TAYLOR'S UNIVERSITY
Wisdom · Integrity · Excellence

SCHOOL OF COMPUTER SCIENCE

GROUP ASSIGNMENT (Weightage 30%)
AUGUST 2023 SEMESTER

MODULE NAME	**: Statistics & Operational Research / Statistical Inference and Modelling**
MODULE CODE	**: MTH60904/ ITS66804**
DUE DATE	**: 21.09.2023 – 20.11.2023**
PLATFORM	**: MyTIMES**

This paper consists of EIGHT (8) pages, inclusive of this page.

Group No: 5

Project title: Malaysia's CPI Dynamics and Business Impact

STUDENT DECLARATION

1. I confirm that I am aware of the University's Regulation Governing Cheating in a University Test and Assignment and of the guidance issued by the School of Computing and IT concerning plagiarism and proper academic practice, and that the assessed work now submitted is in accordance with this regulation and guidance.
2. I understand that, unless already agreed with the School of Computing and IT, assessed work may not be submitted that has previously been submitted, either in whole or in part, at this or any other institution.
3. I recognise that should evidence emerge that my work fails to comply with either of the above declarations, then I may be liable to proceedings under Regulation

No	Student Name	Student ID	Date	Signature	Score
1	Felicia Dossou	0364975	15/11/2023		
2	Luwe Li Long	0362330	15/11/2023	Luwe	
3	Lim Kuang Weng	0349753	15/11/2023		
4	Tia'a Faang Der	0331344	15/11/2023		
5	Xu Hao Yang	0357403	15/11/2023		

Table of Content

Abstract

The global business environment always evolved in modern society. To help build a better national economy, it is important to understand regional disparities for wise decision-making and strategic planning. Our research explores the dynamics of Malaysia's Consumer Price Index (CPI) employing a robust methodology that combines data collection, exploratory data analysis, and correlation analysis which is a crucial indicator of economics to show the impact of regional variations on business profitability.

By using a data-driven approach, we explore the detail of Malaysia's CPI dataset from September 2021 to September 2023 sourced from the Department of Statistic Malaysia **[1]**. Our analysis covers various dimensions. The core of our research is in addressing specific problem statements through data analysis and visualization.

The data provide a comprehensive exploration of how regional CPI variations impact key sectors such as 'alcohol_tobacco' and 'food_beverage'. Our findings reveal that 'alcohol_tobacco' not only forms a substantial portion of the CPI but also significantly influences government tax revenues and business profitability. Detailed visual analyses, including pie charts and line graphs, display the distribution and trends within these sectors, providing a better understanding of their contribution to the CPI. Our study also uncovers historical trends, indicating a gradual shift in consumer preferences and expenditure habits over the analyzed period.

Another discovery is the correlation between CPI variations and consumer demand, which directly affects production costs and, ultimately, regional economic stability. By dissecting CPI components, we observed distinct consumption patterns, with certain regions showing higher sensitivity to price changes in essential goods.

Malaysia's CPI Dynamics and Business Impact report aims to provide some valuable opinions and help enterprises in market selection, price setting, and some other operational adjustments. By bridging between CPI data and real-life economic challenges faced by individuals and households, consumers also can have a better understanding of the living expenses and consumption choices.

Introduction

In order to improve a country's economy, it is essential to have a better understanding of it. This involves gaining a deeper insight into both the trade flows and commercial exchanges with other countries, as well as the internal economic interactions within the various regions of the country. Consumer Price Index (CPI) is an important economic indicator which provides basic perspectives into the dynamics of a nation's economy and is always used to track and measure the average changes in the cost of a basket of goods and services purchased by various households.

The importance of analyzing Malaysia's cost of living index evolution is to identify factors which influence regional price differentials, and assess their impact on business profitability. By adhering to the data-driven analysis, we try to delve into the intricacies of Malaysia's CPI, exploring its regional disparities and their implications for business profitability potential across different aspects. Our research tries to provide a unique perspective on the dynamics of regional inflation and its implications for consumer behaviors, business operations, and economic stability.

In the following sections, we will examine how price variations influence consumer demand, production costs, and profit margins. We will analyze the regional disparities in Malaysia's CPI, identifying factors that contribute to price variations across different regions. We will identify in different regions, categories that have the highest and lowest CPI. Based on these categories, we will examine how the CPI trends for different categories reflect consumer spending habits and preferences, and how these changes influence consumer purchasing decisions.

Are there any implications of high or low CPI for consumer behavior and overall consumption patterns?

Our research will help people to gain a better understanding of the Malaysian economy and its relationships with the CPI. The research findings will be useful for Malaysian businesses in making advisable decisions about market selection, pricing strategies, and operational adjustments to maximize profitability in regional price disparities.

Literature Review/Related Work

Glossary : Consumer Price Index [2]

The Consumer Price Index (CPI) serves as a crucial economic indicator, acting as a gauge for comprehending the fluctuations of vital and non-vital goods. In our examination of this economic measure, we investigate its calculation intricacies, uncovering both the benefits and limitations. This literature review seeks to extract wisdom from various sources, offering a basis for comprehending the intricacies of CPI. According to the definition given by eurostats, the COICOP is a classification developed by the United Nations Statistics Division to classify and analyze individual consumption expenditures incurred by households, non-profit institutions serving households and general government according to their purpose.

Taxonomy Mapping : Sectors Contributing to Tax Revenues [3]

Traversing the economic environment involves a thorough scrutiny of sectors that significantly impact tax income. Within this classification, our concentration intensifies on grasping the sophisticated connections between the Consumer Price Index (CPI) and the economic sectors representing substantial contributors to tax revenue channels. This investigation functions as a foundational element in demystifying the influence of CPI on fiscal aspects and economic choices.

CPI Measures - Advantages and Disadvantages [4] [5]

Advantages of the Consumer Price Index (CPI) lie in its role as a robust economic gauge, offering a comprehensive view of inflation trends. Widely employed for policymaking and economic coordination, its strength lies in detecting variations across a diverse range of goods and services, aiding informed decisions on financial policies and resource allocation.

Despite its utility, the CPI faces criticisms. Challenges include potential overemphasizing or downplaying actual inflation due to inherent calculation complexities. The assortment of goods and services used may not always align accurately with changing consumer spending patterns, leading to a skewed portrayal. Additionally, accounting for quality improvements in products over time poses accuracy issues, requiring cautious consideration.

Economic Priorities (Essential vs. Non-essential Goods)

Economic Priorities : The Consumer Price Index (CPI) plays a pivotal role in delineating economic priorities by distinguishing between essential and non-essential goods. Understanding this facet forms a core aspect of examining the value attributed to various goods and services in our daily lives.

Impact on Living Expenses : Essentially, the CPI aids decision-makers in discerning between essential necessities and discretionary wants, establishing a balance between crucial needs and indulgences. This awareness significantly influences living expenses, shaping budgeting decisions and governmental regulations. By unveiling the inherent economic priorities embedded in CPI data, we gain vital insights crucial for our day-to-day financial choices.

Living Expenses Hurdles in Malaysia

Investigating Malaysia's living expenses, our focus on the Consumer Price Index (CPI) involves decoding the daily financial challenges encountered by households, providing insights into the intricate economic landscape. The CPI serves as a tool to comprehend and manage these obstacles, offering crucial information about how economic factors impact families and communities. This correlation between CPI and everyday life in Malaysia offers an essential perspective to address and alleviate the diverse challenges associated with living expenses.

Conclusion

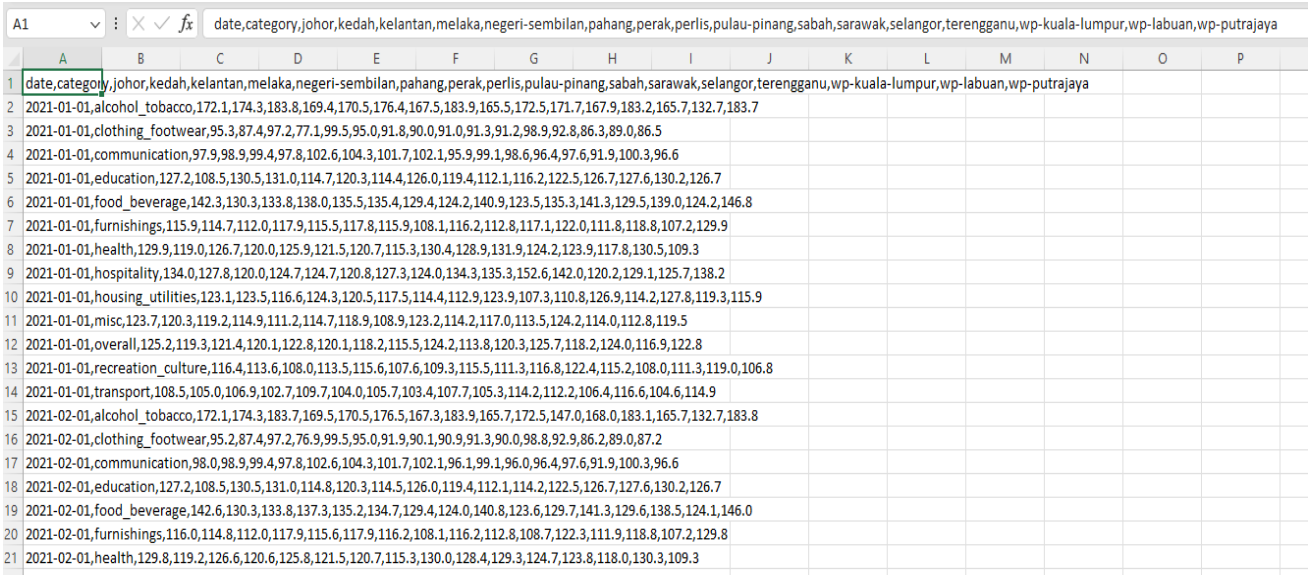
In dissecting the impact of Malaysia's Consumer Price Index (CPI), our research has uncovered crucial insights into economic objectives, tax revenues, and the complexities surrounding living expenses. The CPI serves as a compass for financial decisions, delineating its strengths and weaknesses in gauging inflation. This review serves as a cornerstone for unraveling the intricate relationship between diverse economic facets and the CPI. By consolidating prior studies, we've identified gaps that our research aims to address, emphasizing our project's relevance in extending discussions on the economic implications of Malaysia's CPI.

Data

Data collection

Our dataset comes from the open-sourced website of Department of statistics Malaysia (OpenDOSM) **[1]** which is a platform that catalogs, analyses and visualizes wealth of data. Many datasets are available for download on their website.

The data is structured in a CSV file of 416 rows that we downloaded as followed :



	A
1	date,category,johor,kedah,kelantan,melaka,negeri-sembilan,pahang,perak,perlis,pulau-pinang,sabah,sarawak,selangor,terengganu,wp-kuala-lumpur,wp-labuan,wp-putrajaya
2	2021-01-01,alcohol_tobacco,172.1,174.3,183.8,169.4,170.5,176.4,167.5,183.9,165.5,172.5,171.7,167.9,183.2,165.7,132.7,183.7
3	2021-01-01,clothing_footwear,95.3,87.4,97.2,77.1,99.5,95.0,91.8,90.0,91.0,91.3,91.2,98.9,92.8,86.3,89.0,86.5
4	2021-01-01,communication,97.9,98.9,99.4,97.8,102.6,104.3,101.7,102.1,95.9,99.1,98.6,96.4,97.6,91.9,100.3,96.6
5	2021-01-01,education,127.2,108.5,130.5,131.0,114.7,120.3,114.4,126.0,119.4,112.1,116.2,122.5,126.7,127.6,130.2,126.7
6	2021-01-01,food_beverage,142.3,130.3,133.8,138.0,135.5,135.4,129.4,124.2,140.9,123.5,135.3,141.3,129.5,139.0,124.2,146.8
7	2021-01-01,furnishings,115.9,114.7,112.0,117.9,115.5,117.8,115.9,108.1,116.2,112.8,117.1,122.0,111.8,118.8,107.2,129.9
8	2021-01-01,health,129.9,119.0,126.7,120.0,125.9,121.5,120.7,115.3,130.4,128.9,131.9,124.2,123.9,117.8,130.5,109.3
9	2021-01-01,hospitality,134.0,127.8,120.0,124.7,124.7,120.8,127.3,124.0,134.3,135.3,152.6,142.0,120.2,129.1,125.7,138.2
10	2021-01-01,housing_utilities,123.1,123.5,116.6,124.3,120.5,117.5,114.4,112.9,123.9,107.3,110.8,126.9,114.2,127.8,119.3,115.9
11	2021-01-01,misc,123.7,120.3,119.2,114.9,111.2,114.7,118.9,108.9,123.2,114.2,117.0,113.5,124.2,114.0,112.8,119.5
12	2021-01-01,overall,125.2,119.3,121.4,120.1,122.8,120.1,118.2,115.5,124.2,113.8,120.3,125.7,118.2,124.0,116.9,122.8
13	2021-01-01,recreation_culture,116.4,113.6,108.0,113.5,115.6,107.6,109.3,115.5,111.3,116.8,122.4,115.2,108.0,111.3,119.0,106.8
14	2021-01-01,transport,108.5,105.0,106.9,102.7,109.7,104.0,105.7,103.4,107.7,105.3,114.2,112.2,106.4,116.6,104.6,114.9
15	2021-02-01,alcohol_tobacco,172.1,174.3,183.7,169.5,170.5,176.5,167.3,183.9,165.7,172.5,147.0,168.0,183.1,165.7,132.7,183.8
16	2021-02-01,clothing_footwear,95.2,87.4,97.2,76.9,99.5,95.0,91.9,90.1,90.9,91.3,90.0,98.8,92.9,86.2,89.0,87.2
17	2021-02-01,communication,98.0,98.9,99.4,97.8,102.6,104.3,101.7,102.1,96.1,99.1,96.0,96.4,97.6,91.9,100.3,96.6
18	2021-02-01,education,127.2,108.5,130.5,131.0,114.8,120.3,114.5,126.0,119.4,112.1,114.2,122.5,126.7,127.6,130.2,126.7
19	2021-02-01,food_beverage,142.6,130.3,133.8,137.3,135.2,134.7,129.4,124.0,140.8,123.6,129.7,141.3,129.6,138.5,124.1,146.0
20	2021-02-01,furnishings,116.0,114.8,112.0,117.9,115.6,117.9,116.2,108.1,116.2,112.8,108.7,122.3,111.9,118.8,107.2,129.8
21	2021-02-01,health,129.8,119.2,126.6,120.6,125.8,121.5,120.7,115.3,130.0,128.4,129.3,124.7,123.8,118.0,130.3,109.3

The economic Consumer price Index (CPI) is based on data collected by centers in different states, and calculated on the average change in prices for a variety of items categorized into 12 categories of goods and services. As Malaysia's Consumer Price Index is published monthly, our dataset covers every day inputs of CPI measures from September 2021 to September 2023.

Tools

We code using RSTUDIO platform. To access many functions we will need, we import several libraries that each have a different purpose :

```
library(dplyr)    #manipulation of data sets
library(ggplot2)  #graphics and data visualizations
library(reshape)  #reshaping data
library(reshape2)
```

Methods

Exploratory Data Analysis

This first step helps understand the data and identify patterns and anomalies.

Data exploration

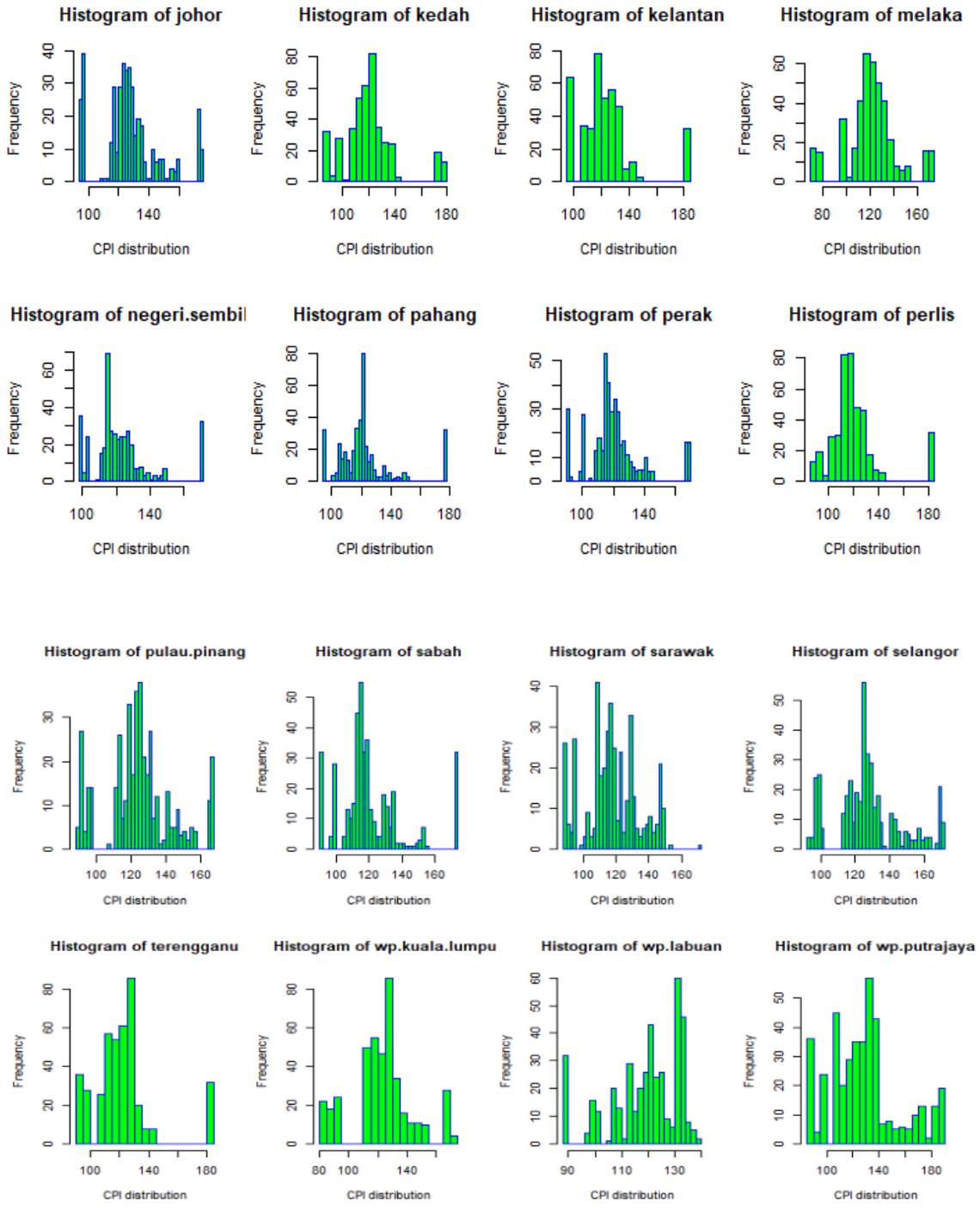
Using some basic functions, we find the dimensions of our dataframe : 18 columns and 416 rows. Moreover, sum(is.na(df)) function gave us the confirmation of no missing value.

In order to have an overall statistical view of our dataset, we use summary(df) to display the minimum, maximum, mean, median and quartiles of our numerical variables columns.

```
     date              category            johor            kedah            kelantan         melaka          negeri.sembilan
 Length:416         Length:416         Min.   : 94.2   Min.   : 86.7   Min.   : 96.7   Min.   : 74.1   Min.   : 98.3
 Class :character   Class :character   1st Qu.:117.7   1st Qu.:111.0   1st Qu.:112.6   1st Qu.:113.2   1st Qu.:114.9
 Mode  :character   Mode  :character   Median :125.7   Median :119.8   Median :120.1   Median :121.6   Median :119.0
                                       Mean   :127.2   Mean   :120.8   Mean   :123.5   Mean   :121.7   Mean   :122.8
                                       3rd Qu.:134.0   3rd Qu.:125.7   3rd Qu.:129.1   3rd Qu.:131.2   3rd Qu.:127.7
                                       Max.   :174.6   Max.   :175.5   Max.   :184.3   Max.   :171.0   Max.   :171.9
     pahang           perak           perlis          pulau.pinang       sabah           sarawak         selangor
 Min.   : 94.7   Min.   : 91.3   Min.   : 89.1   Min.   : 89.2   Min.   : 90.8   Min.   : 89.3   Min.   : 92.8
 1st Qu.:110.9   1st Qu.:113.0   1st Qu.:111.1   1st Qu.:114.0   1st Qu.:111.6   1st Qu.:109.0   1st Qu.:117.2
 Median :120.3   Median :118.4   Median :115.7   Median :123.8   Median :116.2   Median :117.0   Median :125.7
 Mean   :122.3   Mean   :121.0   Mean   :120.4   Mean   :124.7   Mean   :120.7   Mean   :118.1   Mean   :127.7
 3rd Qu.:125.3   3rd Qu.:126.2   3rd Qu.:126.0   3rd Qu.:132.1   3rd Qu.:128.7   3rd Qu.:129.1   3rd Qu.:134.6
 Max.   :177.5   Max.   :169.6   Max.   :183.9   Max.   :167.8   Max.   :173.3   Max.   :171.7   Max.   :170.5
   terengganu     wp.kuala.lumpur    wp.labuan       wp.putrajaya
 Min.   : 92.8   Min.   : 81.9   Min.   : 88.5   Min.   : 85.8
 1st Qu.:112.2   1st Qu.:114.4   1st Qu.:112.8   1st Qu.:109.8
 Median :121.2   Median :124.7   Median :121.5   Median :126.7
 Mean   :122.4   Mean   :123.4   Mean   :118.6   Mean   :128.4
 3rd Qu.:128.7   3rd Qu.:130.6   3rd Qu.:130.2   3rd Qu.:137.4
 Max.   :184.1   Max.   :170.9   Max.   :139.3   Max.   :186.5
```

Distribution visualizations

In order to have a better understanding on how the data is distributed, we created histograms for each of our attributes, that we placed in 16 subsets using par(mfrow=c(2,4)) to partition our plot.



All CPI values fall between 80 and 190 on average and most look like they mostly follow a normal distribution form.

Pre-processing

In this section, we are cleaning, transforming and organizing the data for modeling.

Data transformation

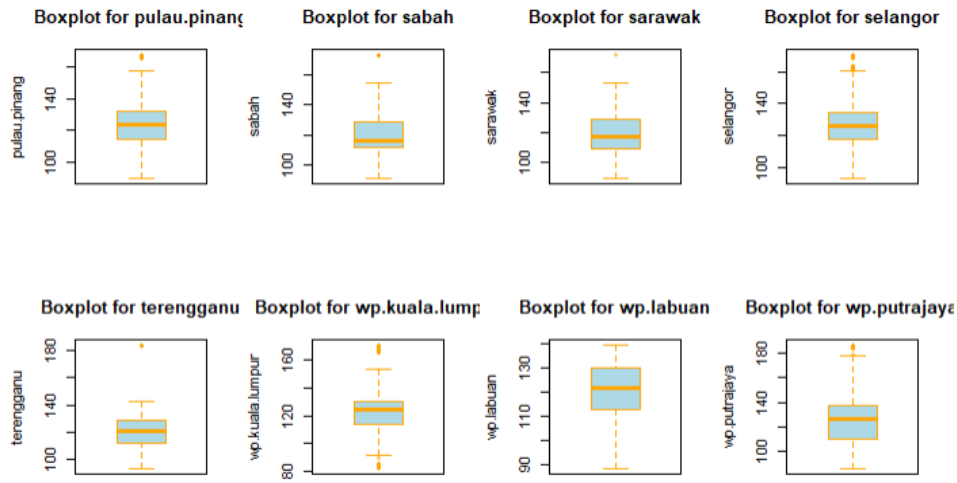
Using the standardization technique through an intermediate function standardize(), we make data more comparable and remove the units to rescale data and have a mean of 0 and standard deviation of 1.

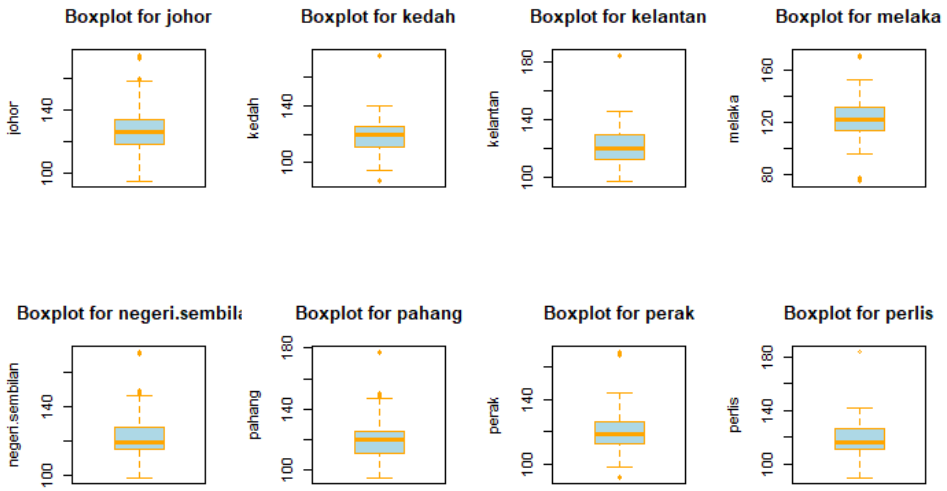
Data cleaning

Handling data types - Using an intermediate function date_check() , we made sure that all dates were into the format YYYY-MM-DD.

Handling missing values - As we can see in the Exploratory Data Analysis, there is no missing value **(NA)** in our dataset. No row to be removed.

Handling outliers - Aiming to identify and deal with outliers that would skew the analysis, we used box plots for a better visualization of the distribution according to median and quartiles. As previously, we place each distribution in one of our 4x4 subplot()

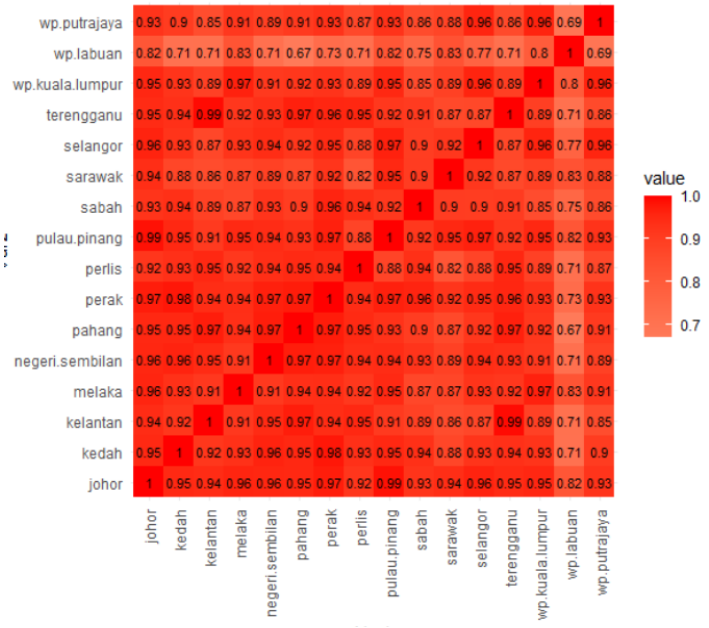




In our contexts, outliers can be removed for the highest values of CPI, probably due to special events or days but not indicative of average evolution. We decided to take out the upper **3%** of our data using subset()

Correlation analysis

Finally, to analyze the correlation between each state, we use cor() function to construct a matrix that we visualize using heatmap()



As we can see, all state CPI have a high relationship with each other.

Visualizations

Now I will try to answer each of our problem statements using data analysis methods and visualization.

Which categories of goods experienced the highest and lowest CPI values?
PIE CHART

We made a new dataframe with two columns : categories and the total of CPI for each category calculated using sum() function. Therefore, using a piechart() we can observe the distribution of CPI among categories of products and services.

How does CPI value evolve throughout time ?
LINE CHART

One way of having a better view of evolution is to use a time series graph given by ggplot() function. We aggregate() total, date and category columns. Because dates were already arranged and listed under the same format, we just had to consider the category column using the total of each CPI that we previously calculated.

How do CPI values evolve across categories and states?
HEATMAP

Before creating a heatmap() wee first need to convert our dataframe from a wide format to a long format to make sure our variable 'category' on x-axis will be associated with variables of each state (other attributes).

Is the CPI of Selangor related to the CPI of Kuala Lumpur?
LINEAR REGRESSION

In order to compare two numerical attributes, we use the linear regression lm() model on both 'wp.kuala.lumpur' and 'selangor' attributes and extract coef() slope and intercept to have more precision

Results and Discussion

In this section we discuss the results

Which categories of goods experienced the highest and lowest CPI values?

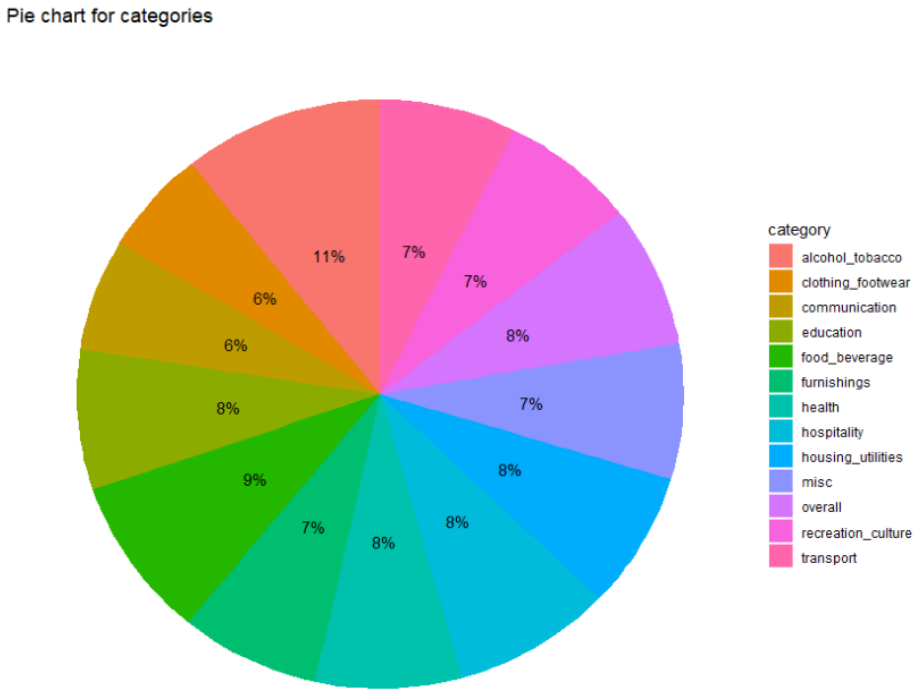


Figure 1: Pie Chart for Categories

Based on the result of the pie chart it shows that the highest percentages CPI Value of the category are alcohol_tobacco that is 11% and the second is food_beverage that has 9%. Education, health, hospitality, housing_utilities and overall is 8%. Beside that, furnishings, misc, recreation_culture and transport is 7% and lastly the remaining 6% belongs to clothing_footwear and communication which is the lowest.

Based on the percentage, we can see mostly alcohol_tobacco had an impact on the economy. For the lowest percentages such as clothing_footwear and communication, the government could help in improving the business and it could help increase the CPI. It shows that alcohol_tobacco and food_beverage have the potential to influence the business and economy of Malaysia.

How does CPI value evolve throughout time ?

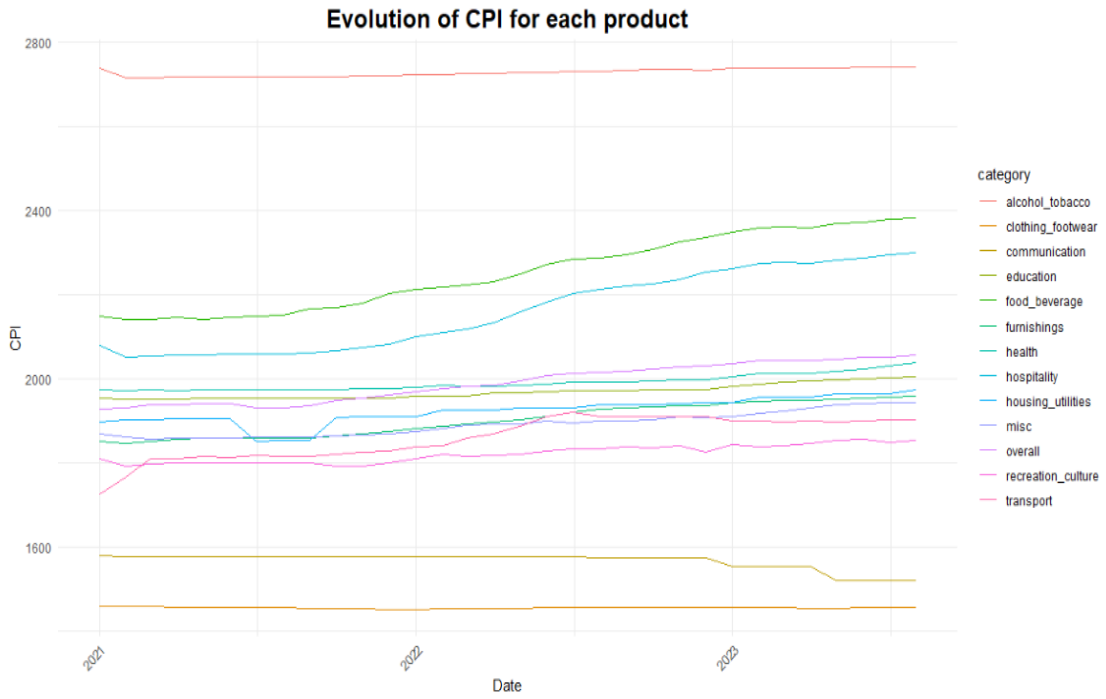


Figure 2: Line Chart about evolution of CPI for each product

The line chart above shows variability of the Consumer Price Index (CPI) within key categories like ‘alcohol tobacco’ and ‘food beverage’ that really influence business profitability. Based on the chart, alcohol_tobacco was around 2700 cumulated CPI throughout the year 2021 to 2023 while food_beverage was around 2100 cumulated CPI in 2021 and increased to 2400 in 2023. Beside that, The category that has the lowest CPI value from 2021 to 2023 is clothing_footwear and communication. We can see that alcohol_tobacco has the highest CPI every year and remains the same index while food_beverage keeps increasing throughout the year. It shows that alcohol_tobacco is considered a significant contributor to government tax revenues and it also influences business profitability in Malaysia.

How do CPI values evolve across categories and states?

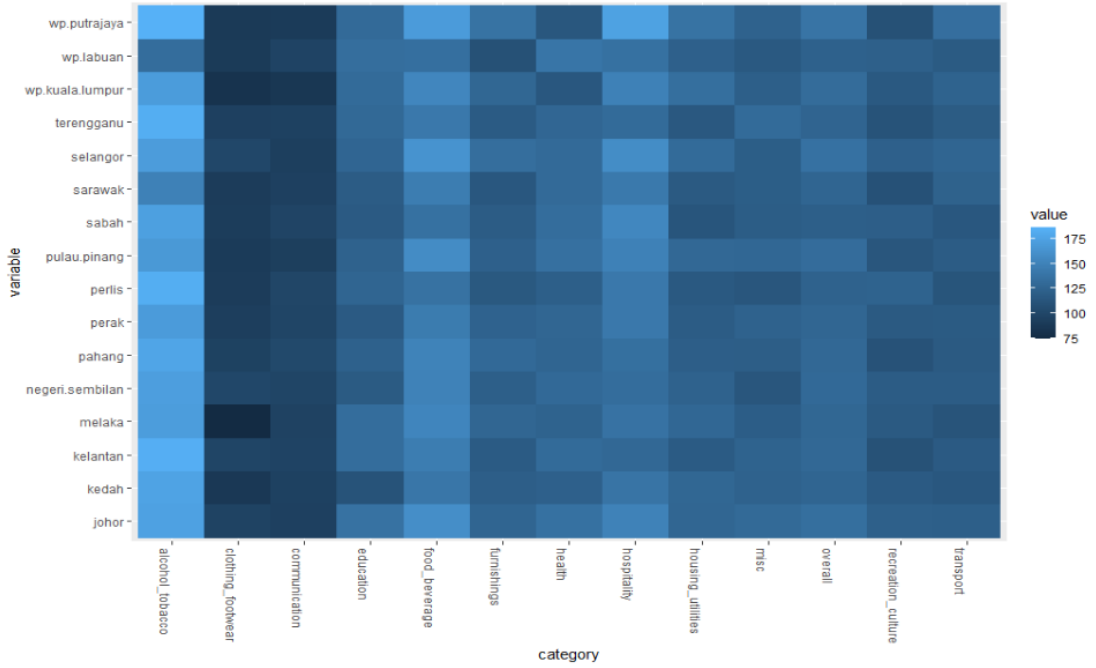


Figure 3: Heatmap of CPI values evolve across categories and states

Based on the heatmap we can see how the CPI value evolves across categories and states. As you can see the highest value of the categories are alcohol_tobacco and food_beverage that is 175 CPI value across the state of Malaysia except wp labuan that is around 150 CPI value. Beside that, we can see that the lowest CPI values are 75 for the clothing_footwear and communication categories around the states in Malaysia. Both of these categories low in CPI value could be communication devices outdated in Malaysia so that moving to advanced technology and clothing_footwear CPI value is low because of competition with the international market. People bought more clothing from international stores rather than local stores, which leads to low CPI value. We can see that mainly alcohol_tobacco has increased the economy of Malaysia and second is food_beverage maybe due to the price of alcohol increasing leads to high CPI value for all states and food_beverage is essential in our life so it also leads to high CPI value. To conclude that, alcohol_tobacco mainly influences Malaysia's economy and contributes to government tax revenues.

Is the CPI of Selangor related to the CPI of Kuala Lumpur?

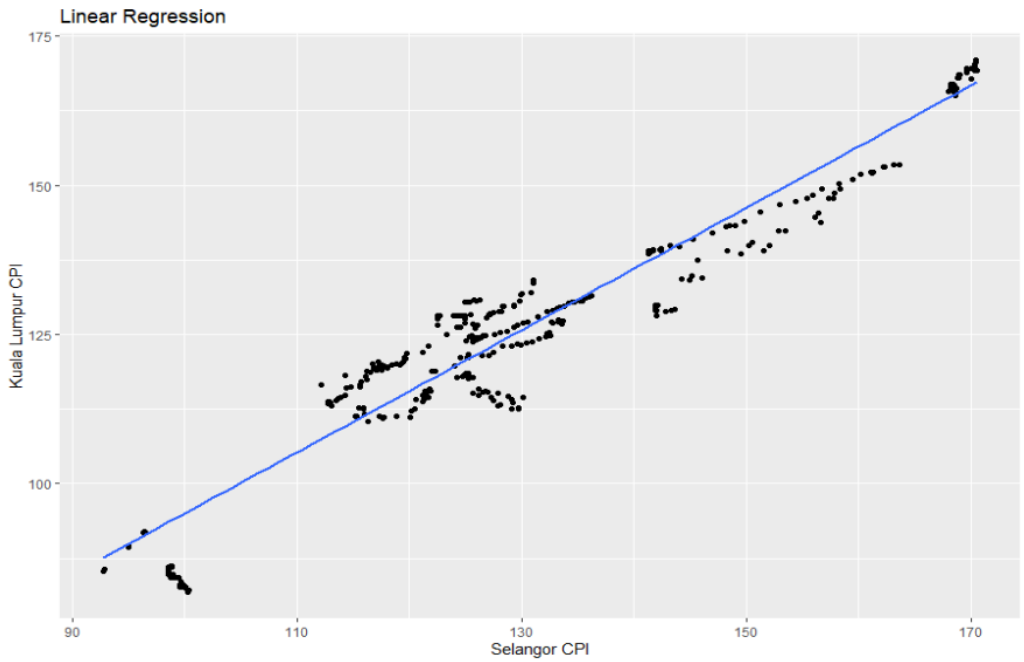


Figure 4: Linear Regression of CPI Selangor and Kuala Lumpur

$$Y = 0.9\ X + 16.58$$

Based on the diagram above we use linear regression as the statistical analysis to compare the CPI of Selangor and Kuala Lumpur to see if both states are related or not. The best fit line shows that y = 0.9x + 16.58 and found that the correlation of CPI between Selangor and Kuala Lumpur is 0.96 which is pretty high. The correlation which is 0.96 and close to 1 means that the CPI of Selangor and Kuala Lumpur have a strong correlation. To conclude it shows that the CPI of Selangor and Kuala Lumpur are related. The correlation is high because the population in these states is high so that business increases and affects the CPI value.

.

Limitation and Future Study

Based on the study, the CPI for all states in Malaysia increased which means that a general trend of moderate inflation. From years to years, Malaysian costs of living have increased which is affected by the costs of raw materials and production costs are the main problems. Therefore, there is an impact on consumers' purchasing power when inflation happens. Higher inflation might reflect the reduction in the real value or consumers savings and income. It can also impact a household's ability to afford goods and services.

This study has potential limitations that have affected the outcomes. Data collection is one of the limitations. In the study, we do not experience collecting primary data directly from the market. It might have inaccurate data due to reliance on secondary data sources or government-reported data. We used secondary data sources which are valuable, but it may not always capture real-time fluctuations or changes in pricing across different consumer segments. Without primary data, this study might fail to capture specific local variations in prices that could affect CPI’s accuracy.

In our future studies, we might consider incorporating primary data collection methodologies such as surveys, price collection from diverse markets to complement and validate secondary data sources. This approach might mitigate the limitations of relying on government-reported data. Not only that, it might also provide a more comprehensive and accurate assessment of CPI in Malaysia.

Conclusion

Our comprehensive statistical research of Malaysia's Consumer Price Index (CPI) from September 2021 to September 2023 has provided significant insights into the dynamic influences between regional economic variations and business profitability. Our analysis, based on robust data from the Department of Statistics Malaysia, revealed that sectors like 'alcohol_tobacco' and 'food_beverage' play an important role in shaping CPI. These sectors not only contribute substantially to the CPI but also have an important impact on government tax revenues and business profitability.

Our research emphasizes the strong correlation between CPI variations and consumer demand, which in turn influence production costs and regional economic stability. The variability in consumer behavior and spending patterns across different regions, influenced by the fluctuations in CPI. Especially for 'alcohol_tobacco' , always as a high-CPI contributor, an important factor for government and business fiscal strategies.

Furthermore, our research identified historical trends, suggesting a gradual shift in consumer preferences and expenditure habits over the period studied. This kind of shift has profound implications for businesses in terms of market selection, pricing strategies, and operational adjustments. It also offers consumers a clearer understanding of their living expenses and consumption choices.

In conclusion, our study not only contributes to the existing knowledge on CPI dynamics but also provides practical insights for businesses and consumers alike. It is important to have a continuous monitoring and analysis of CPI trends for effective economic planning and decision-making in Malaysia.

Appendixes

References

[1] Department of Statistics Malaysia. (n.d.). *W.P. Kuala Lumpur | OpenDOSM*. OpenDOSM. https://open.dosm.gov.my/data-catalogue/cpi_cpi_state_14?category=alcohol_tobacco&range=MONTHLY

[2] *eurostats - Statistics Explained*. (2023). Glossary:Consumer price index (CPI) - Statistics Explained (europa.eu)

[3] Böhm, K., Schmid, A., Götze, R., Landwehr, C., & Rothgang, H. (2013). Five types of OECD healthcare systems: empirical results of a deductive classification. Health policy, 113(3), 258-269.

[4] Boskin, M. J., Dulberger, E. R., Gordon, R. J., Griliches, Z., & Jorgenson, D. W. (1998). Consumer prices, the consumer price index, and the cost of living. Journal of economic perspectives, 12(1), 3-26.

[5] Cage, R., Greenlees, J., & Jackman, P. (2003, May). Introducing the chained consumer price index. In International Working Group on Price Indices (Ottawa Group): Proceedings of the Seventh Meeting (pp. 213-246). Paris: INSEE.

Report of similarity score

Title	Start Date	Due Date	Post Date	Marks Available
Group Assignment Turnitin Report - Part 1	21 Nov 2023 - 10:42	1 Dec 2023 - 18:00	28 Nov 2023 - 10:42	100

Refresh Submissions

	Submission Title	Turnitin Paper ID	Submitted	Similarity	Grade		
View Digital Receipt	Group5_ MalaysiasCPIDynamicsAndBusinessImpact	2234817888	21/11/23, 11:09	6%	--	Submit Paper	--