

II

(Acts whose publication is not obligatory)

COMMISSION

COMMISSION DECISION

of 17 December 2002

further clarifying Annex A to Council Regulation (EC) No 2223/96 as concerns the principles for measuring prices and volumes in national accounts

(notified under document number C(2002) 5054)

(Text with EEA relevance)

(2002/990/EC)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Council Regulation (EC) No 2223/96 of 25 June 1996 on the European system of national and regional accounts in the Community ⁽¹⁾, as last amended by Regulation (EC) No 359/2002 of the European Parliament and the Council ⁽²⁾, and in particular Article 2(2) thereof,

Whereas:

(1) Regulation (EC) No 2223/96 contains the reference framework of common standards, definitions, classifications and accounting rules for drawing up the accounts of the Member States for the statistical requirements of the European Community, in order to obtain comparable results between Member States.

(2) It is necessary to improve the comparability between the Member States in the data for changes in real Gross Domestic Product (GDP), both with a view to the application of Article 2 of the Council Regulation (EC) No 1467/97 of 7 July 1997 on speeding up and clarifying the implementation of the excessive deficit procedure ⁽³⁾ and the Resolution of the European Council on the Stability and Growth Pact of 16 June 1997 ⁽⁴⁾ and for the purpose of multilateral surveillance more generally.

(3) The implementation and supervision of Economic and Monetary Union require comparable, up-to-date and reliable information on the structure and developments in the economic situation of each Member State.

(4) The economic accounts in real terms, i.e. adjusted for price changes, are a fundamental tool for analysing a country's economic and budgetary situation, provided they are compiled on the basis of unique principles that are not open to different interpretations. To this end, the recommendations for the calculation of data at constant prices in the framework of Council Regulation (EC) No 2223/96 should be deepened and strengthened.

(5) Commission Decision 98/715/EC of 30 November 1998 ⁽⁵⁾ clarifies Annex A to Regulation (EC) No 2223/96 as concerns the principles for measuring prices and volumes. It defines a classification of methods for certain types of products into most appropriate methods, alternatives which may be used if the appropriate methods cannot be applied and methods which shall not be used.

(6) Decision 98/715/EC establishes a research programme for those products for which this classification is not stated. The results of the research programme, carried out jointly with the Member States, are now available. This Decision defines the classification in question taking into account the results of the research programme.

⁽¹⁾ OJ L 310, 30.11.1996, p. 1.

⁽²⁾ OJ L 58, 28.2.2002, p. 1.

⁽³⁾ OJ L 209, 2.8.1997, p. 6.

⁽⁴⁾ OJ C 236, 2.8.1997, p. 1.

⁽⁵⁾ OJ L 340, 16.12.1998, p. 33.

- (7) This Decision should harmonise the price and volume measures in national accounts without prejudice to the existing legal framework for harmonised indices of consumer prices laid down in Council Regulation (EC) No 2494/95⁽¹⁾ and its further ongoing or future development.
- (8) The measures provided for in this Decision are in accordance with the opinion of the Statistical Programme Committee and the Committee on Monetary, Financial and Balance of Payments Statistics,

HAS ADOPTED THIS DECISION:

Article 1

Objective

The purpose of this Decision is to further clarify the principles for the measurement of prices and volumes contained in chapter 10 of Annex A to Regulation (EC) No 2223/96 in view of the need to further harmonise price and volume measures in accordance with the results of the research programme provided for in Article 4 of Decision 98/715/EC.

Article 2

Classification of methods

A classification of methods into most appropriate methods, alternatives which may be used if the most appropriate methods cannot be applied, and methods which shall not be used is laid down in Annex I to this Decision for products and transaction categories for which this classification is not yet defined by Decision 98/715/EC.

Article 3

Timetable of implementation of the classifications

Annex II lays down the timetable of implementation of the classifications referred to in Article 2.

Article 4

This Decision is addressed to the Member States.

Done at Brussels, 17 December 2002.

For the Commission

Pedro SOLBES MIRA

Member of the Commission

⁽¹⁾ OJ L 257, 27.10.1995, p. 1.

ANNEX I

1. **CLASSIFICATION OF METHODS**

The following classification of methods will be used throughout the remainder of this Annex:

A methods: most appropriate methods;

B methods: those methods which can be used in case an A method cannot be applied;

C methods: those methods which shall not be used.

2. **SOME DEFINITIONS OF METHODS**

Model pricing. This is where a model product is specified in some detail (usually based on real past products), then the contributory elements are re-priced in successive time periods. An example of this is in construction, where one can specify a typical family house, say, and then re-price all of the constituent elements (such as roof, foundations, kitchen unit) of that house in successive periods. For business services, there may be a standard (or generic) contract which can be used. The key criteria for the use of model pricing are:

- regular updating of the models used,
- representativeness of the models,
- use of actual prices charged, taking account of the producers' profit margins and any discounts offered to customers,
- formulation of the model in terms of outputs, not of inputs.

Specification pricing. This is where a real product is broken down into a number of key elements or components, which are priced, and then in successive periods, individual projects are examined and the key elements compared. Crucially, the elements should be separately identifiable, their qualities and impact on final performance of the product should be quantifiable, and prices should be available in different periods. This method differs from the 'model pricing' approach because no ideal models are actually specified.

Charge-out rates and hourly fees. In some cases payment can be related to the number of hours worked (for instance by a lawyer) instead of to the output delivered. In such a case, the charge-out rate (price charged per hour) can be used as a price indicator. Similarly, hourly fees can be calculated by dividing total turnover by number of hours worked.

Hourly fees and charge-out rate methods differ from input methods using wage rate indices in the fact that the operating surplus and other inputs including compensation of employees are included in turnover. In both methods, however, changes in the amount of work done per hour will be reflected as price changes rather than productivity changes.

The hourly fee method is best applied at a very detailed level, by defining the products in as much detail as possible, and by distinguishing between different types of labour.

Representative pricing. This term is used for methods — in particular for business services — where producing companies are asked to select some of their products that are representative for their total output. The prices received for those products are followed over time, as well as the characteristics of the products in order to control for quality changes.

3. **A, B AND C METHODS FOR OUTPUT BY PRODUCTS**3.1. **Within CPA D — Large equipment**

The major product items considered here are ships, aircraft, trains, oil rigs and machinery for specialist industries. Methods relying wholly on measurement of inputs, using unadjusted quantity indicators or based on unit value measures are considered as C methods.

Methods based on model pricing or specification pricing are considered as A methods if the criteria mentioned in section 2 of this Annex are satisfied.

Two alternative methods which can be employed:

- use of *international prices* can be a B method if the prices can be considered representative of the Member State's domestic production (at the most detailed product level) and cross-border trade flows: the markets must be competitive, the data properly stratified and weighted, a suitable method used for adjusting for exchange rate movements and foreign trade data should include second-hand equipment,
- use of specific and robust *quality adjustment* methods can be A or B methods depending on the suitability of the industry, though ideally they should be used in combination with the decomposition of major assets into their constituent elements.

For *ships*, the A method would be model pricing if the conditions of section 2 of this Annex are satisfied.

For *oil rigs*, the A method is the specification pricing approach to identify the modular elements of the rig, so long as adjustments for quality are applied to the elements. Pricing of the components with an adjustment for company margins and labour productivity would be considered a B method, as would use of an international index for certain types of ships — of large size and modular construction — which share the characteristics of oil rigs.

For *aeroplanes*, any method employed must be based on a careful stratification of the industry, must take into account the complex flows associated with cooperative projects, and must adjust for exchange rate changes where prices are quoted in US dollars. The A methods here are model pricing and the specification pricing approaches, and both should benefit from the predominance of commercial customers in the aeroplane market.

Model pricing and quality adjustment based on option prices (that is, estimating the marginal price of additional features) methods are both A methods for *trains*, provided that stratification at least extends to wagons/coaches/locomotives and to the different forms of propulsion technology.

For *special purpose machinery*, the A methods are model pricing and the specification pricing approaches, but appropriate quality adjustment methods can be used directly where the machinery is not suited for a decomposition method.

3.2. CPA 30.02 — Computers and other information processing equipment

An A method is deflation with a Producer Price Index (PPI) that uses an appropriate quality adjustment procedure.

B methods are less appropriate PPIs, e.g. with a less appropriate quality adjustment procedure.

Another possible B method is the use of information from the US hedonic price index for computers, provided it can be shown that it is sufficiently representative for the domestic prices. The most appropriate option in this case is to use the US prices of computer characteristics, and to use these to make explicit quality adjustments to price data collected domestically. An appropriate mechanism for taking into account different general price changes or exchange rate changes should be applied.

Proxy methods, such as using price indexes from other electronic products should be classified as C methods. Also, methods based upon unit values are C methods. The use of a price index that does not take account of quality changes is also a C method.

3.3. CPA 45 — Construction work

The use of input indices to deflate output is viewed as a C method. Volume methods (such as measuring cubic metres of construction, or the number of building permits issued) are also to be considered C methods.

There is a range of possible methods for estimating output price indices, which lead to A or B methods:

For *non-civil construction*:

- the 'actual prices' method takes data from real projects undertaken during the period, or adjusts tender price indices to match the relevant time period, and can be considered an A method provided that the constructions priced in different periods are directly comparable, or if the prices are suitably quality-adjusted when changes in the constructions being compared exist. This method will not be suitable if the projects are genuinely unique,

- the 'model pricing' method if the conditions of section 2 of this Annex are satisfied,
- the 'hedonic' method, which attempts to define the quality of a structure in terms of its characteristics and regress them against price, can be considered a B method.

For civil engineering:

These projects are generally large and unique. The principles set out in section 3.1 of this Annex on the pricing of unique products are equally applicable here, particularly the decomposition of the project into a set of more measurable components. Collecting detailed prices as part of the administrative control of public building contracts can be considered a B method if the data are representative.

For repair and maintenance:

A B method is to collect data on hourly rates or quotes for 'model' jobs from contractors, and to use these as indicators of price.

3.4. CPA 64 — Post and telecommunication services

3.4.1. *Post and courier services*

The use of appropriate and representative PPIs that take account of quality changes would be an A method. For PPIs to be considered appropriate and representative they would need to cover the full range of services produced and take account of any discounts.

PPIs that do not cover the full range of services or do not take account of changes in quality would be a B method. Unit value indices (UVIs) for truly homogeneous products, would also be a B method. Volume indicator methods based on detailed indicators of the many types of services provided, for example number of letters/parcels broken down by different postage rate, are B methods.

The use of detailed Consumer Price Indices (CPIs) to deflate output other than that consumed by households can be a B method if price developments can be shown to be similar for households and businesses. Using detailed CPIs for business purchases where it is known that businesses receive discounts or purchase a different range of products than households would be a C method.

3.4.2. *Telecommunication services*

The deflation of output by quality adjusted PPIs would be an A method. The use of PPIs where their coverage does not exactly match the products or where there is no adjustment for quality is a B method. UVIs for products that are entirely homogeneous, would also be a B method. The use of volume indicators that reflect the full range of outputs is a B method.

The use of detailed CPIs to deflate output other than that consumed by households can be a B method if price developments can be shown to be similar for households and businesses. Using detailed CPIs for business purchases where it is known that businesses receive discounts or purchase a different range of products than households would be a C method.

3.5. CPA 65 — Financial intermediation services, except insurance and pension funding services

3.5.1. *Financial Intermediation Services Indirectly Measured (FISIM)*

As there is no directly observable price or quantity that is truly representative of the output of FISIM from a purely theoretical viewpoint it seems currently impossible to identify a suitable A method for FISIM. Therefore, methods for measuring FISIM at constant prices have to be based on conventions, just as the methods for measuring FISIM in current prices. So far, there are basically two approaches (apart from input methods) to deflate FISIM, both to be considered B methods.

First, a detailed output indicator method could be constructed. The output indicators have to cover the activities that generate FISIM. Examples of possible indicators are numbers of bank accounts, numbers and value of loans and deposits, numbers of cheques processed, etc. However, important differences between the business market and the consumer market do exist and must be reflected by different output indicators for both markets. The value of FISIM has to be broken down by the different activities to provide the weights for aggregating the output indicators.

The second method is the application of base period interest margins on loans and deposits to the stocks of loans and deposits revalued (using a general price index such as the implicit price deflator for domestic final demand) to base period prices, as described in Council Regulation (EC) No 448/98 ⁽¹⁾. This method does not account for changes in quality in the actual service provided. It is necessary to deflate the stocks of loans and deposits by a general price index to remove the influence of price changes on the stock. Price indexes that can be considered acceptable for this purpose are, in order of suitability: the GDP deflator, the deflator of domestic final demand and the overall CPI.

3.5.2. *Financial intermediation outside FISIM*

When separate prices exist for any charged services, using a quality-adjusted output price index of a representative set of those services as a deflator is an A method. To be considered representative, price indices must cover a major part of the entire range of charged-for services. Where the activities are highly heterogeneous (e.g. retail banks, merchant banks and saving banks act very differently) the set of services must be selected for each part of the market for them to be considered representative. Not taking into account those differences is a B method. The price of packages of products may be included if they contain similar services throughout the market. When this is not the case a hedonic method or a model price approach are appropriate for comparing the price of those packages. The use of detailed volume indicators that reflect adequately the output would be B methods.

For *ad valorem* charges it is possible to construct price indices that reflect both changes in the percentage charged and the changes in value of the underlying asset (stock or flow) to which this percentage rate is applied. This is an A method. The use of volume indicators that reflect adequately the output would be B methods. Examples of suitable volume indicators for different products are:

- for the transfer of funds (payments, etc), the number of transfers or a volume indicator based on the amounts transferred is a B method,
- for money funds, using the amounts managed deflated by a general price index (as described in section 3.5.1) is a suitable volume indicator.

For financial leasing, the leasing price can mix service charges and FISIM. Where it is possible to separate the service charge from FISIM then appropriate price indices can be used to deflate the service charge element for this to be an A method. However, the use of output price indices to deflate the output of leasing in total should be considered a C method as it fails to measure the output from FISIM appropriately. The value of the outstanding credits deflated by a general price index (as described in section 3.5.1) would be a suitable volume indicator for a B method. Quality change here relates to the quality of the financial leasing service provided and not to any improvement in quality of the underlying asset.

Output prices or volume indicators that reflect a small limited range of financial products or services, input methods or use of a general price index are C methods.

3.6. **CPA 66 — Insurance and pension funding services, except compulsory social security services**

It seems impossible to implement a concept of deflating insurance service output on the basis of output price statistics. The main reason is that there is no directly observable price or quantity that is truly representative of the output. An A method is therefore considered not possible.

A volume indicator method that makes use of detailed indicators, such as the acquisition and administration of policies and the administration of claims is a B method. Such a method (sometimes known as the direct service method) requires indicators at a very detailed level that take account of changes in the product mix.

The use of provisions adjusted for claims deflated by a general price index (as described in section 3.5.2) is also a B method.

For non-life insurance the number of policies, by product (household, motor vehicle, third party liability, etc.) and type of purchaser, also represent a suitable volume indicator for non-life insurance and is a B method. For life insurance and pension funds these methods are C methods.

⁽¹⁾ OJ L 58, 27.2.1998, p. 1.

3.7. **CPA 67 — Services auxiliary to financial intermediation**

In the case of fixed fees, where separate prices exist for a charged-for service, current price output deflated by a PPI is an A method if changes in quality are reflected or a B method if quality change is not reflected.

For services paid for by *ad valorem* charges, the use of volume indicators is a B method. Such volume indicators can include number of transactions broken down by value size classes or deflated transaction amounts. For auxiliaries to insurance, volume indicators based on the number of insurance policies by type or deflated gross premiums, using a price index of gross premiums, is a B method.

3.8. **CPA 70 — Real estate services**

For services on a fee basis, where the fee is a percentage of a property price, a proper price index would combine the change in fee percentages and the change in house prices. This would constitute an A method. Instead of following actual prices the real estate agents could be asked to quote a price of selling, e.g. a standard dwelling. This model price approach could also be an A method provided the criteria set out in section 2 of this Annex are fulfilled.

Proxies (B methods) could be the use of a price index of investments in new dwellings or an index based on property values (house prices).

Less good, but still B methods, is the use of numbers of houses sold or numbers of transactions of notaries, if broken down by types of houses (e.g. by size).

For the part referring to letting of residential buildings, CPI information is usually available; this will constitute an A method. For letting of non-residential buildings, the use of PPIs on the basis of e.g. rents per m² office space is an A method, provided sufficient detail is available on different types of buildings and their quality.

Alternatively, the use of volume indicators relating to the volume of the stock of residential or non-residential property could be a B method. It might be necessary in this case to adjust for changes in the ratio of rented/owner-occupied dwellings.

Proxying the price changes of non-residential buildings by the CPI for residential buildings is a C method, unless it can be shown that the underlying assumption is realistic.

3.9. **CPA 71 — Renting services of machinery and equipment without operator and of personal and household goods**

An A method for these services would be to collect actual rental prices. For services supplied according to a contract it is necessary to control for changes in quality over time. It should be noted that changes in the quality of the item rented (i.e. not only of the rental service) should also be reflected in the volume of the rental services. For unique services, the use of model prices satisfying the criteria specified in section 2 of this Annex would also be an A method.

Regarding services supplied only to households, CPI information will often be available, and in that case making use of a CPI, adjusted to basic prices, will be an A method for deflating output. In the cases where services are supplied to both businesses and private households, use of a CPI to deflate output will be a B method.

If no observable price of the rental service exists the price index of the actual product can be considered a B method.

3.10. **CPA 72 — Computer and related services**

For packaged software, the A method is to deflate with an appropriate PPI. An appropriate quality adjustment procedure (e.g. based on hedonics) is essential.

Less appropriate PPIs will be B methods. Also, the use of the US index for packaged software, adjusted for exchange rate effects or different general price changes, will be a B method. Care should be taken however to reflect the different timings of releases of new software in the US and in Europe.

Use of a CPI for packaged software is a C method for the deflation of output.

For customised services (both hardware and software consultancy) an approach based on representative pricing (see section 2) could be explored and has the potential to constitute an A method. Another A method could be an approach based on model pricing, if the conditions of section 2 are fulfilled. The result of the model pricing approach could also be used as a proxy for the price of software produced on own-account (B method), if it can be shown that the own-produced software could also have been produced by an external company.

For the service of renting out programmers on a per diem basis, as a B method the charge-out rate could be used.

In view of the differences in the speed of quality changes, the use of an index for hardware to deflate software is a C method.

3.11. CPA 73 — Research and development services

An A method for research and development (R & D) does not exist. Neither collection of actual output prices from e.g. the research institutes nor 'model prices' makes sense since you cannot meaningfully price the same R & D output in two periods in succession.

For market output, charge-out rates or hourly fees (see section 2) are B methods.

The non-market part of R&D is production of collective services (see ESA95, point 3.85). See section 3.13 on CPA 75 for the definition of A, B and C methods for collective services.

3.12. CPA 74 — Other business services

3.12.1. CPA 74.11 — Legal services

For standard type of services that are mostly carried out for households, such as drawing up contracts for buying houses, wills, marriage contracts, etc. ('notary' services) fixed tariffs often exist, which are often covered by the CPI. An index that follows these tariffs can be regarded as an A method. Furthermore, for these standard services, collecting volume indicators (number of contracts drawn up, etc.) will be a B method, unless a method is found to adjust these indicators for quality changes.

Part of the output of legal services is related to the cost of buildings, being part of the transfer costs of buying property. That means that a price or volume index related to those buildings could serve as a proxy for the price or volume of the legal services. Where a fixed fee is charged, it is sufficient to follow the change of this fee over time. Where the fee is a percentage of the price of the building, the price index should be a combination of changes in the fee percentage and changes in the price of the building. In both cases, it will be a B method, because quality changes are difficult to capture.

For services to businesses, there are two basic price mechanisms in this market: lawyers can be hired by the hour or for a fixed rate on the basis of a contract. For the former, charge-out rates or hourly fee approaches can be used as B methods. For the latter (services for a fixed rate on the basis of a contract), an A method would be to closely follow the prices of the contracts, e.g. following the representative pricing approach (see section 2 of this Annex), if the types of contract were homogeneous. A model pricing approach could also work well, and be an A method, provided the criteria in section 2 of this Annex are satisfied.

3.12.2. CPA 74.12 — Accounting, book-keeping and auditing services; tax consultancy services

The A method for accounting services would be to construct deflators based on contract prices for a range of the most important services provided under contract by accountants, e.g. using the representative pricing approach (see section 2 of this Annex). It would be necessary to regularly monitor the services priced to ensure that external influences such as changes in accounting standards or changes in accounting requirements under legislation (e.g. for taxation returns) would not result in significant changes in the outputs being measured or in changes in the quality of the output. An A method can also be obtained with a model price approach.

Using quantity indicators such as the number of tax returns filed (classified by broad categories) would be a B method for part of the industry. Using charge-out rates or hourly fees would be a B method since it would miss out some of the productivity changes.

3.12.3. CPA 74.14 — *Business and management consultancy services*

An A method for these services would be the collection of actual contract prices. It will be necessary to control for changes in quality of the contracts over time.

Collecting model prices would be an alternative to collecting actual prices and the method would also be an A method if it satisfies the criteria set out in section 2 of this Annex.

For services carried out on a fee-per-hour basis the charge-out rates or hourly fees could be used to form a B method.

Using as a proxy an actual output price index for either legal services or accounting, bookkeeping, auditing and tax consultancy activities would — due to the common cost determinants for these different services — be a B method.

3.12.4. CPA 74.15 — *Management holding services*

Due to the peculiarity of this category of services, there is no A method here. As an exception to the general rule, a B method is to apply a detailed input method in the same way as described for collective services in section 3.13 of this Annex.

3.12.5. CPA 74.2 — *Architectural, engineering and related technical consultancy services*

Model prices provide an A method if the conditions of section 2 of this Annex are fulfilled.

Using charge-out rates or hourly fees can be considered as a B method. For mineral exploration an option is to use a volume measure, for example the number of test drills made, or area surveyed, though this would need to be broken down by type of mineral and method of exploration in order to be considered a B method.

3.12.6. CPA 74.4 — *Advertising services*

Advertising services consist of two distinct and significant services. In general terms these are 'Placement' — the selling of advertising space, whatever the media; and 'Creation' — excluding associated costs such as film production or photography services.

The A method for 'Placement' is to collect actual contract prices, using quotes such as price per second for TV advertising, cost of a half page newspaper advert, the price of a square metre of billboard space or the price of a 'button' on a web-page. It is important that the number of viewers of the advert is taken into account as a quality aspect. At least some attempt should be made to adjust for 'peak-time-viewing' differentials. Model prices would also be an A method, provided the conditions of section 2 are satisfied. Quantity measures could also be used but these would need to be compiled at a very detailed and representative level with quality changes accounted for to be an A method.

For 'Creation' contract prices would form an A method, however, care would need to be taken in the interpretation of the collected prices to ensure they did not include production costs. A model prices approach could also be considered as A, if it satisfies the criteria set out in section 2 of this Annex. Charge-out rates or hourly fees are B methods.

3.12.7. CPA 74.5 — *Labour recruitment and provision of personnel services*

Where the employee is paid by the recruitment agency, methods based on wage rate indices relating to the personnel hired out are B methods. An A method would include productivity and quality adjustments and also reflect the administrative costs imposed by the recruitment agency. To that extent contract prices, which include quotes for specific types of workers, would be A methods, provided quality changes are properly accounted for. Model prices could also constitute an A method, if the criteria set out in section 2 of this Annex are satisfied.

Where a percentage of the salary applies the above methods and classifications apply except in this case they should be combined with information on percentage fees. If information relating to percentages is not available then the use of wage rate indices could be considered a B method.

3.12.8. CPA 74.6 — *Investigation and security services*

The A method would be to collect actual contract prices. The services supplied under these contracts have to be closely monitored in order to control for quality changes if necessary. The use of model prices would also be an A method under the conditions of section 2 of this Annex.

For those services that are carried out on a fee-per-hour basis, charge-out rates or hourly fees could be used to form a B method.

Useful volume indicators for security services could be man-hours of surveillance or guarding and number of cases or clients served by private investigators. If sufficiently appropriate, these volume indicators can be B methods.

3.12.9. CPA 74.7 — *Industrial cleaning services*

For household services such as window cleaning and chimney cleaning, consumer price information could be used, as an A method for household consumption, and a B method for intermediate consumption.

For cleaning services, office areas (in m²) cleaned or similar indicators could be used. If these are not available, it can be assumed that the amount of cleaning work to be done is proportional to the total office area, or similar assumptions.

3.12.10. *Remaining services in CPA 74*

For those services in CPA 74 that are not listed explicitly in the sections 3.12.1 to 3.12.9 the classification into A, B and C methods can be derived from the general criteria of appropriate methods as specified in Decision 98/715/EC. In general, methods based on actual (contract) prices or model prices (under the conditions of section 2 of this Annex) are A methods. If services are paid for on a fee-per-hour basis, charge-out rate or hourly fees can be B methods. Volume indicators that are representative of the output of the services can also be B methods. Input methods are C methods.

3.13. **CPA 75 — Public administration and defence services, compulsory social security services**

Individual services

For individual services, the only methods that will be able to meet the criteria for A or B methods are methods that measure output. Input methods are C methods.

An output indicator method is an A method if the indicators satisfy the following criteria:

- they should cover all services produced by the producer that are provided to external users, and only those; activities that are in fact ancillary to the main output should not be counted,
- they should be weighted by the costs of each type of output in the base year,
- they should be defined as detailed as possible,
- they should be quality-adjusted.

If the criteria are not fully satisfied, for example if the level of detail could be improved or if they do not take changes in quality into account, the method becomes a B method. If a volume indicator method does not really measure output but rather input, activity or outcome (unless outcome can be interpreted as quality-adjusted output), and/or if the coverage of the output is not representative, this method is a C method.

Collective services

Most services within CPA 75 will be collective services. For collective services, the classification of methods is broadly the same as for individual services, with two important exceptions that are due to the difficulty in defining the output of collective services:

- input methods are B methods for collective services,
- the use of volume indicators of activity is a B method.

The use of a single input volume indicator is not a B method: if input methods are used, they should estimate the volume of each input separately, taking quality changes of the inputs into account, in particular of compensation of employees.

No additional productivity or quality adjustments to the sum of the volume of quality-adjusted inputs should be applied.

3.14. CPA 80 — Education services

Any A or B method should satisfy the following general criteria:

- complete or near-complete coverage,
- stratification at least to the following categories — pre-school, primary, lower secondary, upper secondary (general/vocational), higher education (university/other), and other education. In the case of higher education courses, there should be stratification by subject (for example differentiating science and medical courses from arts courses).

Market Services — An A method is deflating output by suitable PPIs for each type of education service. The price indices should take account of the quality of the service provided, and a check made to ensure that basic prices are used (i.e. including any subsidies on products).

A B method is to use appropriate CPIs, corrected to valuation in basic prices and reflecting the quality of the service provided.

If these methods are not available for market services, it is also acceptable to use the A and B output indicator methods described below for non-market services. Any input-based method would be considered a C method.

Non-market services — Since prices are not available, the only A method for non-market output is to use 'pupil hours' adjusted for quality as appropriate, with the stratification breakdown as above. The B method is to use pupil hours in the required level of detail without an adjustment for quality.

Use of numbers of pupils as a proxy for pupil hours is acceptable for these methods if it can be shown that the amount of hours that pupils spent in being taught is sufficiently stable. It is encouraged for tertiary education and distance learning.

Any input-based method is a C method, as is any method which does not use the minimum stratification breakdown, or which has incomplete coverage of the sector. Use of numbers of teacher hours would also be a C method.

3.15. CPA 85 — Health and social work services

3.15.1. CPA 85.11 — Hospital services

Market output

Deflation of market output of hospitals by appropriate PPIs is an A method. The use of a CPI is also an A method provided prices are recorded gross of any reimbursements and the index is adjusted to basic prices (in case there are subsidies on products). If prices are recorded net, the use of a CPI is a C method. The use of a less appropriate PPI qualifies for a B method.

Output indicator methods which are classified as A or B below are also relevant for market output.

Non-market output

A distinction needs to be made between the different types of hospital services within CPA 85.11 to take account of the varying complexity of the different classes of services. In all cases input methods are C methods.

(a) Services to in - patients by general and specialised hospitals

The use of fully quality-adjusted volume indicators based on the classification of Diagnosis Related Groups (DRGs) is an A method.

If only changes in the treatment mix by DRG are covered the requirements for a B method are fulfilled.

Methods which use the International Classification of Diseases (ICD) to classify discharges can also be a B method provided the diagnoses are recorded at a very detailed level and appropriate cost weights are used.

Use of crude output indicators like the simple number of discharges is classified as a C method.

(b) Hospital psychiatric services

Again, detailed DRG based indicators with full quality adjustment and appropriate cost weights are an A method.

DRG based indicators with only partial quality adjustment are B methods. A somewhat weaker method, but still to be considered as B, is the number of occupant days (days of hospitalisation) by level of care weighted together using representative cost information.

Output methods that do not distinguish levels of care at all are classified as C.

(c) Rehabilitation services in rehabilitation centres/hospitals

DRGs taking changes in quality fully into account are an A method.

If quality changes are captured only partially DRG based output indicator methods are classified as B methods. The same holds if the number of occupant days by level of care is used. If it can be demonstrated that the different rehabilitation services are relatively homogeneous then the simple number of occupant days could be accepted as a B method.

(d) Nursing services (under medical supervision)

Quality adjusted occupant days by level of care are the recommended A method. Different care levels can be captured directly by systematically applying classifications or indirectly by grouping institutions that provide the same level of care.

Unadjusted occupant days by level of care meet the requirements of a B method. In situations where there is relative homogeneity of services, the simple number of occupant days may be accepted as a B method.

3.15.2. CPA 85.12 — *Medical practice services*

Market output

The use of PPIs is an A method. The use of a CPI is also an A method provided prices are recorded gross of any reimbursements. CPIs which record prices net of reimbursements are a C method. All non-market output methods classified as A or B below are also appropriate.

Non-market output

The main distinction is between services by general practitioners on the one hand and services by specialists on the other.

(a) Services by general practitioners

The A method is the number of consultations by type of treatment, adjusted for changes in quality. In the case of proxy weights or only partial quality adjustment the number of consultations by treatment is a B method. The simple number of consultations can also be accepted as a B method if the different types of treatment are sufficiently homogeneous with regard to the resource requirements (similar cost weights).

(b) Services by medical specialists

The number of first visits broken down by type of specialist and type of treatment, quality adjusted and weighted with appropriate cost weights, is the A method. The same indicator without adjustment for quality would be a B method. If a distinction by type of treatment cannot be made the number of first visits is not the appropriate indicator. Under these conditions the total number of visits is considered to be a B method. The distinction between specialists is indispensable for a B method.

3.15.3. *CPA 85.13 — Dental practice services*

Most dental services are market services. An A method is the use of the CPI adjusted to basic prices and for quality changes. Prices must be recorded gross of any reimbursements and the CPI must be calculated at a sufficient level of detail. If prices are recorded net of reimbursements the use of a CPI is a C method. An output indicator method which meets the requirements of an A method is the quality adjusted number of treatments by type of treatment. As in the case of medical specialists the number of first visits can be assumed to indicate the number of complete treatments.

The number of first visits by type of treatment (not adjusted for changes in quality) is a B method. If a distinction by type of treatment cannot be made it is not meaningful to count only first visits. Under these conditions the total number of consultations (visits) is considered to be a B method.

3.15.4. *CPA 85.14 — Other human health services and CPA 85.15 — veterinary services*

Almost all of these services are provided as market services so that the use of the appropriate component of the CPI is the recommended approach. If an adjustment is made to basic prices this is an A method, if not a B method.

3.15.5. *CPA 85.31 — Social work services with accommodation*

For market output deflation by the appropriate component of the CPI (adjusted to basic prices) is the A method. Occupant days by type of institution and fully adjusted for changes in quality will also meet the requirements for an A method.

If a quality adjustment is not made a B method is obtained. Also the total number of occupant days may be classified as a B method.

3.15.6. *CPA 85.32 — Social work services without accommodation*

To the extent that these services are market services the use of the relevant CPI component adjusted to basic prices is an A method. Without this valuation adjustment to the CPI a B method is obtained.

The number of persons receiving care by level of care is an A method for non-market output. Using the total number of persons receiving care is considered a B method.

3.16. **CPA 90 — Sewage and refuse disposal services, sanitation and similar services**

A methods include the use of suitable PPIs where they are available, and output volume indicators (such as tonnes of refuse collected) adjusted for certain quality features of the service, such as regularity of collection and treatment of speciality refuse (e.g. toxic waste).

B methods include the use of detailed CPIs for both household and business consumption (where the evolution of prices for services to businesses is shown to be similar to services to households). For non-market services, use of output volume indicators would be considered a B method if those indicators provide good coverage and are sufficiently detailed.

3.17. **CPA 91 — Membership organisation services n.e.c.**

The A method here is to obtain detailed information on the provision of services actually provided to members, broken down into a fine detail and weighted by the costs of provision. For example, a professional organisation providing legal advice, conferences, examination and accreditation services to members would provide data on each of these activities, or a religious organisation would provide data on attendance at services or number of services held.

The B method is to use number of members as a proxy for output, but the different types of membership must be captured if they give significantly different entitlements to receive services, and it must be clear that the average use of services by members does not change significantly year on year.

3.18. CPA 92 — Recreational, cultural and sporting services*Services provided to an audience*

The A method for services provided purely to households is to use detailed CPI series adjusted to basic prices as deflators for the value of tickets sold. The method would need to take account of discounted tickets, and any other features that will have a significant influence on quality (for example free programmes or telephone booking).

The B methods here are to use the CPI for services which are also provided to businesses (providing that it can be shown that this is a reasonable assumption), or to use the number of tickets sold broken down by type of seat and performance as a volume measure. In the event of ticket data being unavailable, the number of performances could be used as a B method.

Libraries

The A method for libraries is to combine output data on lending (broken down by major item type) with data on visits, adjusted for quality factors such as the range of reference material available. This combination is best achieved using a cost-weighted approach. Any market services provided need to be measured by value of sales deflated by an appropriate price index.

The B method for libraries is to use data on lending (broken down by major item type) as an indicator of the overall output of the library.

Gambling and betting services

The A method for gambling and betting services is to directly deflate service charge data by a price index of these services, with adjustments for quality changes as appropriate.

The B method for betting is to use the number of bets made as a volume indicator. Each type of betting outlet (telephone, internet, shops) should be distinguished and (ideally) different types of games should also be distinguished, with weighting provided by the proportion of total amount bet in the base period. The B method for casinos is to use data on the number of persons entering.

Production and processing of films, radio and TV services

B methods for film and TV/radio programming production are to collect prices for certain model products (e.g. half an hour of a domestic TV comedy, an hour of a radio documentary), or to use quantity data on programming broken down by major categories of programme and weighted by the share in value of total programming.

News agencies

The A method is to use a model pricing method based on subscriptions to a news service. The model pricing method should conform to the general principles set down in section 2 of this Annex.

The B method for news agencies is to use quantity and quality indicators employed by the firms themselves to measure output, so long as these can reasonably be compared across the industry and are stable in definition from one period to the next.

Sports facilities

The A methods here are to use detailed CPI data, adjusted to basic prices, or to use the number of tickets sold broken down by type of ticket and, if possible, activities undertaken. Some adjustment should be made for quality of the facilities, and paying spectators should be measured separately from participants.

The B method is to use tickets sold which are not broken down sufficiently to reflect the different types of services, or which use detailed CPI data which is not fully representative of the activities.

3.19. CPA 93 — Other services

This product division covers a very wide range of services; the major services included within this section are discussed below.

Washing and dry cleaning services

For households, CPI data could be available on these services (costs for using a laundromat, and for the dry cleaning of standard items). For business services, there is often a contractual relationship and suitable volume indicators may be number of kilograms of material washed or number of standard 'loads'. Use of the CPI and volume data are both considered B methods.

Hairdressing

This product is almost entirely provided to households and is captured by the CPI. The best method is to use a 'model price', where the model is a standard representative product such as a shampoo and cut. Use of CPI data represents an A method if an adjustment is made to basic prices.

Funerals

This product is entirely provided to households and is captured by the CPI. There are standard products available in the industry, so pricing is straightforward, and use of CPI data represents an A method if adjusted to basic prices.

Other services

These cover a variety of services, most of which are delivered as standard products (e.g. beauty treatment, dating agencies, astrologists, prostitutes), which can be priced in different time periods and a price index constructed. Use of these standard products would be an A method if all quality effects were taken into account, and a B method otherwise.

4. A, B AND C METHODS FOR SOME TRANSACTION CATEGORIES

4.1. Intermediate consumption

An A method for deflating intermediate consumption satisfies the following criteria:

- deflation takes place product-by-product,
- domestically produced products and imported products are deflated separately,
- either genuine price data on intermediate consumption are used, or, for domestically produced products, the A methods defined for each product (taking into account the different valuation basis) and for imported products the A methods described in the next section.

B methods may fail to distinguish between domestic produce and imports, or they use methods that are classified as B methods for those products.

If intermediate consumption is deflated at the aggregate level, without product detail, this is a C method. Also, if deflation methods are used that are classified as C methods for those products, these are C methods for intermediate consumption as well.

4.2. Exports and imports of goods

A methods should be based on the use of quality adjusted price indices for all exports and imports. The price indices should be consistent with the product classification used in the value data being deflated. Their valuation should correspond to the valuation used for the current price data, i.e. fob for exports and either fob or cif for imports.

Deflation with price indices that do not adequately reflect changes in quality should be considered B methods.

For product groups that are sufficiently homogeneous over time, UVIs can also be considered B methods. To determine the suitability of a UVI one should not simply rely on the understanding of the content of any particular trade group, but examine the volatility of the UVIs.

The suitability of PPIs needs to be assessed on a case by case basis before they can be considered appropriate. First of all, the coverage of the indices used should be appropriate. Where prices on the domestic and import market are similar, because of competition, then the direct use of PPIs can be considered as suitable, as there will be little difference in price. Where market conditions are such that domestic prices do not reflect adequately the price of imported or exported goods then PPIs will need to be adjusted to reflect these differences before they can be considered suitable as B methods. If movements in the exchange rate are the only factor that influence import or export prices then PPIs would need to be adjusted for this to be considered a B method. Where other factors influence prices then more complex adjustments to the PPI would be necessary before they can be considered suitable.

The use of foreign country export prices for the deflation of imports is a B method where the coverage of the product is exact and, where necessary, adjustments for exchange rate movements and for different changes in overall prices between the two countries have been made.

C methods would include the use of UVIs for insufficiently homogeneous product groups.

4.3. Exports and imports of services

Appropriate methods for the estimation of prices and volumes for exports and imports of services should reflect the methods defined for output of each of these services. However, where price indices have been recommended these should reflect the actual export or import prices paid when these are used for the deflation of exports and imports of services.

For the expenditure of non-residents (either individuals or governments) on the domestic territory these should be deflated using CPIs consistent with the range of products that are purchased by non-residents for this to be an A method. If CPIs that have a narrower or wider coverage of products than those purchased by non-residents are used, this would be a B method.

For the expenditure of domestic residents abroad (individuals or government), the use of detailed and appropriate CPIs for the country visited, adjusted for exchange rates, would be an A method. The use of foreign country CPIs that have a wider or narrower coverage would be a B method.

For merchanting, which is a trade activity, the classification of methods for wholesale and retail trade margins is appropriate.

4.4. Acquisition less disposals of valuables

The A method applicable to production of valuables is if there is a suitable PPI for an industry producing valuables, which is adjusted properly for changes in quality (this may be possible for the jewellery industry for example). For some types of valuables, a model or specification pricing approach could be an A method if it meets the criteria set out in section 2 of this Annex.

For services on a fee basis, where the fee is a percentage of a value of the articles handled, a proper price index would combine the change in fee percentages and the change in worth of (that particular subset of) valuables. This would constitute an A method.

B methods for production of valuables are comparison with closely related products (either domestically or internationally) such as a painting by the same painter, and decomposition into constituent elements (more suitable for jewellery and complex products).

B methods for commissions or trade margins are the use of an index-based on worth of valuables. Since mediation fees for valuables are often percentages of the worth of the valuables it is reasonable to think that both are correlated enough to constitute a B method. It is then implicitly assumed that the fee percentage is constant.

Less good, but still a B method, is the use of numbers of units of valuables traded, broken down by type. This is more appropriate for more homogenous products.

The use of a general price index is a C method.

ANNEX II

TIMETABLE OF IMPLEMENTATION OF THE CLASSIFICATIONS

An implementation date of e.g. 2004 for a particular product means that annual constant price data submitted to Eurostat under Council Regulation 2223/96 in 2004 and afterwards should comply with the A/B/C classification defined for that product. Concretely, that means that from that date C methods are no longer allowed for that product.

Group of products	Implementation date
Large equipment	2006
CPA 30.02: Computers and other information processing equipment	2004
CPA 45: Construction work	—
CPA 64: Post and telecommunications services	2005
CPA 65: Financial intermediation services, except insurance and pension funding services	2005
CPA 66: Insurance and pension funding services, except compulsory social security services	2005
CPA 67: Services auxiliary to financial intermediation	2005
CPA 70: Real estate services	2004
CPA 71: Renting services of machinery and equipment without operator and of personal and household goods	2004
CPA 72: Computer and related services	2005
CPA 73: Research and development services - the market part	2006
CPA 73: Research and development services - the non-market part	2004
CPA 74: Other business services	2006
CPA 75: Public administration and defence services, compulsory social security services - as far as collective services are concerned	2004
CPA 75: Public administration and defence services, compulsory social security services - as far as individual services are concerned	2006
CPA 80: Education services	2006
CPA 85: Health and social work services	2006
CPA 90-93: Other community, social and personal services	2006
Transaction category	Implementation date
Intermediate consumption	2006
Exports and imports of goods - except large equipment	2004
Exports and imports of large equipment	2006
Exports and imports of services	2006
Acquisition less disposal of valuables	2006

Exceptions granted:**Austria**

CPA 70 and 72: 2006

Denmark

CPA 75 (individual), 80 and 85: 2012

Germany

All product and transaction categories (as far as C methods are still used): 2005, except CPA 72: 2006

Greece

CPA 30.02, 73 (non-market), 75 (collective) and exports and imports of goods except large equipment: 2005, rest: 2006

Spain

CPA 70: 2005, CPA 30.02, 65, 66, 67, 72, 73 (non-market) and 75 (collective): 2006

Ireland

CPA 30.02: 2005, CPA 64, 65, 66, 67, 70 and 72 and exports and imports of goods except large equipment: 2006

Luxembourg

All products and transaction categories except CPA 71: 2006

Portugal

CPA 30.02, 64, 65, 66, 67, 70 and 72: 2006

United Kingdom

CPA 65: 2006
