- 4 2 bedroom Apartment, with garage
- 5 2 bedroom Apartment, without garage
- 6 3 or more bedroom Apartment, <120 m²
- 7 3 or more bedroom Apartment, >=120 m²
- 8 House, terraced or semi-detached, <140 m²
- 9 House, terraced or semi-detached, >=140 m²
- 10 House, detached, <190 m²
- 11 House, detached, >=190 m²

The next step is to calculate - for each of these eleven classes - an average rent (June t) and to impute it to all the dwellings in the same class for owner-occupiers. At this stage a total expenditure (tenants + owner-occupiers) is calculated for each class. The proportion which each class expenditure bears to the overall housing expenditure - using all the questionnaires - gives the weight of that class (June t).

Accommodation costs for June of year t are then compared with those of June (t-1). An example is given in table 1.

Table 1: Calculation of the housing index for year t

Housing classes	Average rent t-1	Average rent t	Weights t-1	Weights t	Price ratio t/(t-1)	1 / pr. rat. (t-1)/t
	1 = p_{i0}	2 = p_{it}	3 = w_{i0}	4 = w_{it}	5 = 2/1	6 = 1/2
1	18 982	19 572	0,2	0,2	1,0311	0,9698
2	26 214	26 832	1,1	1,5	1,0236	0,9769
3	22 795	22 787	0,4	2,7	0,9996	1,0004
4	31 042	31 409	8,5	11,1	1,0118	0,9883
5	28 000	28 803	3,4	8,4	1,0287	0,9721
6	33 359	34 788	2,4	3,3	1,0428	0,9589
7	44 323	44 061	9,7	12,5	0,9941	1,0060
8	38 098	36 843	7,0	5,3	0,9671	1,0341
9	51 835	51 962	26,5	25,4	1,0025	0,9976
10	43 605	44 070	18,0	11,4	1,0107	0,9895
11	62 245	62 798	23,0	18,3	1,0089	0,9912

The global change in accommodation costs is a function of the 11 average rents by class (p) and of the associated weights (w). Both rents and weights are observed in two different time-points, thus we have p_{i0} and w_{i0} , which refers to June (t-1) and p_{it} and w_{it} , which refers to June (t) ($i = 1, 2, \dots, 11$).

Various formulae are available to measure changes in prices. The most common of these are the Laspeyres, Paasche and Fisher indices. These indices do not differ very much as long as the consumption 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:

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

Using the data in table 1:

- **Laspeyres** index, using the June (t-1) weights:

$$\Sigma \text{ col.5} \times \text{ col.3} / \Sigma \text{ col.3} = 1.0050$$

- **Paasche** index, using the June (t) weights:

$$\Sigma \text{ col.4} / \Sigma \text{ col.6} \times \text{ col.4} = 1.0063$$

- **Fisher** index:

$$\sqrt{1.0050 \times 1.0063} = 1.0056$$

which rounds to an increase of 0.6%. This is applied to the level of the two housing indices - basic headings 20 (rents) and 21 (imputed rents).

For the intermediate adjustment the June housing indices are updated using the increase - between June and December - of the MAE indices for housing.

4. Family Budget Survey and the weights relating to detailed expenditure headings

In order to calculate the overall change in the cost of living for EC officials in Brussels, weights have to be applied to each of the 84 basic indices according to their relative importance in the consumption basket. These weights are calculated directly from the results of the special survey conducted about every five years among European and international civil servants living in Brussels. The resulting structure reflects the consumption of the average international civil servant in Brussels. The treatment given to the housing weights is consistent with the housing indices described section 3. For details about Family Budget Surveys see chapter VI.

5. Application of the joint index

a) Annual adjustment

The Staff Regulations require that for the annual adjustment a "composite index" is calculated as an weighted average of the joint index and the Belgian index (Brussels capital component), where the weights for the joint index and the Brussels capital component are 75% and 25% respectively. Multiplying the composite index by the specific indicator gives the amount of annual adjustment.

Table 2 gives the expenditure pattern of EC staff (weights) as well as price indices for 12 main expenditure groups for June (t-1) and June (t). The price indices for rents are derived from the Staff Housing Surveys. The variations of the price indices over 12 months are also illustrated in the table. The joint index for (t) is 100,8, which means an increase of 0,8% in the cost of living during the period June (t-1) to June (t).

Table 2: Joint Index: Brussels indices - June (t) (1996=100)

Main Expenditure Group		WEIGHTS	INDICES June (t-1)	INDICES June (t)	VARIATION 12 MONTHS
1	FOOD AND NON-ALCOHOLIC BEVERAGES	94,4	105,4	106,1	100,7
2	ALCOHOLIC BEVERAGES AND TOBACCO	18,8	103,6	106,1	102,4
3	CLOTHING AND FOOTWEAR	51,3	103,0	103,4	100,4
4	HOUSING, WATER, ELECTRICITY, GAS AND OTHER FUELS	248,6	133,4	134,3	100,6
5	FURNISHINGS, HOUSEHOLD EQUIPMENT AND MAINTENANCE OF HOUSE	113,1	100,8	101,2	100,4
6	HEALTH	24,8	104,8	105,7	100,9
7	TRANSPORT	170,8	102,3	103,4	101,1
8	COMMUNICATIONS	21,6	105,2	97,9	93,0
9	RECREATION AND CULTURE	112,1	101,3	101,3	100,0
10	EDUCATION	15,6	103,3	106,3	102,9
11	HOTELS, CAFES AND RESTAURANTS	60,0	102,0	107,1	105,0
12	MISCELLANEOUS GOODS AND SERVICES	68,9	101,2	102,2	101,0
	TOTAL	1000	110,1	111,0	100,8
	Of which: <i>RENTS</i>	200,3	141,4	142,2	100,6
	<i>TOTAL WITHOUT RENTS</i>	799,7	102,3	103,2	100,9

Table 3 presents similar information concerning the Belgian index (Brussels capital component) using the national weights. The increase in cost of living in Brussels for the local population during the period June (t-1) and June (t) is 1,0%

Table 3: Belgian index (Brussels capital component) (1996=100)

Main Expenditure Group		WEIGHTS	INDICES June (t-1)	INDICES June (t)	VARIATION 12 MONTHS
1	FOOD AND NON-ALCOHOLIC BEVERAGES	192,0	105,1	105,9	100,7
2	ALCOHOLIC BEVERAGES AND TOBACCO	35,6	104,2	107,2	102,8
3	CLOTHING AND FOOTWEAR	82,0	103,0	103,4	100,4
4	HOUSING, WATER, ELECTRICITY, GAS AND OTHER FUELS	146,6	101,3	102,5	101,2
5	FURNISHINGS, HOUSEHOLD EQUIPMENT AND MAINTENANCE OF HOUSE	86,1	100,8	101,4	100,6
6	HEALTH	39,6	104,8	105,7	100,9
7	TRANSPORT	138,0	101,8	103,5	101,7
8	COMMUNICATIONS	22,3	105,2	97,9	93,0
9	RECREATION AND CULTURE	117,3	100,6	100,2	99,6
10	EDUCATION	4,3	103,3	106,3	102,9
11	HOTELS, CAFES AND RESTAURANTS	66,3	102,7	107,4	104,5
12	MISCELLANEOUS GOODS AND SERVICES	70,2	101,6	102,8	101,2
	TOTAL	1000	102,6	103,5	101,0
	Of which: <i>RENTS</i>	56,6	102,7	104,4	101,7
	<i>TOTAL WITHOUT RENTS</i>	943,4	102,6	103,5	100,9

According to this example the composite index is:

$$0.75 \times 100.8 + 0.25 \times 101.0 = \mathbf{100.9}$$

i.e. an increase of 0,9%.

b) Intermediate adjustment

The intermediate adjustment is made only if there is a substantial change in the cost of living in Brussels or one of the other duty stations.

The elements of the intermediate adjustment are as follows:

- Forecast of changes in the purchasing power of remuneration in the central administration of Member States (1st July to 1st July);
- Change in the cost of living for Brussels - measured by the joint index for the reference period (June - December).

The adjustment is applied to all places when the sensitivity threshold of 2,75% is reached in Brussels; otherwise it is applied only in places where inflation (defined by Harmonised Consumer Price Indices) exceeds the threshold.

III - 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 the 31 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 co-operation with Eurostat in the framework of the ECP used for the National Accounts volume comparisons. For the other duty-stations similar surveys are carried out by Eurostat, usually assisted by the NSI.

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

- *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 section 3).

- *Price surveys conducted in other EU duty-stations outside the capitals*

This point concerns the surveys conducted in Varese, Karlsruhe, Munich and Culham/Oxford. These surveys are the responsibility of Eurostat; but usually the NSIs assist and do what they can 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.

2. 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 or three surveys every year, each covering a broad category. The price surveys for the calculation of CC's are representative of most of the goods and services consumed by EU-officials' households. There are seven product groups, with normally two surveys each year. They are:

- Major household appliances; recreational equipment
- Clothing and footwear; textiles
- Food, beverages and tobacco
- House repairs; water, fuel and power; operation of transport equipment; transport and communication services; recreational services
- Furniture and floor coverings; glassware; tableware and utensils
- Transport equipment; household-operation; personal care, restaurants and hotels, remaining services
- Health products and services

One of the biggest problems encountered when trying to conduct a European wide price survey, is the problem of product 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 and of misunderstandings in the definition 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

3. Organisational aspects of price surveys

The countries currently included in the price surveys have for practical reasons been divided into three regional groups, each with a 'Group Leader'. The 'Group Leaders' are **Finland**, **Austria** and **Italy**.

- *Northern Group:*
Denmark, Estonia, **Finland**, Iceland, Ireland, Latvia, Lithuania, Norway, Sweden, United Kingdom.
- *Central Group:*
Austria, Belgium, Czech Republic, Germany, Hungary, Luxembourg, Netherlands, Poland, Slovakia, Slovenia, Switzerland.
- *Southern Group:*
Bulgaria, Cyprus, France, Greece, **Italy**, Malta, Portugal, Romania, Spain, Turkey.

To simplify the rather complex procedure of preparing the definitions of the products and services, the process is carried out in the regional groups. This is done, as there is a greater likelihood of countries in the same regional group having similar selections of products and services available. As a result, it is potentially less complicated to determine common definitions.

The three groups meet twice a year to produce their regional group's final survey list. Following these meetings, the regional group leaders meet to discuss the content of their respective survey lists. This process is important since it is necessary to have a certain degree of product overlap between the three groups. If it is not the case the leaders return to their groups to discuss any necessary additions to the list.

At least two of the groups must have a product or service represented in each basic heading in order to be able to carry out the comparison. However, it is not necessary for a product or service to be represented in all three regional groups simultaneously. The only requirement is that the three groups have an overlap of products or services in all 84 basic headings (cf. examples of definitions in section 6).

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. Data processing

After the data collection is completed by the NSIs and they have checked their own results, the data are checked by the respective group leaders to minimise any inconsistencies. If there are results that seem to be very different for one country the group's leader will request a verification or correction of the result. If the result is wrong, due to for instance mistaken reference quantity or translation problems, the country will have to undertake a new price survey for that particular product or service.

The control and verification of the end results in Brussels is very important as a mistake in Brussels price will affect all other countries through the miscalculation of bilateral parities. For the purpose of identifying unexpected price variations, suspicious-looking price levels and other inconsistencies an analytical table, the Quaranta table, 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. The examples of Quaranta tables below are followed by a brief description of how to read them correctly.

Table 4: Basic Heading Quaranta table

EUROSTAT - CC: Quaranta Tables						SURVEY: EXX-1 / CC (1st overall calc.)						Date: 00.00.2000		Page: 1			
511.1 Kitchen furniture						Av.Weight: 378						No.of It.: 88					
Selected options: limits for XR-,PPP-indices - 80%, 125%, without *						Var.Coef. (%): 24,0											
XR	PPP	PLI (%)	Weight/	No. of	Var.	XR	PPP	PLI (%)	Weight/	No. of	Var.	XR	PPP	PLI (%)	Weight/	No. of	Var.
'NC/BF'	'NC/BF'	PPP/XR	100000	Items	Coef.	'NC/BF'	'NC/BF'	PPP/XR	100000	Items	Coef.	'NC/BF'	'NC/BF'	PPP/XR	100000	Items	Coef.
,341109	,336981	98,8	378,4	28	15,2	,0195232	,0251188	128,7	378,4	16	33,6	,0195232	,0251188	128,7	378,4	16	33,6
1,00000	1,00000	100,0	378,4	26	18,8	,0153694	,0115134	74,9	378,4	12	22,6	,0153694	,0115134	74,9	378,4	12	22,6
,0397001	,0375505	94,6	378,4	21	17,7	,103094	,0774719	75,1	378,4	17	30,7	,103094	,0774719	75,1	378,4	17	30,7
,920974	1,07319	116,5	378,4	9	51,5	,202457	,198481	98,0	378,4	16	17,9	,202457	,198481	98,0	378,4	16	17,9
,0484838	,0544846	112,4	378,4	13	36,0	,218984	,205089	93,7	378,4	22	27,9	,218984	,205089	93,7	378,4	22	27,9
6,18494	6,04015	97,7	378,4	14	12,3	,0165345	,0234825	142,0	378,4	23	21,2	,0165345	,0234825	142,0	378,4	23	21,2
1,00000	,973873	97,4	378,4	16	15,5	47,9989	43,2759	90,2	378,4	45	27,3	47,9989	43,2759	90,2	378,4	45	27,3
,0546285	,0563420	103,1	378,4	21	33,5	,0486119	,0305061	62,8	378,4	16	38,8	,0486119	,0305061	62,8	378,4	16	38,8
,101607	,0924512	91,0	378,4	13	21,0	,0143263	,0181084	126,4	378,4	16	27,2	,0143263	,0181084	126,4	378,4	16	27,2
1,13565	,788625	69,4	378,4	12	37,9	,162607	,179869	110,6	378,4	41	33,9	,162607	,179869	110,6	378,4	41	33,9
4,84245	3,76802	77,8	378,4	9	29,9	8,04043	7,58631	94,4	378,4	32	16,0	8,04043	7,58631	94,4	378,4	32	16,0
,147391	,169357	114,9	378,4	19	14,3	4,96982	4,46695	89,9	378,4	35	19,7	4,96982	4,46695	89,9	378,4	35	19,7
,184230	,196391	106,6	378,4	19	20,8	405,132	163,562	40,4	378,4	23	35,4	405,132	163,562	40,4	378,4	23	35,4
,387869	,288022	74,3	378,4	12	57,1	4,12460	3,73859	90,6	378,4	38	22,9	4,12460	3,73859	90,6	378,4	38	22,9
1,91919	2,81049	146,4	378,4	24	19,3	,0484838	,0491897	101,5	378,4	24	41,3	,0484838	,0491897	101,5	378,4	24	41,3

Explanatory information concerning the Basic Heading Quaranta table (Table 4)

(i) Title zone (outside the box)

Title	Interpretation	Calculation
(Code)	Code of the basic heading	Per list
(Narrative)	Title of the basic heading	Per list
Av. Weight	Average weight. Simple arithmetic average of the individual country weights restated in Euro - i.e. Restate individual country budget in euro and recalculate % - which is a different figure from the simple arithmetic average of the individual country weights.	(For $i=1$ to n) $1/n \sum W_i$, where n = number of countries, and W_i = weight for country i , re-calculated in Euro.
No. of It.	Number of related product definitions	Per list
Var.Coef.	Variation coefficient: simple geometric average of the variation coefficients for each product definition.	(For $I=1$ to n) $\Pi V.Co._i^{(1/n)}$, n = number of product definitions relating to the b.h.

(ii) Data (inside the box)

Title	Interpretation	Calculation
(Code)	Country code	Per list
XR	Exchange rate of national currency to the Euro (If appropriate)	$XR = NC \div \text{Euro}$
PPP	EKS purchasing power parity for the basic heading.	Per statistical formulae $=PPP \text{ for } NC \div \text{Euro}$
PLI (%)	Price level index relative to the average of the other countries providing prices for that basic heading.	$PLI = PPP \div R_E(\text{ECU}) \times 100\%$ $= PPP \div XR \times 100\%$
Weight/100000	Relative importance of the basic heading in the typical global household expenditure budget of the national population.	-
No. of Items	Number of related product definitions for which average prices are supplied.	-
Var.Coef.	Variation coefficient of the CUP price level indices for the country (i.e. all products): standard deviation.	$= \sqrt{\Sigma x^2/n - (\Sigma x/n)^2}$ where $x = PLI$ $n = \text{no. of products}$

Table 5: Product Definition Quaranta table:

81 511.1zn - Kitchen chair - Solid pine										Var.Co.: 25,0
	NC - price*	Qts.	Var.Co.	Wn	XR-price	XR-In	Wn	PPP-price	PPP-In	Wn
	2116,00	5	21,5		2116,00	103		2116,00	97	
	2790,00	1	0,0		3029,40	148	>	2599,72	119	
	2990,00	1	0,0		2990,00	146	>	3070,21	141	>
	195,98	3	24,2		3587,56	175	>	3478,46	160	>
	195,33	9	15,3		1922,43	94		2112,83	97	
	1990,00	1	0,0		1752,30	85		2523,38	116	
	8990,00	4	0,0		1856,50	91		2385,87	109	
	368,93	14	26,3		2503,06	122		2178,41	100	
	695,00	1	0,0		3772,47	184	>	3538,86	162	>
	684,50	8	33,3	>	1764,77	86		2376,56	109	
	5645,00	2	47,0	>	2941,34	143	>	2008,55	92	
	41,00	4	5,7		2100,07	102		1632,25	75	<
	16,00	2	6,3		1041,03	51	<	1389,68	64	<
	146,00	1	0,0		1416,18	69	<	1884,56	86	
	456,75	8	18,7		2256,03	110		2301,23	106	
	347,00	2	13,8		1584,59	77	<	1691,94	78	<
	46,59	11	47,5	>	2817,77	137	>	1984,05	91	
	361,65	17	29,4		2224,05	108		2010,61	92	
	7733,33	6	17,3		1556,06	76	<	1731,23	79	<
	305667	3	9,8		754,49	37	<	1868,81	86	

Explanatory information concerning the Product Definition in Quaranta table (Table 5)

(i) Title zone (outside the box)

Title	Interpretation	Calculation
(Number)	Sequential article number $i = 1...n$, where $i = \text{current product definition}$, and $n = \text{total number of definitions for the basic heading}$.	Per list
(Code)	Code of the product definition	Per list
(Narrative)	Title of the product definition	Per list
Var.Co.	Variation coefficient of the PLI (price level indices) for the product definition : standard deviation.	$= \sqrt{\Sigma x^2/n - (\Sigma x/n)^2}$ $x=PLI$ $n=\text{no. of countries}$

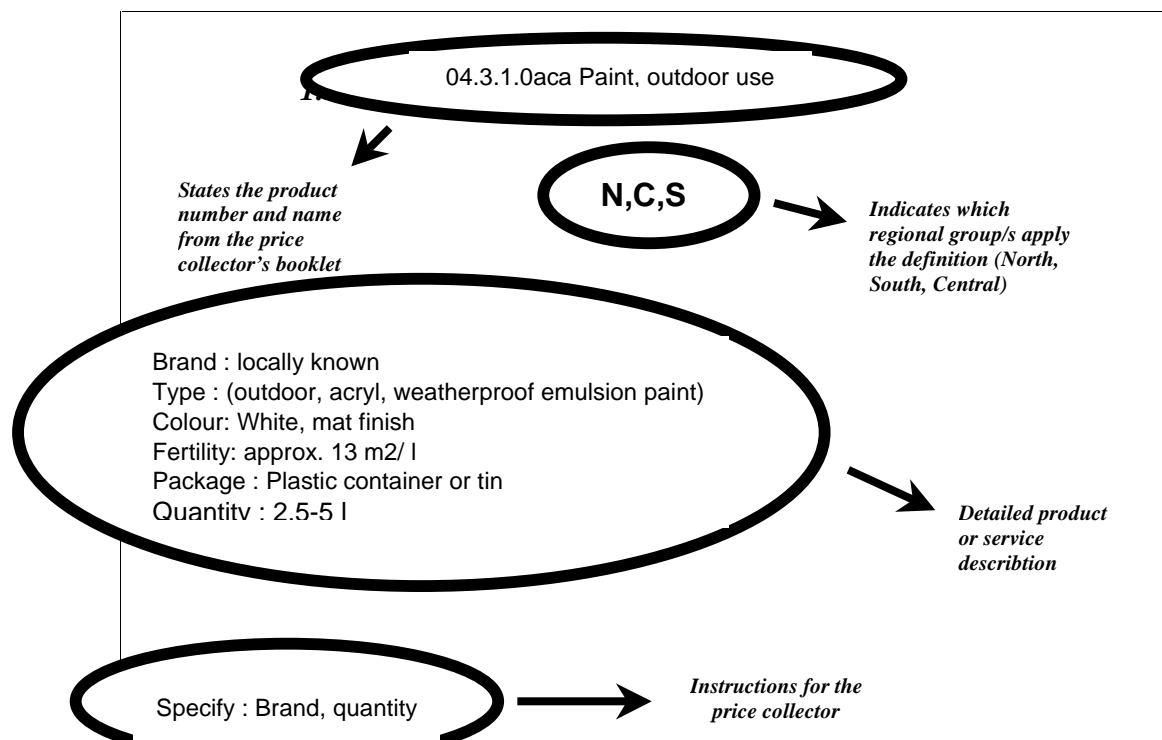
(ii) Data (inside the box)

	Title	Interpretation	Calculation
	(Code)	Country code	Per list
	N.C. price	Average price in national currency	-
	Qts.	Number of price quotations for the product definition	-
	Var.Co.	Variation coefficient of the price quotations for the product definition: standard deviation.	$= \sqrt{\Sigma x^2/n - (\Sigma x/n)^2}$ where $x = \text{NCprice}$ $n = \text{Qts}$
	Wn.	Warning indicator if variation coefficient breaches threshold	<<< if $x < -90\%$ << if $-90\% < x < -60\%$ < if $-60\% < x < -30\%$ if $-30\% < x < 30\%$ > if $30\% < x < 60\%$ >> if $60\% < x < 90\%$ >>> if $90\% < x$
	XR-Price	Average price in national currency converted to Euro.	$= \text{NCprice} \div R_E(\text{Euro})$
	XR-In	Euro price level index – ie. the difference from the geometric average <u>for the product definition</u>).	$(i=1 \text{ to } n) \text{PLI}_i \div \Pi \text{PLI}_i^{(1/n)}$, n =number of countries, and j =country in question.
	Wn.	Warning indicator if Euro price level index breaches threshold	<<< if $x < 50\%$ << if $50\% < x < 66.6\%$ < if $66.6\% < x < 83.3\%$ if $83.3\% < x < 120\%$ > if $120\% < x < 150\%$ >> if $150\% < x < 200\%$ >>> if $200\% < x$
	PPP price	Average price in national currency converted to PPP price by dividing the XR with the PPP rate found inside the Basic heading box.	$= \text{NCprice} \div \text{PPP}$ $= \text{NC-Price} \div (\text{NC}/\text{XR})$
	PPP-In	PPP-price level index - ie. The difference from the geometric average <u>for the basic heading</u>). After PPP has been applied.	$(i=1 \text{ to } n) \text{PLI}_j \div \Pi \text{PLI}_i^{(1/n)}$, n = number of countries, and j = country in question.
	Wn.	Warning indicator if PPP price level index breaches threshold.	<<< if $x < 50\%$ << if $50\% < x < 66.6\%$ < if $66.6\% < x < 83.3\%$ if $83.3\% < x < 120\%$ > if $120\% < x < 150\%$ >> if $150\% < x < 200\%$ >>> if $200\% < x$

6. Examples of product definitions

These examples are taken out of the handbook used by the price collectors in 2001. These definitions enable the price collectors to clearly identify the appropriate product. If the surveyor cannot identify the precise product he or she will, by using his or her own judgement, identify a similar product. The booklet allows for notes to be taken in just such a situation. The NSI will then in consultation with the group leader make sure that the replacement product is indeed comparable with the originally intended item.

Example a): House repairs; water, fuel and power; operation of transport equipment; transport and communication services; recreational service



Example b) : Food, beverages and tobacco

<p style="text-align: center;">01.1.8.3 Chocolate bar C</p> <p>Brand: Mars Sold loose or in multipack of 3 bars Specify: Sold loose or in multipack Weight: 58g</p>	<p style="text-align: center;">01.1.7.2 Potatoes C</p> <p>Brand: - Country typical variety For: All purposes Excluding: Red, baby, baking and new potatoes Prepacked Quantity: 5kg +/- 1kg Soft and mealy potatoes Specify Variety</p>
---	--

Example c) :

Health products and services

<p>06.1.1.0r28 Clarityn C</p> <p>Atc Code: RO6AX13 Active principle: Loratadine Strength: 10mg Dosage form: Tablets Quantity: 10-100 tab.</p> <p>Reference quantity: 10 tab</p>	<p>06.1.3.1a07 Spectacles, Lenses C</p> <p>Type: Corrected curve Brands: Zeiss, Rodenstock, Hoya, Essilor Composition: Plastic (material CR39) Parts or components excluded: Frame Astigmatism: +/- 2 diop Focus: Point focal Spherical power: +/- 2 diop Lens diameter: 70 mm Other technical characteristics: Simple face, Not tinted Service: Mounting included Quantity: 2pcs</p> <p>Reference quantity: 2pcs</p>
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IV - ESTATE AGENCIES 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 products, 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, Inter-Organisation section (IOS) 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 V deals with the moving average model.

2. The survey

In each place the survey is conducted around mid-year (between end of April and end of June) by a team of normally 2 surveyors (NSI and either from Eurostat or IOS). 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 is regarded as the absolute minimum. Agents are asked for current rents for 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 every year.

The selection of dwelling types used in the survey is similar to the method used for all other products. 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 6 shows the 13 possible 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 m² flats, while the 140-160 m² flats are used to compare Athens to Brussels and the 80-100 m² flats to compare London to Brussels.

3. The questionnaire

A copy of the London questionnaire, as representative of all the other places is annexed (see annex B). The following instructions are followed by surveyors to fill the questionnaire.

Location: The survey does not necessarily cover those areas where expatriates actually live, but places comparable with those actually occupied by officials in Brussels. These 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 is a total of 5 broad categories of dwelling:

- Detached house
- Non-detached house (i.e. terraced or semi-detached)
- 3-bedroom flat
- 2-bedroom flat
- 1-bedroom 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 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 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 6: Estate agencies rent survey - information collected in each place

	3-bedroom flat			2-bedroom flat		1-bedroom flat		non-detached house			detached house		
	(140-160m ²)	(110-130m ²)	(80-100m ²)	(80-100m ²)	(60-80m ²)	(60-80m ²)	(40-60m ²)	(140-160m ²)	(110-130m ²)	(80-100m ²)	(190-220m ²)	(150-180m ²)	(110-140m ²)
Brussels	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Copenhagen		✓			✓		✓		✓			✓	
Berlin		✓		✓		✓			✓			✓	
Bonn		✓		✓		✓			✓			✓	
Karlsruhe		✓		✓		✓			✓			✓	
Munich		✓		✓		✓			✓			✓	
Athens	✓			✓		✓		✗			✗		
Madrid		✓			✓		✓		✗			✗	
Paris		✓		✓			✓		✗			✗	
Dublin		✓			✓		✓			✓			✓
Rome		✓		✓		✓			✓		✗		
Varese		✓		✓		✓			✓		✓		
Amsterdam		✓			✓		✓		✓			✗	
Vienna		✓		✓		✓			✓			✓	
Lisbon	✓			✓		✓		✓				✓	
Helsinki			✓		✓		✓		✓			✓	
Stockholm		✓		✓		✓			✓			✓	
London			✓		✓		✓			✓			✗
Culham			✓		✓		✓			✓			✓

✓ data collected and used for calculating rent parities

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

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 a separate cash payment (as happens in some places) it is the total rent that is considered. The figure exclude 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 (conciierge, 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's 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 the process of the data (discussed in the next chapter), the NSI's agreement to the final results is requested.

An example of a survey results (Helsinki 2000) is annexed (see annex C).

V - CALCULATION OF RENT PARITIES

1. Introduction

Housing cost is covered by two basic headings: 20 (tenants' rents) and 21 (imputed rents of owner-occupiers). The **weights** for heading 20 are obtained directly from the Family Budget Surveys (FBS), while those for heading 21 are obtained by imputing average rents by housing 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. a means has to be chosen to aggregate 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 a rents table with n columns and i rows are 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 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 7 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 7 Weights used in 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 8.

Table 8: Indices for updating rents

Country	Place	Index
A	Vienna	CPI
B	Brussels	Serie Indice santé/Gezondheidsindex
D	Berlin	COICOP 4.1+4.4
	Bonn	COICOP 4.1+4.4
	Karlsruhe	COICOP 4.1+4.4
	Munich	COICOP 4.1+4.4
DK	Copenhagen	Index of net retail price
E	Madrid	CPI
F	Paris	Series coût de la construction
GR	Athens	CPI
I	Rome	CPI-famiglie di operai e impiegati
	Varese	CPI-famiglie di operai e impiegati
IRL	Dublin	Sub-index rents from CPI *
NL	Amsterdam	CPI
P	Lisbon	CPI
S	Stockholm	CPI
SF	Helsinki	Cost of living index
UK	London	CPI sub-index for private renters
	Culham	CPI sub-index for private renters

Examples of 6-year results in Brussels and in Helsinki are shown in table 9.

Table 9: Examples of results from surveys (in local pre-Euro currency)

a) Brussels

	3 bedroom flat			2 bedroom flat		1 bedroom flat	
	(140-160m ²)	(110-130m ²)	(80-100m ²)	(80-100m ²)	(60-80m ²)	(60-80m ²)	(40-60m ²)
t-5	51.933	37.833	27.875	29.300	22.470	21.792	17.262
t-4	48.604	35.777	26.792	28.146	21.321	20.200	16.163
t-3	51.214	36.857	27.821	28.500	21.696	20.500	17.071
t-2	51.433	35.700	27.000	29.833	22.800	22.000	16.732
t-1	53109	36855	27545	30298	23421	22113	17212
t	55516	40797	30583	31484	23733	23141	18500

	Non-detached houses			Detached houses			Weights (in %)	Price Indices
	(140-160m ²)	(110-130m ²)	(80-100m ²)	(190-220m ²)	(150-180m ²)	(110-140m ²)		
t-5	59.727	46.577	33.688	81.962	64.577	50.188	10	118,2
t-4	56.000	40.068	31.818	84.318	63.091	50.341	12	120,0
t-3	55.536	40.962	32.542	87.154	65.000	49.864	13	121,7
t-2	57.000	41.577	33.688	85.714	62.607	51.458	17	124,1
t-1	57579	41708	32750	91350	63471	49782	23	124,9
t	60786	43292	34444	94375	69536	53100	25	127,1

b) Helsinki

	3 bedroom flat	2 bedroom flat	1 bedroom flat	Non-detached house	Detached house	Weights (in %)	Price Indices
	(80-100 m ²)	(60-80m ²)	(40-60m ²)	(110-130 m ²)	(150-180 m ²)		
t-5	5.663	4.339	3.290	6.156	7.750	10	1394
t-4	5.943	4.699	3.351	6.868	9.258	12	1401
t-3	6.350	5.012	3.809	7.289	9.410	13	1417
t-2	7.335	5.428	4.195	8.190	10.420	17	1438
t-1	8.017	6.104	4.652	8.500	10.727	23	1454
t	8.495	6.436	5.018	9.172	11.832	25	1504

The price indices in table 9 are used to update the rent data to the price level of the year t. The resulting rent data are presented in Table 10. The last row of table 10 (average rents) is obtained as a weighted average of the figures in each column, where the weights are those in table 9b. Thus, for example, a typical contemporary rent of a detached house in Helsinki in year (t-5) (7,750 FIM) would have risen by the year t to 8,367 FIM using the ratio of the price indices 1504/1394.

Table 10: Updated rents from table 9b (Helsinki)

	3 bedroom flat (80-100 m ²)	2 bedroom flat (60-80m ²)	1 bedroom flat (40-60m ²)	Non-detached house (110-130 m ²)	Detached house (150-180 m ²)
t-5	6.110	4.681	3.550	6.642	8.362
t-4	6.380	5.044	3.597	7.373	9.939
t-3	6.740	5.320	4.043	7.737	9.988
t-2	7.672	5.677	4.388	8.566	10.898
t-1	8.293	6.314	4.812	8.792	11.096
t	8.495	6.436	5.018	9.172	11.832
Average rents	7.588	5.791	4.419	8.326	10.690

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 Helsinki) is shown in table 11.

Table 11: Rent ratios for Helsinki

	3 bedroom flat (80-100 m ²)	2 bedroom flat (60-80m ²)	1 bedroom flat (40-60m ²)	Non-detached house (110-130 m ²)	Detached house (150-180 m ²)
Helsinki Average rents	7588	5791	4419	8326	10690
Brussels Average rents	28974	23456	17795	43486	66928
Rent ratios	0,26189	0,24690	0,24835	0,19147	0,15972

4 Aggregation of the rent ratios

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 (basic heading 20) is also imputed to basic heading 21 (imputed rents of owner-occupiers), the housing-type weights should take into account both tenants and owners.

Table 12 shows how weights are calculated from the SHS.

Table 12 Information from the Staff Housing Survey

Kind of dwelling	TENANTS		OWNER-OCCUPIERS		TENANTS+OWNERS
	Number	Global expenditure	Number	Imputed rent	“Rent”
[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 average rent (tx_i) by type of dwelling are available from the SHS. Imputed rent by kind of dwelling (ox_i) can be calculated as shown in column [5] and “rent” for tenants and owners is obtained in column [6].

Housing-type weights (w_i) are the ratios between the 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

There are cases where a weight-pattern based only on tenants seems more appropriate than one based on both tenants and owners. This happens because there exists a relationship between certain characteristics of the reference population and the corresponding housing pattern. In particular there are 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. But in places like Brussels or Varese, where most officials stay for quite long periods, people tend to look for a permanent dwelling. This often means a bigger and more comfortable family house or apartment.
- 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. Moreover, owners tend to have bigger houses than tenants do. Generally it is the case that for permanent and temporary staff there are different **proportions** of houses and flats.

In conclusion, a weighting pattern based only on tenants seems more appropriate for places with mainly temporary staff.

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 the Brussels weights are imputed: this will be based on tenants if the reference population is mainly temporary, or on tenants + owners where permanent staff are in the majority.

Table 13 shows the kind of weighting pattern used for each place in the 2000 annual review.

Table 13: Housing patterns used for rent parities calculation in the 2000 annual review

Country / Place of employment	Basis of weighting pattern
B Brussels	Brussels tenants + owners
DK Copenhagen	Copenhagen tenants
D Berlin	Brussels tenants imputed
Bonn	Brussels tenants imputed
Karlsruhe	Karlsruhe tenants + owners
Munich	Munich tenants
GR Athens	Brussels tenants imputed
E Madrid	Brussels tenants imputed
F Paris	Paris tenants
IRL Dublin	Brussels tenants imputed
I Rome	Brussels tenants imputed
Varese	Varese tenants + owners
NL Amsterdam	Brussels tenants imputed
A Vienna	Brussels tenants imputed
P Lisbon	Lisbon tenants
FIN Helsinki	Brussels tenants imputed
S Stockholm	Brussels tenants imputed
UK London	London tenants
Culham	Brussels tenants + owners imputed

d) The Fisher formula

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. A description of these indices can be found in chapter II. Eurostat uses the last index type (Fisher), which is the geometric average of the Laspeyres and Paasche indices.

An example of rent parity calculation is shown in table 14.

Table 14: rent parity for Helsinki

	3 bedroom flat (80-100 m ²)	2 bedroom flat (60-80m ²)	1 bedroom flat (40-60m ²)	Non-detached house (110-130 m ²)	Detached house (150-180 m ²)	Totals
Helsinki Average rents	7588	5791	4419	8326	10690	
Weights	20.4	39.7	11.1	16.5	12.4	100
Brussels Average rents	28974	23456	17795	43486	66928	
Weights	14.0	17.6	3.9	29.5	35.0	100
Price ratios	0,26189	0,24690	0,24835	0,19147	0,15972	

Laspeyres index = 0.2022

Paasche index = 0.2239

Fisher index = 0.2027

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 , and
- new dwelling-type weights based on staff housing surveys.

All these effects as well as the total change in rent parities are shown in table 15.

Table 15: Change in rent parities from 1999 to 2000 - decomposition of effects (in %)

	Deletion of 1994 survey	Introduction of 2000 survey	price index 2000	Dwelling structure 2000	Total change (%)
Copenhagen	4,8	0,0	0,9	-0,8	4,9
Berlin	-2,0	-0,1	-1,1	-0,2	-3,3
Bonn	-2,5	-0,4	-1,1	-0,3	-4,2
Karlsruhe	-0,7	-0,5	-1,0	-0,4	-2,6
Munich	0,2	1,5	-1,0	0,1	0,8
Athens	5,4	4,5	-2,3	0,2	7,8
Madrid	-1,5	-0,5	0,3	0,5	-1,2
Paris	-0,5	0,7	-0,3	0,0	-0,1
Dublin	9,1	-1,1	3,7	-2,1	9,6
Rome	2,7	0,8	-0,2	0,0	3,4
Varese	1,4	-0,5	-0,3	0,7	1,3
Amsterdam	0,6	1,0	0,0	0,3	1,9
Vienna	-6,8	2,0	0,9	0,1	-4,0
Lisbon	0,0	0,8	-0,3	0,2	0,7
Helsinki	6,5	0,5	1,4	-1,4	7,0
Stockholm	4,4	1,1	-0,1	-1,0	4,4
London	-2,2	-1,7	0,2	1,3	-2,4
Culham	2,9	-2,3	0,2	-1,0	-0,3

VI - CONSUMPTION WEIGHTS - FAMILY BUDGET SURVEY

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 84 elementary parities using consumption weights. With the methodology in use, each overall economic parity is calculated as a Fisher parity (for details, see chapter II). Consumption weights are thus needed not only for Brussels but for all the duty stations for which correction coefficients are calculated.

For each place, the weights are estimated for each of the 84 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 EC official. To use, say, 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 to calculate such weights would certainly be simpler to obtain.

To estimate expenditure patterns for the EC officials, every five years Eurostat carries out Family Budget Surveys (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 FBS 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.

Although the principles above are applicable to all the FBS conducted among EU officials, some specific situations are distinguished:

a) Family Budget Surveys in Brussels

As Brussels is the reference city for all correction coefficients, and because of the large number of staff there, FBS in Brussels are special in the sense that the questionnaire is designed on the assumption that large number of responses will be achieved, and reliable weights can be calculated.

b) Family Budget Surveys for other places

Places other than Brussels have far fewer staff. With the exception of Ispra, the number of people on duty rarely are over one hundred (Karlsruhe, Thessaloniki, Dublin) and in most cases, particularly in the capital cities, much more limited. Even with a high response rate the number of answers finally available are likely to be small. This is an important issue to be considered when the questionnaire is designed.

In extreme cases, like places with few officials (i.e.: capital cities) the reduced sample does not permit to estimate reliable consumption weights and a common structure, pooling all the questionnaires from these places, is derived.

2. The Brussels Family Budget Survey

a) Main features of the Brussels questionnaire

The questionnaire is divided into six parts:

- Part 1 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 in Brussels.
- Part 2 This section concerns the main regular bills such as telephone, electricity, car insurance, etc. The usual, or average, amount which is currently paid, together with the frequency, is shown in this section.
- Part 3 This section records day by day during 2 consecutive weeks, all expenditure on food and food-related articles - such as restaurants and staff canteens. Expenditure on some minor household and personal products are also included in this section.
- Part 4 is a section in which expenditure on certain items purchased during a one-month period is noted.
- Part 5 is a section in which expenditure on more durable items purchased during the last 6 months is recorded.
- Part 6 is a section in which the respondent may record, if he wishes, his expenditure outside Belgium. This information is not used in the calculation of the purchasing power parities and correction coefficients, but can be of analytical help.

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 (for definition see next page) to all owner-occupiers of the same dwelling class. This procedure is in line with the Commission Decision of 18.7.1995 (JO L186, 5.8.1995) on imputed rents estimation, 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 housing (Studio, 1-bedroom flat, etc.);
- Size in m²;
- Garage / no garage.

Given the sample size constraints, not all the possible classes are used but only those likely to have significantly different average rents. The cross-classification type/garage was selected for small and medium apartments (2 bedrooms) while type/size was applied for large flats and houses. These criteria leads to the following classes:

- 1 Studio (Only without garage in the sample)
- 2 Apartment 1 bedroom, with garage
- 3 Apartment 1 bedroom, without garage
- 4 Apartment 2 bedroom, with garage

- 5 Apartment 2 bedroom, without garage
- 6 Apartment >2 bedroom, <120 m²
- 7 Apartment >2 bedroom, >=120 m²
- 8 House terraced or semi-detached <140 m²
- 9 House terraced or semi-detached >=140 m²
- 10 House detached <190 m²
- 11 House detached >=190 m²

3. FBS for places of employment other than Brussels

a) Preliminary remarks

For places other than Brussels different considerations apply. In the places where there are large centres (e.g. Ispra, Dublin, Thessaloniki etc.), 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 the European Parliament, European Schools, and other EU institutions, as well as international staff belonging to the co-ordinated organisations) is large enough to provide a reasonably reliable estimate of average consumption patterns.

However in those places (mainly capital cities) 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).

The two cases mentioned above need to be treated differently when estimating consumption weights. While in the first case a specific designed questionnaire for small samples can deal with some of the difficulties, for the second, special methods to estimate the weights have been developed.

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.

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

b) FBS in places with sufficient staff population to estimate reliable weights.

For these places, basically those with research centres or with a sufficiently large combined population (staff of the European Parliament, European Schools, other EU institutions, etc), a special questionnaire to treat small samples has been designed.

The questionnaire is consistent with the standard classifications (COICOP and 84 basic headings). The EU staff *specificity* in consumption patterns is also considered in the design. The most important aspects of the questionnaire are summarised below.

a) Reasonable size of the questionnaire to facilitate responses.

Given the voluntary basis of participating in the survey, the questionnaire is kept quite simple with regard to data needed to stratify the sample, to stratify households and the control information used for detecting and explaining unusual patterns. For these parts, only the relevant information that is used for the analysis is asked.

b) Recall periods used

One important feature of the questionnaire is that each consumption heading appears only in one of the recall periods (daily, monthly or yearly). This reduces in practice the possibility of double counting for those respondents not attentive to the instruction of the questionnaire. Moreover, the recall period for all places other than Brussels is one year (instead of six months).

c) Classification used

The classification is in line with COICOP. Hence the headings chosen in the questionnaire allow the possibility of linking unambiguously both classifications and also the one used in Brussels, for comparison and analysis.

c) Consumption weights for places with few officials

The method now being 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 places considered to have similar characteristics. This method treats housing separately from other items of expenditure.

Considering non-housing items list, 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 84-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 84 basic headings are re-scaled to 1000.

The places used for the average weighting are those where FBSs have been conducted - a sort of European pool excluding Brussels (given that Brussels represents about 90% of the population, its inclusion would dominate a weighted average, reflecting 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 FBSs from places other than Brussels.

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

The estimation of consumption weights, although based where possible on local FBSs, 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. Current practices differ according to the country.

- In the UK, the same weighting pattern is used for Culham and London, although (a) the number of FBS respondents from Culham exceeds that from London and (b) rents in London are considerably higher than those in Culham.
- In Germany, the same weighting pattern is used in all four places of employment.
- In Italy, Ispra has its own FBS-based weighting pattern, while Rome has a separate one based on FBSs from Rome and certain other places in Italy where there are staff of the Co-ordinated Organisations.

A general and consistent method for these places is currently under review.

VII CALCULATION OF CORRECTION COEFFICIENTS

1. Introduction

The basic principle behind the application of correction coefficients is that when officials are serving in posts outside Brussels or 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, officials should not gain an unfair advantage over their counterparts in Brussels. For this reason, salary adjustment of EU officials outside Brussels and Luxembourg requires to compare relative living costs between Brussels 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 EC 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 EC official is divided into 84 groups, called “Basic Headings” (such as footwear, train fares, food, tobacco etc). Within these Basic Headings, the products are selected and specified in enough detail to allow prices in a reasonably narrow range to be collected. The choice of products 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 more than 3000 items.

Between each duty station and Brussels a parity is obtained for each of the 84 “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, the prices of as many as possible of the items are collected by NSIs in each duty-station through special surveys carried out periodically (see chapter III). Several price quotations for each item are obtained and averaged.

The calculation of a global economic parity requires the aggregation of the 84 elementary parities using consumption weights (see chapter VI). 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 III gives a detailed description of all activities concerning price surveys. The overall list of products and services priced contains about 3000 items. The items are classified according to the classification system COICOP. COICOP (Classification of Individual Consumption by Purpose) has been adopted as a national accounts classification for consumer expenditure applying to all national accounts as from 1999. Following the European System of Accounts 1995 (ESA95) a move to a COICOP-based structure was imperative for Purchasing Power Parities (PPP). Meanwhile, a Council Regulation has fixed also for the Harmonised Consumer Price Indices a COICOP-based structure. These implied that a similar change for correction coefficients was essential to guarantee coherence between international

classifications. After detailed discussions in 1997 and 1998 the Working Party on Article 64 in its meeting in March 1999 agreed to introduce a COICOP-based structure for the calculation of Correction Coefficients from 1999 onwards.

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) Medical care and health expenses
- (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 84 basic headings (see annex D). 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 VI).
- secondly, they match reasonably homogeneous groups of products from which a number of products is selected for price surveys (see chapter III).

As mentioned above, average prices for each product and place are calculated at the time of the survey. Price ratios between the duty station and Brussels for each product are then calculated. The geometric mean of these price ratios for the products belonging to the same basic heading is called elementary parity. So, there are in total 84 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 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 84 elementary parities are then aggregated to one global parity using the consumption weights derived from the Family Budget Surveys (see chapter VI).

3. Calculation of global parity

Using the 84 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 84
- i = Item i
- k = Number of items priced both in Brussels and in place X ($k \leq i$)
- 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:

$${}_X PPA_B^L = \frac{\sum_{j=1}^{84} PPA_j \times W_{Bj}}{\sum_{j=1}^{84} W_{Bj}}$$

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:

$${}_X PPA_B^P = \frac{\sum_{j=1}^{84} W_{Xj}}{\sum_{j=1}^{84} \left(\frac{1}{PPA_j} \times W_{Xj} \right)}$$

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:

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

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.

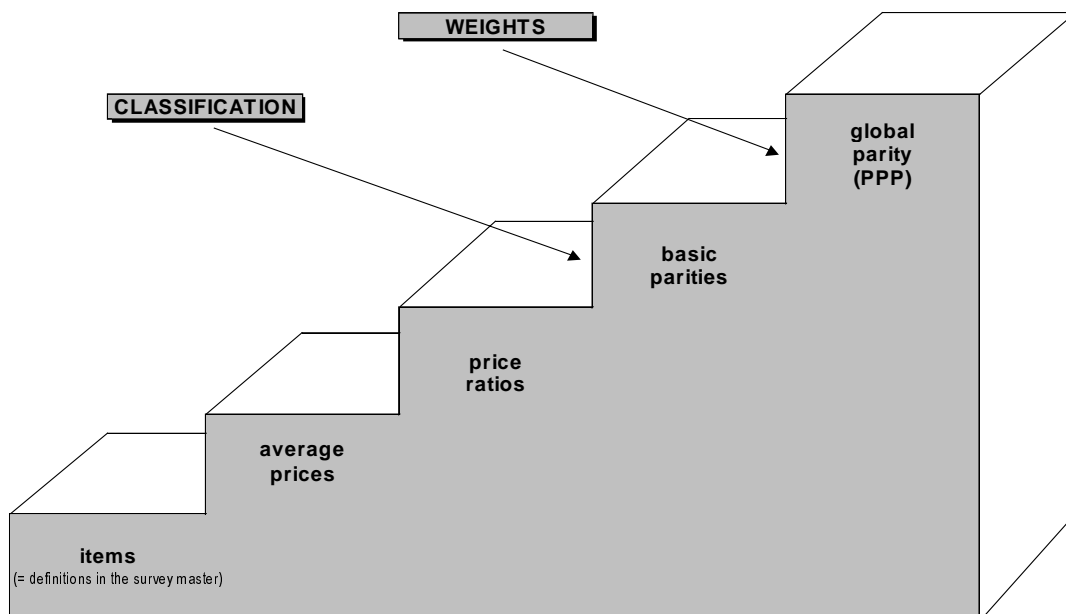
$${}_X CC_B = \frac{{}_X PPA_B^F}{T_{B/X}}$$

where:

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

Diagram 1 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 PPP, 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 2001 annual review, new parities obtained from price surveys were integrated for the following groups:

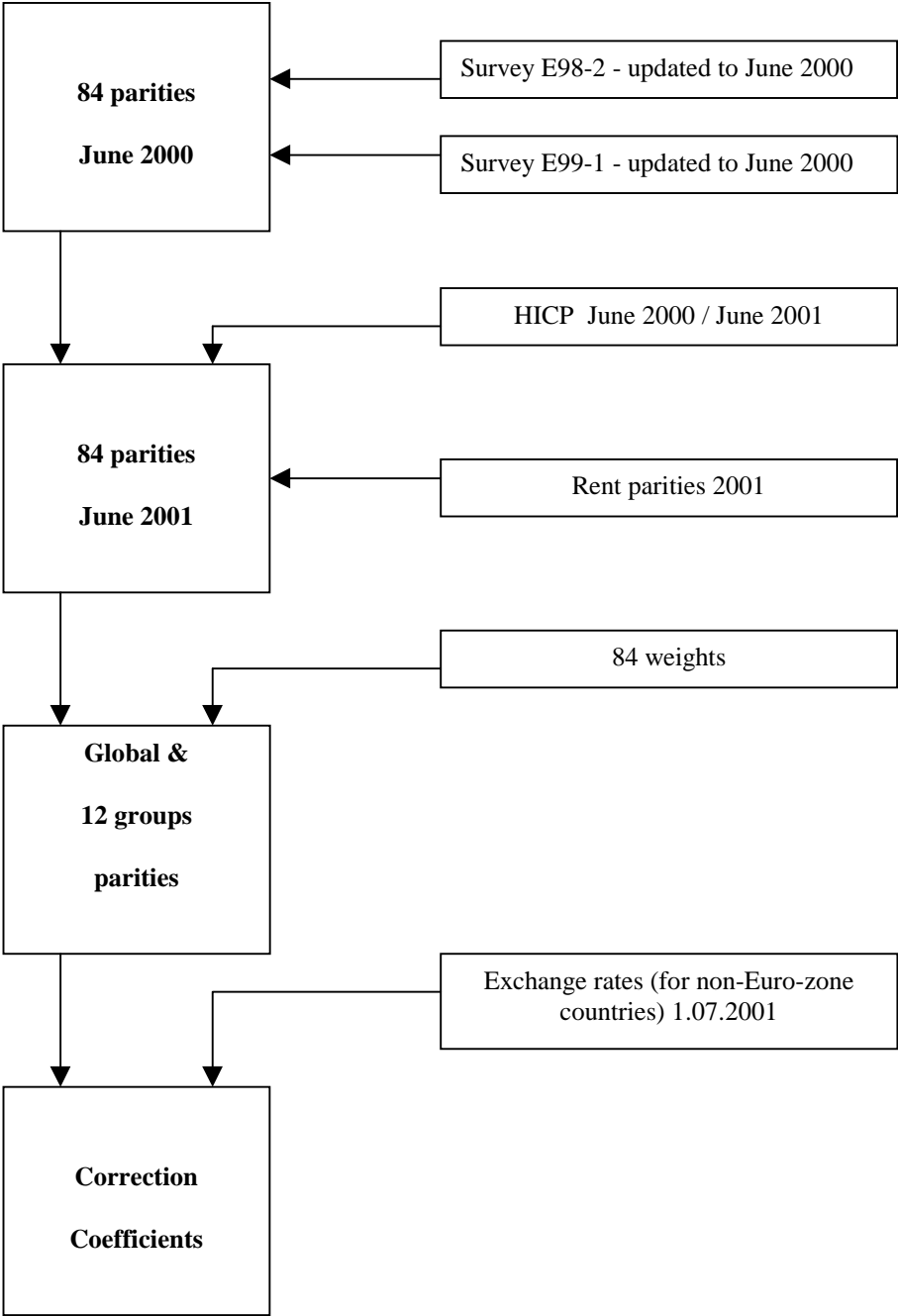
- Services (survey autumn 1998);
- Furniture, Glassware and Tableware (survey spring 1999).

The 84 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 States are produced and published monthly. The calculations of HICPs in all Member States are carried out according to the same methodology. They have a cocommon 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. As the correction coefficients lead to international comparison, the parities are updated using the HICPs.

The following schema shows, as an example, the 2001 yearly update.

Diagram 2: Procedures leading to 2001 annual salary review



Annex A: Questionnaire for Brussels staff housing survey



**2001 ANNUAL STAFF HOUSING SURVEY
BRUSSELS**

1. Did you reply to the 1999 survey? 1 *Yes* 2 *No*
2. Are you an expatriate?
(according to staff regulations) 1 *Yes* 2 *No*
3. Status of occupier: 1 *Tenant* 2 *Owner* 3 *Other*
4. Total estimated area of living space:
(excluding garage, balcony, cellar, etc.) _____ *m*²
5. Year you moved in _____
6. When you moved into your dwelling was it: 1 *Unfurnished* 2 *Furnished*
7. Postal code: B- _____
8. Type of dwelling:

1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
studio flat	1 bedroom flat	2 bedroom flat	3 or more bedroom flat	non-detached house	detached house	other (hotel, room, etc.)

9. Garage/parking space
(covered, enclosed) 1 *Yes* 2 *No*

IF TENANT

10. Monthly rent June 2000: _____ in Belgian Francs.
(all included: rent, charges, taxes, garage or parking space)

11. Annual property taxes in 1999: _____ in Belgian Francs.
(taxes on occupation, charges related to services supplied by local authorities - whether they are included or not in rent)

IF OWNER

12. Annual property taxes in 1999: _____ in Belgian Francs.
(taxes on ownership, charges related to services supplied by local authorities)

Annex B : Questionnaire for estate agency rent survey in London



INTER-ORGANISATIONS STUDY SECTION
ON SALARIES AND PRICES

LONDON

Agency: _____ n. _____

Agent name: _____

RENTS SURVEY 2001

For the various types of accommodation described below, you are asked to provide the **weekly rent**.

GENERAL CHARACTERISTICS OF THE ACCOMMODATION	
<i>Property:</i>	Unfurnished.
<i>Location:</i>	Residential areas of <u>good quality</u> where professional people live (e.g. doctors, managers, lawyers etc.).
<i>Year of construction:</i>	Recently built or modernised (e.g. within last 10 years).
<i>Situation / Outlook:</i>	Middle floor. In good, well-lit position.
<i>Finish:</i>	Floor, walls, sanitary fittings, doors, etc. of good quality.
<i>Living area:</i>	Total internal habitable area; <u>exclude</u> garage and terrace.
<i>Price data requested:</i>	Monthly rent excluding charges for a contract of at least one year. Rent <u>paid by tenant</u> (rent paid by employer must be excluded).

KIND OF ACCOMMODATION	Price Range	Typical rent
I. 3 bedroom flat 80-100 m² (850-1100 sq. feet) 3 bedrooms, living room, kitchen, 1 or 2 bathrooms		
II. 2 bedroom flat 60-80 m² (650-850 sq. feet) 2 bedrooms, living room, kitchen, 1 bathroom		
III. 1 bedroom flat 40-60 m² (450-650 sq. feet) 1 bedroom, living room, kitchen, 1 bathroom		
IV. Studio flat 30-40 m² (350-450 sq. feet) 1 room, kitchen area, 1 bathroom		
V. Non-detached house 80-100 m² (850-1100sqfeet) (e.g. terraced or semi-detached) 3 bedrooms, living room, kitchen, 1 or 2 bathrooms		
VI. Detached house 110-140 m² (1200-1500 sq. feet) 4 bedrooms, living room, kitchen, 1 or 2 bathrooms		

DISTRICTS COVERED BY THE ESTATE AGENCY

Islington & Highbury Westminster Fulham Putney East Sheen Docklands Greenwich Southgate

Annex C: Results of the estate agency rent survey in Helsinki , June 2000

HELSINKI

June 2000

FMk/Month

Agencies	3 bedroom flat (80 -100 m ²)			2 bedroom flat (60-80 m ²)			1 bedroom flat (40-60 m ²)			Non-detached house (110-130 m ²)			Detached house (150-180 m ²)		
	AVG	min	max	AVG	min	max	AVG	min	max	AVG	min	max	AVG	min	max
3	8 250	6 500	10 000	6 750	5 500	8 000	5 100	3 700	6 500	10 000	8 000	12 000	12 000	9 000	15 000
5	5 700	4 400	7 000	5 400	3 600	7 200	4 500	3 000	6 000	7 140	5 830	8 450	9 150	7 500	10 800
6	11 000	9 000	13 000	6 000	4 000	8 000	5 000	3 500	6 500	10 500	8 000	13 000	12 000	10 000	14 000
7	8 500	7 000	10 000	6 650	5 300	8 000	5 000	4 000	6 000	9 250	8 500	10 000	13 500	12 000	15 000
8	9 250	8 500	10 000	7 500	7 000	8 000	5 250	4 500	6 000	10 250	8 500	12 000	15 500	13 000	18 000
9	8 000	6 000	10 000	6 500	5 000	8 000	5 000	4 000	6 000	8 000	7 000	9 000	9 500	9 000	10 000
10	7 000	6 000	8 000	6 000	5 000	7 000	4 550	3 600	5 500	7 250	6 500	8 000	10 000	8 000	12 000
11	7 250	6 000	8 500	6 000	5 000	7 000	4 300	3 600	5 000	9 000	8 000	10 000	11 000	10 000	12 000
14	9 000	6 000	12 000	6 500	5 000	8 000	5 000	4 000	6 000	9 500	7 000	12 000	12 500	10 000	15 000
15	10 500	9 000	12 000	6 750	5 500	8 000	5 750	5 000	6 500	10 000	8 000	12 000	14 000	10 000	18 000
18	9 000	7 000	11 000	6 750	5 500	8 000	5 750	4 500	7 000	10 000	8 000	12 000	11 000	9 000	13 000
Rent 2000	8 495			6 436			5 018			9 172			11 832		
Rent 1999	8 017			6 104			4 652			8 500			10 727		
2000/1999	1,06			1,05			1,08			1,08			1,10		

Annex D: List of 84 basic headings

BH	COICOP	Basic Headings	Group
1	01.1.1	Bread and cereals	1
2	01.1.2	Meat	1
3	01.1.3	Fish	1
4	01.1.4	Milk,cheese and eggs	1
5	01.1.5	Oils and fats	1
6	01.1.6	Fruit	1
7	01.1.7	Vegetables including potatoes and other tubers	1
8	01.1.8	Sugar,jam,honey,chocolate,and confectionery	1
9	01.1.9	Food products n.e.c	1
10	01.2.1	Coffee,tea and cocoa	1
11	01.2.2	Mineral waters,soft drinks,fruit and vegetable juices	1
12	02.1.1	Spirits	2
13	02.1.2	Wine	2
14	02.1.3	Beer	2
15	02.2.0	Tobacco	2
16	03.1.2	Garments	3
17	03.1.3	Other articles of clothing, clothing accessories and clothing materials	3
18	03.1.4	Dry cleaning, repair and hire of clothing	3
19	03.2.1/2	Footwear including repairs and hire	3
20	04.1.1/2	Actual rentals paid by tenants and other actual rentals	4
21		Imputed rentals (not in HICP)	4
22	04.3.1	Products for the regular maintenance and repair of the dwelling	4
23	04.3.2	Services for the regular maintenance and repair of the dwelling	4
24	04.4.1	Water supply	4
25	04.4.2	Refuse collection	4
26	04.4.3	Sewerage collection	4
27	04.4.4	Other services related to the dwelling n.e.c.	4
28	04.5.1	Electricity	4
29	04.5.2	Gas	4
30	04.5.3	Liquid fuels	4
31	04.5.4	Solid fuels	4
32	04.5.5	Heat energy	4
33	05.1.1	Furniture and furnishings	5
34	05.1.2	Carpets and other floor coverings	5
35	05.1.3	Repair of furniture,furnishings and floor coverings	5
36	05.2.0	Household textiles	5
37	05.3.1/2	Major household appliances whether electric or not and small electric household appliances	5
38	05.3.3	Repair of household appliances	5
39	05.4.0	Glassware,tableware, and household utensils	5
40	05.5.1/2	Tools and equipment for house and garden	5
41	05.6.1	Non-durable household goods	5
42	05.6.2	Domestic services and home care services	5
43	06.	Health	6
44	07.1.1	Motor cars	7
45	07.1.2/3/4	Motor cycles and bicycles	7

46	07.2.1	Spare parts and accessories for personal transport equipment	7
47	07.2.2	Fuels and lubricants for personal transport equipment	7
48	07.2.3	Maintenance and repair of personal transport equipment	7
49	07.2.4	Other services in respect of personal transport equipment	7
50	07.3.1	Passenger transport by railway	7
51	07.3.2	Passenger transport by road	7
52	07.3.3	Passenger transport by air	7
53	07.3.4	Passenger transport by sea and inland waterway	7
54	07.3.5	Combined passenger transport	7
55	07.3.6	Other purchased transport services	7
56	08.1.0	Postal services	8
57	08.2.0/3.0	Telephone and telefax equipment and services	8
58	09.1.1	Equipment for the reception, recording and reproduction of sound and pictures	9
59	09.1.2	Photographic and cinematographic equipment and optical instruments	9
60	09.1.3	Information processing equipment	9
61	09.1.4	Recording media	9
62	09.1.5	Repair of audio-visual, photographic and information processing equipment	9
63	09.2.1/2	Major durables for indoor and outdoor recreation including musical instruments	9
64	09.2.3	Maintenance and repair of other major durables for recreation and culture	9
65	09.3.1	Games, toys and hobbies	9
66	09.3.2	Equipment for sport, camping and open-air recreation	9
67	09.3.3	Gardens, plants and flowers	9
68	09.3.4/5	Pets and related products	9
69	09.4.1	Recreational and sporting services	9
70	09.4.2	Cultural services	9
71	09.5.1	Books	9
72	09.5.2	Newspapers and periodicals	9
73	09.5.3/4	Miscellaneous	9
74	09.6.0	Package holidays	9
75	10.	Education - paid by consumers	10
76	11.1.1	Restaurants, cafes and the like	11
77	11.1.2	Canteens	11
78	11.2.0	Accommodation services	11
79	12.1.1	Hairdressing salons and personal grooming establishments	12
80	12.1.2/3	Appliances, articles and products for personal care	12
81	12.3.1	Jewelry, clocks and watches	12
82	12.3.2	Other personal effects n.e.c.	12
83	12.5	Insurance	12
84	12.6.2/7.0	Other services, including financial services n.e.c.	12