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## **A Producer Price Index for Accounting Services**

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## I. Summary

This paper describes a methodology for measuring price changes for accounting services in the Canadian economy as well as other related issues on sampling. The proposed methodology to measure price changes for this sector of the economy relies on the assumption that survey respondents pick and choose representative accounting services contracts and monitor these very same contracts through time<sup>1</sup>. Further, respondents are asked to evaluate, from period to period, the portion of the price change of the contract which is attributable to a change in the service delivered to a client from a change which is attributable to price only.

We do concentrate on conventional accounting services such as auditing, tax returns and bookkeeping and leave aside services which are not of a repetitive nature such as: management consulting, bankruptcy and insolvency services.

The results of the pilot survey should confirm the soundness of the proposed methodology and pave the way to a full survey.

## II. Introduction

The accounting services industry consists primarily of companies which provide accounting, auditing, taxation and bookkeeping services. It represents a fairly large proportion of the range of services provided to industries and, to a lesser degree to individuals. With a total of 21,000 firms in 1997, total earnings in this industry amounted to C\$6.5 billion. This amount constitutes 0.25% of total Canadian income for that year as measured in the Gross Domestic Product (GDP). For additional information on this sector of the industry, the reader is invited to consult Appendix I.

At present, output of the accounting services industry in the Canadian System of National Accounts (CSNA) is deflated using an index of average weekly earnings for persons working in this sector. The use of a price deflator based on average weekly earnings suffers from a number of drawbacks. For example, during times of recession, many firms may reduce the number of their less experienced staff (who are generally paid less), while keeping their more experienced staff (who are generally paid more). As a result, the average weekly earnings of the employees who remain may increase, thus pushing the price deflator upward. This increase may not be reflective of output price change if, at the same time, accounting offices are offering discounts to their clients in order to maintain market share. Conversely, during periods of growth, accounting offices may hire a larger number of junior professionals, which in turn may cause the average weekly earnings to drop while prices for accounting services may increase. In this case, the effect would be to underestimate the actual price increase. Also, the use of the average weekly earnings presupposes that incidentals, profits going to associates, cost of capital, computers, structural investments and other costs remain fixed throughout the economic cycles, which, as we know, is not the case. Finally, changes in average earnings hide changes in productivity.

To replace the deflator currently used and as part of the project to improve statistics for the service sector, Statistics Canada proposes to collect output prices to build an annual producer price index for accounting services. This is a collaborative effort, which builds upon experiences of other countries.

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<sup>1</sup> The methodology that we have adopted stems mainly from the French experience for constructing price indexes for this sector.

Statistical agencies have used a variety of different methodologies in the construction of an index for accounting services. The methodologies range from model pricing to the use of variations in average amounts for all contracts (fee income method). Each method takes into account the frequency of data collection and the availability of data. As well, every methodology has its pros and cons. For example, one method may be inappropriate where statistics are collected every three months, while another is not feasible in a country where accounting firms are somewhat reluctant to co-operate. The primary objective of our approach is to identify a methodology that will offer the maximum number of potential benefits and that should improve the quality of the current deflator.

### **III. Types of Services**

An accounting service is defined as the activity of gathering, assembling and compiling financial information and communicating this information to interested parties. The information is used by clients in making economic decisions. Businesses providing accounting services may also offer insolvency and management consulting services.

For any given client, the primary output of the accounting industry is defined by an engagement letter (contract) which outlines the type of services to be performed. Detailed information related to the type of services which are offered by accounting firms, the negotiation process which takes place with clients and the process to deliver the output are explained in detail in Appendix II.

#### **Categories of services and sub-indices**

In calculating a price index for accounting and related services, we selected seven broad categories of services; audit of financial statements, review of financial statements, other assurance services, compilation of financial statements, bookkeeping and payroll processing, corporate tax planning and consulting, individual tax preparation and planning, which represent the price movement of all services in this area. By virtue of the one-time, non-repetitive nature of services such as bankruptcy and receiving orders, consulting and other services, we have decided to exclude these services and to follow the evolution of the other types of services, which are becoming increasingly standardised. After discussions with associations and accounting firms, it has also become clear that a high proportion of contracts are relatively stable from year to year and that most clients remain with the same accounting firms.

The seven main different types of accounting services for which we want to calculate price indexes are presented in Table 1 and have been defined in such a way for three main reasons:

- To simplify the breakdown of operating revenue from firms across the various categories of services. The number of categories for accounting services has been restricted to a few categories because it is easier to combine revenue than to create a new category breakdowns;
- To obtain statistically significant price indexes, and to obtain a sufficient number of contracts for each service category. In the event that there were 25 service categories, we would likely have had to ask firms to select more than 15 representative contracts to cover all services. Increasing the number of contracts would have the effect of considerably increasing the burden placed on respondents;
- To avoid a contract moving from one service category to another too readily from one period to another. Where there are a large number of service categories, a small change in the nature of the contract could

mean a change in the service class it belongs. Where there are 10 service categories, only significant changes in services require a stoppage in the contract's coverage.

The introduction of new services within the existing broad categories of service can occur only if respondents are able to track these new services over time. As a result, in order for a new service to be included in the index, it is necessary that the service be included in one of the categories under review, that it is repetitive and comparable (a similar contract with the same client for at least two successive years) and that it represents a substantial portion of the operating revenue of the company. The follow-up questionnaire will ask for those services which are discontinued to be replaced by similar services provided to similar clients (the splicing technique).

**TABLE 1 Categories of Services Provided by Firms in the Accounting Services Industry**

Type of Services	Services Under Study
<b>Audit, Review, Other Assurance Services, Compilation and Bookkeeping Services</b>	
A. Audit of financial statements	X
B. Review of financial statements	X
C. Other assurance services	X
D. Compilation of financial statements	X
E. Bookkeeping and payroll processing	X
<b>Tax Services</b>	
F. Corporate tax planning and consulting	X
G. Individual tax preparation and planning	X
<b>Insolvency and Receivership Services</b>	
<b>Consulting Services</b>	
<b>Other Services</b>	

## IV. Pricing Methodology

### A. Methodology

We are using a methodology referred to as the "*Actual Specification Contract Pricing*". This methodology relies on the measurement of actual prices for services which have been paid for by clients of accounting firms and similar to a large extent on that employed by "l'Institut National de la Statistique et des Etudes Economiques" (INSEE) [National Institute of Statistics and Economic Studies] and the Bank of Japan (BOJ). The reader is invited to look at Appendix III for an update on the French experience<sup>2</sup>.

#### 1. Representative Contracts

The accounting firms which are selected in this survey choose and report prices for contracts that are representative of the type of service they offer and represent a substantial proportion of the firm's revenue. In order to be able to follow these contracts from year to year, we ask firms to submit contracts that are likely to

<sup>2</sup> The French methodology was first presented at the Christchurch meeting in 1999.

be renewed in the years following the initial survey. The principle of stability of the services studied is important in order to minimise the adjustments due to changes in services or changes in quality.

## **2. Price Variations**

The objective is to monitor price changes of contracts of same quality and quantity of service over time. However, we are well aware that few contracts remain identical from year to year. For this reason we ask on our questionnaire (See Questionnaire.doc) that the respondents indicate for each representative contract, how much of the price variation is due to a change in service and how much of the variation is due to a price change. At this stage we have no choice but to rely on our respondents in making this type of distinction and compare information across respondents to validate this type of information.

## **3. Number and Distribution of Contracts**

In order to simplify the survey while retaining a sufficiently broad selection of contracts by service category, we ask each accounting office to provide a maximum of 15 contracts. However, we ask respondents to select a set of contracts which reflects the distribution of operating revenue by service category. This ensures that we do not request, for example, contracts in categories which account for only a very small fraction of earnings. On the other hand, it should be noted that the distribution of the total number of contracts requested reflects earnings by service category rather than the nature or complexity of each contract within the same service category. All service categories should include complex contracts and for practical reasons it was decided to use the size of revenue as an indicator of how many contracts should be selected in each of the categories of services.

## ***B. Limitations in the Methodology***

### **1. Smoothing of the Index**

It is possible that price variations will be underestimated in our index for accounting services to the extent that these are built on stable contracts with long standing clients. In periods when contracts are abundant, it is also possible that the price asked for new service contracts will be higher relative to previous periods where new clients were more difficult to come by. The pricing trends should reflect the law of supply and demand. By following the variations in stable long term contracts exclusively, it is possible that only a portion of price changes is measured.

After consultation, the association of Chartered Accountants of Quebec has confirmed that a large percentage of contracts are relatively stable and that contracts are generally signed with the same clients. Generally speaking, accounting firms attract new clients with discounts for the initial consultations or for new contracts. Contract prices subsequently stabilise and increase gradually to reflect changes in the firm's costs. By becoming more repetitive and familiar, contracts require less work, which in turn facilitates changes in the composition of the staff who undertake the work. Under such conditions, the profit margin for the providers of accounting services can be expected to increase.

### **2. Other Problems**

The construction of the price index on accounting services will face the same problems as other price indexes. It will be impossible to incorporate new types of services until we ask our respondents to review their revenue distribution by category of services. This is a situation which is very similar to a basket update. How

frequently the new sample of services for the same respondent will be updated is a question we cannot answer at present. It will depend to a large extent on how fast the industry is evolving.

As the data collection process continues from year to year, new contracts will be added to the pool of existing ones as the contracts originally selected by firm are no longer representative or expire. Unfortunately, it will not be possible at the time of the change to measure the variation in price between the old contract that has expired and the one which will replace it, since the two contracts will probably not be the same. The price level will have changed between the two years, and it will not be possible to account for this change of level as a price change in our index. New contracts will be spliced in at the time the old contracts disappear.

### C. Mathematical Formulation

This section presents the formulae leading to the calculation of a Laspeyres type price index.

The calculation of the basic or micro indexes can be described mathematically as follows:

$$I_j = \frac{\sum_{i=1}^m \sum_{k=1}^c w_b^{ik} * P_t^{ik}}{\sum_{i=1}^m \sum_{k=1}^c w_b^{ik} * P_b^{ik}}$$

Where:

I<sub>j</sub> = price index for service j; j = 1 to 7 service categories

i = firms

k = representative contracts for the firm i

b = base period (1998)

t = current period (1999)

w = weight of a given contract in a given category of service

(reflects earnings from the company and their distribution over service categories)

P = the actual total amount of the contract, or price

Because the weights for each representative contract k, from 1 to c, for a given category of service within the same firm is the same, we can write:

$$(w_b^{i1} = w_b^{i2} = \dots = w_b^{ic}) = w_b^i$$

Consequently, the index formula can be rewritten as:

$$I_j = \frac{\sum_{i=1}^m w_b^i \sum_{k=1}^c P_t^{ik}}{\sum_{i=1}^m w_b^i \sum_{k=1}^c P_b^{ik}}$$

It should be noted that the calculation of the index takes place at the level of the basic service classes and that no index is calculated at the corporate level of the firm answering the questionnaire. Though this index might be useful to the firm itself, it is of no interest for monitoring general price movements or for deflation.

The general formula for calculating the total index can be expressed as follows:

$$I_{Total} = \sum_{j=1}^7 (y_j * I_j)$$

$$where \quad y_j = \frac{\sum_{i=1}^m \sum_{k=1}^c w_b^{i,k}}{\sum_{j=1}^7 \sum_{i=1}^m \sum_{k=1}^c w_b^{i,k,j}}$$

As a result, each basic service index is weighted in the total index according to its share in the total revenue by all basic services for the firms we survey. The reader may find an example of the price index calculation in Appendix IV.

## **V. Sample Design**

This section describes the issues related to sampling and related problems.

### **A. Sample Frame**

Statistics Canada's Business Register provides access to the firms which can be sampled for data collection. This database consists of a comprehensive list of all statistical enterprises in a defined universe, and of a comprehensive list of their associated legal and production entities, classified into industrial categories based on principal business activities, and hierarchical relationships among these entities. It includes mailing addresses, telephone numbers and other contact information. It is currently updated with taxation information (i.e. income tax, goods and services tax and payroll deduction records submitted to Revenue Canada) and information obtained from Statistics Canada's current surveys.

### **B. Sampling**

#### **1. Stratification Variables**

##### **Industrial Classification**

It is possible to extract from the Business Register a list of business units or establishments for a given industry under the North American Industrial Classification System (NAICS). This selection by NAICS code insures that we only have firms whose principal business activity is related to "Accounting services, tax return preparation, bookkeeping and payroll services e.g. NAICS code=54121.

##### **Operating Revenue**

Since accounting firms are not incorporated, they do not have to file an income tax report as detailed as the ones filed by those that are incorporated. As a consequence, the Business Register cannot provide detailed information on revenues for accounting firms by individual accounting offices. This means that the first time we send questionnaires to individual accounting offices we can have accounting offices or establishments with very small operating revenues. It is only in subsequent sampling cycles that we could remove these very small establishments to minimise their response burden and try to replace them with larger ones. If we had other sources of information on revenues by establishments for accounting firms, the initial selection of offices would not include the very small ones.

Finally, a selection is done among the offices of a firm. Larger firms may have several hundred offices spread over the country. This last level of selection which would be random selection would allow us to send questionnaires only to some of the offices of the larger firms. If small unaffiliated firms are chosen in the selection process based on revenues and if their revenues are above a certain threshold, they will remain in the sample.

#### **2. Sample Rotation**

Rotation of the sample may be considered to be a worthwhile venue to reduce the response burden further. On the other hand, this survey on accounting services is an annual survey and does not represent a very large response burden once respondents have chosen representative contracts and learned how to fill the questionnaire for subsequent survey cycles. The question becomes then, do we replace some of our current respondents with new respondents or do we continue with the same sample of respondents? When we know how much time respondents have to spend to fill in the questionnaires, both at initiation and in subsequent survey cycles, then we can decide if a sample rotation is a preferred way to conduct the survey.

## **VI. Survey Vehicles**

### ***A. Methods Used to Secure Initial Sample Unit Co-operation***

We have decided to launch this survey by conducting a pilot in the province of Quebec with the co-operation of the association of Chartered Accountants of Quebec. This pilot survey, which covers thirty respondents selected randomly, should validate the approach chosen for measuring price changes for accounting services. If need be, corrective measures will be incorporated into the various survey vehicle tools before the launch of the full survey in all provinces and territories in Canada. Results of the pilot should be available soon.

The association of Chartered Accountants of Quebec, has been an important source of information for the development of the accounting price index. Its close links to the accounting services industry, stemming from their mandate to represent the industry in dealings with the government and other professional associations, the involvement on the association's board of chartered accountants specialising in a variety of sectors, the high level of knowledge of accounting services and its involvement in the regulation of the profession were all factors which contributed to getting this project under way efficiently and quickly. Furthermore, the association of Chartered Accountants of Quebec has demonstrated its support for the Statistics Canada project in a letter to potential respondents which encouraged them to complete our survey questionnaire.

Visits to three firms specialising in accounting services and in tax returns provided an opportunity for collecting comments on the questionnaire itself and on the respondent's guide. These comments enabled us to improve the questionnaire and to reduce the burden on the respondents, while maintaining the quality of the information.

### ***B. Survey Vehicle Tools***

The marketing letter, the respondent's guide and the questionnaire could be modified depending on the results of the pilot survey. These documents are key elements in conducting a survey. They help respondents to understand how they should fill in the questionnaire and help the respondent to report as accurate information as possible.

#### **1. Marketing Letter (see Marketing.doc)**

The primary purpose of the marketing letter is to promote the proposed survey and to generate interest on the part of respondents in order to obtain their full co-operation. This letter sets out the objectives, benefits and possible uses of price indexes (e.g. contract escalation, corporate performance assessment, monitoring of purchase costs and the measurement of the economic performance of the industry under review).

## **2. Respondent's Guide (see Guide.doc)**

The respondent's guide provides the respondent with sufficient information for them to be able to complete the questionnaire correctly. This guide incorporates a brief description of the accounting service categories under review, an example of the breakdown of operating revenue, and the manner in which the breakdown of contracts between the various service categories is calculated. Section 3 of the guide explains the concepts of representative contracts. The final section contains information on changes in services and includes two examples of representative contracts.

## **3. Questionnaire (see Questionnaire.doc)**

The questionnaire is the centrepiece of this data collection exercise. This mandatory survey gathers information under the Statistics Canada Act, 1985, Chapter S19. The questionnaire begins with an introduction covering the objectives of the survey, an assurance to the respondent regarding the confidentiality of the information obtained, instructions and advice with references to the respondent's guide.

# **VII. Publication Structure and Relationship to the Central Product Classification (CPC)**

## ***A. Publication Structure***

The publication structure follows the level of detail of price indexes by category of service. First, we plan to publish, when the results of the full survey are available, a total price index for auditing, accounting, tax returns, bookkeeping and payroll services together for Canada and its regions. Second, sub-indexes will be published for each of the seven categories of services at the national level and at the regional level if the number of respondents and the quality of the data permit.

### **Category of Services :**

- a) Audit of financial statements
- b) Review of financial statements
- c) Other assurance services
- d) Compilation of financial statements
- e) Bookkeeping and payroll processing
- f) Corporate tax planning and consulting
- g) Individual tax preparation and planning

### **Geographical Levels:**

National: Canada

Regional: Atlantic, Quebec, Ontario, Prairies, British-Columbia and Territories

## ***B. Relationship of Publication Structure to the CPC***

The classification structure of Statistics Canada's Services Division is largely based on the CPC structure, which will also be the publication structure of our proposed accounting price index. This will allow us to

deflate operating revenue at a more detailed level of service category than the present deflator and hopefully will result in a better constant dollar total production estimate for this sector.

Table 2 below shows the relationship between the CPC and the classification which has been developed for the price measurement of accounting services. There are however some differences in the way the classification is structured.

The first difference can be found in the category “Other accounting services” of the CPC which includes: attestations, valuations, preparation services for pro forma statements, etc.... It is divided in two categories in our proposed structure. One which includes all other assurance services (published) and the other which includes all other services (not published). Another difference is the treatment of the category “Corporate tax return and review services”, which is a separate category in the CPC, and which is included under “Review of financial statements” in our proposed structure. In fact, all tax work for corporate clients is included as part of a bundle of services in one of the following categories “Audit, Review and Compilation of Financial Statements”. Finally, the payroll services and the collection agency services categories, which are found in another section of the CPC are included within “Bookkeeping services” in our proposed structure.

**Table 2 Comparison Between the Central Product and the Price Index Classifications**

Central Product Classification CPC Version 1.0	Price Report for Accounting Services (Prices Division—Statistics Canada)
822 Accounting services, financial auditing and Bookkeeping	Audit, Review, Other Assurance Services, Compilation and Bookkeeping Services
8221 Accounting services and financial auditing services	
82211 Financial auditing services	A. Audit of financial statements
82212 Accounting review services	B. Review of financial statements
	C. Other assurance services
82213 Compilation of financial statements services	D. Compilation of financial statements services
82219 Other accounting services	
8222 Bookkeeping services, except tax returns	
82220 Bookkeeping services, except tax returns	E. Bookkeeping and payroll processing
823 Advisory services related to taxation	Tax Services
82310 Corporate tax planning and consulting services	F. Corporate tax planning and consulting
82320 Corporate tax return preparation and review services	G. Individual tax preparation and planning
82330 Individual tax preparation and planning services	
824 Insolvency and Receivership	Insolvency and Receivership
8240 Insolvency and Receivership	Insolvency and Receivership services
	Other services
85 Support services	
85920 Collection agency services	
85990 Other support services : ...Payroll services	

Note : More detailed description of the CPC and of our own classification (respondent’s guide) are available in Appendix V.

## **VIII. Conclusion**

With over C\$6.5 billion of total earnings in Canada in 1997, the industry of auditing, accounting, tax returns and bookkeeping services contributes to the Canadian economy and provides services to businesses and individuals which may result in additional value added into the economy.

Until now, average weekly earnings for staff working in this sector has been used as a price deflator for estimating constant dollar production in the Canadian System of National Account. The proposed methodology for measuring price change over time for representative contracts will be an improvement over the present approach. Other countries currently use this method of measuring prices which presupposes a relative stability in the service which are provided to clients.

In the years to come, this dynamic sector of the economy may have to cope with expected mergers and changes in the type of services offered to meet clients' demands (further information can be found in Appendix VI). Therefore, we will have to constantly follow the new trend that is susceptible to influence the measure of price variation. Good communication between each of the major players (firms, associations and Statistic Canada) will ensure that we will be in a position to measure price changes correctly. Finally, expected results of the pilot survey in the province of Quebec will help to validate our approach in measuring price changes for auditing, accounting, tax returns and bookkeeping services.

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## **Appendix I Business model**

### **A. Industry Organisation**

#### 1. Size of Industry

With a total of 21,000 firms in 1997, total earnings in this industry amounted to C\$6.5 billion. This amount constitutes 0.25% of total Canadian income for that year as measured in the Gross Domestic Product (GDP).

#### 2. Employment

The accounting services industry relies on a highly developed technological infrastructure in conducting its business. The fact remains that a high proportion of its assets resides in its employees. In 1997, this industry accounted directly for 86,000 jobs in Canada. These jobs represented 0.6% of all jobs in Canada and 1.8% of jobs in the service sector. Of these jobs, 57% were in accounting offices, 32% in offices which specialised more in bookkeeping and 11% in offices specialising in tax returns. Offices which specialise in the preparation of tax return operate with a greater number of part-time jobs, especially in the peak period prior to the deadline for tax returns between February and April.

#### 3. Distribution of Firms and the Structure of the Industry

At the time of the most recent survey on accounting services, Statistics Canada's Services Division indicated that the largest firms (\$10 million and over), accounted for 40% of total industry earnings in 1997. The total number of offices affiliated with these large firms accounted for only 3% of the total number of offices for the industry as a whole. This demonstrates the high level of concentration in this industry.

Average earnings per office for the major firms were \$2 million in 1997, compared with \$300,000 for the small firms. Audit, accounting and tax returns accounted for 85% of the small firms' total operating revenues in 1997, whereas these same services represented only 69% of the earnings of the large firms.

Finally, the large accounting firms all have international affiliates. They form part of large multinationals with a wide range of expertise in a variety of fields and can draw on a world-wide network of assistance. This gives these large firms a comparative advantage over smaller firms. The smallest offices, on the other hand, use as a selling point with customers the merits of a personalised approach and are affiliated with independent professionals or firms which can offer complementary expertise. In this way, they can compete with the large firms and retain or expand their client base in the future.

#### 4. Structure of the Profession

There are currently three major designations for professional accountants in Canada. The first is the title of Chartered Accountant (CA), which covers over 66,000 professional accountants and 8,500 students in Canada. The second is the title of Certified Management Accountant (CMA) which covers 31,000 professional accountants and 12,000 students and candidates for the title of CMA. The third is the title of Certified General Accountant (CGA), which covers over 60,500 members and students enrolled in this professional studies program.

In all cases, these titles are obtained from and conferred by national organisations, which in turn have their own provincial and territorial branches. The national organisations, in addition to their role of national and international representation, offer general advice in the area of internal regulation and control, look after the publication of professional documentation and develop training programs. These three associations are members of the International Federation of Accountants ( I F A C ).

The titles are earned through a combination of course work and specific examinations, a university degree and practical experience. CA candidates are more specialised in tax audit and fiscal matters, whereas CGAs take a more general approach, incorporating management principles. CMAs receive specialised training in management accounting.

The rules and the degree of participation in the overall set of accounting services depend very largely on the legislation and practices in each province and territories of Canada. This subject is reviewed in section C Governmental Regulation in this appendix.

One can find other general information on the structure of the accounting profession on the following internet addresses and in Appendix VII :

Chartered Accountants of Canada: [www.cica.ca](http://www.cica.ca)

Chartered Management Accountants of Canada: [www.cma-canada.org](http://www.cma-canada.org)

Certified General Accountants of Canada: [www.cga-canada.org](http://www.cga-canada.org)

International Federation of Accountants: [www.ifac.org](http://www.ifac.org)

## 5. Degree of Vertical and Horizontal Integration

There is no vertical integration in the accounting services industry in the true sense of the word. Accounting services are offered by accounting offices which are highly concentrated. Each accounting office looks after all the stages of a contract, not leaving much room for sub-contractors. As discussed in the previous section, accounting firms are deeply involved in each stage of the process conducting to the final product. In fact, we should look upon accounting firms more as multi-products structure firms or more as horizontally integrated firms. Large offices offer a wide variety of services which respond to their client's needs and demands while smaller offices in regions may delegate part of their service to the central office. Finally, small offices not associated with bigger firms count more on outsourcing or other kind of associations to be able to offer a large range of services as requested by their clients.

## 6. Outsourcing/Resellers

Small offices that belong to larger firms sometimes use outsourcing. If it is a peak period or if the service is not usually provided by a particular office, the office may subcontract other offices through their internal network. If so, the office will be charged the same way as if the work had been done outside the firm. Usually, bigger firms have the entire infrastructure to meet all the needs of their offices which are around the country. In certain cases, they can even subcontract abroad, in the case where a client wants to export or is involved with foreign partners.

All other small offices which do not operate under the umbrella of big firms do outsourcing in certain circumstances. This outsourcing can be related to accounting, but usually it is used to complete the range of

services that they offer to their client. This can help to compete with other big firms which have access to all kinds of specialists inside the office or through their internal network as discussed in the previous paragraph.

Further, outsourcing is more common for firms doing tax work. In fact, there are a large number of individuals who work on a part-time basis between January and April in companies which specialise in tax returns (almost 9,000 jobs in 1997). This peak period necessitates the hiring of individuals on fixed contracts.

There is no reselling of services in this sector.

## 7. Array of Services Provided

The bigger accounting firms offer a fairly large variety of services that go well beyond the regular accountant's work. In 1997, 31% of their revenue was earned from sales of services such as management consultations. All types of management consulting and support, system consulting and personal management operations are becoming more and more popular. They also offer a variety of total business solutions for their clients. They are building alliances with non-accounting firms to offer more diversified services to their clients. Auditing is becoming more and more of an entry door which leads to a wide array of services and which helps the client to be more and more competitive.

Smaller firms, are more specialised in regular accounting services such as auditing, accounting and tax returns; other services contributed only 15% of their total operating revenue in 1997. Building alliances with other firms and doing outsourcing help them offer other kinds of services.

### ***B. Record Centre Identification and Identification of Operating Units Comprising the Sample Unit***

There are two kinds of information that are needed in building a price index for accounting services:

- Revenue (total and distributed by category of services)
- Contract information (price, service provided, hours billed and other details)

The total revenue figure is usually available at the establishment level and higher structural levels of the firm. Distribution of this revenue by category of services, may only be available at the business unit level (establishment). All depends on the level of information available at different levels of the organisation.

The contract or the engagement letter is the centrepiece of the information in the accounting services industry. Prices associated with a chosen contract are followed through time. Revenues of the establishment is the other component which goes into the calculation of the index. Usually, each contract is well identified (Identification number) in the firm's filing system.

Depending on the size of the business unit, these two types of information may not be available at the establishment level. In the case of smaller firms (independent offices or self-employed workers), the establishment, which is the operation unit, is situated in one location. It is easy to get access to the data on revenue and on prices for different contracts or engagement letters. Respondents have access to all explanations related to changes in the service they provide or to changes in the price they ask for the service.

Usually, the small number of partners working in those firms makes it easy to choose representative contracts for the whole office and it is simple at the same time to get information about these contracts.

Bigger firms like, Deloitte Touche Tohmatsu or KPMG have a head office and smaller offices all over the country. In this case the record centre identification will be the establishment (offices). Depending on the structural organisation of the firm, in some cases, all the information about total revenue for a particular office and even all the details concerning contracts are well centralised at the head office. On the other hand, the head office knows the total revenue for a particular office and may only give certain guidelines or thresholds concerning billing structure. In this case, the head office has no detail about contracts and therefore, questionnaires should be sent directly to each of the selected offices.

### **C. Government Regulation**

The only accounting services that are regulated in Canada are those associated with public accounting. This includes audits, review engagements, as well as any service which involves independent examination of records for the purpose of expressing an opinion as to whether the financial information is presented fairly. These services are regulated in seven provinces and unregulated in three provinces, Saskatchewan, Manitoba and New-Brunswick.

In Ontario, Quebec and Nova Scotia, audit and review services are usually performed by holders of the CA designation; in British Columbia and Prince Edward Island, CAs and CGAs are authorised to perform audit and review services for companies; in Alberta and Newfoundland, holders of either the CA, CGA or CMA designation are authorised to perform audit and review services.

Public sector auditing is also controlled in most provinces. All provinces have a legislative auditor (sometimes called the Provincial Auditor), while at the federal level there is the Auditor General of Canada. The provincial legislative auditors and the Auditor General all have their own enabling legislation. Government departments and most Crown corporations are audited by the appropriate legislative auditor. Public sector entities allowed to choose their own auditors would be required to comply with existing legislation in their jurisdiction. Thus, they would be subject to that legislation wherever auditing is regulated (most provinces).

In the insolvency field, trustees in bankruptcy require a licence from the federal government. Most trustees are members of a self-regulating professional body, the Canadian Insolvency Practitioners Association (CIPA), but membership is not mandatory. In the field of tax representation, any activity regarded as practising law is regulated by the relevant statutes. Each province regulates the practice of law. Investment advisors, personal financial planners, and stock brokers are also regulated in some provinces.

In provinces where public accounting is regulated by statute, only a few require practitioners to have a licence. All CAs who practice public accounting must be members of the Provincial Institute of Chartered Accountants (PICA) of the province in which they are practising. CMAs offering services to the public must be registered as public practising members. Newfoundland, Nova Scotia, and Ontario require a licence to practice public accounting. In Prince Edward Island, Quebec, Ontario, Alberta and British Columbia, public accountants must be members of one of the provincial associations which are authorised to offer accounting services to the public.

Several provinces require subscription to a professional liability insurance. In Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland, Nova Scotia, Ontario, Quebec, and Saskatchewan, CAs in public practice are required to have professional liability insurance. CGAs in all provinces are required to carry professional liability insurance and CMAs in public practice must have professional liability insurance. In addition, all CGAs and CAs in Nova Scotia and Ontario must take an oath.

#### ***D. Public Ownership/Government Subsidisation***

In Canada, accounting firms are not incorporated. Therefore, no firm is publicly owned or traded on the stock exchange market. On the other hand, firms which are specialised in tax return or payroll services such as H&R Block are allowed to be registered on the stock exchange market.

To our knowledge, there are no governmental subsidised firms.

## Appendix II Types of Services

The following table includes the type of information related to the service, the nature of the involvement of the accountant, the level of responsibility including the link to the Canadian Institute of Chartered Accountants (CICA) manual, and the reports that will be delivered to the clients to fulfil the terms of engagement letter.

### Manual of the Canadian Institute of Chartered Accountants page 5031 paragraph 520.B

Type of information	Nature of the involvement	Professional responsibilities	
		Work: The service provider discharges his/her responsibilities through compliance with the recommendations in the following chapters	Report
Financial statements	Audit	Chapter 5100, generally accepted audit standards	Auditor's Report: Standard report Chapter 5400
Financial statements	Review	Chapter 8100, general review standards or chapter 8200, review of financial statements	See the general review standards in Chapter 8100 and Chapter 8200
Financial statements	Compilation	Chapter 9200, compilation exercises	Chapter 9200, compilation exercises
Information used in a certification exercise	Certification	Chapter 5025, standards relative to the certification exercise	Chapter 5025, standards relative to the certification exercise
Annual Report containing audited financial statements	Check whether the financial statements and the relevant Auditor's Report are reproduced accurately in the Annual Report.  Read the other information in the Annual Report and see whether it is consistent with the audited financial statements.	The auditor is already associated with the financial statements through the previous audit exercise and must discharge his/her responsibilities in accordance with the recommendations of Chapter 7500, the auditor's responsibilities with regard to the Annual Report.	No standards regarding the report (see paragraph 5020.10)
Tax return and financial statements attached to it	Preparation of the tax return (financial statements prepared by the client)	The accountant is associated with the tax return by preparing it, but his/her professional liability is limited to that of his/her provincial organisation (competence and due diligence in carrying out the work)	No standards regarding the report. Please see 5020.10.

## Process to Deliver the Output

An engagement letter is used as a basis for transactions between an accounting firm and its clients. An engagement letter indicates the type of service the client is contracting for, when the service is to be provided, a list of work limitations for both parties and an indication of the terms of billings and payments. The accounting firm and its client negotiate the terms of an engagement letter. The negotiations may include interviews, research and travel to ensure the contract is feasible. The letter summarises the mutual understanding and responsibilities of parties.

Accounting firms follow these steps in providing services to the clients.

- Evaluation of the client;
  - Review documents like financial statements and tax returns
  - Communicate with former auditors
  - Communicate with present and former accountants of the client
  - Determine the adequacy of the client's records
- Negotiations with the client to arrive at an engagement letter;
  - Terms of engagements:
    - Description of the work that should be accomplished
    - Time frame
    - Billing structure
    - Responsibilities and limitations
- Engagement settlement;
- Plan to achieve the objectives and goals;
  - Get full understanding of the client's environment (operations, business and industry)
  - Determine the nature, the extent and the timing of procedures
- Obtain and document all data needed to fulfil the engagement;
- Evaluation of the collected data and collected documents;
- Preparation of the letters required in the engagement letter;
- Review of the engagement to provide reasonable assurance that goals and objectives have been achieved;
- Communication of results to the client.

## **Appendix III Price Indexes on Accounting Services:**

### **A. The French Follow-up**

#### **Statistical Reminder on the Sector of the Accounting Activities in France**

In 1997, this sector accounted for 15,740 companies of which only 74 employed more than 100 paid workers. The total revenue for 1997 rose to 52,900 MF or 8 billion Euro. The 12,800 offices of less than 10 paid workers carried out about 35 % of the total turnover of the sector. The annual revenue by employee ranged from 160 to 310 KF or 24 to 47,000 Euro.

#### **The French Survey on Prices for Accounting Activities Started in 1996.**

The sample included 98 companies by the end of 1999, compared to 103 in 1996. The loss is considered to be minimal at the moment.

The following categories which are surveyed are:

- 41% Bookkeeping of annual statements
- 24% Monitoring of the accounts
- 20% Audit of small and medium-sized business
- 6% Audit of large companies
- 9% Other different services (tax consultation, social pay and declarations...)

Weights for these services are calculated according to the revenue of each category of services compared to the revenues of all services for the companies taking part in the survey.

The number of contracts monitored by company is between 12 and 20. For each contract, the survey asks for the number of hours, fixed rate invoicing and invoicing according to time spent on the contract (real invoicing).

At the beginning of the survey, two types of invoicing were requested to easily distinguish between invoicing with fixed price and invoicing according to time spent on the contract. This type of distinction seems less useful today.

If there is hardly or no variation in the value of invoices between two years, there is no call back to the respondents. The price is then calculated by deduction from the real invoicing and the number of billed hours.

When the variation is significant, a contact with the company is necessary.

- ➔ If the contract has changed in terms of content, it is necessary to separate the quality effect from the price effect;
- ➔ if the type of invoicing has changed; it is necessary to confirm with the respondent.

In the case the variation is significant, the information provided on the invoice on the hourly rate helps to identify changes in the type of invoicing. This information is not essential, and it is planned to be deleted in order to simplify the survey.

The experience gathered since the creation of the index, makes it possible to provide the following comments:

### How to Identify the Changes of Quality of Services?

When the price changes recorded are higher or lower than 5%, the company is contacted to find out why there is such a variation. The objective then is to differentiate between what is related to a modification of the service (exceptional filing of document, change in the qualification or experience of the person managing the bookkeeping) and what is a price modification. Most of the time, telephone contact with the company makes it possible to resolve this issue. Only then will the true variation of prices be reflected in the variation of the index, which in turn could be compared to a variation according to “experts”.

### Disadvantages of an Annual Survey with a Set Date

This periodicity of the survey is an annual and respondents have difficulties to remember the previous survey cycle questionnaire which discourages them to answer quickly. The rate of response before follow-up is low.

The deadline for response is also extended for about half of the surveyed offices which have closing dates of accounts different than December 31<sup>st</sup> and which cannot supply information until the accounts are closed.

### Price Indexes of Accounting Activities

Accounting Services	1995	1996	1997	1998	1999(*)
<b>Accounting Services</b>	<b>100.0</b>	<b>101.8</b>	<b>102.9</b>	<b>104.8</b>	<b>106.1</b>
Accountancy	100.0	102.2	103.5	105.8	106.8
<i>Bookkeeping of annual statements</i>	100.0	102.6	105.3	107.1	109.2
<i>Monitoring of the accounts</i>	100.0	101.7	101.7	104.5	104.4
Auditing	100.0	101.2	101.6	102.8	104.5
<i>Audit of small and medium-sized business</i>	100.0	102.3	103.5	105.2	107.1
<i>Audit of large companies</i>	100.0	100.1	99.7	100.4	101.9
Other different services	100.0	102.7	106.3	107.6	109.3

Source: INSEE

(\*) : Calculated indexes for 1999 are provisional.

### B. Alternative Methodologies (Other Countries)

#### 1. Model Pricing (The United Kingdom)

This methodology, which was in use in the Central Statistical Office (CSO) in the United Kingdom, was based on the estimate of a total price for a representative contract. In the case of the United Kingdom, this approach required a quarterly compilation of prices for a wide range of services, such as audit, bookkeeping, tax consultation, bankruptcy, financial consultation and other types of consultation.

A contract was selected for the base year on the basis of one contract per primary activity. In the model pricing approach, this real or hypothetical contract was to be re-evaluated in subsequent periods to the base period. In principle, this re-evaluation was supposed to take market conditions into account and was supposed to reflect what the service provider would bill his client if he had provided the same type of service as in the base period. The re-evaluation of an identical contract through time makes it possible to identify variations in prices only which is the main advantage of this method.

The model pricing approach does not, in practice, allow for the impact of negotiations with the client. By analogy, model pricing would give a catalogue price rather than a negotiated price. It is common knowledge that negotiations between service providers and their clients frequently result in discounts on the total value of the contract. Experience, in fact, shows that respondents frequently use standard rates or try to estimate a discount price. As Dave Watts states in his article<sup>3</sup>: "Market conditions may not be reflected in the price indices obtained".

One further disadvantage of this methodology is the amount of time which the respondent must spend estimating a price for the representative contract during each survey period. The respondent must rework all cost calculations in order to arrive at an overall price for the selected contract<sup>4</sup>.

The cumbersome nature and the difficulties inherent in this approach led index developers in the United Kingdom to select an alternative method to model pricing.

## 2. Fee Income Method (United Kingdom)

This aggregated method requires the collection of the total amounts and hours billed for each of the major categories of activity studied. For each category of activity, the total amount billed is divided by the number of hours billed. The result is an average hourly fee for the major categories of activity. The price index is thus obtained by calculating the relationship between the average fee of the current period to the base period. This method, which is inexpensive for the respondent, is not very precise, for a variety of reasons: it does not reflect changes in the composition of the staff doing the work, nor does it reflect changes in the volume of work performed or changes in worker productivity<sup>5</sup>.

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<sup>3</sup> The Development of a Corporate Services Price Index for Accounting services" presented to the Voorburg Group in 1999.

<sup>4</sup> See the 1997 article by Jonathan Price, as well as Dave Watts' 1999 article (point 23), regarding this methodology.

<sup>5</sup> See the 1999 article by Martin Brand (point 22), regarding this methodology.

### 3. Fee Income Method by Professional Grades of Workers (United Kingdom)

This is the most recent method used by the CSO in the United Kingdom in collecting prices from large firms. These offices submit aggregated data for each professional grade of workers and for each of the major categories of service in the study.

In the base period, these data include, for all professional grades and for all categories of service: the total amount billed, the total number of hours billed and the total hourly average billed. For subsequent periods, respondents are asked for the average hourly fee billed in the current period for each category. This fee is subsequently multiplied by the number of hours billed in the base period. Price change is measured by dividing the total hypothetical amount billed in the current period index by the total amount billed in the base period. The weight applied to the basic services are taken from the distribution of the total amount billed for each of the professional grades and the major categories of service in the base period.

Thus, the distribution of work between professional grades and the intensity of the work remain identical to that observed during the base period (Laspeyres). The aggregates for the base period become, so to speak, a contract (or distribution of work) model which is reassessed for subsequent periods.

This method constitutes an improvement over the "Fee Income" method, since it takes into account cost variations for the various professional grades. Furthermore, the time required to obtain the data is much shorter than for the "Model Pricing" approach.

Unfortunately, this method cannot take into account changes in productivity nor changes in staff composition in completing an actual contract.

### 4. The New Zealand Charge-out Rate Method

In New Zealand, price change is measured by surveying the charge-out rates of Accountants for three broad categories of services, namely; bookkeeping, auditing and corporate advisory services. Prices are collected for both Intermediate and Senior Accountants from a wide range of firms throughout New Zealand.

According to partners in a couple of the large accountancy firms, it has been established that the charge-out rates should be further weighted within each of the categories defined above on the basis of the experience of the Accountant whose charge-out rate is being priced. It would appear that the tedious bookkeeping is typically more the job for the Intermediate Accountant (suggested 60% weight by value), while the more complex auditing is more the area for the Senior Accountant (suggested 60% weight by value). The activity defined as "Corporate Advisory etc." would attract an even higher weighting to Senior Accountants (suggested 70%).

These breakdowns and estimates have been utilised in assignation of weights to individual items to price within this representative Commodity Index.

The questionnaire specifies for each charge out rate

The title of the position,

The qualifications required

The number of years experience

For example

Auditor

B.Com,

5 years experience

#### 5. Australian Methodology (Quarterly Index):

The Australian pricing approach uses model pricing and charge-out rate methodologies. Prices collected are the average monthly-realised rate per service. The selected month is the middle month of each quarter. The information required is the staff levels involved in providing the given service, total billable hours, charge-out rates for each level of staff, and the realisation rate for that service division. The three latter quantities are multiplied together to give the total monthly average charges for the particular staff level for a particular transaction.

This method has the advantage that all the necessary data should be readily available from the firms. Where rates vary within a staff level for the same service, a weighted average is used in quoting the hourly charge-out rate for that staff level. However changes in productivity are not accounted for, such as the event where two tasks are performed in the time it previously took to perform one, with no effective change in service. It is therefore necessary to review productivity annually and factor this into the index calculation.

The index structure is an index by type of service to maintain some consistency in the prices. Prices will likely trend differently between services over time since some services will have different pricing structures or larger discounts than others.

## Appendix IV Numerical Example

### 1. Example of the Distribution of Contracts and Weightings

The example which is presented in the following tables reflects all the calculations required to calculate a price index for accounting services. The reader is invited to follow the example using the questionnaire and the respondent's guide.

Column 4 in Table A and Table B, shows the breakdown of operating revenue of two firms (BCD and EFG) according to the ten major categories of service offered by companies in this industry, and column 1 provides the corresponding percentages.

For example, in Table A, firm BCD derives 45% of its operating revenue in 1998 from the sale of auditing financial statements. Since it reported total operating revenue of \$800,000, this means that it earned \$360,000 from auditing financial statements. Using the established rule of distribution and in order to avoid the need to ask the firm to write down all its contracts, we are asking the respondent to calculate the number of contracts it needs to provide, i.e.:  $(0.45 * 15 = 6.75$  truncated to 6 or  $45 * 0.15 = 6.75$  truncated to 6) and to write the result in column 3. The number 15 represents the maximum number of contracts. Since these contracts are chosen to represent all the contracts in this category, we assign each a weight of \$60,000 (i.e.,  $\$360,000/6$ ). As a result, for a given accounting office, all contracts within each and only within each of the ten service categories have the same weight. This weight does not reflect the true value of each of these contracts. In the example, a contract worth \$5,000 will have the same weight as a contract worth \$98,000. In this case both contracts will have a weight of \$60,000. Since we are not asking firms to send us all their contracts, we are not in a position to verify the representative nature of the selected contracts. Last, we repeat this operation for each category and each firm. The services which appear in the shaded boxes do not form part of the survey. Accounting offices which realise revenues from sales of these types of service, are not required to do the calculation to determine the number of contracts for these services.

**Table A: Firm BCD****One contract per portion of 6.67% of total operating revenue (\$800,000)****The operating income of this firm is distributed as follows:****1998 Fiscal year**

	% of Operating Revenue (1)	(2)	Number of Representative Contracts (%*.15) (3)	Operating Revenue by Service Category (4)	Contract Value (Operating Revenue / no. of Contracts) (5)
<b>Audit, review services, other certification, compilation and bookkeeping</b>					
A. Audit of financial statements	45	X 0.15 =	6	\$360,000	\$60,000
B. Review of financial statements	12	X 0.15 =	1	\$96,000	\$96,000
C. Other assurance services	7	X 0.15 =	1	\$56,000	\$56,000
D. Compilation of financial statements	0	X 0.15 =	0	\$0	-
E. Bookkeeping and payroll preparation	0	X 0.15 =	0	\$0	-
<b>Tax Services</b>					
F. Corporate tax planning and consultation	12	X 0.15 =	1	\$96,000	\$96,000
G. Individual tax preparation and planning	17	X 0.15 =	2	\$136,000	\$68,000
<b>Insolvency and Receivership Services</b>	3			\$24,000	
<b>Consulting Services</b>	3			\$24,000	
<b>Other Services</b>	1			\$8,000	
<b>Total</b>	<b>100%</b>		<b>11</b>	<b>\$800,000</b>	<b>\$744,000</b>

**Table B: Firm EFG****One contract per portion of 6.67% of total operating revenue (\$14,000,000)****The operating income of this firm is distributed as follows:****1998 Fiscal year**

	% of Operating Revenue (1)	(2)	Number of Representative Contracts (%*.15) (3)	Operating Revenue by Service Category (4)	Contract Value (Operating Revenue / no. of Contracts) (5)
<b>Audit, review services, other certification, compilation and bookkeeping</b>					
A. Audit of financial statements	26	X 0.15 =	3	\$3,640,000	\$1,213,333
B. Review of financial statements	4	X 0.15 =	0	\$560,000	-
C. Other assurance services	17	X 0.15 =	2	\$2,380,000	\$1,190,000
D. Compilation of financial statements	21	X 0.15 =	3	\$2,940,000	\$980,000
E. Bookkeeping and payroll preparation	0	X 0.15 =	0	\$0	-
<b>Tax Services</b>					
F. Corporate tax planning and consultation	6	X 0.15 =	0	\$840,000	-
G. Individual tax preparation and planning	0	X 0.15 =	0	\$0	-
<b>Insolvency and Receivership Services</b>	20			\$2,800,000	
<b>Consulting Services</b>	5			\$700,000	
<b>Other Services</b>	1			\$140,000	
<b>Total</b>	<b>100%</b>		<b>9</b>	<b>\$14,000,000</b>	<b>\$8,960,000</b>

The reader can follow a detailed example of the price index calculation on Table C located on the next page. This Excel sheet table displays information from Table A and B along with detailed mathematical formulas

which are presented right after this table.

Table C Excel Sheet

	A	B	C	D	E	F	G	H	I
1	<b>Firm BCD</b>	<b>#</b>		<b>Revenue=</b>	<b>\$800,000</b>				
2		of contracts			$W_{BCD}$		1998	1999	
3	A- Audit services	6	45%	7.5%	\$60,000		\$5,000	\$5,270	
4				7.5%	\$60,000		\$15,000	\$15,650	
5				7.5%	\$60,000		\$98,000	\$113,290	
6				7.5%	\$60,000		\$124,000	\$138,880	
7				7.5%	\$60,000		\$16,000	\$17,000	
8				7.5%	\$60,000		\$25,000	\$21,000	
9	B- Review services	1	12%	12.0%	\$96,000		\$22,000	\$23,650	
10	C- Other certification	1	7%	7.0%	\$56,000		\$5,000	\$5,270	
11	D- Compilation		0%						
12	E- Bookkeeping		0%						
13	F- Corporate tax planning	1	12%	12.0%	\$96,000		\$3,000	\$3,100	
14	G- Individual tax plan/prep.	2	17%	8.5%	\$68,000		\$4,000	\$4,040	
15				8.5%	\$68,000		\$3,700	\$3,750	
16	Bankruptcy services		3%		24000				
17	Consulting services		3%		24000				
18	Other services		1%		8000				
19	<b>Total</b>				<b>\$800,000</b>				
20	<b>Firm EFG</b>			<b>Revenue=</b>	<b>\$14,000,000</b>				
21					$W_{EFG}$		1998	1999	
22	A- Audit services	3	26%	8.7%	\$1,213,333		\$120,000	\$122,760	
23				8.7%	\$1,213,333		\$13,000	\$16,040	
24				8.7%	\$1,213,333		\$22,000	\$24,220	
25	B- Review services		4%	4.0%					
26	C- Other certification	2	17%	8.5%	\$1,190,000		\$24,000	\$25,800	
27				8.5%	\$1,190,000		\$45,000	\$46,440	
28	D- Compilation	3	21%	7.0%	\$980,000		\$10,000	\$10,110	
29				7.0%	\$980,000		\$15,000	\$15,350	
30				7.0%	\$980,000		\$20,000	\$20,900	
31	E- Bookkeeping			0.0%					
32	F- Corporate tax planning			6.0%					
33	G- Individual tax plan/prep.			0.0%					
34	Bankruptcy services			20.0%					
35	Consulting services			5.0%					
36	Other services			1.0%					
37	<b>Total</b>				<b>\$8,960,000</b>				
39	=C\$22/3 Equal weighting within the class and service of firm								
40	<b>Calculation of indices Ratio of average weighted prices to time</b>								
42	<b>Arithmetic Mean</b>	Sum(Wj)	1998	1999 Wsurvey					
43	A- Audit services	\$4,000,000	1.000	1.056	0.41				=B47/B\$56
44	=((E3*H3+E4*H4+E5*H5+E6*H6+E7*H7+E8*H8)+(E22*H22+E23*H23+E24*H24))/((E3*G3+E4*G4+E5*G5+E6*G6+E7*G7+E8*G8)+(E22*G22+E23*G23+E24*G24))								
46	B- Review services	\$96,000	1.000	1.075	0.01				
47	C- Other certification	\$2,436,000	1.000	1.133	0.25				
48	D- Compilation	\$2,940,000	1.000	1.030	0.30				
49	E- Bookkeeping	0							
50	F- Corporate tax planning	\$96,000	1.000	1.033	0.01				
51	G- Individual tax plan/prep.	\$136,000	1.000	1.012	0.01				
52									
53									
54									
55									
56	<b>Total=</b>	<b>\$9,704,000</b>		<b>Total index</b>	<b>1.067</b>				=(E43*D43)+(E46*D46)+ =(E47*D47)+(E48*D48)+ =(E50*D50)+(E51*D51)

## 2. Price Index Calculation

Using the following formula and the information in the table on the previous page, the value of the price index for a specific type of service, in this case auditing of financial statements, is calculated as:

$$I_j = \frac{\sum_{i=1}^m w_b^i \sum_{k=1}^c P_t^{ik}}{\sum_{i=1}^m w_b^i \sum_{k=1}^c P_b^{ik}}$$

$$I_{Audit} = \frac{(\$60000 * (\$5270 + \dots + \$21000))_{BCD} + (\$1213333 * (\$122760 + \$16040 + \$24220))_{EFG}}{(\$60000 * (\$5000 + \dots + \$25000))_{BCD} + (\$1213333 * (\$120000 + \$13000 + \$22000))_{EFG}} = 1.056$$

Again using the information from the table on the previous page and the formulae below, the total price index for all accounting services can be calculated as:

$$I_{Total} = \sum_{j=1}^7 (y_j * I_j) \quad \text{where} \quad y_j = \frac{\sum_{i=1}^m \sum_{k=1}^c w_b^{i,k}}{\sum_{j=1}^7 \sum_{i=1}^m \sum_{k=1}^c w_b^{i,k,j}}$$

$$I_{Total} = \left[ \begin{aligned} & ((\$4,000,000 / \$9,704,000) * 1.056)_{Audit} + \\ & ((\$96,000 / \$9,704,000) * 1.075)_{Re\ view} + \\ & ((\$2,436,000 / \$9,704,000) * 1.133)_{Other\_Cert.} + \\ & ((\$2,940,000 / \$9,704,000) * 1.030)_{Compilation} + \\ & ((\$96,000 / \$9,704,000) * 1.033)_{Corp.tax} + \\ & ((\$136,000 / \$9,704,000) * 1.012)_{Ind.tax} \end{aligned} \right] = 1.067$$

## Appendix V Classifications

### A. Central Product Classification (CPC Version 1.0)

#### Classes of Services:

#### DIVISION 82 PROFESSIONAL, SCIENTIFIC AND TECHNICAL SERVICES

- 822 Accounting services, financial auditing and bookkeeping
  - 8221 Accounting services and financial auditing services
    - 82211 Financial auditing services
    - 82212 Accounting review services
    - 82213 Compilation of financial statements services
    - 82219 Other accounting services
  - 8222 82220 Bookkeeping services, except tax returns
- 823 Advisory services related to taxation
  - 8231 82310 Corporate tax planning and consulting services
  - 8232 82320 Corporate tax preparation and review services
  - 8233 82330 Individual tax preparation and planning services
- 824 Insolvency and receivership services
  - 8240 82400 Insolvency and receivership services

#### Description of Service Classes:

#### **822 Accounting services, financial auditing and bookkeeping**

#### **82211 Financial auditing services**

This subclass includes:

examination services for the accounting records and other supporting evidence of an organisation for the purpose of expressing an opinion as to whether financial statements of the organisation present fairly its position as at a given date and the results of its operations for the period on that date, in accordance with generally accepted accounting principles.

### **82212 Accounting review services**

This subclass includes:

reviewing services for annual and interim financial statements and other accounting information. The scope of a review is less than that of an audit, and the level of assurance provided is thus lower.

### **82213 Compilation of financial statements services**

This subclass includes:

compilation services for financial statements from information provided by the client. No assurances regarding the accuracy of the resulting statements are provided;  
preparation services for business tax returns, when provided as a package with the preparation of financial statements for a single fee, classified here;  
compilation of income statements, balance sheets etc.;  
analysis of balance sheets etc.

*This subclass does not include:*

- *business tax preparation services, when provided as separate services, cf. 82320*

### **82219 Other accounting services**

This subclass includes:

other accounting services such as attestations, valuations, preparation services for pro forma statements, etc

### **82220 Bookkeeping services, except tax returns**

This subclass includes:

book-keeping services consisting in classifying and recording business transactions in terms of money or some unit of measurement in the books of account

*This subclass does not include:*

*book-keeping services related to tax returns, cf. 823;*

*payroll services, including payroll computation and ledgers, cf. 85990*

### **823 Advisory services related to taxation**

This group includes:

advice to companies and private individuals for the purpose of minimising taxes;  
drawing-up and defending taxation statements;  
services consisting in assisting enterprises in tax planning and control, other than for income tax, and preparing all documentation required by law.

### **82310 Corporate tax planning and consulting services**

### **82320 Corporate tax preparation and review services**

This subclass includes:

preparation of returns for all kinds of taxes (e.g. VAT)

### **82330 Individual tax preparation and planning services**

This subclass includes:

tax preparation and planning services for unincorporated business

tax preparation and planning services for individuals

### **824 Insolvency and receivership services**

#### **82400 Insolvency and receivership services**

## **B. North American Industrial Classification System (NAICS Canada)**

### **54 Professional, Scientific and Technical Services**

This sector comprises establishments primarily engaged in activities in which human capital is the major input. These establishments make available the knowledge and skills of their employees, often on an assignment basis. The individual industries of this sector are defined on the basis of the particular expertise and training of the service provider.

The main components of this sector are legal services industries, accounting and related services industries, architectural, engineering and related services industries, surveying and mapping services industries, design services industries, management, scientific and technical consulting services industries, scientific research and development services industries, and advertising services industries.

The distinguishing feature of this sector is the fact that most of the industries grouped in it have production processes that are almost wholly dependent on worker skills. In most of these industries, equipment and materials are not of major importance. Thus, the establishments classified in this sector sell expertise. Much of the expertise requires a university or college education, though not in every case.

Establishments primarily engaged in providing instruction and training in a wide variety of subjects and those primarily engaged in providing health care by diagnosis and treatment are not included in this sector.

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#### **5412 Accounting, Tax Preparation, Bookkeeping and Payroll Services**

See industry description for [54121](#), below.

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#### **54121 Accounting, Tax Preparation, Bookkeeping and Payroll Services**

This industry comprises establishments primarily engaged in auditing accounting records; designing accounting systems; preparing financial statements; developing budgets; preparing tax returns; processing payrolls; bookkeeping; and billing.

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#### **541212 Offices of Accountants**

This Canadian industry comprises establishments primarily engaged in providing a range of accounting services, such as the preparation of financial statements, the preparation of management accounting reports, the review and auditing of accounting records, the development of budgets, the design of accounting systems, and the provision of advice on matters related to accounting. These establishments may also provide related services, such as bookkeeping services, tax return preparation services, payroll services, management consulting services and insolvency services.

Accountant, professional

Chartered accountant, offices of

Accounting services, professional

Professional accounting firm

Auditing accountants, offices of

Public accountants, offices of

*Exclusion(s):* Establishments primarily engaged in:

- providing tax return preparation services, without also providing accounting or auditing services ([541213](#), Tax Preparation Services); and
- providing bookkeeping, billing and payroll processing services, without also providing accounting or auditing services ([541215](#), Bookkeeping, Payroll and Related Services).

### **541213 Tax Preparation Services**

This Canadian industry comprises establishments primarily engaged in providing only tax return preparation services. These establishments do not provide accounting, bookkeeping, billing or payroll processing services.

Income tax return preparation services without accounting, auditing, or bookkeeping services	Tax return preparation services (without accounting, auditing, or bookkeeping services)
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- *Exclusion(s)*: Establishments primarily engaged in:
- providing a range of accounting services ([541212](#), Offices of Accountants).

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### **541215 Bookkeeping, Payroll and Related Services**

This Canadian industry comprises establishments primarily engaged in providing bookkeeping, billing or payroll processing services. These establishments do not provide accounting services, such as the preparation of financial statements, the preparation of management accounting reports, and the review and auditing of accounting records.

Billing and bookkeeping services	Payroll processing services
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*Exclusion(s)*: Establishments primarily engaged in:

- providing a range of accounting services ([541212](#), Offices of Accountants); and
- providing tax return preparation services, without also providing accounting or auditing services ([541213](#), Tax Preparation Services).

## **C. Standard Industrial Classification (1980 SIC-E)**

### **Division M: Business Service Industries**

#### **MAJOR GROUP 77 BUSINESS SERVICE INDUSTRIES**

Establishments primarily engaged in providing services more to the business community than to the general public. Included in this MAJOR GROUP are employment agencies and personnel suppliers computer services accounting and bookkeeping services advertising services architectural, engineering and other scientific services lawyer and notary services management consulting services and business services not elsewhere classified.

#### **Industry Group 773 Accounting and Bookkeeping Services**

Establishments primarily engaged in providing auditing, accounting and bookkeeping services.

##### **7731 Offices of Chartered and Certified Accountants**

Establishments primarily engaged in providing auditing and accounting services. These establishments are headed by one or several accountants who are members of a professional accounting organisation.

##### **7739 Other Accounting and Bookkeeping Services**

Establishments primarily engaged in providing accounting and bookkeeping services not elsewhere classified. Establishments primarily engaged in income tax compilation are included here.

## **Appendix VI Future Trends Expected to Affect the Industry**

### ***A. Mergers***

Recent mergers have given rise to a certain concern about more mergers arising in the future. This recent trend began with a unsuccessful tentative merger between KPMG and Ernst & Young and has continued during 1998 with the successful merger between Price Waterhouse and Coopers & Leybrand. Various analysts of the accounting industry worry that other mergers among giants of this industry and even mergers between accounting firms and law firms are likely.

These expected mergers, which according to certain analysts are necessary to the growth of their profit and to their own existence, are for others considered to be potential nightmares because of the decreasing level of competition and the possibility of growing ethic's conflicts. In fact, probable conflicts may arise for example in the case where a large client may hesitate to trust an audit mission provided by a big office which has also done a mandate for its principal competitor.

For our price survey, these mergers will mean an increasing level of difficulty to survey those firms and may have an impact on the selected sample.

### ***B. Service Dynamic***

In recent years, we have witnessed a major revolution in the constant increase in the range of advisory services which are offered and in the range of non-traditional accounting services which are now available. These changes are not likely to stop in the short and medium term. Other new services will come on the scene and services which represent only a small proportion of operating revenue are likely to vanish within a short time.

New services related to the emergence of the Internet and the growing importance of computerisation should increase in popularity and be available to complement other services available to clients, such as audits. This type of accounting service, which has constituted the backbone of the industry, should continue to be the most popular service, but is likely to continue to decline in terms of the total operating revenue for the industry as a whole. This service, which is regarded as a gateway in many cases, should open the doors to complementary services. These complementary services, such as, for example, strategic intelligence and information, are experiencing a boom, in the view of some analysts. This service offers clients the ability to obtain a great deal of information on competitors, potential clients and sub-contractors.

Other services may also swell the number of those offered, or simply constitute a one-off service, such as WebTrust certification, which enables businesses to assure potential clients of the security of transactions at the time of purchase over the Internet, as well as the SysTrust certification service, which allows companies to ensure that a computer system is reliable and meets very strict standards. Furthermore, other services are emerging in the very short term, such as services to seniors, services tailored to the clientele, and a range of complementary services stemming from alliances between accounting offices and professionals in a wide variety of fields.

Over the next few years, efforts will be channelled in order to consolidate the new opportunities and develop other, still unexplored, service avenues. This new dynamic will allow the industry to enhance its impact and

its scale and thus all of the services offered to companies and even to individuals in Canada or elsewhere in the world via offices in the four corners of the globe. This momentum will also allow the industry to protect itself against incursions from other service industries trying to expand their current market share.

## Appendix VII National and International Links

### A. National Links

Provincial Institutes names and addresses: [www.cica.cicawebsite.nsf](http://www.cica.cicawebsite.nsf)

Ordre des comptables agréés du Québec-Chartered Accountants of Quebec: [www.ocaq.qu.ca](http://www.ocaq.qu.ca)

The Institute of Chartered Accountants of Alberta: [www.icaa.ab.ca](http://www.icaa.ab.ca)

The Institute of Chartered Accountants of British Columbia: [www.ica.bc.ca](http://www.ica.bc.ca)

The Institute of Chartered Accountants of Manitoba: [www.icam.mb.ca](http://www.icam.mb.ca)

The Institute of Chartered Accountants of Newfoundland: [www.ican.nfld.net](http://www.ican.nfld.net)

The Institute of Chartered Accountants of Nova Scotia: [www.icans.ns.ca](http://www.icans.ns.ca)

The Institute of Chartered Accountants of Ontario: [www.icao.on.ca](http://www.icao.on.ca)

The Institute of Chartered Accountants of Saskatchewan: [www.icas.sk.ca](http://www.icas.sk.ca)

The New Brunswick Institute of Chartered Accountants: [www.nbica.org](http://www.nbica.org)

CA-Xchange: [www.cax.org](http://www.cax.org)

The Atlantic School of Chartered Accountancy: [www.asca.ns.ca](http://www.asca.ns.ca)

Auditor General of Quebec (The) / Le Vérificateur général du Québec: [www.vgq.gouv.gc.ca](http://www.vgq.gouv.gc.ca)

Canadian Academic Accounting Association (The) / L'Association canadienne des professeurs de comptabilité (CAAA): [www.stmarys.ca](http://www.stmarys.ca)

Canadac Services: [www.canadac.com](http://www.canadac.com)

Contemporary Accounting Research/Recherche comptable contemporaine: [www.tcel.com](http://www.tcel.com)

Department of Foreign Affairs and International Trade: : [www.dfait-maeci.gc](http://www.dfait-maeci.gc)

Office of the Auditor General / Bureau du vérificateur général: [www.oag-bvg.gc.ca](http://www.oag-bvg.gc.ca)

Office of the Auditor General – Alberta: [www.oag.ab.ca](http://www.oag.ab.ca)

Office of the Auditor General – British Columbia: [www.oag.bc.ca](http://www.oag.bc.ca)

Office of the Auditor General – Nova Scotia: [www.gov.ns.ca](http://www.gov.ns.ca)

Canadian Department of Finance (Canada): [www.fin.gc.ca](http://www.fin.gc.ca)

Canadian Industry Statistics – a branch of Strategis: <http://strategis.ic.gc.ca>

Government of Canada / Gouvernement du Canada: <http://canada.gc.ca>

Financial Planners Standards Council (FPSC): [www.cfp-ca.org](http://www.cfp-ca.org)

C.D. Howe Institute / Institut C.D. Howe: [www.cdhowe.org](http://www.cdhowe.org)

M.Y.O.B. Accounting: [www.bestware.ca](http://www.bestware.ca)

Ontario Securities Commission Bulletin: <http://jupiter.mmltd.com>

Parliament of Canada: [www.parl.gc.ca](http://www.parl.gc.ca)

Public Service Commission of Canada: [www.psc-cfp.gc.ca](http://www.psc-cfp.gc.ca)

Revenue Canada ( Main site ) / Revenu Canada (site principal): [www.rc.gc.ca](http://www.rc.gc.ca)

Revenue Canada Corporate Income Tax Redesign: [www.rc.gc.ca/t2return](http://www.rc.gc.ca/t2return)

Treasury Board of Canada: [www.tmac.ca](http://www.tmac.ca)

The Credit Insurance Handbook: [www.creditinsurance.ca](http://www.creditinsurance.ca)

University of Waterloo – School of Accountancy: <http://arts.uwaterloo.ca>

## **B. International Links**

The Academy of Accounting Historians: <http://weatherhead.cwru.edu>  
Accountants Thru Internet: [www.netaccountants.com](http://www.netaccountants.com)  
Accounting.com: [www.accounting.com](http://www.accounting.com)  
Accounting Professional's Resource Centre: [www.kentis.com](http://www.kentis.com)  
Accounting Standards Board, The (U.K.): [www.asb.org.uk](http://www.asb.org.uk)  
AccountingWEB (U.K.): [www.accountingweb.co.uk](http://www.accountingweb.co.uk)  
American Accounting Association (AAA) (U.S.): [www.aaa-edu.org](http://www.aaa-edu.org)  
American Institute of Certified Public Accountants: [www.aicpa.org](http://www.aicpa.org)  
Association of Chartered Accountants in the U.S.: [www.acaus.com](http://www.acaus.com)  
Auditing Practices Board, (The) (U.K.): [www.apb.org.uk](http://www.apb.org.uk)  
AuditNet Homepage: <http://users.aol.com>  
CGAonline.net: [www.cgaonline.net](http://www.cgaonline.net)  
Chartered Institute of Public Finance and Accountancy: [www.cipfa.org.uk](http://www.cipfa.org.uk)  
Computer Associates: [www.cai.com](http://www.cai.com)  
Confederation of Asian and Pacific Accountants – CAPA: [www.capa.com.my](http://www.capa.com.my)  
Conseil Supérieur de l'Ordre des Experts Comptables (France): [www.experts-comptables.com](http://www.experts-comptables.com)  
Confederation of Asia and Pacific Accountants: [www.capa.com.my](http://www.capa.com.my)  
CPA Australia: [www.cpaonline.com.au](http://www.cpaonline.com.au)  
Fédération des Experts Comptables Européens: [www.fee.be](http://www.fee.be)  
Financial Accounting Standards Board: [www.fasb.org](http://www.fasb.org)  
Financial and Management Accounting Committees of IFAC: [www.ifac.org](http://www.ifac.org)  
Greenpoint Software Ltd.: [www.greenpointsoftware.com](http://www.greenpointsoftware.com)  
Hong Kong Society of Accountants: [www.hksa.org.hk](http://www.hksa.org.hk)  
Information Systems Audit and Control Association & Foundation (The): [www.isaca.org](http://www.isaca.org)  
International Federation of Accountants: [www.ifac.org](http://www.ifac.org)  
Institute of Certified Public Accountants of Singapore: [www.accountants.org.sg](http://www.accountants.org.sg)  
The Institute of Chartered Accountants in Australia: [www.icaa.org.au](http://www.icaa.org.au)  
The Institute of Chartered Accountants in England & Wales (U.K.): [www.icaew.co.uk](http://www.icaew.co.uk)  
The Institute of Chartered Accountants in Ireland: [www.icaei.ie](http://www.icaei.ie)  
The Institute of Chartered Accountants of New Zealand: [www.icanx.co.nz](http://www.icanx.co.nz)  
The Institute of Chartered Accountants of Scotland: [www.icas.org.uk](http://www.icas.org.uk)  
Institute of Internal Auditors (The): [www.theiia.org](http://www.theiia.org)  
Institute of Management & Administration (IOMA) (U.S.): [www.ioma.com](http://www.ioma.com)  
International Accounting Standards Committee: [www.iasc.org.uk](http://www.iasc.org.uk)  
International Federation of Accountants: [www.ifac.org](http://www.ifac.org)  
Mail List Archives: [www.csu.edu.au](http://www.csu.edu.au)  
National Association of State Boards of Accountancy (The) (NASBA) (U.S.): [www.nasba.org](http://www.nasba.org)  
Pendock Mallorn Ltd: [www.pendock.com](http://www.pendock.com)  
Rutgers Accounting Web (RAW) (U.S.): [www.rutgers.edu](http://www.rutgers.edu)  
SEC Disclosure Archives (EDGAR project) (U.S.): <http://town.hall.org>  
South African Institute of Chartered Accountants: [www.saica.co.za](http://www.saica.co.za)  
Summa Project for Academics (The): [www.summa.org.uk](http://www.summa.org.uk)  
Tradenet, Italy: [www.tradenet.it](http://www.tradenet.it)