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MINISTRY OF ECONOMY
DEPARTMENT OF STATISTICS MALAYSIA

NEWSLETTER

INTERNATIONAL COMPARISON PROGRAM
SPATIAL PRICE INDEX (SERIES 2/2025)

INTRODUCTION

- **The International Comparison Program (ICP)** is one of the world's largest and most impactful statistical initiatives, designed **to produce Purchasing Power Parity (PPP) exchange rates and PPP-based GDP expenditure indicators.**
- By providing a reliable framework for comparing economic data across countries, the ICP helps to measure and understand differences in **price levels and living standards worldwide**.
- Data from the International Comparison Program (ICP) can be instrumental in calculating the **Spatial Price Index (SPI)** as it provides **standardized and comparable price** data across regions or countries.
- Malaysia has participated in the ICP since 1970 and is currently involved in the latest 10th round of the ICP cycle (ICP 2024).
- Malaysia has utilized the latest findings from the 2021 ICP to develop and publish an analysis of Spatial Price Index, especially for **Food and Non-Alcoholic Beverages group**.

Purchasing Power Parity (PPP) and the **Spatial Price Index (SPI)** are essential concepts in economics that help compare the cost of living and economic productivity across different regions or countries.

PURCHASING POWER PARITY (PPP)

PPP is a method used to compare the economic output and standards of living between countries by adjusting for differences in price levels.

How does PPP works?

✓ **Price Comparison:**
The ICP collects prices for similar goods and services (like food, housing, and transportation) in different countries.

✓ **Adjusting for Price Differences:**
PPP is calculated by adjusting exchange rates to reflect how much of a good or service can actually buy with a given amount of money in each country.

✓ **Standardized Comparison:**
With PPP, countries can be compared based on their real economic output (like GDP), not just based on currency exchange rates, which can fluctuate and be misleading.

SPATIAL PRICE INDEX (SPI)

A Spatial Price Index (SPI) is a tool used to **compare the relative price levels of goods and services across different geographical regions within a country.** It measures how the cost of living or the price of a standard basket of goods and services varies from one region to another.

The calculation of the Spatial Price Index requires detailed local-level data for product groups that represent consumption patterns in different areas. Therefore, the **product basket used must ensure representativeness for all involved regions, as well as comparability for the same goods and services between states**. This method aims **to ensure that the resulting index is accurate and reflects current prices and the cost of living in each area.**

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METHODOLOGY OF SPATIAL PRICE INDEX

The Spatial Price Index measures price differences for goods and services across states, reflecting variations in the cost of living and purchasing power of consumers in each state.

The Spatial Price Index study for Malaysia utilised the price data from Household Consumption (HHC) Survey under ICP. HHC prices data was obtained from various sources, such as **field price quotations nationwide, mapping item with Consumer Price Index (CPI)**, and online data searches. This multi-source approach ensures **accuracy in measuring price variations** across states in Malaysia.

The classification of goods is based on The Classification of Individual Consumption according to Purpose (COICOP) by United Nation, which includes a hierarchy of sections, groups, classes, and subclasses. **The study focuses on the group of Food and Non-Alcoholic Beverages**, and the spatial price index is calculated using the **Laspeyres Spatial Index formula** with W.P. Kuala Lumpur as the base (WPKL=100).

W.P Kuala Lumpur as a base **(Kuala Lumpur=100)** for year 2021

The Spatial Price Index is developed using average price data of

16 states

This study involves

457

items listed in the 2021 ICP HHC product list Asia and the Pacific

The analysis focuses on

166

items in the Food and Non-Alcoholic Beverages group

CALCULATION OF SPATIAL PRICE INDEX

Example of calculating Spatial Price Index (Laspeyres) for Johor as compared to W.P. Kuala Lumpur

$$\text{Indeks Spatial}_{Johor21} = \frac{\frac{P_{Johor.21}}{P_{WPKL.21}}\left(P_{WPKL21}Q_{WPKL22}\right)}{P_{WPKL21}Q_{WPKL22}}$$

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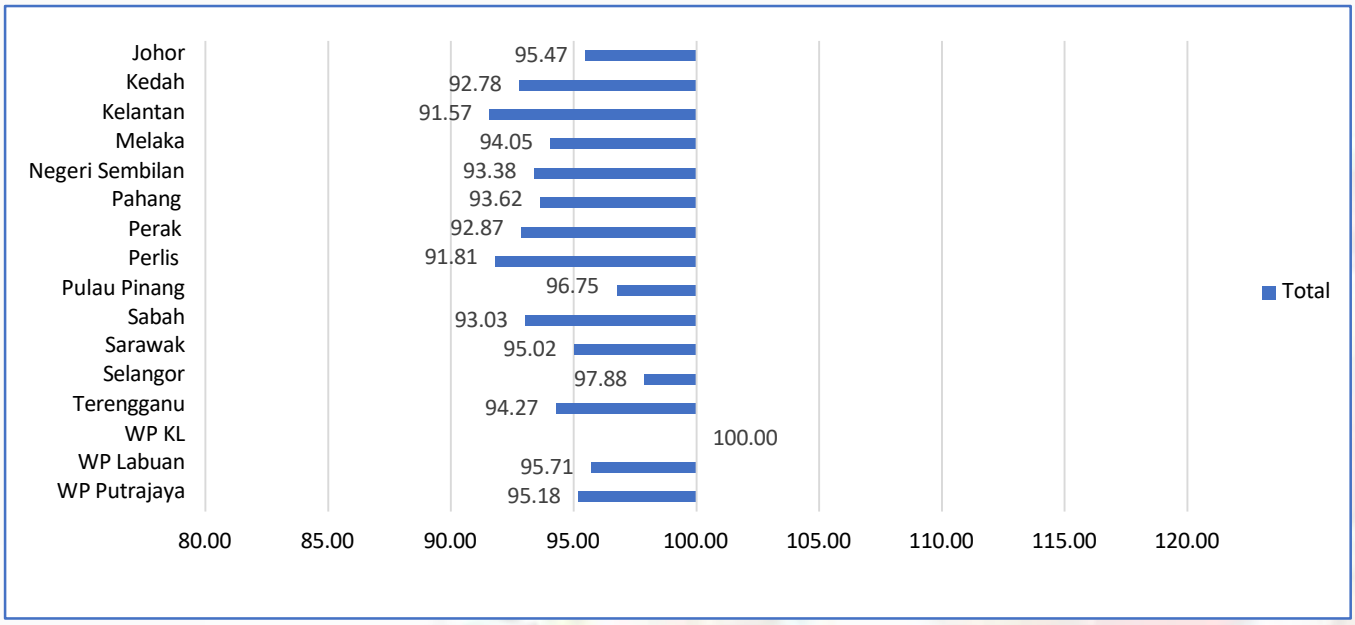
FINDINGS OF SPATIAL PRICE INDEX OF FOOD AND NON-ALCOHOLIC BEVERAGES, MALAYSIA, 2021

Figure 1 : Spatial Price Index Food and Non-Alcoholic Beverages, Malaysia, 2021



Price Index Comparison

This study focuses on the comparative analysis of the price index for consumer items in the **Food and Non-Alcoholic Beverages group across 16 states in Malaysia for the year 2021.**

In this analysis, states that recorded a price index value exceeding 100 indicate that the prices of goods in those states are higher as compared to the prices in W.P. Kuala Lumpur (100). The analysis shows significant differences in price levels for the Food and Non-Alcoholic Beverages group price levels between states in Malaysia in 2021. Overall, for this group **all states recorded a price index lower than W.P. Kuala Lumpur**.

It is found that among the states with the highest consumer price indexes as compared to W.P. Kuala Lumpur (with 100 as the base), are **Selangor at 97.88 (2.12% lower than W.P Kuala Lumpur) and Pulau Pinang at 96.75 (3.25% lower).**

The states with the **lowest price indexes were Kelantan (91.57) (8.43% lower than W.P. Kuala Lumpur) and Perlis (91.81) (8.19% lower).** Therefore, the price difference between Selangor (the most expensive) and Kelantan (the cheapest) is nearly 6.31 percentage points.

Higher Price Levels in Central and Developed States

The states with **higher price levels** for the Food and Non-Alcoholic Beverages group are **mostly located in central areas and developed states like Selangor, Johor and Pulau Pinang.**

Meanwhile states with prices lower than the national average are mostly found on the east and northern coasts.

The higher prices in the central and more developed areas are driven by several factors such as economic activities, demand for a greater variety of goods, and the costs of doing business, while the lower prices in the eastern and northern states are influenced by lower demand, lower income levels, and cheaper local production costs.

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Figure 2 : Spatial Price Index for Sub-Group of Rice, Bread and Other Cereals, Malaysia, 2021

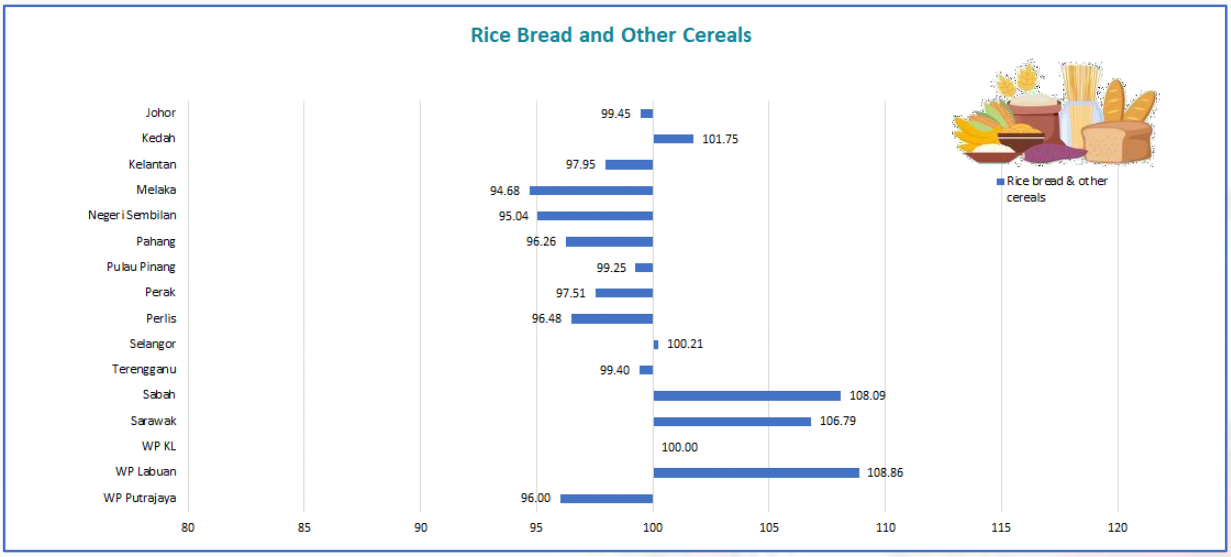
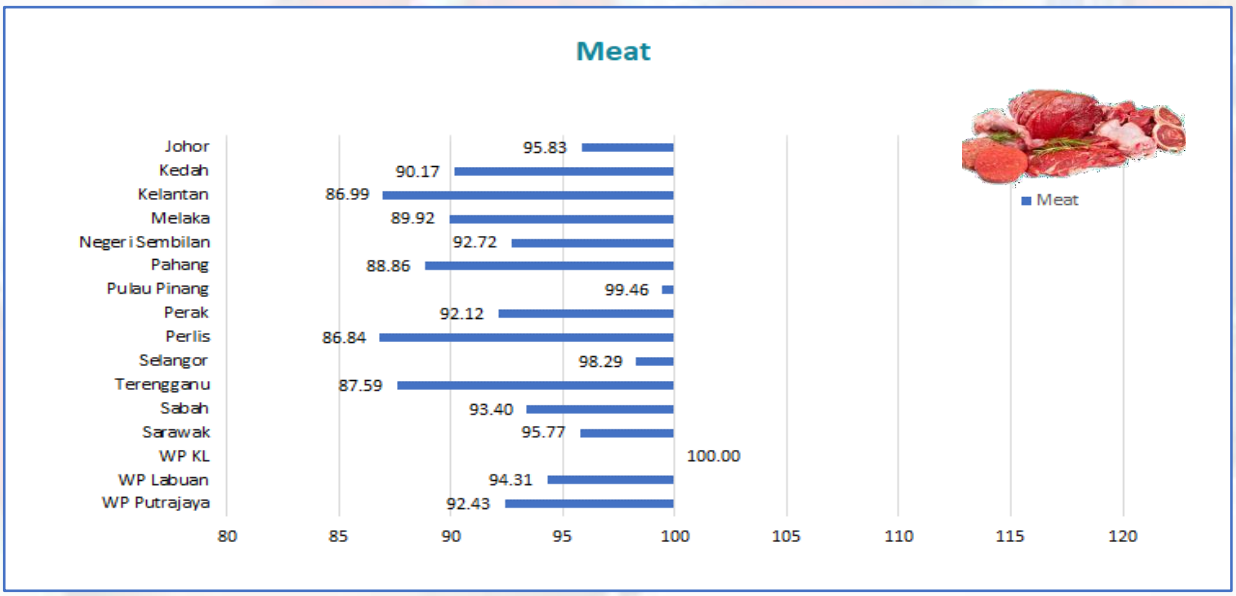


Figure 2 above shows the index for **sub-group of rice, bread and others cereals.** An index value lower than 100 indicates that the prices in the state are lower than the average price in W.P. Kuala Lumpur. Additionally, this comparison also shows that states with higher price indexes are relatively more expensive as compared to other states for the product categories.

There were significant differences in the spatial price index between states for each sub-group. For example, **the sub-group of rice, bread, and other cereals recorded the highest index in W.P. Labuan (108.86), followed by Sabah, Sarawak, and Selangor.** In contrast, the state with the lowest price index was Melaka, which recorded 94.68.

Figure 3: Spatial Price Index for Sub-Group of Meat, Malaysia, 2021



Additionally, **the meat sub-group showed significant price differences between all states.** For comparison, the index for Pulau Pinang recorded a value close to 100 at 99.46, making it the highest index among states other than the base state (W.P. Kuala Lumpur = 100). On the other hand, Perlis (86.84) recorded the lowest index. Factors such as transportation costs, supply availability, consumer purchasing power, and production costs may influence these price variations for meat.

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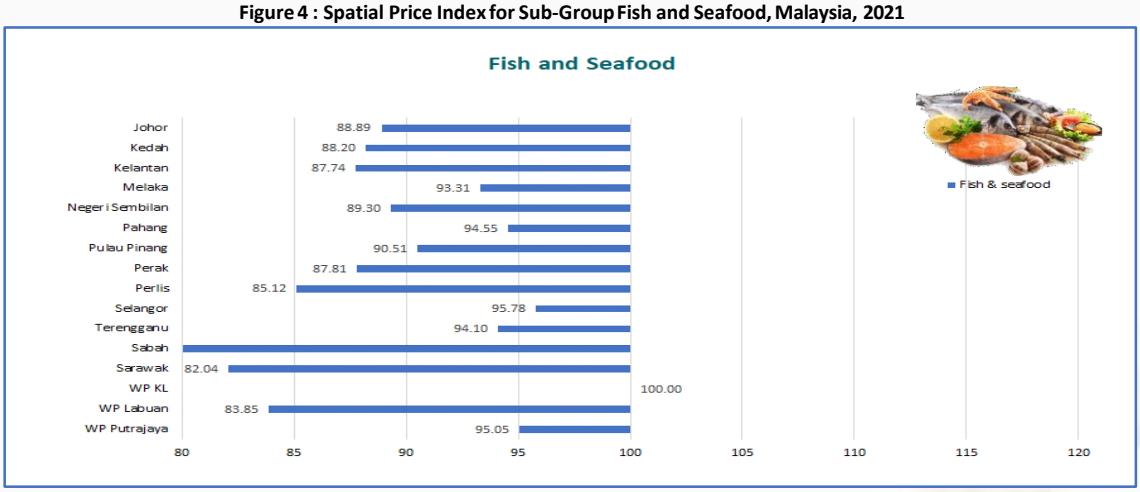
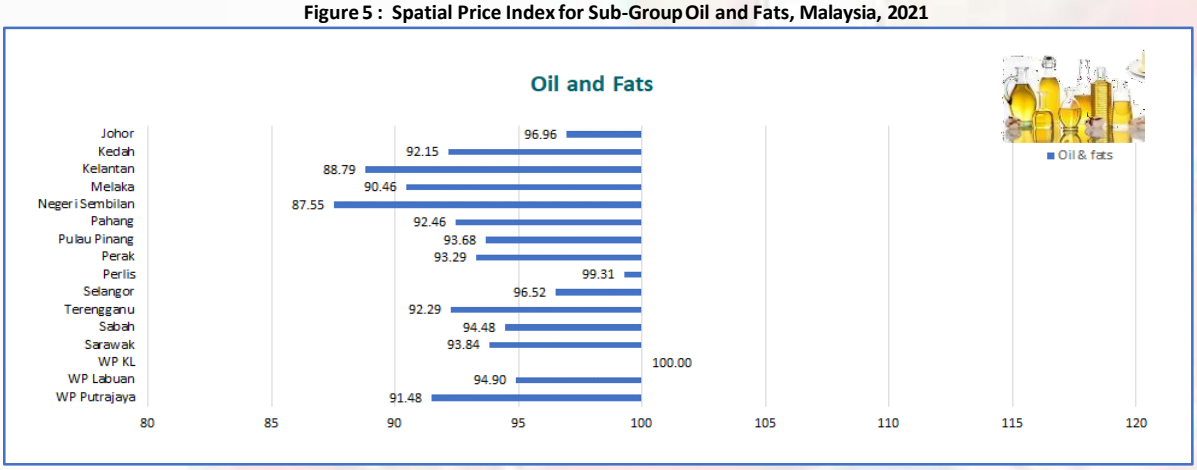
Figure 4 : Spatial Price Index for Sub-Group Fish and Seafood, Malaysia, 2021



For the **fish and seafood sub-group**, the spatial price index showed that **no state exceeded the base state (W.P. Kuala Lumpur = 100)**. Selangor recorded the highest index as compared to other states, with an index value of 95.78. Meanwhile the lowest index was recorded in Sabah (78.54).

Figure 5 : Spatial Price Index for Sub-Group Oil and Fats, Malaysia, 2021



Meanwhile, for the **oils and fats sub-group, all state recorded an index value below the base state (W.P. Kuala Lumpur = 100)**. Selangor also recorded the highest index among all states other than the base state with an index of 96.52. In contrast, Negeri Sembilan recorded the lowest index, at 87.55.

It can be observed that there were notable price differences among the states for food and non-alcoholic beverages group. Some of the states that recorded **higher price levels** were **Selangor (97.8), Pulau Pinang (96.75), W.P. Labuan (95.71),** and **Johor (95.47)** and **W.P. Putrajaya (95.18).** The price disparities could also be a result of the cost of living in some states, as prices for some items were more expensive in certain areas. In general, prices are generally higher in industrialised states such as Selangor, Pulau Pinang, and Johor.

This study highlights significant differences in the price index for food and non-alcoholic beverages items between states in Malaysia, which have implications for the cost of living, purchasing power, and the economic gap between urban and rural areas. Policies such as targeted subsidies, the development of logistics infrastructure, and integrated price monitoring are vital to ensure fair distribution of wealth and reduce gaps. The Spatial Price Index also serves as an important tool for policy evaluation, investment guidance, and fair resource distribution. Overall, this study provides strategic insights to enhance economic and social imbalances across the country.