

Rebasing of the Import, Export, Singapore Manufactured Products and Domestic Price Indices (2018 = 100)

by Shaunn Tan and Edwin Boey
 Producer Price Indices Division
 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 Singapore Department of Statistics (DOS) are used in the measurement of the real value of the trade and manufacturing sectors, as well as domestic supply of goods. Periodic rebasing of the indices ensures that the commodities used in the computation of the price indices account for changes to latest trade, manufacturing and supply patterns. In the latest exercise, the price indices were rebased from base year 2012 to 2018.

This article provides an overview of the rebasing exercise for the four price indices highlighting the changes in the weighting patterns and trends between the 2018-based and 2012-based indices.

Definition and Index Classification

The IPI, EPI and SMPPI measure the price changes of imports, exports and manufactured products respectively. The DSPI, an index derived from 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 Rev 4.1)¹. The most detailed level of this classification is the 7-digit commodity item level (e.g. Integrated Circuits). Higher or broader levels include:

- 3-digit group level (e.g. Semi-conductor devices; electronic integrated circuits)
- 2-digit division level (e.g. Electrical machinery apparatus & appliances)
- 1-digit section level (e.g. Machinery & transport equipment)

Survey Coverage and Products Selection

In the 2018 rebasing exercise, purposive sampling was used in the selection of commodity items (7-digit SITC codes); only commodity items that were significant in their respective sections were selected.

Thereafter, selected major importers, exporters and manufacturers of the chosen commodity items provided details on the product, model or brand specifications during the preliminary survey of the rebasing exercise.

The surveys covered about 2,200 importers, 1,700 exporters and 1,000 manufacturers. Products that are available on a frequent and regular basis and are of significance to each selected business were chosen for inclusion in the respective 'basket' of goods of each price index.

The final selection of the 'basket' of goods for the respective indices, and the number of businesses covered are as follows:

TABLE I
 NUMBER OF SELECTED COMMODITY ITEMS,
 PRODUCTS, AND BUSINESSES COVERED UNDER
 THE 2018-BASED PRICE INDICIES

	Number of Establishments Covered	Number of Commodity Items	Number of Products ² Selected
IPI	858	512	2,176
EPI	562	342	1,442
SMPPI	444	247	1,071
DSPI	-	545	-

1 The Standard International Trade Classification (SITC) is a product classification of the United Nations used for the publication of statistics on export and import values and volumes of goods. Classifying products based on the SITC allows for international comparisons of commodities and manufactured goods.

2 The product level is the level where prices are collected e.g. Brand AAA Integrated Circuit Model ABC12356 – Taiwan.

Weights Distributions

Up-to-date data sources were used to derive the weights for the 2018-based price indices. The weights at the 1-, 2-, 3- and 7-digit level for the IPI and EPI were compiled from the 2018 import and export values while that of the SMPPI were compiled using the 2017 production values. For the DSPI, the weights were based on the 2017 retained imports³ and domestic production sales⁴ values.

The Machinery & Transport Equipment section replaces Oil as the leading section in the 2018-based DSPI, to become the leading section across all four 2018-based price indices (Chart 1).

The Machinery & Transport Equipment, Oil and Chemicals & Chemical Products sections continue to be the top three sections across the indices. Together, these sections represent at least 80% of the total weight of each 2018-based index.

CHART 1
COMPARISON OF WEIGHTS DISTRIBUTION
BETWEEN 2018-BASED AND 2012-BASED PRICE INDICIES

	IPI	EPI	SMPPI	DSPI
Food & Live Animals	2.5%	2.4%	2.6%	3.2%
	2.1%	1.2%	2.7%	3.3%
Beverages & Tobacco	1.1%	1.0%	0.3%	0.3%
	0.9%	0.9%	0.5%	0.4%
Crude Materials (excl fuels)	0.8%	0.9%	0.6%	0.8%
	0.8%	0.6%	0.1%	0.6%
Oil	25.9%	19.8%	14.1%	27.9%
	33.2%	26.1%	22.2%	37.0%
Animal & Vegetable Oils	0.3%	0.0%	0.1%	0.4%
	0.4%	0.1%	0.3%	0.4%
Chemicals & Chemical Products	8.9%	15.3%	21.7%	11.4%
	6.9%	13.4%	23.3%	11.8%
Manufactured Goods	5.0%	3.2%	2.8%	4.9%
	6.3%	3.8%	4.4%	6.7%
Machinery & Transport Equipment	46.9%	48.4%	49.0%	43.0%
	42.0%	46.0%	39.0%	32.3%
Miscellaneous Manufactured Articles	8.6%	9.1%	8.8%	8.0%
	7.3%	8.0%	7.5%	7.5%

■ 2018-based

■ 2012-based

³ Retained imports refer to the values of imports less re-exports.

⁴ Domestic production sales refer to the total sales of local producers less exports.

Trend Comparison: 2018-Based versus 2012-Based Price Indices

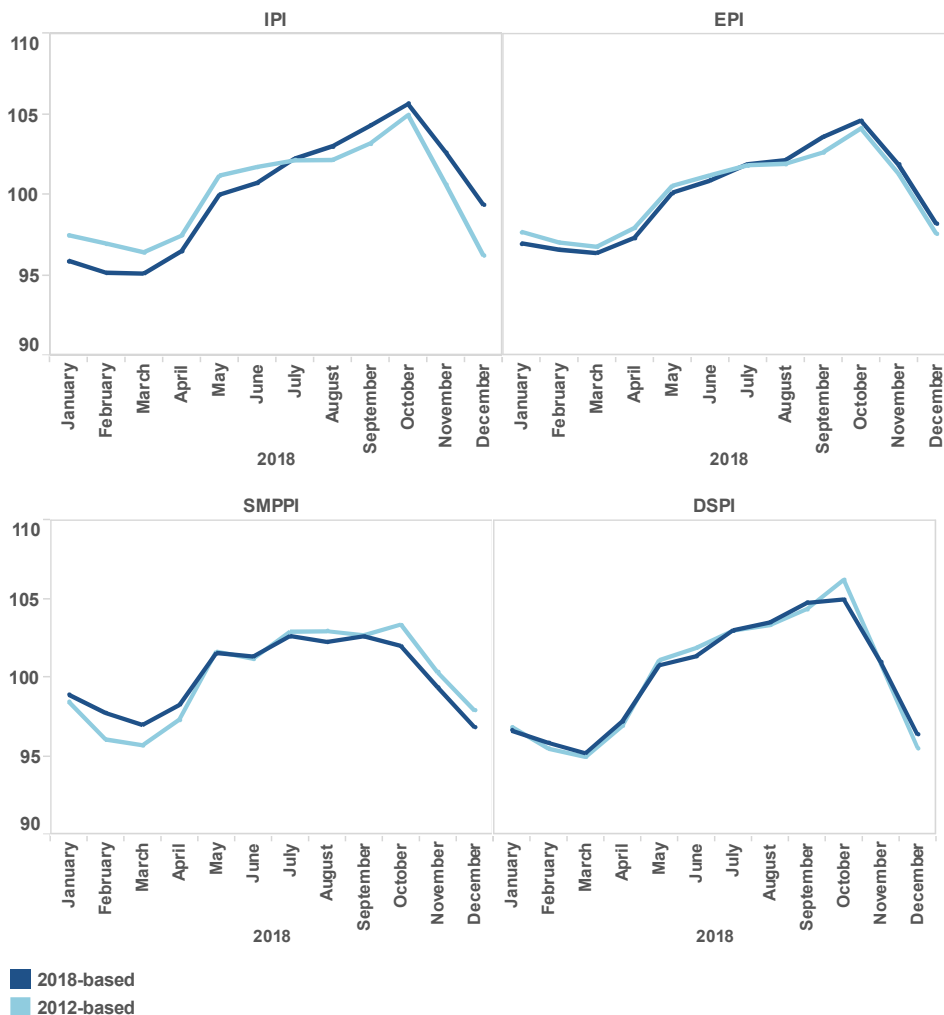
Chart 2 provides a comparison of the trends observed in the 2018- and 2012-based indices over the period of January to December 2018. The overall trends of the 2018-based series for all four indices are similar to those of the 2012-based series, except for the smaller decrease observed in the fourth quarter of 2018 for IPI, and in the first quarter of 2018 for SMPPI.

Conclusion

With the completion of the 2018 rebasing exercise, the 'baskets' of goods used for the compilation of the four price indices and their weights have been refreshed, consequently improving their quality.

The next rebasing exercise will be carried out in the next 5-6 years, in accordance with international guidelines for the rebasing of producer price indices.

CHART 2
COMPARISON OF 2018-BASED AND 2012-BASED INDICES



For more details on the latest rebasing exercise of the four price indices, please refer to the Information Papers: [‘Rebasing of the Import and Export Price Indices \(2018=100\)’](#) and [‘Rebasing of Singapore Manufactured Products and Domestic Supply Price Indices \(2018=100\)’](#)

Monthly reports on the latest IPI, EPI, SMPPI and DSPI, as well as historical data are available on the SingStat Website: www.singstat.gov.sg/ppi & www.singstat.gov.sg/tablebuilder