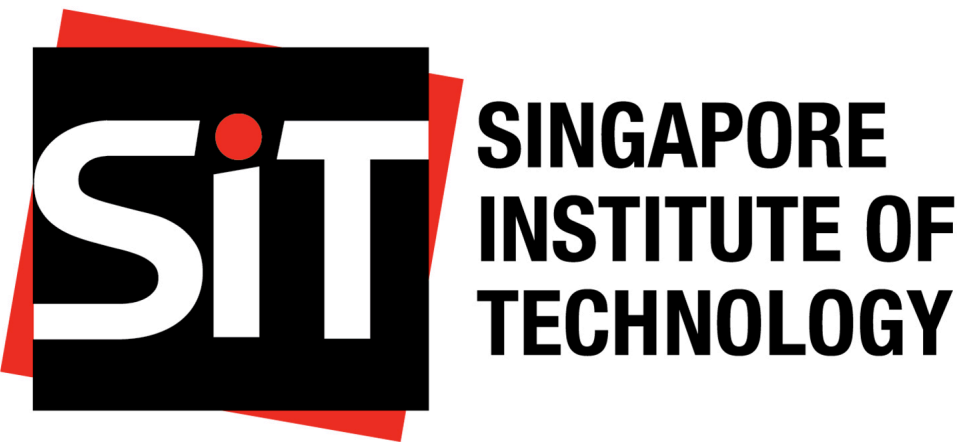


Percent Change In Consumer Price Index (CPI) of year 2023

Jared Teo, Nicholas Poh, Oliver Choy, WuJie, Nicole, Kurt (Information and Communication Technologies)



INTRODUCTION

Inflation in Singapore has moderated over 2023, prices are still above pre-pandemic levels and expected to remain elevated in 2024 after the 7 per cent rise in public transport fares, a second round of Goods and Services Tax (GST) hike and carbon tax adjustments kick in.¹The average price increase in 2023 ranged between 2 per cent for household durables and services, and just over 6 per cent for food, transport, recreation and cultures. Further more, there are 10 items that have, on average, seen double-digit price increases in 2023.²

PREVIOUS VISUALIZATION

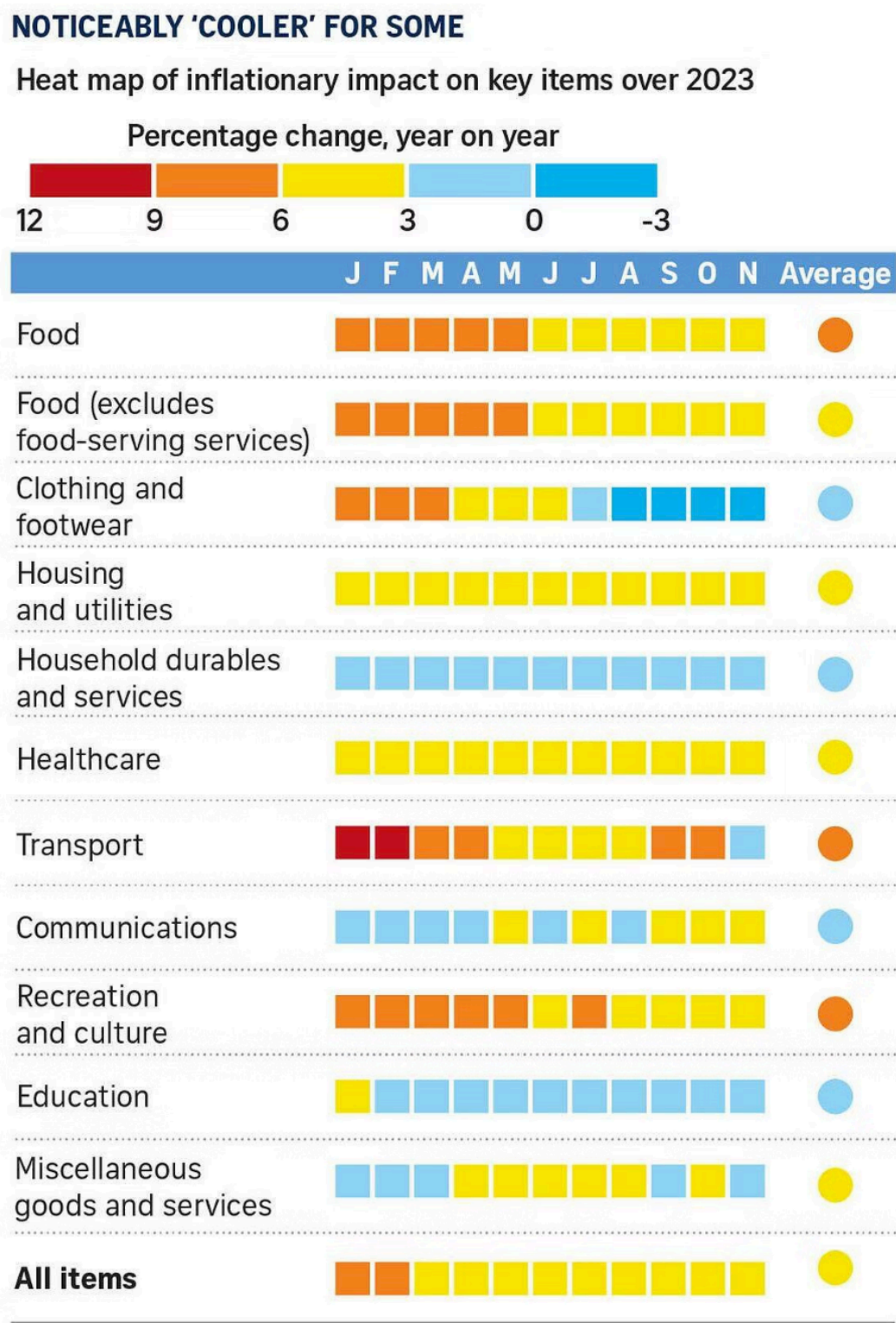


Figure 1: Heat map of inflationary impact on key itens over 2023, published by the Straits Times.

STRENGTHS

- The heat map effectively highlights the items and the month when inflation effects were most pronounced.
- The color legend provides a clear indication of the inflation rate for each item and month.
- The infotip provides additional information about the inflation rate for each item and month.

¹<https://www.straitstimes.com/business/prices-in-s-pore-seen-moderating-but-likely-to-remain-above-pandemic-levels-in-2024>

²<https://www.straitstimes.com/business/prices-in-s-pore-seen-moderating-but-likely-to-remain-above-pandemic-levels-in-2024>

SUGGESTED IMPROVEMENTS

1. Increase the maximum and minimum values in the legend to 18 and -9 , respectively, to accurately reflect the range of values in the dataset.
2. Add more legend breaks and colors to enhance the contrast in percentage changes in the CPI.
3. Show the trend over the past five years, rather than focusing solely on 2023.
4. Include event breaklines to highlight changes before, during, and after the circuit breaker lockdown.
5. Utilize diverging palettes to clearly indicate positive and negative percentage changes in the CPI.
6. Incorporate data for the month of December to compute the overall annual average, as December may show significant changes compared to January to November.
7. Add a source note to the plot, allowing readers to easily reference the data source.
- 8.
- 9.

IMPLEMENTATION

Data

- Percent change in consumer price index over corresponding period of previous year, 2019 as base year, Annual.³
- Percent change in consumer price index over corresponding period of previous year, 2019 as base year, Monthly⁴

Software

We used the Quarto publication framework and the R programming language, along with the following third-party packages:

- *tidyverse* for data transformation, including *ggplot2* for visualization based on the Grammar of Graphics
- *lubridate* *insert description here*

IMPROVED VISUALIZATION

Warning: Using `size` aesthetic for lines was deprecated in ggplot2 3.4.0.
Please use `linewidth` instead.

³<https://tablebuilder.singstat.gov.sg/table/TS/M212941>

⁴<https://tablebuilder.singstat.gov.sg/table/TS/M212911>

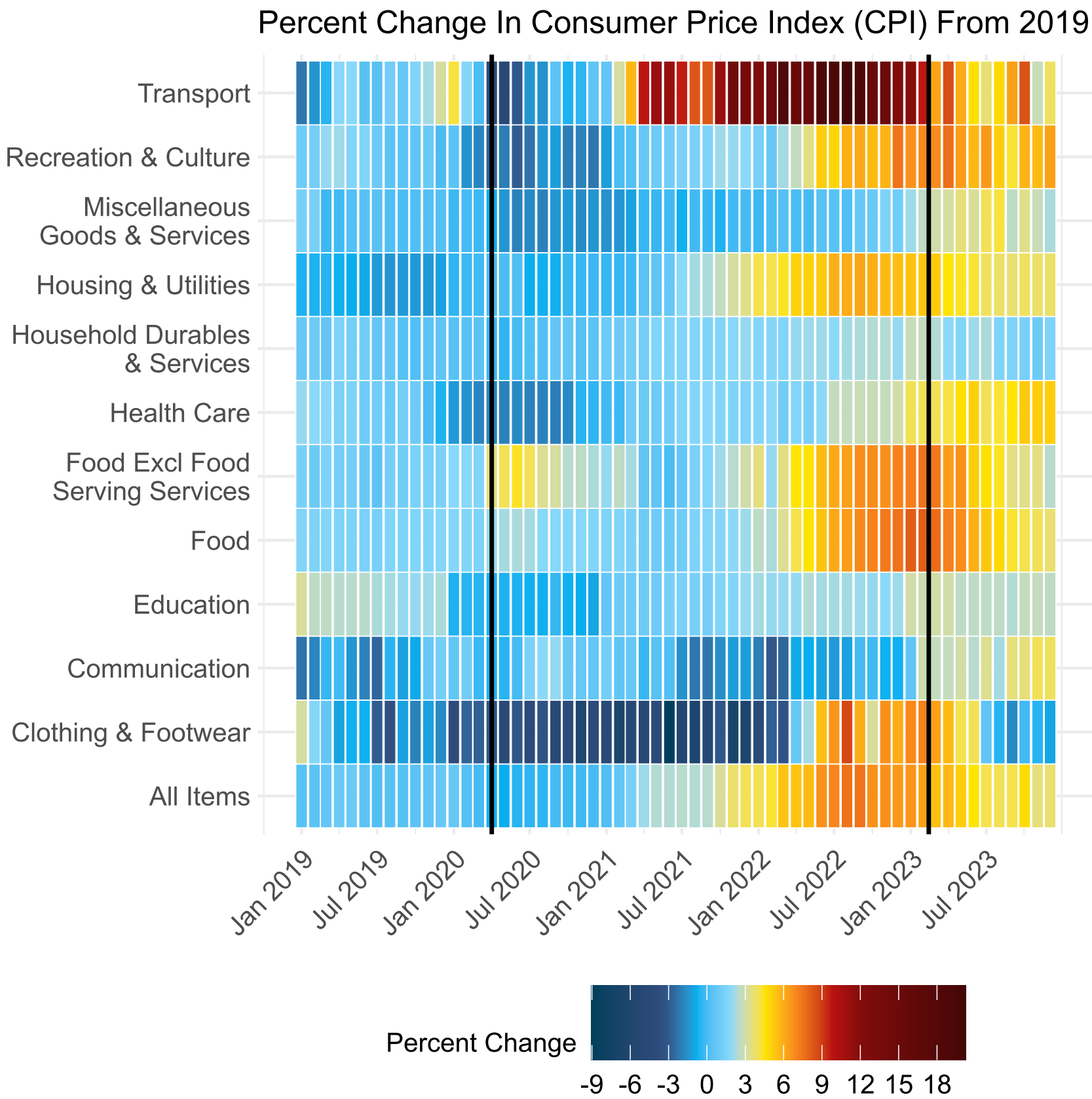


Figure 2: Revised visualization of inflation increase in Singapore by essential items and year/month.

FURTHER SUGGESTIONS FOR INTERACTIVITY

CONCLUSION