

**BUSINESS SERVICES PRICE INDEX**  
**for ACCOUNTANCY SERVICES in France**

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## 1 INTRODUCTION

Services represent today an increasing share of the added value of the economy. While prices indices of industrial goods are already calculated for most industry branches, it is rather urgent to set up prices indices for service industries.

National accountants indeed having to calculate the real growth rate of the economy, they must isolate the share of growth due to the real growth from that due to the upward trend in prices. For business services, so far, the indicators used, for want of anything better, are quite similar to those of input prices (scales' moves for example); this implicitly leads to the assumption that improvements in productivity are negligible !

The way adopted in France to undertake the development of price indices in this new area led to start with services industries of most importance in terms of GDP contribution, and not raising too much difficulties.

INSEE thus proposed (almost 6 years ago) a program which leads should cover 19 services branches representing approximately 91% of the value added of the whole business services.

Accountancy services came into the first waves. Their added value represent approximately 9% of the total added value of business services.

This paper will present the French methodology and experience in this area of accountancy services, i.e NACE 74.12 ( NAF 74.1C), while another paper will present the UK methodology and experience in the area of accountancy and related activities, including so parts of NACE 74.14.

The first part of the paper discusses the preparatory implementation phases of a survey which will permit the calculation of price index for accounting. The second part exposes the characteristics of accountancy services in France as well as the adopted methodology. In conclusion, we will discuss the results obtained.

## **2 PREPARATORY PHASE AND IMPLEMENTATION OF THE SURVEY**

### **2.1 PREPARATORY PHASE**

The first stage of the preparation of an index consists in collecting a maximum of information on the branch concerned. One can subdivide this information in five categories: a) field of study; b) branch overview ; c) services provided, d) market and transactions, and e) branch actors and specific issues.

- a) the field of study means a definition of the branch, in terms of product and activity classification.
- b) the overview puts in perspective the number of firms and establishments, the volume and the typology of the products offered, the principal companies, the story of the branch and its geographical dispersion. In general this overall picture should give a good idea of the size and type of possible sampling.
- c) information on the services provided encompasses the process of production and the types of services offered.
- d) information on the market and the transactions includes the types of purchasers, rebates and contracts.
- e) information on the branch tells who are the protagonists of the branch as well as the legal problems and possible co-operation between firms.

Only after this information is obtained, is it possible to establish a classification of the transactions or contracts (market classification). The theory demonstrates that the quality of an indicator is improved if transactions (or representative contracts) are selected by the means of a stratified sample. Homogeneous strata (in term of price movements) must therefore be defined. Without a good knowledge of the branch, the classification used might be distorting the reality.

### **2.2 IMPLEMENTATION OF THE SURVEY**

In most cases implementation starts by a meeting with the professional organisations of the branch. The purpose is to inform on the project and to get informed on firm pricing practices. That first phase leads to a protocol for the implementation of the survey.

The second phase consists in visiting each firm selected for the sample. The contact is done by an investigator supported by a first visit form (see Annex A). The main objective of this visit is to select the services for which a price

information should be collected and also to obtain the weights associated to these services.

Finally, since the accountancy services index is annual, the firms selected in the sample are invited to provide annually the invoicing and the number of hours worked for each selected service (see Annex B).

In case of significant change of a selected service, a specific analysis has to be undertaken in order to give the correct interpretation in the calculation process.

The index is calculated as soon as a significant percentage of the sampled firms are visited and the prices obtained. The market trends imply that basket changes are carried out every five years. Then the process begins again at the second stage and proceeds in the same way as in the initial implementation.

### **3 CHARACTERISTICS AND METHODOLOGY**

#### **3.1 GENERAL CHARACTERISTICS OF THE SURVEY**

Accountancy services can be defined as an activity which consists in providing users with financial information in order to assist their economic decisions. Financial information can take the form of written or oral conclusions, of specific reports elaborated by the accountants (e.g., tax documents, financial statements or audit reports). Among other issues, such information can be used for stock control, human resources management, clients monitoring or competitors benchmarking.

Taking into account the important variety of provided information, it is not possible to define the branch production as a specific service or report. The product is rather defined as providing the financial information necessary for conducting a particular activity. The accountancy service is based on a contract between the customer and the accountant. It encompasses several tasks like putting in order the client's documents and reports' elaboration and authentication.

The accounting service includes a great number of services but deals mostly with

financial statements elaboration,  
 auditing,  
 book-keeping,  
 tax preparation.

There are important differences between these services which probably affects prices.

If providing financial information is considered as the activity of accountancy firms, the precise components of the service vary from client to client, and then the accountancy service to be observed for a price index calculation has to be taken at the level of complete contracts. Consequently, there is no room for hourly rate charged by the accountant, but for a statistical follow-up of contracts year after year.

There is one exception, however, which comes from management centres (centres de gestion) since for their pricing, they rely on price scales only (i.e., the fee approach).

### 3.2 SPECIFIC CHARACTERISTICS OF THE SURVEY

Two criteria of stratification are used:

**type of mission** and **method of invoicing**.

3.21 The subdivisions for **the types of missions** are the following

3		1	2	
<b>Accountancy</b>		<b>Auditing</b>		<b>Other</b>
11	12	21	22	
<b>Book Keeping</b>	<b>monitoring</b>	<b>Small Businesses</b>	<b>Large businesses</b>	

- 1 - Accountancy
  - 11 - book-keeping: the accountant carries out himself at his office the totality
    - of the accounting operations
  - 12 - monitoring : the accountant supervises the book-keeping
    - of the accounts prepared at the customer's offices
- 2 - Auditing
  - 21 - small business.
  - 22 - large companies
- 3 - Other types of missions
  - fiscal, social consultancy, etc...

3.22 Two **methods of invoicing** in use:

**fixed rate invoicing** and **invoicing based on time booked**.

For each service, three variables are collected :

The total number of hours worked (HF)

The computed invoicing

The effective invoicing (P)

The computed invoicing is there only for checking the type of invoicing really used. It may happen indeed that for a contract labelled «fixed rate invoicing», no difference appears between the computed and the effective invoicing, so that the type of contract is ambiguous.

When the survey forms are returned (see appendix 3), the manager check the likelihood of the price evolution. In the event of unusual movement, the firm concerned is solicited to give more information about the change in prices. The purpose of this contact is to distinguish between pure price movements and changes in the service components.

**Fixed rate invoicing** is the normal practice for limited services, small companies and is generally used for book-keeping services and annual financial statements elaboration. The clients for that type of services want to know the cost of the service in advance and do not accept fees based on the run time. There is a prior agreement between the client and his accountant on the nature and the cost of the service, each party running a risk of over or under-valuation.

The elementary index will be calculated as follows :

$$I_{t/0} = \frac{P_t}{P_0} \times 100$$



where  $P$  is *the* collected invoice

**Invoicing based on time** implies that the contract refers explicitly to hourly rates for each person involved in providing the service (auditor, technical assistant, secretary...) and to price units for extra services (displacement, photocopies...). Currently, certified accountancy firms are largely computerised and have therefore at their disposal powerful management tools which allow them a permanent record of the time spent by all employees for one client.

The elementary index then will be calculated as follows:

$$I_{t/0} = \frac{P_t / HF_t}{P_0 / HF_0} \times 100$$

where HF is the number of invoiced hours.

### 3.3 METHODOLOGY, SAMPLING AND QUALITY EFFECTS

#### 3.31 sampling

The sample frame is taken from the annual structural survey (EAE 1996 for accountancy).

The goal was to cover between 50 % and 70 % of the sales of the branch. The 50 largest companies constitute approximately 38% of total sales. The overall sample contains 120 firms. It is not a pure random one :

Firms are selected in the following way :

If the firm makes more than 50 million French francs (FF), it is automatically selected. Between 10 and 50 million, it has a chance on ten to be selected (probability of 0.1). Between 4 and 10 million the probability is 0.08, and between 1 and 4 million, 0.015.

#### 3.32 Methodology

The accountancy services price index (code NACE, SIC =74.12, NAF 74.1C) is calculated starting from indices of intermediate level of Laspeyres type. In general INSEE does not publish these intermediate indices, but makes them available to

professional associations who wish to have this information. The calculations are carried out as follows:

we calculate initially, for each statement of price (transaction I), a simple index known as elementary (explicit with section 3.22),  $I_{t/0}^i$

we then incorporate the whole of the elementary indices within their respective family J (first level of aggregation),

the incorporated indices thus obtained are then aggregated by going up the tree structure.

Level 1 of aggregation

Take a family of services J, say for example 11-book-keeping (see section 3.21) representing this level. The formula of computation of the index is the following one:

$$L_t(J) = \sum_{i \in J} W_b^i \cdot I_t^i$$

with:

$L_t(J)$ : Laspeyres price index at the current period t of service J (11- book-keeping ).

$$W_b^i = \frac{q_b^i \cdot p_b^i}{\sum_{i \in J} q_b^i \cdot p_b^i},$$

the weighting of transaction I relating to the sum of all

transactions I pertaining to the family J (11- book-keeping ).

The expression  $q_b^i \cdot p_b^i$  is the domestic-market sales in **base year b** corresponding to the representative transaction **i** in a given firm. These sales will **represent** the set of products in family **J** (11-book-keeping ). It is thus in its calculation that the concept of representativeness of the transaction intervenes. For example, if a firm makes 80% of its sales in book-keeping (code 11) and this same firm provides 10 representative services, then each service will have a weighting of 8% multiplied by the sales of the firm.

The expression  $\sum_{i \in J} q_b^i p_b^i$  is thus the sales of the family  $J$  (11-book-keeping ) calculated for the whole sample.

Further levels of aggregation

The method of calculation is similar to the above. The formula of Laspeyres becomes:

$$L_t(K) = \sum_{j \in K} \frac{V_b^j}{\sum_{j \in K} V_b^j} L_t(j) \text{ as:}$$

$K$  denotes an aggregate of product groups (which may consist of the entire commodity group or an intermediate level, depending on the complexity of the aggregation tree). Here it is: 1- Accountancy

$L_t(K)$  is the aggregate index pertaining to aggregate  $K$  for the current period  $t$ ; depending on the desired aggregation level, it subsumes the aggregate indices of level 1 or higher levels

$L_t(J)$  is the price index for the current period  $t$  of a family  $J$  included in the aggregate.

$\frac{V_b^j}{\sum_{j \in K} V_b^j}$  is the 'weight' of domestic-market sales, in the base year, of family  $J$  (11-

book-keeping ) products in total sales of aggregate  $K$ (1-Accountancy).

The formulas of computation are similar to those of level 1, but the estimate of weightings poses sometimes complex problems. It is thus not a question of knowing the weight of the sales in the survey but in the whole branch.

That is because there is no reason for the various families to have the same weight both in the sample and in the whole economy. If we suppose that indices by family are representative of the evolutions of price for each family, it is logical to give them the actual weight they have in the whole branch and not in the sample.

Unfortunately it was not possible to get enough information at the bottom level (11- book-keeping , 12- monitoring, 21-Auditing small business, 22- Auditing large companies). These first aggregates thus received an equal weighting. In other words, the price movement of 11- book-keeping and 12- monitoring contribute equally to the index 1- accountancy. However, it was possible to determine the weighting at the higher level. Thus these aggregates contribute in the following way to the total index of the accounting services :

<b>Aggregates</b>	<b>Weighting</b>
1 - Accountancy	23,4 Billion FF
2 - Auditing	15, 6 Billion FF
3 - Other types of missions	2,3 Billion FF

### 3.33 Quality adjustments

A complete analysis would include a discussion about quality changes.

The appreciation of quality change and thus the consequences of service changes or contracts changes are done on the basis of a simplifying assumption : In general, we assume the stability of the quality of the service provided by a given client. When a contract is terminated, it is replaced by an equivalent contract without any change in the index. In other words, price changes are regarded as a pure changes in quantity-quality of services except if the accountant would indicate the opposite (which we would ask by phone).

A first category of change in quality comes from the fact that accountancy firms can adjust services from one year to the next. Usually these adjustments are requested by the client and always imply a change in the final price. The price may change in proportion of the price. Since the change is out of the «normal» trend, the question can be put to the firm in order to analyse correctly the case.

A second category which must be taken out of the quality debate is the case of a firm invoicing differently the same service to different clients.

The most tricky case occurs when a change in quality does not provoke a visible change in pricing : the probability to detect such cases is very tiny.

#### 4 DISCUSSION AND RESULTS OBTAINED

After having obtained the support of the Accountants Association in December 1998, the survey is now completed. Beneficial discussion with the Association allowed us to pay a special attention to the homogeneity of the standard products in the calculation of the indices. Suggestions from the representatives of the association include: the construction of an more detailed index; and the calculation of average prices. However, these were not implemented for two reasons—one, to reduce the burden of the data providers and two, for confidentiality reasons.

The majority of the accountant firms agreed to participate to the survey. Only one firm refuse categorically. The effective response rate is approximately of 90% for a total of 1172 transactions.

The indices are presented in the table below. These results were judged as realistic by the profession.

Services (1995=100)	1996	1997	1998
0 Accounting services of which;	101.4	102.8	104.8
1 Accountancy of which;	101.3	103.5	105.8
11 Book-keeping of annual statements	102.4	104.5	106.9
12 Monitoring of the accounts	100.4	102.4	104.7
2 Auditing of which;	101.4	101.3	102.9
21 Audit small business	102.8	103.4	105.4
22 Audit large companies	100.8	99.2	100.3
3 Other types of missions	102.5	105.5	107.6

# ANNEX A

## Preliminary visit form

Investigator : ??????

Date of visit : .....?????

**BRANCH : ACCOUNTANCY – NAF 74.1C**

### 1 - Firm Identification

**FIRM NAME : ??????**

SIREN number : .....?????

Legal form : .....?????

Address : .....?????

Meeting with (at the time of the visit):

Name: .....?????

Function: .....?????

Telephone: .....?????

Telefax: .....?????

Survey to be addressed to: .....?????

### 2 - General remarks from the meeting

Quality of the reception: ??????

Wishes, acceptance of the investigation:

General observations on meeting:

Interest for 3617 PVI:

Annual report provided:  Yes  Not

### 3 - General organization of the firm

History and financial information:

Subsidiaries or head office:

Member of a network:

Establishments:

Total staff of the firm:

### 4 - Market observations

General evolution of the profession:

Market trends:

### 5 -Sales of the firm

Exercise taken into account:

Closing date: .....

**Sales net of tax total in KF :**

Comments.....  
.....  
.....  
.....



6 – Sales components

0	Accounting services	SALES in %	
		Contract	Time based
1 - Accountancy			
11 Book-keeping of annual statements			
12 Monitoring of the accounts			
2 - Auditing			
21 Audit small business			
22 Audit large companies			
23 Contractual auditing			
3 - Other types of missions			
31 fiscal advice			
32 payroll and social declarations			
33 other types of social counseling			
34 other			
<b>TOTAL</b>		100 %	

## 7 - Distribution and pricing

If there are several offices, how do they work? What is their degree of freedom?

How are the fees fixed? how do they evolve ? Do you use an index to index your missions?

Do you have a computer to keep your information and are you sure that your partners record well all the times devoted to each customer?

Do your partners carry out overtime regularly? Are these hours invoiced?

Are the missions based on time are really invoiced that way?

Is there any discount or rebate ?

Is the proportion between the various qualified people, for a given mission, is stable ?

**ANNEX B  
Business services price observation form**

Your contact

Name, Address, Tél.

Form to be returned

If you want to be contacted, please mark the box

Reference number

**Service description**

Book-keeping  
 Client n°  
 Fixed rate (for instance)

Book-keeping  
 Client n°

**Price indications**

Number of hours worked

Computed invoicing HT

Effective invoicing HT

Dec 95

Dec 96

Dec 97

Dec 98

50.00

63.00

50.00

-----

13 320.00

16 630.00

13 29.00

-----

12 000.00

12 200.00

13 290.00

-----

45.00

49.00

76.00

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7 875.00

8 695.00

13 730.00

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12 000.00

12 360.00

12 400.00

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