

Rebasing of Import, Export, Singapore Manufactured Products and Domestic Supply Price Indices (Base Year 2012 = 100)

By

Tan Bee Yian and Susanna Lee
 Producer Price Indices Section
 Singapore Department of Statistics

Introduction

The Import Price Index (IPI), Export Price Index (EPI), Singapore Manufactured Products Price Index (SMPPI) and Domestic Supply Price Index (DSPI) compiled by the Department of Statistics (DOS) have been rebased from base year 2006 to 2012. These price indices are rebased periodically to ensure that the 'baskets' of commodities remain representative of the current structure of trade and production patterns.

This article provides an overview on the rebasing of the four price indices to reference year 2012 and highlights changes in the weighting patterns and trends of the 2012-based price indices with those of the 2006-based series.

Definition and Index Classification

The IPI, EPI and SMPPI measure the price changes of Singapore's imports, exports and manufactured products respectively. The DSPI, a derived index of the IPI and SMPPI, measures the price changes of commodities used in the domestic economy.

The price indices are classified in accordance with the Standard International Trade Classification, Revision 4.1 (SITC v 4.1). The most detailed level of this classification is the 7-digit commodity item level. Higher or broader levels include:

- 3-digit group level
- 2-digit division level
- 1-digit section level

Survey Coverage and Products Selection

In the 2012 rebasing exercise, purposive sampling was used in the selection of commodity items or 7-digit SITC codes. Only items that had significant contributions to the higher level SITCs were selected.

The top ten importers, exporters and manufacturers of the selected commodity items were picked from the trade databases and census of manufacturing activity, to provide detailed product models or brand specifications in the preliminary surveys of the rebasing exercise.

The surveys covered about 3,400 importers, 2,400 exporters and 1,400 manufacturers.

Only products available on a frequent and regular basis and of significance to companies' businesses were selected for inclusion in the new basket for price collection for the four index series.

Approximately 2,240 prices were collected on a monthly basis from 1,300 importers for the index compilation of 545 commodity items in the 2012-based IPI. The rebased EPI consisted of 650 exporters providing 1,480 prices for the compilation of 346 commodity item sub-indices.

As for the SMPPI, 1,170 prices from 600 manufacturers were selected for the computation of 302 commodity item sub-indices. The DSPI was derived from 489 commodity items and 2,020 import prices of the IPI and 213 commodity items of the SMPPI comprising 820 manufactured product prices.

Changes in trade and production patterns over the past few years led to significant replacements of commodity items in the 2006-based baskets with new items in the 2012-based series. Some examples of the new items included were smart phones, solar panels, LED televisions and natural gas.

Weights Distributions

The most up-to-date data sources were used to derive the weighting patterns for the 2012-based price indices. The weights at 1-digit, 2-digit, 3-digit and 7-digit level SITC for the 2012-based IPI and EPI were compiled from the 2012 import and export values while that of the SMPPI were based on the 2011 production values. The weights of the 2012-based DSPI were based on the 2011 "retained imports" and "domestic

production sales". The retained imports referred to the values of imports less re-exports in 2011, while the domestic production sales were derived from the total sales of local producers less exports in 2011.

Similar to the 2006-based indices the Machinery & Transport Equipment section, Oil section and Chemicals & Chemical Products section continued to be the top three commodity sections for all the four 2012-based price series. These three sections accounted for over 80 per cent of the total weights of each individual index.

Chart 1 compares the weights distribution by commodity section between the 2012-based and 2006-based price indices.

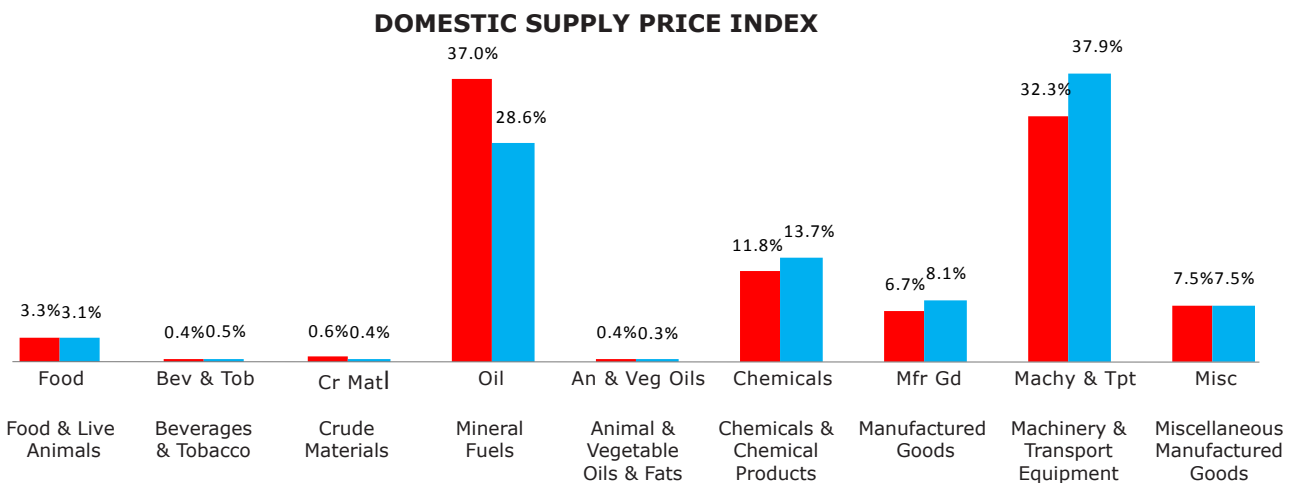
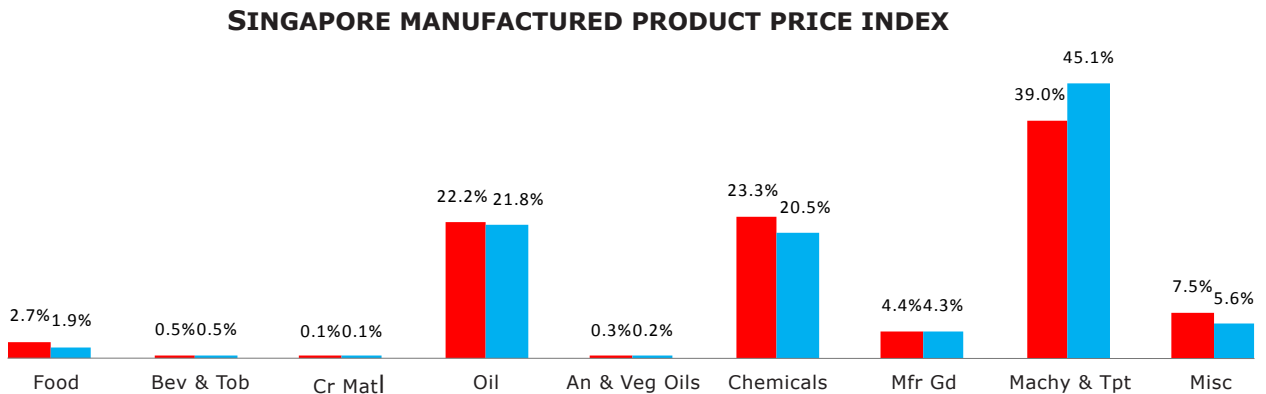
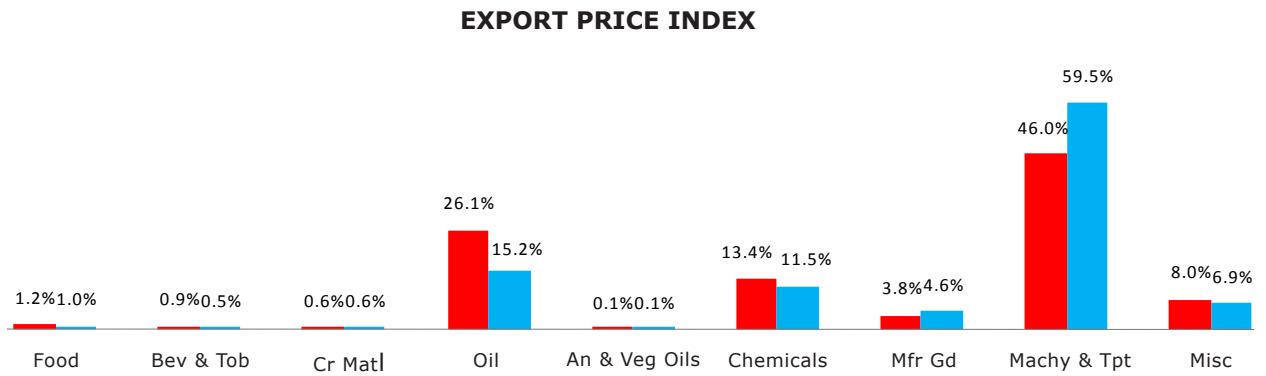
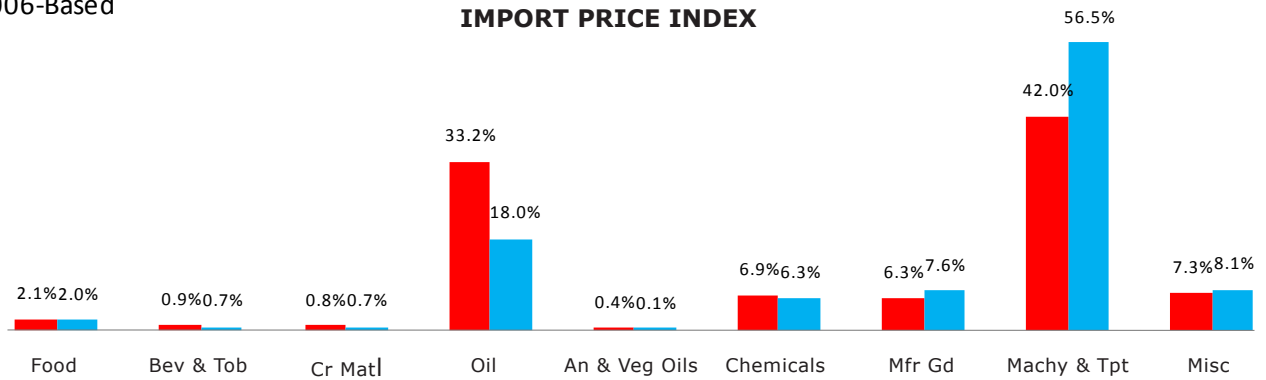
The Machinery & Transport Equipment remained the top commodity section in the 2012-based IPI, EPI and SMPPI, and ranked second in importance within the DSPI, despite declining relative weights over the years, arising from reduced shares of information and communications technology (ICT)-related products.

Within the DSPI, Oil had replaced Machinery & Transport Equipment as the leading section in 2012. Due to increased global demand for oil, the commodity section of Oil showed a marked increase within IPI, EPI and DSPI, and a slight gain within SMPPI between 2006 and 2012.

Rapid expansion in the local chemical and pharmaceutical industries since 2006 had resulted in higher relative weights of the Chemicals & Chemical Products section within the 2012-based EPI and SMPPI. In contrast, the share of Chemicals & Chemical Products within DSPI fell in 2012.

CHART 1 WEIGHTS OF 2012-BASED & 2006-BASED IPI, EPI, SMPPI & DSPI

■ 2012-Based
■ 2006-Based



Price Trends of 2012-Based and 2006-Based Series

Chart 2 compares the trends of the 2012-based and 2006-based series of the four price indices over the period of January to December 2012.

The overall trends of the new and old series of IPI and EPI were similar in 2012. Most of the commodity sections exhibit similar price trends for the two indices, except the Crude Materials and Animal & Vegetable Oils, Fats & Waxes price indices, which showed some variations between the new and old series. Due to their relatively smaller shares, they had insignificant impact on the trends of the overall IPI and EPI.

The 2012-based overall SMPPI was lower than the 2006-based SMPPI in the second half of 2012, due mainly to differences in the new and old Machinery & Transport Equipment sub-indices. Prices of newer models of electronic products such as integrated circuits, disk drives and printed circuit boards in the 2012-based Machinery & Transport Equipment series generally declined at a faster rate than prices of older models represented in the 2006-based Machinery & Transport Equipment series.

The overall DSPI trends for the 2012-based and 2006-based series were generally comparable. Similar to SMPPI, the 2012-based Machinery & Transport Equipment series of DSPI fell more than the 2006-based series.

CHART 2 2012-BASED & 2006-BASED IPI, EPI, SMPPI & DSPI
(JANUARY 2012 - DECEMBER 2012)

