Using the SSIC — How to Determine the Appropriate Code?

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What is the SSIC?

SSIC is the acronym for the Singapore Standard Industrial Classification. Designed primarily for classifying economic activities in Singapore for statistical purposes, the SSIC is used in the collection and compilation of a wide range of statistics, including Gross Domestic Product (GDP), business statistics as well as social and labour statistics.

The adoption of a common framework for classifying economic activities in Singapore ensures the comparability of data with industry breakdown compiled by different agencies.

How to Determine the Appropriate SSIC Code?

An SSIC code is assigned to an economic unit such as an enterprise or establishment based on its principal activity (see Box 1). Conceptually, the principal activity of an economic unit is determined by the activity that contributes the most value added (VA) using the top-down method (see Box 2).

Value Added Proxies

If information on the VA is unavailable, proxies such as revenue, profit, value of product shipments, total wages and employment may be used to determine the principal activity.

BOX 1   TWO COMMON ECONOMIC UNITS

Enterprise
- A legal unit that can own goods or assets, incur liabilities, enter into contracts and maintain a record of its own transactions (e.g. financial accounts)
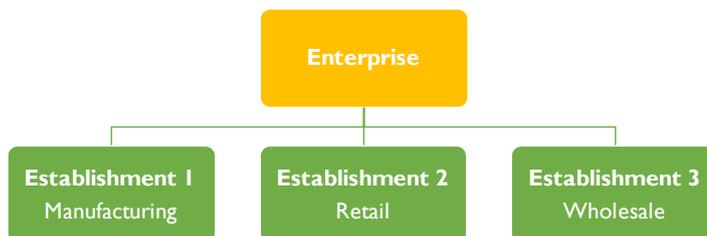- May engage in one or more economic activities

Establishment
- An enterprise or part of an enterprise in which only one principal economic activity is carried out
- Defined for statistical purposes

Illustration of relationship between an enterprise and an establishment

An enterprise in which only one principal economic activity is carried out	An enterprise comprises a group of establishments, each of which carries out one principal economic activity
Enterprise	**Enterprise**
Establishment 1 Retail	**Establishment 1** Manufacturing **Establishment 2** Retail **Establishment 3** Wholesale

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BOX 2   EXAMPLE OF THE TOP-DOWN METHOD FOR DETERMINING THE PRINCIPAL ACTIVITY

For an economic unit, identify the SSIC Section that corresponds to an activity contributing the highest VA, followed by the Division, Group and then the Class. Finally, select the Item with the highest VA contribution within the Class.

Based on the top-down method, the SSIC code and principal activity for this economic unit is SSIC 27321 'Manufacture of telecommunications cables and wires', which corresponds to Section C 'Manufacturing', as the VA is the highest.

The top-down method ensures that the classification at the lowest level (5-digit SSIC code at the Item level) is consistent with the classification at the highest level (Section).

Section	C 'Manufacturing' (VA = 10)		L 'Real Estate Activities' (VA =5)
Division	24 'Manufacture of basic metals' (VA = 4)	27 'Manufacture of electrical equipment' (VA = 6)	
Group		273 'Manufacture of wiring and wiring devices' (VA =4) / 275 'Manufacture of domestic appliances' (VA = 2)	
Class		2732 'Manufacture of electronic and electric wires and cables' (VA = 3) / 2733 'Manufacture and repair of wiring devices' (VA = 1)	
Item		27321 'Manufacture of telecommunications cables and wires' (VA = 3)	

In this example, the process of determining the principal activity and thus the SSIC code is outlined.

What Not to Consider when Determining an SSIC Code

Economic units engaged in the same economic activity are classified under the same SSIC code regardless of the following characteristics:

- Type of ownership (e.g. foreign, local, private or government owned)
- Type of legal organisation (e.g. sole proprietorship, partnership, company)
- Mode of operation (e.g. formal or informal production, produced by factories or households)
- Type of production/transaction methods (e.g. modern vs traditional), for instance:
  - Economic units that provide private-hire vehicle booking services through modern technologies (e.g. mobile applications) should be classified with firms that provide similar booking services using traditional means (e.g. radio or call centre).
  - Economic units providing banking services through virtual platforms or at brick-and-mortar banks should be classified together as they carry out the same principal activity.

SSIC 2015 (Version 2018) Publication

The latest SSIC publication is available on the SingStat Website. Sections in the complete report of the SSIC 2015 (Version 2018) relating to determining SSIC codes are listed below for easy reference.

- Classification of Industries (Pages 13 - 89)
- Description of Classes (Pages 91 - 255)
- Alphabetical Index (Pages 313 - 366)

If the principal activity of an economic unit is known, there are two possible ways of selecting the SSIC code from the publication viz.

a) First referring to the Alphabetical Index to look for the term by which the economic activity is known, and confirming the choice of SSIC code by reading the Description of Classes; or

b) First referring to the Classification of Industries to classify the principal activity broadly either at the Division or Group level before narrowing down to the most appropriate 5-digit code at the Item level. The choice of SSIC code should be confirmed by reading the Description of Classes.

Conclusion

Singapore's economic and industry statistics are compiled using the SSIC. Determining the appropriate SSIC codes for economic units improves the quality and comparability of statistics, which in turn facilitates analyses and planning by the government and business community.

For any other queries on the SSIC, please contact the Singapore Department of Statistics at info@singstat.gov.sg for assistance.

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

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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 1
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	-

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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 imports[3] and domestic production sales[4] 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

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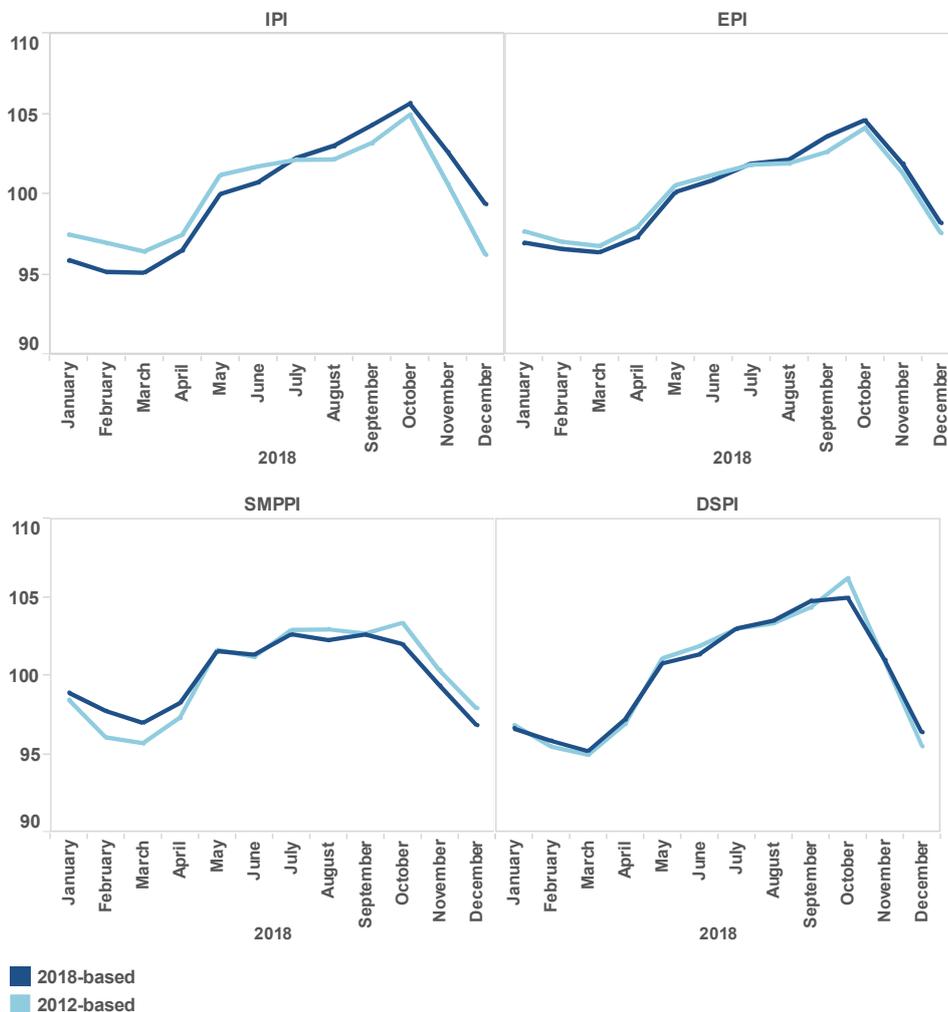
For more details on the latest rebasing exercise of the four price indices, please refer to the Information Papers:
'Rebasing of the Import and Export Price Indices (2018=100)' and
'Rebasing of Singapore Manufactured Products and Domestic Supply Price Indices (2018=100)'

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

Singapore's Rate of Natural Increase for Population

Natural increase is a component of population growth. It refers to the number of live-births in excess of the number of deaths. The rate of natural increase (RNI) is the natural increase divided by the mid-year population of the reference year, per 1,000 population. It is also the difference between the crude birth rate (CBR) and crude death rate (CDR). The CBR and CDR refer to the number of live-births and deaths respectively per 1,000 population of the reference year.

$$\text{Rate of Natural Increase (per 1,000 population)} = \frac{\text{Natural Increase}}{\text{Mid-year Population}} \times 1,000$$

$$= \frac{\text{Live-births} - \text{Deaths}}{\text{Mid-year Population}} \times 1,000$$

$$= \text{Crude Birth Rate} - \text{Crude Death Rate}$$

Resident RNI Mirrored Falling Crude Birth Rate Over the Last Decade

Over the past 10 years, the CBR of the Singapore resident population exhibited a general downward trend. Overall, the CBR dropped by 1.4 live-births per 1,000 residents, from 10.2 in 2008 to 8.8 in 2018 (Chart 1). On the other hand, the CDR showed a slight uptrend from 4.4 deaths per 1,000 residents to 5.0 over the same period[1]. Together, this resulted in the RNI falling from 5.8 residents per 1,000 residents in 2008 to 3.7 in 2018. Dominated by the CBR,

the trend in RNI mirrored the falling CBR trend closely over the last decade[2].

Resident RNI is Projected to Turn Negative Around the Mid-2030s

Should the CBR continue to fall with a low total fertility rate (TFR)[3], and the CDR rise with an ageing population, the RNI is projected to decline over time. From around the mid-2030s, the RNI is projected to turn negative, i.e. deaths outnumbering live-births[4]. This is the experience of other economies with similar population structures and fertility trends, like Japan.

Singapore's RNI was Higher Than Selected Asian Economies and the OECD Average

Across seven selected Asian economies and the OECD[5] from 2008 to 2017, Singapore's RNI was consistently above that of South Korea, Japan and the OECD average since 2008, with Japan having a negative RNI during this period (Chart 2). On the other hand, Singapore's RNI had been consistently lower than that of economies with a younger age structure and higher fertility such as Malaysia, India, Indonesia and Viet Nam.

CHART 1
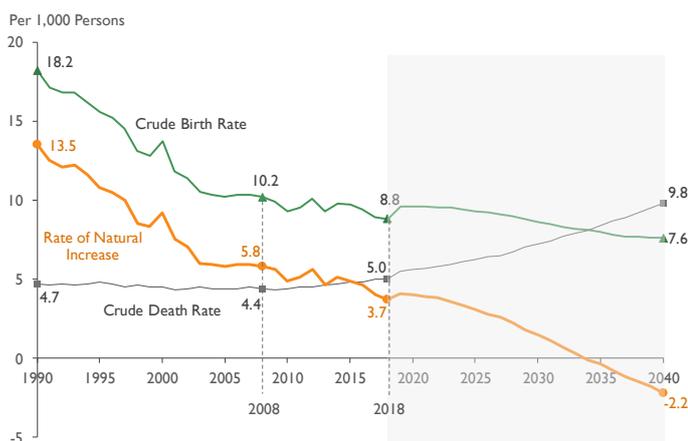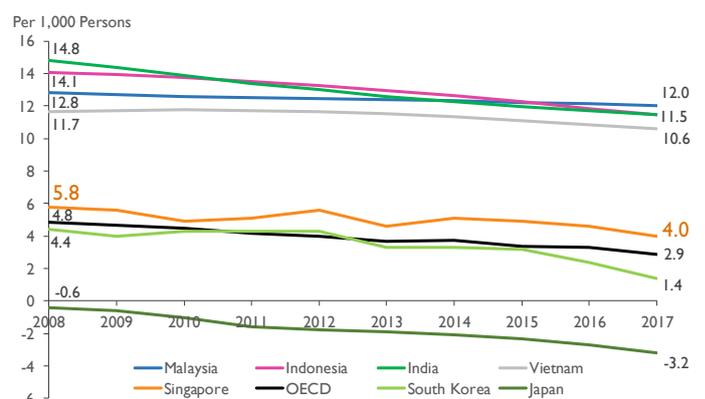SINGAPORE'S RESIDENT CBR, CDR AND RNI

CHART 2
INTERNATIONAL COMPARISON OF RNI

1 The article on "Age-Standardised Death Rate for Singapore" provides an analysis on the rising CDR in spite of improvements in mortality in recent years.

2 More historical data on Singapore's CBR, CDR and RNI are available on the SingStat Website.

3 The TFR refers to the average number of live-births each female would have during her reproductive years if she were to experience the age-specific fertility rates prevailing during the period.

4 Data from 2019 onwards are projections based on the midpoint of a range of scenarios.
The lower bound scenario assumes a TFR of 1.0 and immigration rates of 20,000 Singapore citizens and 30,000 permanent residents per annum; while the upper bound scenario assumes a TFR of 1.5 and immigration rates of 25,000 Singapore citizens and 35,000 permanent residents per annum.

5 Data for other economies and the OECD Average are obtained from the World Bank's World Development Indicators Database (as at 25 Apr 2019) based on the following data series: (1) "Birth rate, crude (per 1,000 people)"; and (2) "Death rate, crude (per 1,000 people)".

Trends in Infant Mortality Rate and Related Indicators

Infant mortality refers to the deaths of children under one year of age. Infant mortality rate (IMR) is defined as the number of infant deaths per thousand live-births within a specific time period, usually a year. Along with life expectancy, IMR is one of the most widely used indicators of a population's health status, and is used as a measure of a population's socio-economic environment.

This article looks at trends in Singapore's IMR, as well as two related indicators – the neonatal and perinatal mortality rates.

Trends in Singapore's Infant Mortality Rate

The IMR in Singapore declined exponentially from 34.9 infant deaths per thousand live-births in 1960, to 2.1 in 2018. Since 2000, the IMR has been stable and remains below 3.0 infant deaths per thousand live-births[1]. This compares well internationally with the IMRs of other developed economies such as that of Hong Kong, Japan, Sweden and UK, where Singapore's IMR is observed to have declined at a faster rate than many of these economies since 1960s (Chart 1).

CHART 1
INFANT MORTALITY RATES FOR SINGAPORE AND SELECTED ECONOMIES, 1960 - 2018[2]
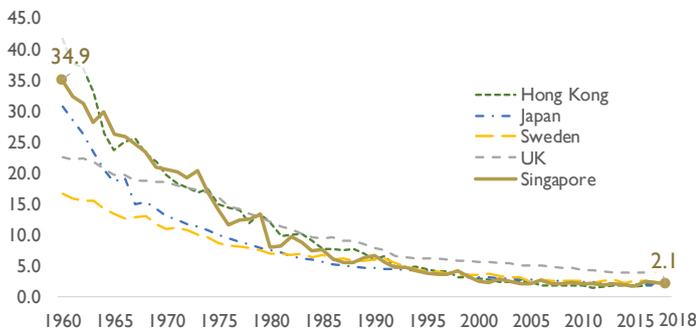

What is the Difference Between Infant, Neonatal and Perinatal Deaths?

As infant deaths tend to occur very early in the first year of life, there are further categorisations of infant deaths. Neonatal mortality refers to deaths of infants aged under 28 days. They tend to make up the majority of infant deaths as there are higher risks associated with foetal development and the birth process, especially within the first week of life. Postneonatal mortality covers the remaining infant deaths, which occur for infants aged 28 days to under a year.

Aside from infant deaths, there are stillbirths, which refer to death in the womb after 28 weeks of pregnancy. Perinatal mortality comprises both stillbirths and neonatal deaths of infants aged under 7 days. Diagram 1 summarises the types of deaths for foetuses and infants.

DIAGRAM 1
TYPES OF FOETUS AND INFANT DEATHS
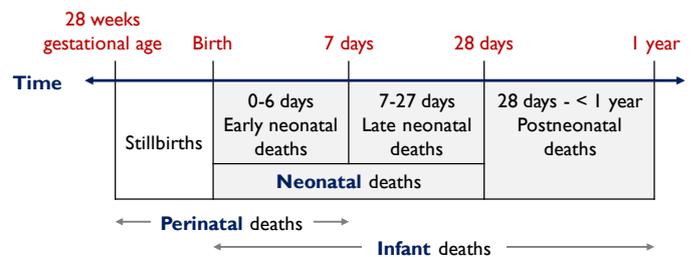
* Diagram is for illustration purpose only and is not drawn to scale.

Similar to the IMR trend, Singapore's neonatal and perinatal mortality rates declined exponentially from 1960 to 2018[3] (Chart 2).

The neonatal mortality rate fell from 17.7 neonatal deaths per thousand live-births in 1960, to 1.3 in 2018. In 2015, it reached a record low of 0.8 neonatal deaths per thousand live-births.

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1 Time series data on Singapore's IMR as well as other indicators of death and death rates are available on the SingStat Website.

2 Data for selected economies are extracted from their official statistical publications and websites (as at 30 Apr 2019).

3 Time series data on Singapore's neonatal and perinatal mortality rates are also available on the SingStat Website.

Likewise, the perinatal mortality rate decreased significantly over the same period, from 27.9 perinatal deaths per thousand stillbirths and live-births in 1960, to 3.5 in 2001, where it has since remained at a level below 4.0. In 2018, there were 3.2 perinatal deaths registered for every thousand stillbirths and live-births.

CHART 2
NEONATAL & PERINATAL MORTALITY RATES, 1960 - 2018

What is the Significance of a Low Infant Mortality Rate?

In terms of public health and social policy, a low IMR (as well as low neonatal and perinatal mortality rates) is generally reflective of good medical care, education, nutrition of mother and infant, and sanitation.

In economies with advanced medical care and where individuals are better educated, women are more likely to seek adequate medical care and ensure that they and their infants are sufficiently nourished. As such, infant deaths are less likely to be caused by environmental factors, and are more likely to be due to factors relating to genetics and the birth process, which are not readily preventable.

This is the case in Singapore where, similar to a decade ago[4] , the leading causes of infant deaths in 2017 were Perinatal Originated Conditions (41.5%), which include preterm births, complications of pregnancy, labour and

delivery; and, Congenital Anomalies (35.1%), which include birth defects.

Trends in Singapore's Infant Mortality Rate by Sex

The sex-specific IMR, which is the number of infant deaths for each sex per thousand live-births of the same sex, used to be higher for males in the 1960s and 1970s in Singapore. Over time, the male IMR decreased faster than the female IMR, and by the late 1980s, the differences in IMR between the sexes tapered off and diminished[5].

In the 1960s, there were 6.9 more male infant deaths compared to female infant deaths on average per thousand live-births of the respective sex (Chart 3). This gap in IMR between the sexes narrowed to an average of 1.2 by the 1980s, and subsequently to 0.2 between 2010 and 2018.

CHART 3
INFANT MORTALITY RATES BY SEX, 1960 - 2018
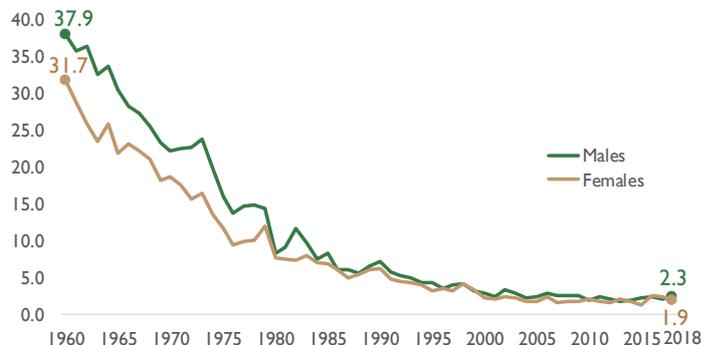
Concluding Remarks

Singapore's IMR has fallen significantly since the 1960s, and is now one of the lowest amongst developed economies. This is reflective of the public health initiatives and improvements made over the years in areas such as medical care, education, nutrition of mother and infant, and sanitation.

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4 Data source for leading cause of infant deaths: ICA's Report on Registration of Births and Deaths publication. The 2017 publication can be found on ICA's Website, while the 2007 publication can be found in the national library archives. In 2007, the main causes of infant deaths were Perinatal Originated Conditions (34.0%) and Congenital Anomalies (26.6%).

5 Time series data on Singapore's male and female IMR are also available on the SingStat Website.

SingStat Website Tops
the Open Data Inventory 2018/19 Ranking

In the latest ranking of the Open Data Inventory (ODIN) released on 2 March 2019, the Singapore Department of Statistics (DOS)'s corporate website, the SingStat Website, was placed first among the 178 National Statistical Offices' websites assessed.
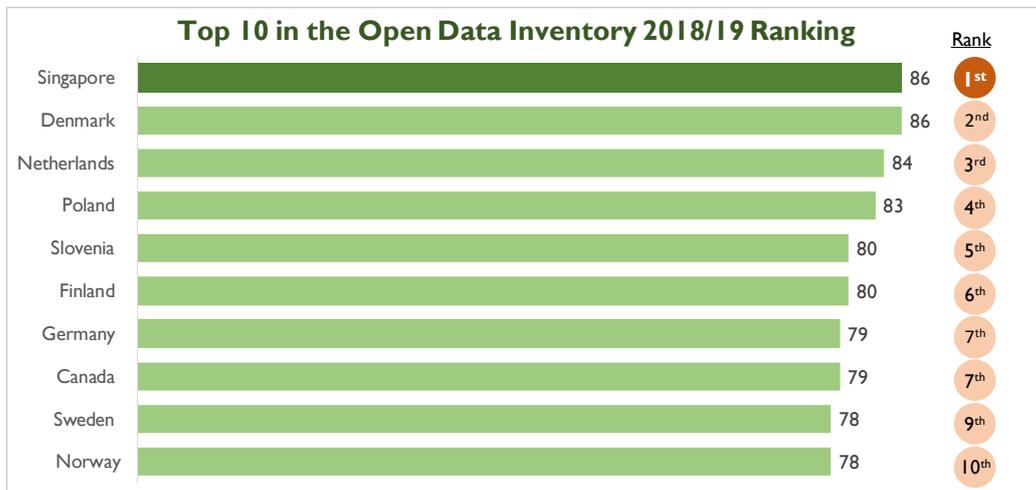
The SingStat Website's performance was attributed to its user-friendliness, ease of navigation and the convenience to users accessing data with the availability of application programming interface (API) and multi-tables download features.

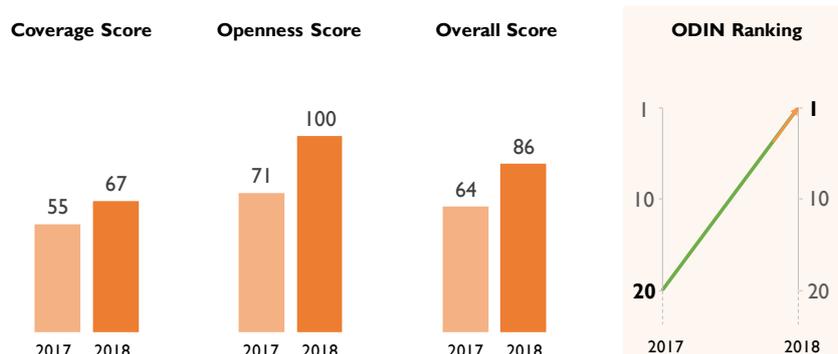ODIN is a global index compiled by the Open Data Watch (ODW) which assesses the coverage and openness of official statistics published on National Statistical Offices' websites. The assessment covers various data categories in the domains of economic, social and environmental statistics.

With the cooperation of Singapore public sector agencies in making available their relevant data on the SingStat Website, advice from the Attorney-General's Chambers on refinements to the SingStat Website Terms of Use, as well as consultations with the ODW assessors on the ODIN methodology, significant progress has been made in the last two years in terms of data availability and openness of official statistics on the SingStat Website.

"… Singapore's national statistical office's (SingStat) website serves as a great example for other countries."

~ Open Data Inventory 2018/19 Annual Report

Top 10 in the Open Data Inventory 2018/19 Ranking

Country	Score	Rank
Singapore	86	1st
Denmark	86	2nd
Netherlands	84	3rd
Poland	83	4th
Slovenia	80	5th
Finland	80	6th
Germany	79	7th
Canada	79	7th
Sweden	78	9th
Norway	78	10th

Improvement in openness and coverage since DOS's participation in ODIN Country Review

Coverage Score

2017	2018
55	67

Openness Score

2017	2018
71	100

Overall Score

2017	2018
64	86

ODIN Ranking

2017	2018
20	1

Singapore Statistical Highlights, 2018

Economy

Singapore's Economy grew **3.2%**

Fixed Asset Investment Commitments in Manufacturing and Services amounted to **S$10.9** bil

Air Cargo Handled was **2,155** thousand tonnes

Per Capita Gross National Income was **S$80,517**

Labour Force Participation Rate was **67.7 %**

Value Added for the Manufacturing Sector was **S$99.9** bil

International Visitor Arrivals reached **18.5** mil

Arrivals

Gross National Savings reached **S$217.7** bil

BANK

Inflation Rate was **0.4%**

STORE

Resident Unemployment Rate (Seasonally adjusted) was **2.9 %**

Total Merchandise Trade was **S$1,055.9** bil

Sea Cargo Handled reached **630** mil tonnes

Socio-Demography

Wireless Broadband Population Penetration Rate was **202.4 %**

Residential Wired Broadband Household Penetration Rate was **93.5 %**

Home Ownership Rate was **91.0 %**

SCHOOL

Mean Years of Schooling...

Singapore's Total Population reached **5.6 mil** in end-June 2018

was **11.6 years** for male residents aged 25 years and over

was **10.6 years** for female residents aged 25 years and over

Total Marriages was **27,000**

Mobile Population Penetration Rate reached **148.8 %**

POLICE

Crime Rate was **588 per 100,000 population**
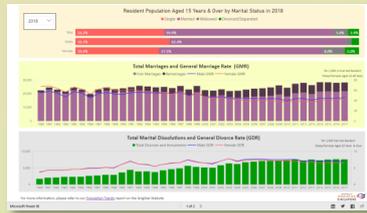
New on the SingStat Website!

The Singapore Population animated infographic has been revamped! View population indicators under 5 main sections!

This interactive dashboard allows you to view data on Marital Status, Marriages and Divorces according to your selections. Try it out here.

The Singapore Economy animated infographic now contains new indicators such as 'Expenditure-Based GDP', 'Income-Based GDP', 'Import Price Index' and 'Export Price Index' .

How long can you expect to live? Find out using our Life Expectancy Calculator for Singapore Residents.

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