

Objective

The data presented were compiled from the results of the Annual Industry Survey 2020.

The objective of the survey is to gather information on the services sector for studying the structure and performance of various activities in the sector. The data are also used for the compilation of national accounts, input-output tables and other related studies. In addition, the results are used by policy makers, economic planners, academicians, the business community and other interested users in their work.

Legal Authority

The survey is conducted under the Statistics Act 1973 ("Statistics Act"), which makes the submission of returns mandatory. Individual returns received are kept in confidence in accordance with the Statistics Act.

Scope and Coverage

The survey collects detailed business information from establishments engaged in Wholesale Trade, Retail Trade, Transportation & Storage, Accommodation & Food Services, Information & Communications Services, Real Estate, Professional and Administrative & Support Services and Recreation, Community & Personal Services. Establishments engaged in Finance & Insurance Services and Public Administration Activities are excluded. Individual self-employed persons who are not registered with the Accounting & Corporate Regulatory Authority (ACRA), such as taxi drivers, hawkers and stall-holders, independent artistes are also excluded.

Sample Selection

The sampling frame is based on the list of 'live' establishments obtained from the Department's establishment database. The database is updated regularly using information obtained from administrative and survey sources.

The sampling method for the survey was based on stratified random sampling. All establishments in the sampling frame were first stratified by activity and within each activity, establishments were stratified by operating revenue into three size strata (large, medium and small). All establishments in the large size stratum were selected with certainty whereas the firms in the medium and small size strata were selected using simple random sampling without replacement. The Lavallée and Hidiroglou method was used to determine the size stratum boundaries and sample sizes that minimise the total sample size required to achieve the target level of precision of estimation.

Data Collection

Respondents could submit their survey returns primarily via the Internet. Secured transmission of statistical information via the Internet was enabled through a service known as E-Survey. Queries or clarifications with respondents on omissions and inconsistencies were conducted through email or telephone.

Respondents were given 8 weeks to complete and submit their returns. A reminder was sent to establishments which failed to respond without reasonable explanations. A second reminder was sent to establishments which did not respond to the first reminder.

Response

The survey covered a total of 21,310 establishments. At the close of the survey, 902 establishments were excluded from the survey for one reason or another, such as those that had ceased, or were dormant, untraceable, not in operation yet or engaged in activities outside the scope of the survey. For compilation purpose, survey returns from 12,628 establishments were used. In addition, administrative data were used to supplement the survey data for final tabulation and analysis.

Data Processing

All data of completed returns were computer-edited for code validity, completeness and consistency to detect errors and inconsistencies. The erroneous data were amended and re-processed. Tabulation was carried out only after all records had passed the computer editing.

Estimation Method

Stratified (Horvitz-Thompson) estimator was used to estimate the population totals. For non-response cases, imputation was performed.

With the incorporation of more administrative data and updated survey returns, the estimated principal statistics for previous years have been correspondingly updated.

Year of Reference

The reference period is the calendar year 2020. However, for establishments whose accounting year differed from the calendar year, they were asked to report according to the accounting or financial year covering the major part of 2020.

Type of Business Activity

Type of business activity refers to the principal activity undertaken by the establishment. The principal activity is defined as the one in which the establishment devotes most of its resources or from which it derives most of its income. The classification of the principal activity of the establishment is based on the “Singapore Standard Industrial Classification, 2020”.

DEFINITION OF TERMS

Depreciation	Refers to the value, at current replacement cost, of reproducible fixed assets such as buildings, plants and machinery used during a period of time as a result of normal wear and tear, foreseen obsolescence and the normal rate of accidental damage.
Establishment	Defined as a business or organisation unit engaged in one activity and operating in a single location. Thus, for a multi-activity firm or organisation, units engaged in separate activities in the same location constitute distinct establishments. Similarly, each branch of a multi-branch organisation at a different location is conceptually a different establishment.
Operating Expenditure	Refers to all expenditure incurred by the establishment in its business, with adjustment for changes in inventory. It includes remuneration, purchases, indirect taxes, work given out, rental and maintenance of machinery and equipment, legal, accounting and other professional services, rental and maintenance of premises, depreciation, transport and travelling, utilities, advertisement, entertainment, stationery and printing, postage and tele-communications, fuel, freight charges and other expenses that are connected with the establishment's operation.
Operating Revenue	Refers to income earned from business operations, i.e. income from services rendered, sale of goods, commission fees and rental of premises, machinery and equipment.
Operating Surplus	Refers to the amount of operating revenue less operating expenditure plus depreciation of fixed assets. Operating surplus, however, only refers to depreciation of fixed assets for non-profit organisations (i.e. entities which cannot distribute any surplus made to their shareholders) which mainly rely on funds (such as grants and donations) other than revenue from sales of goods and services rendered to cover their operating expenditure.
Profitability Ratio	Defined as the ratio of operating surplus to operating revenue. It shows the proportion of operating revenue that is converted to profits.

Remuneration	<p>Includes three components, namely, wages and salaries, employers' contribution to Central Provident Fund (CPF)/pension funds and other benefits.</p> <p><i>(i) Wages and Salaries</i></p> <p>Refers to gross emoluments paid to employees during the reference year, inclusive of commissions, bonuses, overtime pay and allowances before deduction of employees' contribution to CPF or any other deduction. For proprietors or partners, the item refers to amount paid to or withdrawn by them during the year. However, this amount is not included in the analysis and tables of the report.</p> <p><i>(ii) Employers' Contribution to CPF/Pension Funds</i></p> <p>Refers to the net amount contributed by employers towards their employees' CPF/pension funds. It does not include the amount paid to retired employees under company pension scheme.</p> <p><i>(iii) Other Benefits</i></p> <p>Comprises medical benefits, cost of food, accommodation and other benefits in kind provided by employers. Allowances given to unpaid family workers are also included here.</p> <p><i>(iv) Directors' Fee</i></p> <p>Refers only to the amount paid to directors for attending board of directors' meetings. It does not include the fees paid to directors who are actively engaged in running the establishment.</p>
Operating Revenue Per Square Metre	<p>Defined as operating revenue divided by total floor area (in square metres). Floor area includes selling space, office space and storage space at the premise, but excludes those rented out, open spaces, open car parks, staff accommodation and unoccupied premises. Space occupied by concessionaires is also included for department stores and supermarkets.</p>
Value Added (At Basic Price)	<p>Comprises the value of operating surplus, remuneration and taxes (less subsidies) on production.</p>

Sampling Errors

Concept

Sampling errors arise when a sample survey is conducted instead of doing a complete enumeration of the entire population. The sampling error of an estimate refers to the difference between the estimated value obtained from a sample and its population value or true value if a census were to be conducted. Such errors are controlled through efficient probability sampling designs.

Measures of Sampling Errors

The sampling error for a sample estimate is measured by its standard error (SE) which, for a probability sample, can be estimated from the sample results.

For comparison between surveys, the relative standard error (RSE) may be used. The RSE can be expressed as:

$$RSE = 100 * SE / T$$

where

RSE is the relative standard error of T in percentage term

SE is the standard error of T

T is the estimate of the population value

The standard error also provides the basis for the computation of confidence interval of an estimate, which is the estimated range that would contain the true population value of a parameter at a specified level of confidence.

Sampling Errors of Key Indicators

The sampling errors of operating revenue and value added by broad industry group for the Annual Industry 2020 are provided in Tables E1 and E2 respectively.

The relative standard errors for operating revenue and value added of the Services Sector 1.5 per cent and 0.9 per cent for the Annual Industry Survey 2020 sample. At industry-group level, the values were between 0.22 per cent to 8.24 per cent. Among the industry groups, the operating revenue estimate was the most precise for Information & Communications (relative standard error was the lowest at 0.22 per cent) since a lower relative standard error would mean a smaller confidence interval (i.e. the range in which the true population value would fall into is narrower). For Information & Communications, the range of the operating revenue estimate at 95% confidence level of \$128.0 billion to \$129.1 billion meant that there would be a 95% chance that this interval contained the true value of the industry group's operating revenue.

Table E.1 Sampling Errors of Operating Revenue by Industry, 2020

Industry	Grossed-up Sample Estimate (\$ Mil)	Standard Error of Estimate (Grossed-up) (\$ Mil)	Relative Standard Error of Estimate (%)	Range of Estimate at 95% Confidence Level	
				Lower (\$ Mil)	Upper (\$ Mil)
TOTAL	3,271,630	47,648	1.46	3,178,240	3,365,021
Wholesale Trade	2,766,905	47,607	1.72	2,673,595	2,860,216
Retail Trade	41,493	572	1.38	40,372	42,613
Food Services	8,669	456	5.26	7,776	9,562
Transportation & Storage	160,151	1,289	0.80	157,625	162,676
Information & Communications	128,539	288	0.22	127,975	129,103
Real Estate, Professional and Administrative & Support Services	120,401	1,227	1.02	117,996	122,806
Recreation, Community & Personal Services	40,514	282	0.70	39,962	41,065

Table E.2 Sampling Errors of Value Added by Industry, 2020

Industry	Grossed-up Sample Estimate (\$ Mil)	Standard Error of Estimate (Grossed-up) (\$ Mil)	Relative Standard Error of Estimate (%)	Range of Estimate at 95% Confidence Level	
				Lower (\$ Mil)	Upper (\$ Mil)
TOTAL	231,420	2,173	0.94	227,161	235,678
Wholesale Trade	81,531	1,927	2.36	77,754	85,307
Retail Trade	5,680	97	1.71	5,490	5,870
Food Services	2,723	224	8.24	2,283	3,163
Transportation & Storage	28,021	303	1.08	27,428	28,615
Information & Communications	26,250	147	0.56	25,961	26,538
Real Estate, Professional and Administrative & Support Services	58,233	899	1.54	56,471	59,994
Recreation, Community & Personal Services	26,494	168	0.63	26,165	26,823

Users have to be careful when making inferences using the relative standard error of the value added estimate. As the value added estimate would include positive and negative values, the aggregate estimate can be small. This can result in a large relative standard error.

Non-sampling Errors

Non-sampling errors arise from non-response errors and errors in the collection, recording and processing of data (e.g. inaccuracies in reporting by respondents, errors in the recording and coding of data). Such errors can be controlled by the careful design of questionnaires, close supervision of data collection, and consistency checks during data processing, editing and verification.

In the Annual Industry Survey 2020, the following measures were taken to minimise non-sampling errors:

- (i) careful design of questionnaires;
- (ii) careful planning and implementation of operational procedures in data collection, processing and tabulation;
- (iii) standard procedures to follow up with respondents on the outstanding returns; and
- (iv) standardisation of concepts and definitions.