1.0 INTRODUCTION

The Services Producer Price Index (SPPI) is compiled to measure the average change in the prices of services charged by the local services industry in Malaysia. Besides, the SPPI also serves as a deflator in the compilation of the Index of Services (IoS) and Gross Domestic Product (GDP).

The concept and methodology used in the SPPI compilation are based on the Methodological Guide for Developing Producer Price Indices for Services published by the Organisation for Economic Co-operation & Development (OECD), Eurostat and a joint Eurostat-OECD Task Force.

The Quarterly Services Producer Price Survey provides the data used to compile the SPPI. This survey started in 2008, covering the Transportation subsector and was followed by Information & Communication subsector (2011), Real Estate Activities and Professional subsectors (2012) and Education, Health, Accommodation and Food & Beverage Services Activities and Arts, Entertainment & Recreation subsectors (2013).

The sample for this survey comprises selected establishments for the same industry in the Quarterly Services Survey conducted by the Department of Statistics, Malaysia (DOSM). The Services Producer Price Survey covered 3,891 businesses in total.

2.0 SCOPE AND COVERAGE

2.1 Selection of Industries

The selection of industries is based on the contribution of output by industries from the Economic Census 2016 (reference year 2015). The selected industries contribute 75.3 per cent to the overall Services sector.

2.2 Subsector Covered

There are eight (8) subsectors covered and the breakdowns by industries are as follows:

2.2.1 Transportation

- 49230 - Freight transport by road
- 50121 - Transport of freight overseas & coastal waters, whether scheduled or not

- *51101 - Transport of passenger by air over regular routes & on regular schedules*
- *51201 - Transport freight by air over regular routes & regular scheduled*
- *52214 - Highway, bridge & tunnel operation services*
- *52291 - Forwarding of freight*
- *53100 - National postal activities*
- *53200 - Courier activities other than national post activities*

2.2.2 Accommodation and Food & Beverage Service Activities

- *55101 - Hotel & hotel resorts*
- *56101 - Restaurants & restaurants cum night clubs*
- *56102 - Cafeterias / canteen*
- *56103 - Fast-food restaurants*
- *56106 - Food stalls / hawkers*
- *56210 - Event / food caterers*
- *56301 - Pub, bars, discotheques, coffee-houses, cocktail lounges & karaoke*
- *56302 - Coffee shops*

2.2.3 Information & Communication

- *61101 - Wired telecommunication services*
- *61102 - Internet access providers by the operator of the wired infrastructure*
- *61201 - Wireless telecommunication activities services*
- *61202 - Internet access providers by the operator of the wireless infrastructure*
- *62010 - Computer programming activities*
- *62021 - Computer consultancy*
- *63112 - Data processing activities*
- *63120 - Web portals*

2.2.4 Real Estate Activities

- *68201 - Activities of real estate agents & brokers for buying, selling & renting of real estate*
- *68202 - Management of real estate on a fee or contract basis*

2.2.5 Professional

- *69100 - Legal activities*
- *69200 - Accounting, bookkeeping & auditing activities; tax consultancy*
- *71102 - Engineering services*

2.2.6 Education

- *85102 - Pre-primary education (Private)*
- *85104 - Primary education (Private)*
- *85212 - General school secondary education (Private)*
- *85302 - College and university education (Private)*
- *85421 - Music & dancing school*
- *85491 - Tuition centre*

2.2.7 Health

- *86101 - Hospital activities*
- *86201 - General medical services*
- *86202 - Specialized medical services*
- *86203 - Dental services*
- *86901 - Dialysis centre*
- *86902 - Medical laboratories*

2.2.8 Arts, Entertainment & Recreation

- *92000 - Gambling & betting activities*
- *93113 - Equestrian clubs*
- *93116 - Golf courses*
- *93117 - Bowling centres*
- *93118 - Fitness centres*
- *93210 - Activities of amusement parks & theme parks*
- *93297 - Cyber café / internet centre*

3.0 SERVICES PRODUCER PRICE COLLECTION

The price collection of services producer refers to the actual transaction prices, not the list prices. The prices is inclusive of surcharges charged to customers but does not include discounts, rebates and taxes imposed on the type of services.

4.0 DEFINITION

The definition adopted in the SPPI compilation is based on recommendations of Malaysia Standard Industrial Classification (MSIC) 2008 Ver. 1.0.

5.0 INDEX CALCULATION

5.1 Base Price

Base price is an average of prices for the particular services for a period of four (4) quarter in 2010.

5.2 Index Formula

The Laspeyres base-weighted price formula is used to compile the SPPI:

$$\frac{\sum_{i=1}^{n} p_i^t q_i^s}{\sum_{i=1}^{n} p_i^s q_i^s} = \sum_{i=1}^{n} \frac{p_i^s q_i^s}{\sum_{i=1}^{n} p_i^s q_i^s} \times \frac{p_i^t}{p_i^s} = \sum_{i=1}^{n} w_i^s \times \frac{p_i^t}{p_i^s}$$

where:

$$w_i^s = \frac{p_i^s q_i^s}{\sum_{i=1}^{n} p_i^s q_i^s}$$: Relative value weights

p_i^t : Current period prices

p_i^s : Base period prices

q_i^s : Base period quantities

n : Number of items

The formula selected has an advantage of determining a specific price or group of prices, which is responsible for any changes in the aggregate index.

5.3 Weights

The item weights are based on the proportion of their contributions to the total value of output in the economy. The weights by MSIC and commodity sections are as follows:

Weights of SPPI by Subsector

Sector	Weights	
	2010	2015
Transportation	24.2	22.4
Accommodation and Food & Beverage Service Activities	22.9	20.0
Information & Communication	29.3	39.6
Real Estate Activities	0.5	0.5
Professional	5.6	4.7
Education	4.5	3.6
Health	5.3	4.3
Arts, Entertainment & Recreation	7.7	4.9
Total	100.0	100.0

5.4 Updating Basket

The weights for updating SPPI (2010=100) obtained from the Economic Census 2016 (reference year 2015). The SPPI (2010=100) was prepared using the Fixed Basket method. The compilation of the indices use the Chain Index method, which updates its basket without changing the base year.

Laspeyres chain index method used in the calculation of the SPPI which applied previous quarter as the linkaged quarter. The updating of SPPI basket (2010=100) used the findings of the Economic Cencus 2016.

Rebasing is different from the process of updating basket. It only changes its base period and it is purely a mechanical operation in forming a more convenient series for presentations and comparisons or estimates. Whereas, SPPI basket updates are using the old basket (2010=100) and updating products and its weight to become a new basket (2015=100).

Products are selected based on relative product and contribution to the industry's sales value and only products with significant weights are selected for inclusion in the SPPI basket.

Updated SPPI Basket (2010=100) and linking using the following formula:

$$p^{ch}_{t/10} = p^{new}_{t/15} \times \left(\frac{p^{previous}_{Q4\,17/10}}{p^{new}_{Q4\,17/15}} \right)$$

where:

$p^{ch}_{t/10}$ = is a chain index that measures price changes from 2010 to any period t

$p^{new}_{t/15}$ = is a new series of composite index comparing prices at any period t to fourth quarter 2017

$p^{previous}_{Q417/10}$ = is the previous series of composite index comparing prices of fourth quarter 2017 to 2010 prices

$p^{new}_{Q4\,17/15}$ = is a new series of composite index comparing prices of fourth quarter 2017 to 2015 prices

5.5   Price Relative

The price relative for each type of service provides the basic level for the calculation of higher level indices. It is calculated as percentage ratios of the current prices to those prevailing in the base period and it is obtained by dividing the current prices by the corresponding base year prices and multiply them by 100. The geometric mean of these price relatives is obtained to form indices at group level.

5.6   Aggregated Index

The overall SPPI is built up progressively from Industry level (5 digit) to Class (4 digit), Group (3 digit), Division (2 digit) and Section (1 digit).

6.0   PERCENTAGE CHANGE OF INDEX

The percentage change of the index is calculated based on the following formula:

$$y_t = \frac{I_t - I_{t-1}}{I_{t-1}} \times 100$$

where:

y_t refers to index percentage change

I_t is the index at time t (current period)

I_{t-1} is the index at time t-1 (previous period)

7.0   QUALITY CONTROL

Validation process and quality-control procedure on the prices received are carried out to evaluate whether the prices are reasonable, consistent and accurate. The checking procedures include comparing current prices against the previous prices for the same respondents as well as with prices reported by other respondents for the same type of services.   Prices that display unusual variations are clarified with respondents to ensure the accuracy.

8.0   CONFIDENTIALITY REQUIREMENTS

The data used for the compilation of Services Producer Price Index have been collected under the provisions of the Statistics Act 1965 (Revised-1989). The Act stipulates that the contents of individual return are confidential. In conformity with the stipulations of this Act, only aggregated figures are published.

9.0   REVISIONS

Revisions will be made to the published figures based on the latest data available.

10.0   SYMBOLS

-	:	Not applicable
0.0	:	No change
Q	:	Quarter
QoQ	:	Quarter-on-Quarter
YoY	:	Year-on-Year