



# Information Paper Series

## Rebasing of Accounting Services Price Index (Base Year 2022)

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information paper  
on  
prices statistics

**REBASING OF  
ACCOUNTING SERVICES PRICE INDEX (ASPI)  
(Base Year 2022)**

Singapore Department of Statistics

June 2023

Papers in this Information Paper Series are intended to inform and clarify conceptual and methodological changes and improvements in official statistics. The views expressed are based on the latest methodological developments in the international statistical community. Statistical estimates presented in the papers are based on new or revised official statistics compiled from the best available data. Comments and suggestions are welcome.

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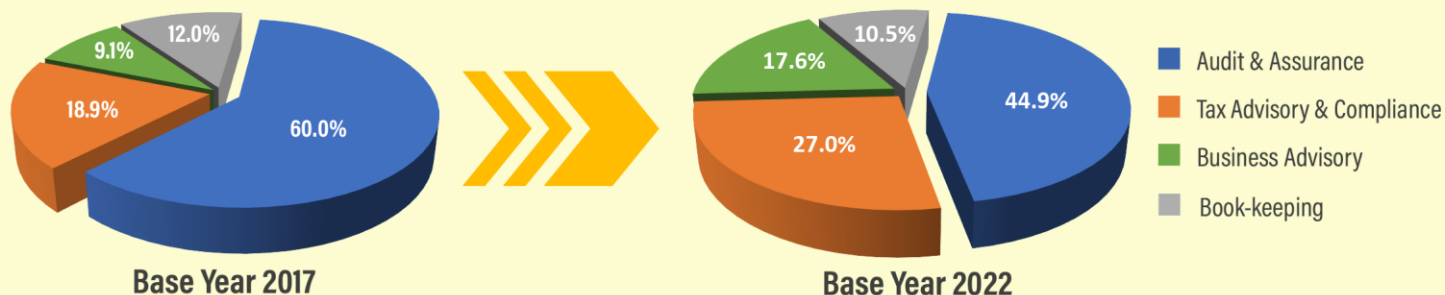
# REBASING OF ACCOUNTING SERVICES PRICE INDEX (ASPI)



The ASPI measures changes in the prices of services provided by Singapore-registered accounting establishments.

## Weighting Pattern

By business activity, the weight share of Audit & Assurance continued to be the largest contributor to the 2022-based ASPI (despite declining from the 2017-based index). On the contrary, Business Advisory and Tax Advisory & Compliance saw notable increases in weights.



## Sample of Companies and Products

During the rebasing, the sampling frame was refreshed to better represent the current activities and market share of the industry, while rotating out some of the smaller companies to minimise respondent burden.



Companies

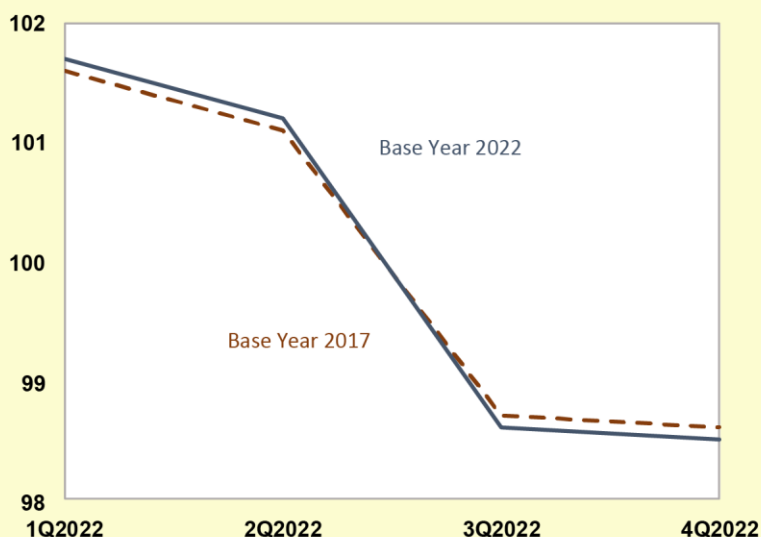


Service Products



## Key Trends

The price trends of the overall ASPI for both base years generally moved in the same direction on a downward trend. The modest differences in price trend can be attributed to changes in the weightage and coverage of service products.



# **REBASING OF ACCOUNTING SERVICES PRICE INDEX (ASPI) (Base Year 2022)**

## **I INTRODUCTION**

The Department of Statistics (DOS) has rebased the Accounting Services Price Index (ASPI) from the base year of 2017 to 2022. The rebasing exercise is conducted every five years to ensure that the weighting structure and the coverage of service products of the index are representative of the current activities and market share of the industry.

2 The ASPI is a services producer price index that measures changes in the prices of services provided by Singapore-registered accounting establishments. The index is used to deflate the value added and output of the accounting industry in national accounts. It also provides an assessment of the price trends of the accounting industry.

3 This information paper provides details on the 2022-based ASPI, and includes key changes from the rebasing, such as the weight comparison and price movement between the new 2022-based and the 2017-based price series.

## **II DESCRIPTION OF 2022-BASED ASPI**

### **Index Coverage and Structure**

4 The ASPI covers local companies classified under the following Singapore Standard Industrial Classification (SSIC) 2020<sup>1</sup> codes:

- 69201 – Accounting and auditing services (including tax advisory services)
- 69202 – Book-keeping services (excluding online marketplaces)

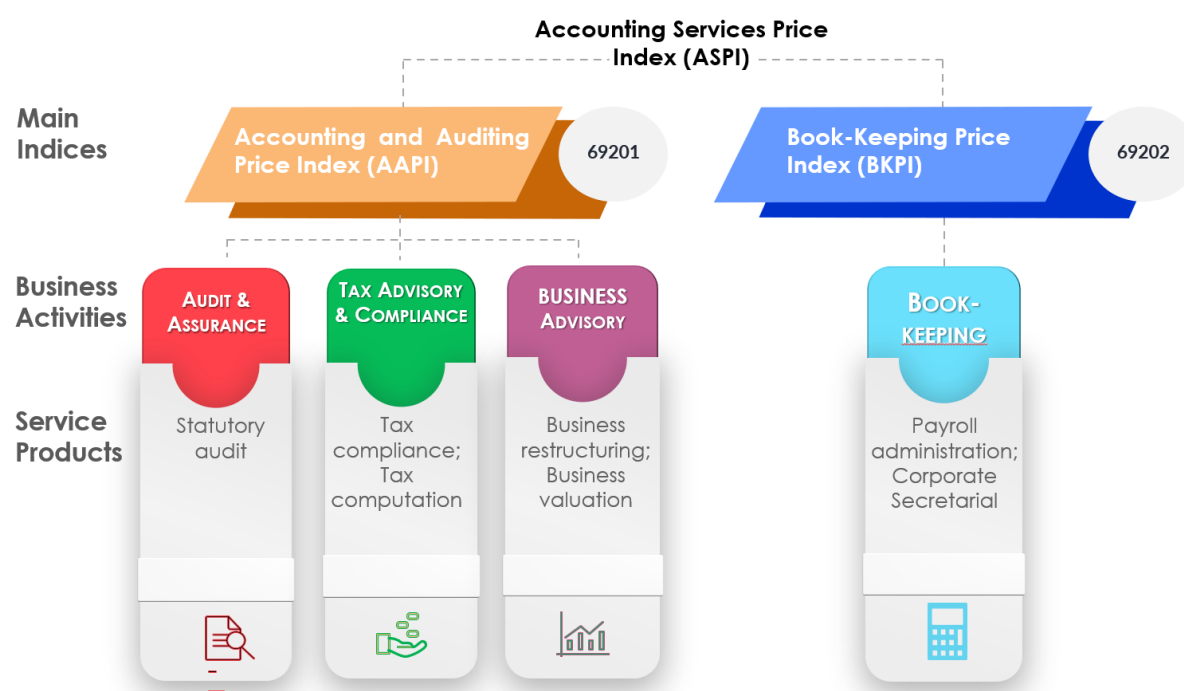
5 The key services covered in the ASPI are reviewing and auditing of financial statements, preparing and advising on personal and business tax returns, as well as accounting, book-keeping and payroll administration.

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<sup>1</sup> The SSIC 2020 publication is available at: <https://www.singstat.gov.sg/standards/standards-and-classifications/ssic>

6 The index structure of ASPI is presented in **Figure 1**. The ASPI comprises two main sub-indices, namely the Accounting and Auditing Price Index (AAPI) and Book-Keeping Price Index (BKPI). At the service level, the AAPI covers 3 business activities, namely audit and assurance, tax advisory and compliance, as well as business advisory services. The BKPI solely consists of 1 business activity, i.e., book-keeping services. Beyond these are the prices of individual service products.

**Figure 1: Index Structure of ASPI**



## Index Computation

7 A price index is compiled from the weights and prices of the products selected in the index basket. The ASPI uses the modified Laspeyres formula where the weight reference period of 2021 preceded the price reference period of 2022.

8 Price relatives of the service products provide the basic level for the compilation of higher-level indices. The price relatives, together with their respective weights, are aggregated to form the price indices at the business activity level, followed by the sub-indices level (AAPI and BKPI), then finally to the overall ASPI. More details on the index computation are available in [Appendix I](#).



## Weights

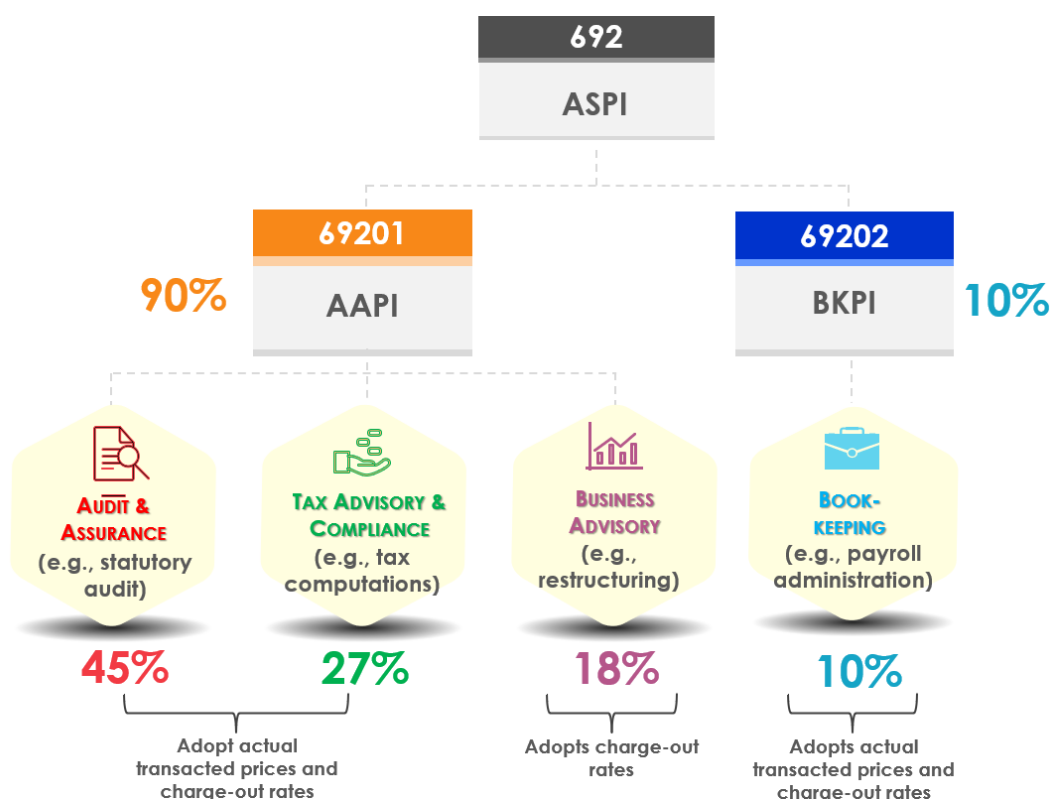
9 The weight reference period for the 2022-based ASPI is 2021. The weights are derived from the operating revenue (OR) data for 2021 reported by establishments in the Accounting Services Industry Survey 2022, where establishments provided OR breakdown in percentages by business activity and further supplemented by administrative and DOS survey data.

## Pricing Method

10 **Figure 2** displays the weights distribution and pricing methods used for different service products in each main business activity. The index mainly uses two types of pricing methods, namely the direct use of prices of repeated services and time-based pricing.

- i) Direct use of prices of repeated services is employed on routine and recurring (e.g., monthly, quarterly) services such as accounting and book-keeping services. Survey respondents provide transacted unit rates or revenue received for selected, representative service products (or contracts).
- ii) Time-based pricing method is adopted for establishments who bill their clients or price their services based on the time and charge-out rates of the staff providing these business activities. Survey respondents are required to provide the common staff designations and their charge-out rates are priced over time.

**Figure 2: Pricing Methods and Weights Distribution of ASPI**



## Data Collection

11 Price surveys were conducted to collect monthly prices for 218 service products from 123 Singapore-registered accounting establishments. **Figure 3** shows the number of companies and service products collected for each business activity. Respondents had to provide the charge-out rates for selected staff designations or unit rates for selected service products. They were required to furnish all the price information where relevant. An establishment may provide service products from more than one type of business activity.

12 Routine price surveys are conducted for half of the sampled companies in the first and third quarters of the year to collect monthly prices for six months, with the other half of the sampled companies surveyed in the second and fourth quarters of the year to similarly collect monthly prices for the remaining six months.

13 The prices captured should reflect the amount received by a producer, excluding any taxes. When service products have discontinued, companies are requested to replace them with similar service products.

**Figure 3: ASPI Price Coverage**

Business Activity	No. of Establishments	No. of Service Products
Audit & Assurance	57	68
Tax Advisory & Compliance	19	61
Book-keeping	40	71
Business Advisory	7	18
All – Accounting Services	123	218

### III KEY CHANGES IN THE 2022-BASED ASPI

#### Streamlining of Industry Survey

14 Typically, a separate industry survey is conducted before the preliminary price survey with potential respondents to collect the OR breakdown to derive the weights and identify in-scope firms. However, the initial understanding from engaging the accounting industry was that majority of the companies have been in-scope with well-defined service types. A simplified industry survey form was thus adopted, which was sent as part of the preliminary price survey. **Figure 4** shows the simplified industry survey with one question asking respondents to provide a breakdown of OR into the four main business activities of ASPI. This greatly reduced respondent burden, while ensuring that sufficient information was collected.

**Figure 4: Simplified Industry Survey**

- 2) Please indicate revenue breakdown below and complete the Declaration Form (Page 2).
- Provide the percentage breakdown for the operating revenue for the following major groups of business activities below
  - Report only for the company named in this questionnaire. Do not provide consolidated data including subsidiaries, joint ventures or associated businesses.

Audit & Assurance (%)	Tax Advisory & Compliance (%)	Business Advisory (%)	Book-keeping & Corporate Support (%)	Others (please specify):
				(%)

#### New Sample of Companies and Service Products

15 During the rebasing, new companies were selected from DOS's business register and surveyed to collect detailed service specifications and prices for their service products. These service products and prices were monitored throughout the base period, and clarifications with the respondents were made where necessary to ensure that the price changes can be captured adequately.

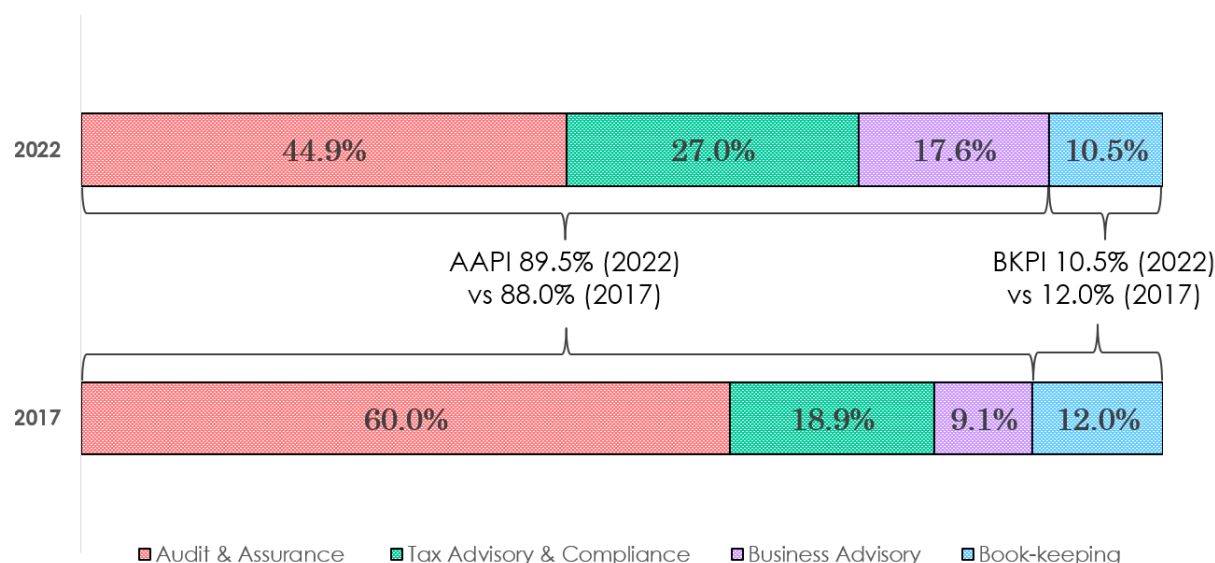
16 Subsequently, the in-scope products were reviewed along with the existing products from the 2017-based ASPI to determine the final frame for the 2022-based ASPI. Overall, this rebasing exercise allowed DOS to ensure that the service products in the index are representative of the current activities and market share of the industry, while rotating out some of the smaller companies to minimise respondent burden. In summary, the 2022-based ASPI

survey frame was 13 per cent larger than that of the 2017-based ASPI, with 66 companies rotated out of the index and replaced with 80 new companies.

## Comparison of Weighting Patterns

17 **Figure 5** shows the weights distribution for the 2022-based and 2017-based ASPI by main index and business activity.

**Figure 5: 2022-based and 2017-based ASPI Weights Distribution by Sub-index and Business Activity**



18 By sub-index, the weights for AAPI continued to be the largest contributor of total weights, increasing from 88.0 per cent to 89.5 per cent from base year 2017 to 2022. In tandem, the weights for BKPI decreased 1.5 percentage points to 10.5 per cent.

19 By business activity, in the 2022-based ASPI, Audit & Assurance remained the largest contributor to the weights at 44.9 per cent, even though it decreased 15.1 percentage points when compared to the 2017-based ASPI. In contrast, Business Advisory (17.6 per cent (↑ 8.5 percentage points)) and Tax Advisory & Compliance (27.0 per cent (↑ 8.1 percentage points)) saw notable increases in weights.

20 The rise in weights for tax related services was driven by companies' increased focus on transformative initiatives<sup>2</sup> (e.g., digital transformation) in a bid to emerge stronger and ahead of the pack, as Singapore positions itself to catch the next economic sunrise post-

<sup>2</sup> "Tough times can still be opportune times for transformation" (<https://home.kpmg/sg/en/home/media/press-contributions/2022/11/tough-times-can-still-be-opportune-times-for-transformation.html>)

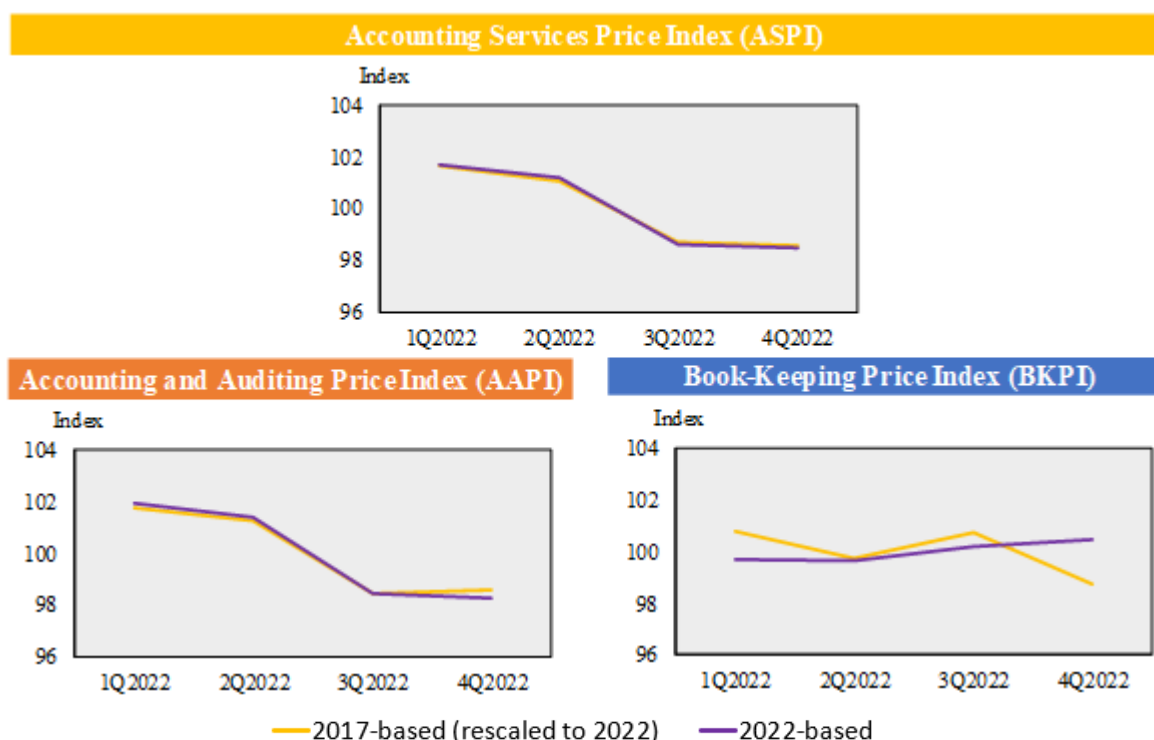
pandemic. Further, with the new global minimum tax rules under the Base Erosion and Profit Shifting (BEPS) 2.0 framework set to be rolled out from 2024, companies have expressed concerns that their growth may be stymied, given the difficulty in assessing accurately the compliance costs and resources involved.<sup>3</sup> These trends would have likely fueled demand for bespoke business and tax advisory-related services.

## Comparison of Price Trends

21 **Figure 6** compares the price trends between the 2022-based and 2017-based ASPI from the first to fourth quarter of 2022, which is the period of overlap between the two base years.

22 The price trends of the overall ASPI for both base years generally moved in the same direction, driven largely by the Audit & Assurance business activity, which has the highest weights. Differences in the price trend of BKPI can be attributed to changes in the weightage and coverage of service products.

**Figure 6: 2022-based and 2017-based ASPI (rescaled to 2022) for First to Fourth Quarter 2022**



<sup>3</sup> "Singapore businesses, don't underestimate impact of new tax rules" (<https://home.kpmg/sq/en/home/media/press-contributions/2022/12/impact-of-new-global-minimum-tax-rules-on-sg-businesses.html>)

## IV LINKING OF HISTORICAL SERIES

23 To facilitate comparison of price changes over time, the price indices prior to 2022 are linked to the new series by re-scaling them to the new base year 2022 level. The linking is obtained through the following mathematical procedure:

$$\text{Linked (2022-based) Index} = \text{2017-based Index} \times \text{Linked Coefficient}$$

where the Linked Coefficient is the ratio of the annual 2022-based index in 2022 to the annual 2017-based index in 2022.

## V DISSEMINATION OF DATA

24 Data on the ASPI are released in the quarterly Services Producer Price Indices (SPPI) report, on the 25<sup>th</sup> day of the 3<sup>rd</sup> month after the reference quarter, or the next working day if it falls on a Saturday, Sunday or Public Holiday. The report can be accessed on the SingStat Website (<https://go.gov.sg/report-sppi>) or through the QR code appended below. The ASPI can also be downloaded via the SingStat Table Builder (<https://www.singstat.gov.sg/tablebuilder>).



Singapore Department of Statistics  
June 2023

# **GLOSSARY**

## **GLOSSARY OF TERMS AND DEFINITIONS**

### **Base Year:**

Also known as the price reference year, that is, the period whose prices appear in the denominators of the price relatives used to calculate the index. It is also understood to be the year which the index is set equal to 100.

### **Charge-out rate:**

The price charged per unit in pricing based on working time methods. Normally this is a man-day rate charged to a client for services and designed to recover all costs of providing the service.

### **Direct Use of Prices of Repeated Services:**

A pricing method that represents the ideal of using real transacted prices, or less preferably list prices, of the same service product in successive survey periods.

### **Laspeyres Price Index:**

A price index defined as a fixed-weight index that uses the basket of products of the base year.

### **Linked Coefficient:**

A ratio that is applied to join a new index series to form a continuous series with an old index series (or vice versa).

### **Linking:**

The technique used to join two consecutive sequences of price indices that overlap in one or more periods to form one continuous series.

### **Pricing Methods:**

A procedure solely concerned with data relating to prices that is put in place by index compilers to make price data suitable for use in index compilation. Carried out prior to compiling the lowest level indices, the selection of the appropriate pricing method for a service product or industry is largely determined by the pricing mechanism employed for that product or industry.



**Price Relative:**

The ratio of the price of an individual service product in one period to the price of that same service product in another period.

**Rebasing Exercise:**

A series of activities undertaken to update the weighting structure and basket of products in an index to a new base year. It involves studying the industry changes, obtaining the latest available weighting information (either from administrative sources and/or survey data), and sampling new companies on top of the routine price surveys to determine the final basket of products that is representative of the current market structure. The rebasing exercise starts before the base year and typically requires at least fifteen months to complete.

**Services Producer Price Indices:**

The services producer price indices (SPPIs) are designed to trace price movements that reflect the supply and demand conditions in the service markets, with a view to facilitate the analyses of macro-economic conditions and monitor inflationary pressures. SPPIs are also used as deflators in national accounts.

**Service Specifications:**

A detailed list of the characteristics that identify an individual sampled service product. Its purpose is to ensure that a consistent price is collected from period to period relating to a consistent service product with the same terms of sale in each period.

**Time-based Price:**

The price is calculated based on a pre-determined amount of time used in rendering the service.

**Weights:**

A set of numbers used to weight price relatives. Weights and price relatives are averaged to obtain higher level price indices.

**Weight Reference Period:**

The period in which the detailed weights were determined for the index.

# APPENDICES

## APPENDIX I: Index Computation of ASPI

The ASPI uses the weighted arithmetic mean Modified Laspeyres formula where the weight reference period of 2021 preceded the price reference period of 2022.

At the most detailed level, a price relative is derived for each service product by taking the ratio of the current quarter's price to its corresponding base period price. The price relatives of the service products together with their respective weights are aggregated to form the main level price indices, and then to the overall ASPI.

### Price Index at Overall Level:

$$I_t = \sum W_m \times I_{mt}$$

where,  $I_t$  = price index in period  $t$   
 $W_m$  = the relative weight of the  $m^{th}$  main service index  
 $\sum W_m = 1$

### Price Index at Main Level:

$$I_{mt} = \sum_{k=1}^{m_k} W_k \times I_{kt}$$

where,  $I_{mt}$  = price index of the  $m^{th}$  main service index in period  $t$   
 $W_k$  = the relative weight of the  $k^{th}$  service type  
 $m_k$  = number of service types within  $m^{th}$  main service index  
 $\sum W_k = W_m$

### Price Index at Service Type Level:

$$I_{kt} = \sum_{j=1}^{n_k} w_j \times PR_{jt}$$

where,  $I_{kt}$  = price index of the  $k^{th}$  service type in period  $t$   
 $PR_{jt}$  = price relative of  $j^{th}$  service product in period  $t$   
 $n_k$  = number of service products within  $k^{th}$  service type  
 $w_j$  = relative weight of the  $j^{th}$  service product  
 $\sum w_j = W_k$

**Price Relative at Service Product Level:**

$$PR_{jt} = \frac{P_{jt}}{P_{j0}} \times 100$$

where,  $PR_{jt}$  = price relative of  $j^{th}$  service product in period  $t$  relative to base period

$P_{jt}$  = price of  $j^{th}$  service product in period  $t$

$P_{j0}$  = price of  $j^{th}$  service product in the base period

## APPENDIX II: Weights and Sub-Indices of 2022-based ASPI

Price Index	WEIGHTS	2022			
		1Q	2Q	3Q	4Q
ACCOUNTING SERVICES	10,000	101.7	101.2	98.6	98.5
ACCOUNTING AND AUDITING	8,955	101.9	101.4	98.4	98.3
BOOK-KEEPING	1.045	99.7	99.7	100.2	100.5

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