

Tracking Imported Inflation: Insights from the Import Price Index by Broad Economic Categories

Introduction

The Singapore Department of Statistics (DOS) has compiled experimental data on the Import Price Index by Broad Economic Categories (IPI-BEC), an international product classification which distinguishes and analyses trends in import price indices according to broad product categories. More specifically, the IPI-BEC allows imported inflation to be tracked through imported consumption goods prices that typically pass through to consumer prices and are reflected in the Consumer Price Index (CPI). This is done by excluding the prices of non-consumption goods from the Import Price Index (IPI), which are not directly featured in consumer price indicators. The IPI-BEC for all BEC categories includes prices of products imported for the purposes of domestic use as well as re-export. This is in line with the methodology of the overall import price index, and it was refreshed alongside the rebasing of the IPI to base year 2023 in February 2024 to align its base year with the new IPI series.

Methodology

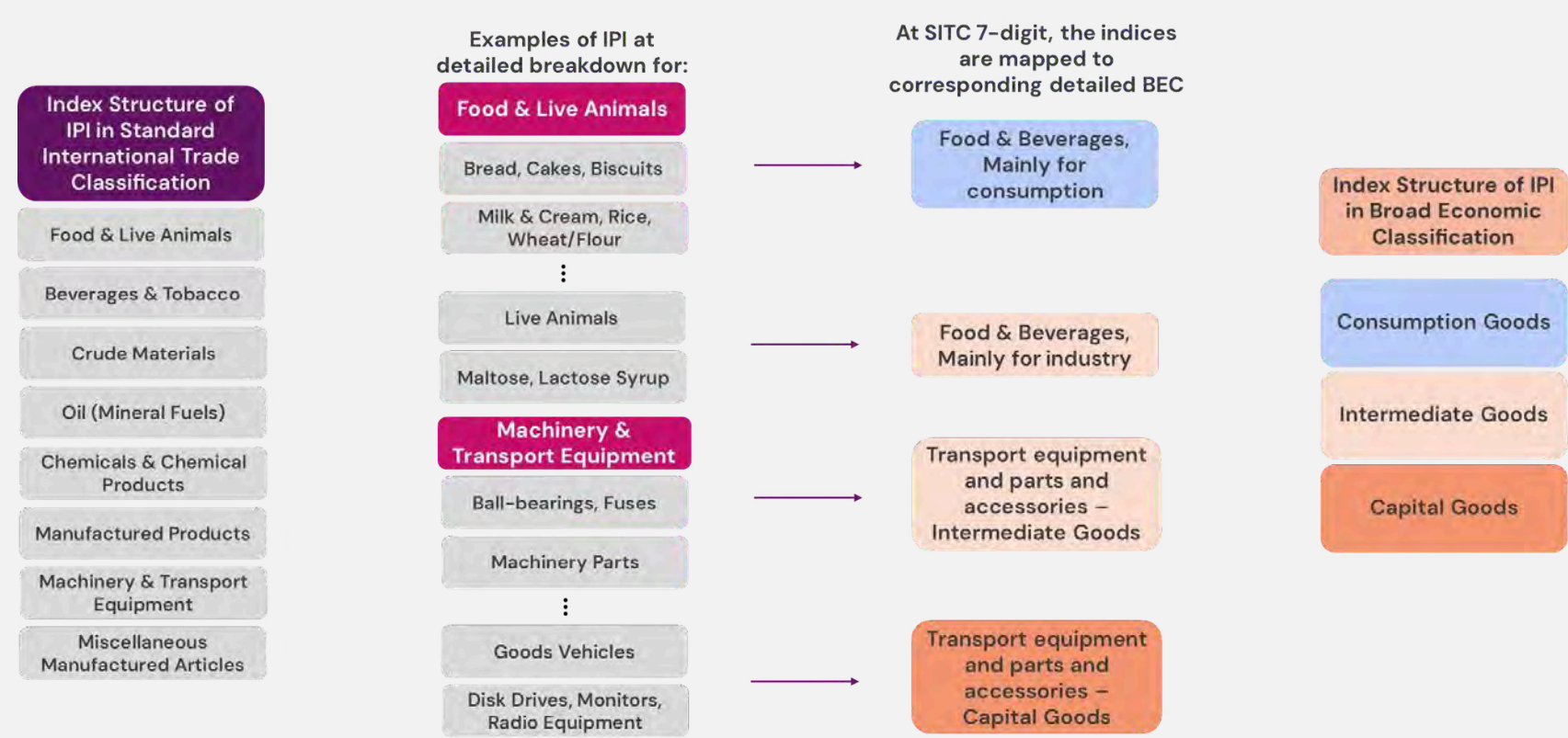
The experimental IPI-BEC maps the detailed sub-indices of the IPI, compiled based on the commodity classifications in the Standard International Trade Classification (SITC), to the end-use categories in accordance with the [fifth edition of the Broad Economic Categories](#) (BEC) developed and published by the United Nations Statistics Division. The BEC is classified into three main end-use categories: (1) intermediate consumption; (2) gross fixed capital formation; and (3) final consumption.

Intermediate consumption refers to the goods and services consumed during production within the relevant accounting period. Gross fixed capital formation, on the other hand, involves goods and services that are not entirely consumed in the same period. Final consumption comprises goods and services used by individual households or the community for their individual or collective needs or wants. For analytical purposes and given that the IPI solely covers the imports of goods, the three main end-use categories are referred to as intermediate, capital, and consumption goods.

Mapping of the Import Price Index to Broad Economic Categories

After mapping the IPI sub-indices to the BEC, weights for the IPI (based on merchandise import values) were re-assigned and, in turn-used for the compilation of the IPI-BEC (Figure 1).

Figure 1: Mapping of IPI Sub-indices into Broad Economic Classifications

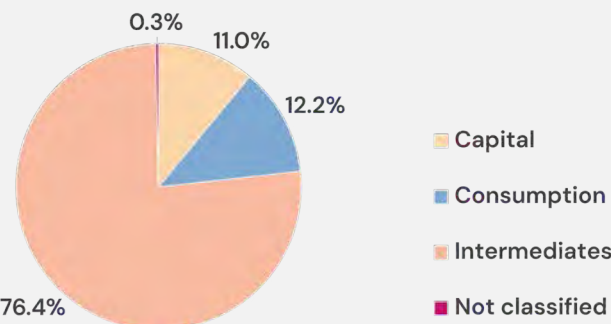


Weights for the Import Price Index by Broad Economic Categories

Intermediates account for the bulk at 76.4% of the IPI-BEC weights, while the remaining weight share is split among Consumption (12.2%), Capital (11.0%), and Not Classified (0.3%) goods (Chart 1).

Within the Intermediates category, Computer Memories, Integrated Circuits and Fuels make up majority of the weight share. For Consumption goods, Food and Electronics constitute the bulk of the category. Meanwhile, for Capital goods, Semi-conductor and Machineries form the majority of its weight share.

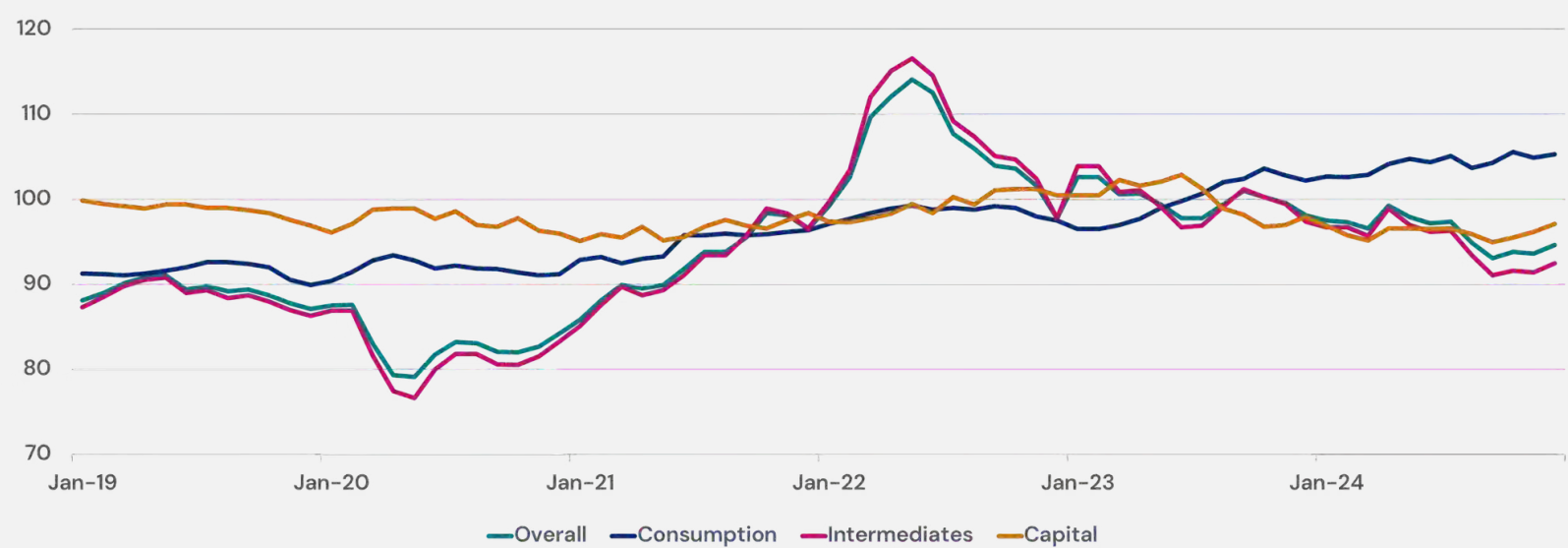
Chart 1: IPI-BEC Weights by Category



Key Trends

While the Overall IPI initially dipped at the onset of the COVID-19 pandemic in November 2021, the index subsequently increased sharply and peaked in May 2022, before broadly declining from June 2022 to September 2024 (Chart 2). This was mainly driven by the Intermediates sub-index, which similarly experienced the most volatility, in tandem with changes in fuel prices that constituted a significant proportion of the sub-index. Both the Consumption and Capital sub-indices have been relatively less volatile as the Consumption IPI has been on a consistent rise since January 2023, following the rising prices for durable goods such as electronics and jewelries.

Chart 2: Trends of the IPI-BEC Index



Analysis of Imported Inflation through the Consumption IPI and Goods CPI

Among the IPI-BEC sub-indices, the key indicator for measuring imported inflation is the Consumption IPI. The Consumption IPI generally exhibited similar trends with the Goods CPI [1], although higher volatility was observed for the Consumption IPI (Chart 3).

This was likely due to fluctuations in global prices for food and energy commodities during and after the COVID-19 pandemic as shipping costs, part of import prices, were heavily impacted by changes in the prices of energy commodities. In addition, while import costs affect retail prices, other components such as rental and manpower costs may impact a retailer's total operating expenses. Some retailers may absorb some import price changes, leading to a partial passthrough of import price changes to the prices of goods. Thus, the Goods CPI is less volatile than the Consumption IPI.

Meanwhile, the Consumption IPI consists of the (i) Consumption IPI for Food & Beverages and (ii) Consumption IPI for Other Consumer Goods. The Consumption IPI for Food & Beverages refers to price indices for imported food products which include primary and processed products. Comparing Consumption IPI for Food & Beverages against the [CPI for Food excluding Food & Beverage Serving Services](#) (Chart 4), the sub-indices displayed greater alignment than that between the Consumption IPI and the Goods CPI. This is likely due to the greater overlap of the coverage of both sub-indices as majority of imported food products were retained for domestic use.

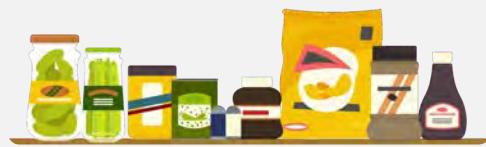


Chart 3: Comparison of Consumption IPI and Goods CPI (Base Year = 2023)

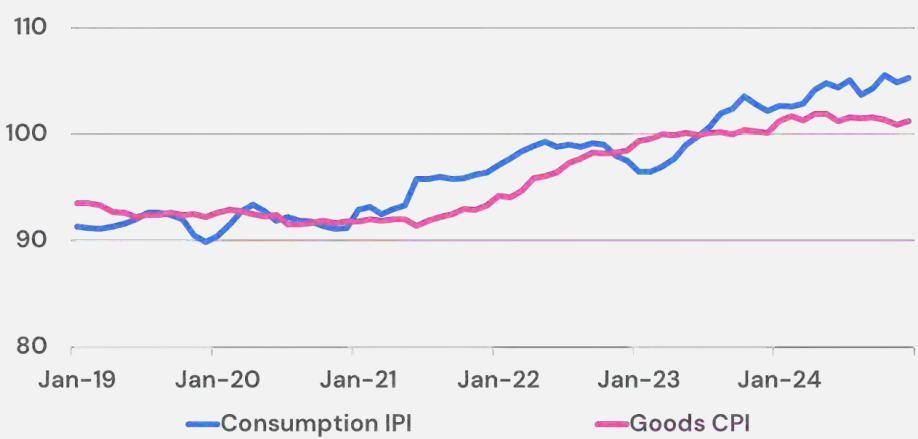
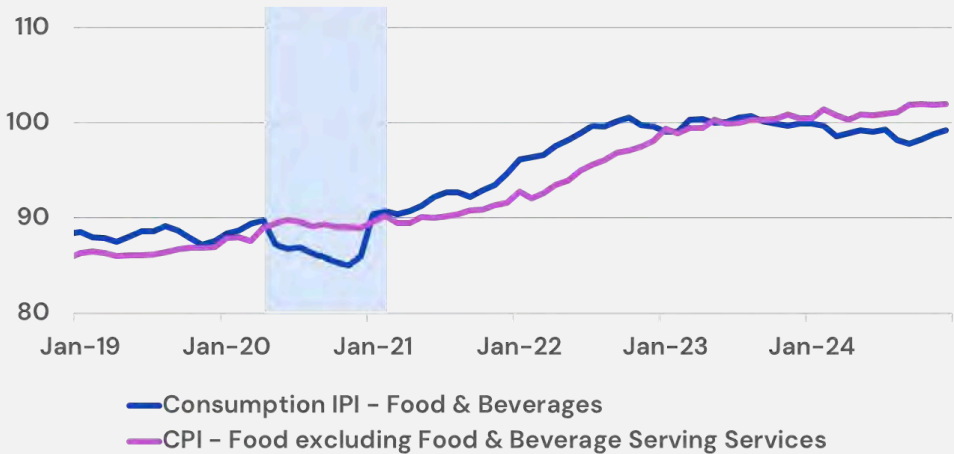


Chart 4: Comparison of Consumption IPI - Food & Beverages and CPI - Food excluding Food & Beverage Serving Services (Base Year = 2023)



The deviation between the food-related IPI and CPI sub-indices from May 2020 to January 2021 was mainly attributed to the change in price of imported alcohol products under the Consumption IPI, which is not covered under the CPI for Food excluding Food & Beverage Serving Services [2]. The dip in the Consumption IPI index in May 2020 coincided with the tightening of COVID-19 restrictions then, such as the closure of entertainment venues in early 2020 due to the Circuit Breaker [3]. Subsequently, the index rose in January 2021 in tandem with the recovery in global and local economic activities, as well as the subsequent Phase 3 reopening post-Circuit Breaker when more businesses, including entertainment venues, resumed operations.

[1] The Goods CPI is compiled by the Monetary Authority of Singapore (MAS) and is derived from the weighted average of the CPIs for Non-cooked Food, Electricity & Gas, and Retail & Other Goods.

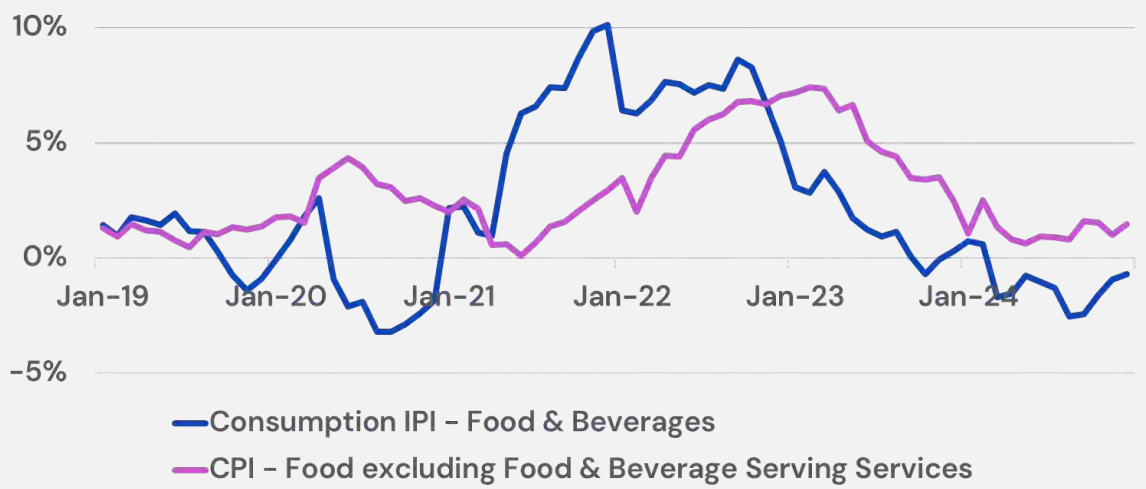
[2] Alcoholic Beverages are covered under the 'Alcoholic Beverages & Tobacco' sub-index in the CPI.

[3] An elevated set of safe distancing measures implemented by the Singapore government to rapidly curb the spread of a contagious disease, most notably used during the COVID-19 pandemic.

The year-on-year growth of the Consumption IPI for Food & Beverages fell 3.2% in September 2020, before surging to a 10.1% increase in December 2021. This coincided with the rise in CPI for Food excluding Food & Beverage Serving Services, which peaked at 7.4% in March 2023, demonstrating in part the pass-through effects of imported food prices, with a lagged effect. Both sub-indices have since moderated significantly, with the Consumption IPI for Food & Beverages declining from March to September 2024 (Chart 5).

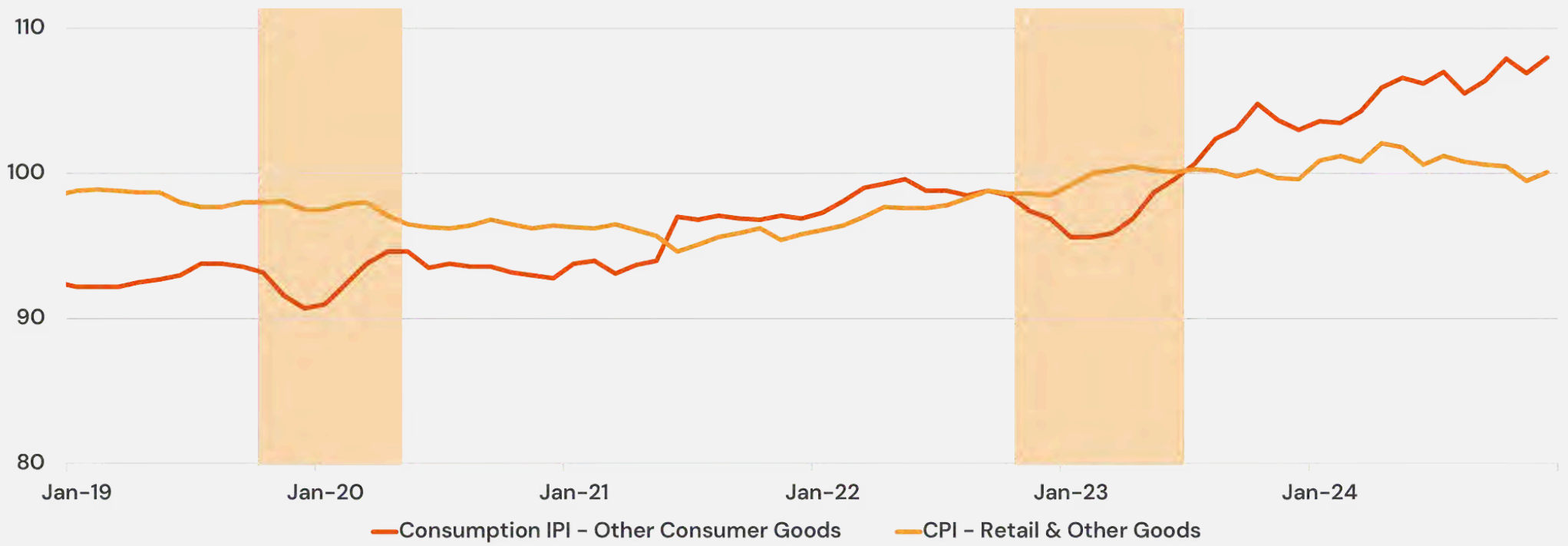


Chart 5: Year-on-Year Change in Consumption IPI - Food & Beverages and CPI - Food excluding Food & Beverage Serving Services (Base Year = 2023)



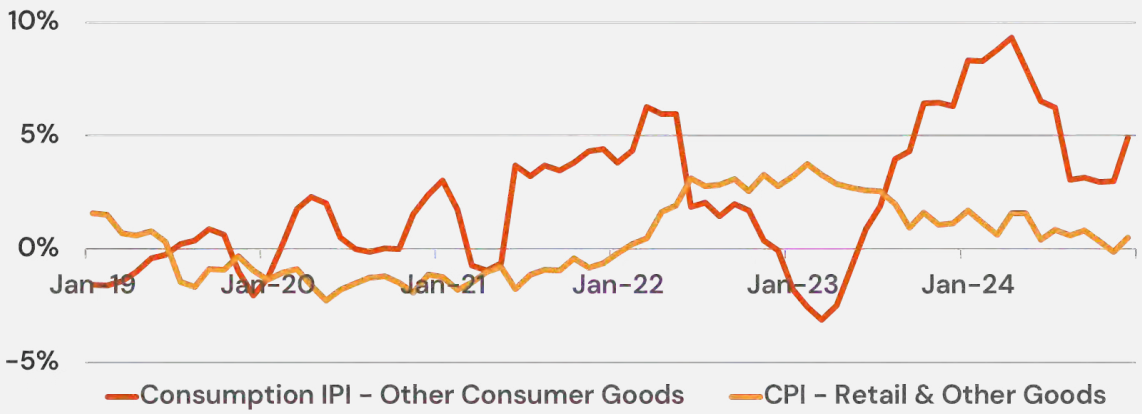
As the Consumption IPI for Other Consumer Goods covers durables, semi-durables and non-durables, it was analysed together with the CPI for Retail and Other Goods [4]. Unlike the food related sub-indices, these two non-food IPI and CPI sub-indices diverged more from each other (Chart 6). This can be attributed to differences in coverage as the Consumption IPI for Other Consumer Goods includes products imported for the purpose of re-export, as well as differences in the weighting of goods in the IPI and CPI baskets [5]. The divergences between the two indices from October 2019 to April 2020 and October 2022 to June 2023 were attributed to changes in prices of miscellaneous manufactured articles. The changes also contributed to the major divergence observed in the comparison between the Consumption IPI and Goods CPI (Chart 3).

Chart 6: Comparison of Consumption IPI - Other Consumer Goods and CPI - Retail & Other Goods (Base Year = 2023)



Similarly, year-on-year changes for the Consumption IPI for Other Consumer Goods and CPI for Retail & Other Goods (Chart 7) displayed more deviation as compared to their food related counterparts (Chart 5). The non-food Consumption IPI was generally more volatile, with year-on-year changes ranging from -3.1% in March 2023 to its highest year-on-year growth of 9.3% in April 2024. Both sub-indices have been recording positive growth since June 2023, with the year-on-year increases in the Consumption IPI for Other Consumer Goods consistently higher than the concurrent changes in the CPI for Retail & Other Goods.

Chart 7: Year-on-Year Change in Consumption IPI - Other Consumer Goods and CPI - Retail & Other Goods (Base Year = 2023)



Conclusion

The experimental IPI-BEC facilitates analyses of imported inflation, particularly that of domestic food products, through the Consumption IPI while allowing for the examination of price trends across different stages of production. Alongside other business costs incurred by retailers (e.g., labour costs which tend to be stickier), import costs and prices are also closely monitored for signs of inflationary pressures. As such, the IPI-BEC and Consumption IPI serve as useful leading indicators to examine the pass-through effects of imported consumption goods prices on inflation in Singapore.

[4] The CPI for **Retail & Other Goods** refers to the Retail & Other Goods Inflation Measure (based on MAS's classification).

[5] While the consumption IPI consists of items that are mainly used as final consumption goods, a small proportion of these items could be used by businesses as intermediate goods.