SURVEY COVERAGE AND METHODOLOGY

Introduction

1 The 2022 Comprehensive Labour Force Survey (CLFS) is the forty-fifth in the series of mid-year labour force surveys conducted in Singapore by the Manpower Research and Statistics Department of the Ministry of Manpower. The objective of the survey is to collect data on the economic activities of the population, including detailed information on employment and unemployment as well as characteristics of persons in and outside the labour force.

2 The survey is conducted under the Statistics Act 1973 (2020 Revised Edition) which empowers the Director of the Manpower Research and Statistics Department to collect information from survey respondents. The Act also guarantees the confidentiality of individual information obtained from the survey.

Coverage

3 The survey covers private households in Singapore. It excludes workers living in construction worksites, dormitories and workers' quarters at the workplace and persons commuting from abroad to work in Singapore. Estimates of the total labour force are derived by combining data on residents obtained from the survey with non-resident employment data compiled from administrative records.

Data Collected

4 The survey questionnaire was designed to collect data on the personal characteristics of the population and detailed information on the economic characteristics of the labour force. The items collected in the questionnaire included:

For Persons Aged 15 Years and Over

Sex
Age
Highest qualification attained
Labour force status

For Residents Aged 15 Years and Over

Marital status
Field of study

For Employed Residents Aged 15 Years and Over

Occupation
Industry
Gross monthly income from work
Employment status
Whether working full-time or part-time
Willingness and availability of part-timers to work additional hours
Whether employed on permanent, fixed-term contract or casual/on-call basis
Usual hours worked
Job change
Years in current job

For Unemployed Residents Aged 15 Years and Over

Duration of unemployment
Action taken to look for work
Working experience
Previous occupation
Previous industry
Main reason for leaving previous job

For Residents Outside the Labour Force Aged 15 Years and Over

Main reason for not working and not looking for a job
Working experience
Whether persons intend to look for work in future
Preference for full-time or part-time work

Concepts and Definitions

5 The concepts and definitions used in the survey conform to international guidelines recommended by the International Labour Organisation. The terms and definitions used are as follows:

Reference Period	This refers to the week preceding the date of the survey interview.
Household	A household refers to one person living alone or a group of two or more persons (including domestic helpers/stay-in caregivers) living in the same house and sharing common food or other essential arrangements for living.
Residents	Residents refer to Singapore citizens and Permanent Residents.

Labour Force Status	**Labour Force** ▸ This refers to persons aged 15 years and over who are either employed (i.e. working) or unemployed (i.e. actively looking for a job and available for work) during the reference period. **Outside the Labour Force** ▸ This refers to persons aged 15 years and over who are neither employed nor unemployed during the reference period.
Employed Persons	This refers to persons aged 15 years and over who, during the reference period: (i) work for one hour or more either for pay or profit; or (ii) have a job or business to return to but are temporarily absent because of illness, injury, breakdown of machinery at workplace, labour management dispute or other reasons. Members of the Singapore Armed Forces including full-time National Servicemen are included in the persons employed, unless otherwise specified.
Unemployed Persons	This refers to persons aged 15 years and over who are not working but are actively looking for a job and available for work during the reference period. They include persons who are not working but are taking steps to start their own business or taking up a new job after the reference period.
Labour Force Participation Rate	This is defined as the percentage of the labour force to the population.
Employment Rate	This is defined as the percentage of employed persons to the population.
Unemployment Rate	This is defined as the percentage of unemployed persons to the labour force.
Duration of Unemployment	This refers to the number of complete weeks between the date when action was first taken to look for a job and the date of the survey interview.
Long-Term Unemployed Persons	This refers to persons aged 15 years and over who have been unemployed for 25 weeks or more.
Long-Term Unemployment Rate	This is defined as the percentage of long-term unemployed persons to the labour force.
Highest Qualification Attained	This refers to the highest grade or standard of education a person has passed or the highest level of education where a certificate, diploma or degree is awarded by an educational or training institution. The classification of highest qualification attained is based on the Singapore Standard Educational Classification (SSEC) 2020.

A person is classified into one of the following categories according to the highest qualification attained:

No Formal Qualification / Pre-Primary / Lower Primary

- This refers to those who have never attended school, have pre-primary education, or have primary education but without Primary School Leaving Examination (PSLE) certificate or their equivalent, or have Certificate in Basic Education for Skills Training (BEST) 1-3.

Primary

- This refers to those who have PSLE or other certificate of equivalent standard, or have Certificate in BEST 4 or at least 3 Statements of Attainment and/or certification[1] for different Workplace Literacy or Numeracy (WPLN) skills at Level 1 or 2.

Lower Secondary

- This refers to those who have secondary education without any subject pass at General Certificate of Education (GCE) Normal ('N')/ Ordinary ('O') Level or equivalent, or have Certificate in Worker Improvement through Secondary Education (WISE) 1-3, or basic vocational certificates (including Institute of Technical Education (ITE) Basic Vocational Training), or at least 3 Statements of Attainment and/or certification[1] for different WPLN skills at Level 3 or 4.

Secondary

- This refers to those who have at least 1 subject pass at GCE 'N'/'O' Level, or have National ITE Certificate (Intermediate) or equivalent (including National Technical Certificate (NTC) Grade 3, Certificate of Vocational Training, Building and Construction Authority (BCA) Builder Certificate), or have ITE Skills Certificate (ISC) or equivalent (including Certificate of Competency, Certificate in Service Skills) or at least 3 Statements of Attainment and/or certification[1] for different WPLN skills at Level 5 and above.

Post-Secondary (Non-Tertiary)

- This refers to those who have at least 1 subject pass at GCE Advanced ('A')/Higher 2 ('H2') Level or other certificates/qualifications of equivalent standard. It also includes those who have National ITE Certificate (Nitec) (including Post Nitec Certificate, Specialist Nitec, Certificate in Office Skills, NTC Grade 2, National Certificate in Nursing, BCA Advanced Builder Certificate), or have Higher Nitec (including Certificate in Business Skills, Industrial Technician Certificate and other polytechnic certificates), or Master Nitec or equivalent (including NTC Grade 1). This group also includes WSQ Certificate/Higher Certificate/Advanced Certificate or equivalent, International Baccalaureate/National University of Singapore (NUS) High school diploma or other post-secondary certificates/

[1] This refers to both Workforce Skills Qualifications (WSQ) Statement of Attainment and/or certification issued by SkillsFuture Singapore's appointed WPLN assessment partner.

	qualifications (including Singapore Institute of Management (SIM) certificates). **Polytechnic Diploma** ▸ This refers to those who have Polytechnic diploma, or Polytechnic post-diploma (including Polytechnic advanced/specialist/ management/graduate diploma, diploma (conversion)). **Professional Qualification and Other Diploma** ▸ This refers to those who have qualifications awarded by professional bodies (including Association of Chartered Certified Accountants (ACCA), Chartered Financial Analyst (CFA)), and other diploma qualifications (including ITE diploma, National Institute of Education (NIE) diploma, SIM diploma, LASALLE diploma, Nanyang Academy of Fine Arts (NAFA) diploma, WSQ diploma, WSQ specialist diploma etc.). **Degree** ▸ This refers to those who have Bachelor's Degree, Postgraduate Diploma/certificate (including NIE postgraduate diploma, WSQ graduate certificate, WSQ graduate diploma), Master's, or Doctoral degree.
Field of Study	This refers to the principal discipline, branch or subject matter of study that leads to the award of the highest qualification attained at degree, diploma & professional qualification levels. The SSEC 2020 is used to classify the field of study, unless otherwise specified.
Occupation	This refers to the type of work performed by workers during the reference period, which may not necessarily be related to their training, skill or professional qualification. In the case of workers who perform two or more kinds of work, their occupation would refer to the one in which they usually work the longest hours during the reference period. The classification of occupations is based on the Singapore Standard Occupational Classification (SSOC) 2020, unless otherwise specified.
Industry	This refers to the major kind of economic activity or the nature of business of the firm, organisation or establishment in which the person is employed during the reference period. For self-employed persons, industry refers to the kind of economic activity or nature of business they are operating. The classification of industries is based on the Singapore Standard Industrial Classification (SSIC) 2020, unless otherwise specified.

Nature of Employment	Employed persons can be categorised into those working on full-time or part-time basis. **Full-Time** ▸ This refers to employment where the normal hours of work is at least 35 hours a week. **Part-Time** ▸ This refers to employment where the normal hours of work is less than 35 hours a week. Before 2009, full-time refers to employment where the normal hours of work is at least 30 hours a week while part-time refers to employment where the normal hours of work is less than 30 hours a week. From 2009 onwards, the threshold between full-time and part-time was revised from 30 hours to 35 hours to align with the revised definition in the Employment Act.
Time-Related Under-Employed Persons	This refers to persons aged 15 years and over who normally work less than 35 hours a week but are willing and available to engage in additional work.
Time-Related Under-Employment Rate	This is defined as the percentage of time-related under-employed persons to employed persons.
Employment Status	This refers to the position or status of employed persons in relation to other persons within the organisation they work in. Employed persons are divided into the following four categories: **Employers** ▸ These are persons who employ at least one paid employee in their business or trade. **Employees** ▸ These are persons who work for employers in return for regular wages or salaries. **Own Account Workers** ▸ These are persons who operate their own business without employing any paid employees in the conduct of their business or trade. **Contributing Family Workers** ▸ These are persons who assist in the operation of family business without receiving regular wages or salaries.

Type of Employment	Employees can be categorised into those employed on casual/on-call, fixed-term contract or permanent basis. **Casual/On-Call** ▸ Casual/on-call employees refer to those employed on ad hoc basis, as and when the company requires additional manpower. **Fixed-Term Contract** ▸ Employees on fixed-term contract refer to those whose employment will terminate on the expiry of a specific term unless it is renewed. **Permanent** ▸ Permanent employees refer to those employed for an unspecified duration, i.e. they are neither casual/on-call employees nor on fixed-term contract.
Job Change	For employees, this refers to a change in employer. For the self-employed, it involves either a change in business or change from being an employee previously.
Years in Current Job	This refers to the number of years of uninterrupted work the person has with a particular employer, either in the same job or in different positions within the same organisation. Jobs are therefore employer-based, not position-based. If the person has left a job and subsequently returned to work with the same employer, the years in current job should be that of his most recent period of work i.e. the duration will not include his previous years in the job.
Usual Hours Worked	This refers to the number of hours that employed persons usually work in a typical week, regardless of whether they are paid for it. The concept of usual hours of work differs from that of normal hours of work referred to in contractual arrangements. For workers who have just started work during the reference period, usual hours of work refers to the number of hours per week they are expected to work in that job. For multiple jobholders, it should be aggregated from the hours spent in all the jobs.
Gross Monthly Income from Work	This refers to income earned from employment. For employees, it refers to the gross monthly wages or salaries before deduction of employee CPF contributions and personal income tax. It comprises basic wages, overtime pay, commissions, tips, other allowances and one-twelfth of annual bonuses. For self-employed persons, gross monthly income refers to the average monthly profits from their business, trade or profession (i.e. total receipts less business expenses incurred) before deduction of income tax.
Unavailable Job Seekers	This refers to persons outside the labour force who are actively looking for a job but are not available for work during the reference period.
Available Potential Job Seekers	This refers to persons outside the labour force who are not actively looking for a job, but wanted employment and available for work during the reference period.

Discouraged Workers	This refers to persons outside the labour force who are not actively looking for a job because they believe their job search would not yield results. Reasons cited for being discouraged include believes that there is no suitable work available, employers' discrimination and lack of necessary qualifications, training, skills or experience.
Potential Entrants	This refers to persons outside the labour force who intended to look for a job within the next two years.

Sampling Design

6 The sample for the 2022 survey was selected based on a stratified design with proportional allocation. The sample selection was undertaken by Singapore Department of Statistics, Ministry of Trade and Industry, which maintains a sampling frame of residential dwellings in Singapore. The selection is done in accordance with the specified sampling criteria.

7 Dwelling units in the sampling frame were divided into different groups (or strata). The groups are defined based on the planning areas demarcated by the Urban Redevelopment Authority and broad dwelling type groups. A random sample was then selected proportionally from the different groups by systematic sampling with a random start. The samples selected from each group were combined to form the required sample of 33,000 dwelling units.

8 This sample design yields an overall equal probability and self-weighting sample.

Planning, Organisation, Fieldwork and Data Verification

9 The Manpower Research and Statistics Department undertook the planning and operation of the survey. These included the preparation of the questionnaire and related documents, survey design, recruitment and training of staff, supervision and control of field work, editing and checking on the completed cases, data verification and compilation.

10 The field operation for the 2022 survey was carried out from 25 April 2022 to 31 July 2022. Around 150 temporary interviewers and 20 permanent staff were involved in the survey operations. Comprehensive training sessions including tests and assessments were conducted for the interviewers.

11 The majority of the households completed the survey through telephone or internet. Households that did not respond through these options were enumerated through face-to-face interviews. All the information captured were keyed into the secured online survey system. The use of automatic routing in the system ensured that all relevant questions were answered. The system also has an auto-error checking function to prompt interviewers of missing, invalid or inconsistent entries so that clarifications could be conducted. The information collected was subjected to further editing checks by supervisors and verification officers.

12 The work of the interviewers was closely monitored to ensure the quality of the data collected. Supervisors conducted checks by calling up selected households to verify the information collected. The data were subjected to consistency and verification checks before tabulation.

Reliability of Data

13 The results of the survey were grossed up to the resident population in June 2022 (compiled by the Singapore Department of Statistics) using multiple estimation factors. Being a sample survey, the results were inevitably subjected to sampling and non-sampling errors.

Sampling Errors

14 In a sample survey, inferences about the target population are drawn from the data collected from the sample. Errors due to extension of the conclusions based on one sample to the entire population are known as sampling errors. The sampling error of an estimate is the extent of variation between the estimated value obtained from a sample and the true value from the population. Factors influencing the sampling error include the sample size, the sample design, method of estimation, the variability of the population and the characteristics studied.

15 A common measure of the sampling error of an estimate is its standard error, which is a measure of the variation among the estimates derived from all possible samples. An alternative measure is the relative standard error of an estimate which indicates the standard error relative to the magnitude of the estimate. As a general rule, the smaller the group whose size is estimated or from which an estimate is being derived, the less precise that estimate is.

16 A sample estimate and an estimate of its standard error can be used to construct an interval that will, at specified levels of confidence, include the true value. By statistical convention, the confidence level has been set at 95%.

17 For the 2022 survey, the estimated sampling errors of the main resident labour force estimates were as follows:

	Estimate	Standard Error	Relative Standard Error (%)	95% Confidence Interval	
				Lower	Upper
Resident Labour Force	2,438,000	8,400	0.3	2,421,600	2,454,300
Employed Residents	2,350,400	8,400	0.4	2,333,900	2,366,900
Unemployed Residents	87,600	2,500	2.8	82,700	92,400
Residents Outside the Labour Force	1,046,100	7,400	0.7	1,031,600	1,060,700
Resident Labour Force Participation Rate	70.0%	0.21%-pt	0.3	69.6%	70.4%
Resident Employment Rate (Aged 15 & Over)	67.5%	0.21%-pt	0.3	67.1%	67.9%
Resident Employment Rate (Aged 25 to 64)	82.7%	0.21%-pt	0.2	82.3%	83.1%
Resident Unemployment Rate	3.6%	0.10%-pt	2.8	3.4%	3.8%

Note: Data are non-seasonally adjusted. They pertain to those aged 15 & over, unless otherwise stated.

18 As many sample estimates can be computed from the survey, it would be impractical to estimate the sampling errors for all estimates. A generalised table of sampling errors for the Comprehensive Labour Force Survey based on a simple random sample is presented as follows:

Size of Estimate	Proportion of Total Resident Population	Standard Error	Relative Standard Error	95% Confidence Interval	
				Lower	Upper
2,000,000	49.10%	8,500	0.43%	1,983,300	2,016,700
1,000,000	24.55%	7,300	0.73%	985,600	1,014,400
500,000	12.28%	5,600	1.12%	489,000	511,000
200,000	4.91%	3,700	1.84%	192,800	207,200
100,000	2.46%	2,600	2.64%	94,800	105,200
50,000	1.23%	1,900	3.75%	46,300	53,700
20,000	0.49%	1,200	5.95%	17,700	22,300
10,000	0.25%	800	8.43%	8,300	11,700
5,000	0.12%	600	11.93%	3,800	6,200
2,000	0.05%	400	18.87%	1,300	2,700
1,000	0.02%	300	26.69%	500	1,500
500	0.01%	200	37.75%	100	900
200	–	100	59.69%	–	400

19 Data users are advised to take cognisance of the sampling error of the estimate and exercise judgement on whether the estimate is reliable for their intended purpose. Specifically, caution is to be exercised in interpreting results of detailed cross-tabulations for small sub-groups as these could have large sampling errors.

Non-Sampling Errors

20 Non-sampling errors could result from the varying interpretation of questions by respondents and interviewers, inability or unwillingness of respondents to provide correct information, mistakes in recording, coding and processing. These errors have been minimised by careful design of the questionnaire, intensive training and supervision of interviewers, as well as strict data processing controls.

Response

21 Of the 33,000 housing units selected in the initial sample, 2,197 were excluded from the survey as they were unoccupied, non-residential or demolished. A total of 26,183 households responded to the survey, achieving an overall response rate of 85.0%.

Labour Force Supplementary Survey on Own Account Workers, 2022

22 The Labour Force Supplementary Survey on Own Account Workers, 2022 was conducted by the Manpower Research and Statistics Department under the Statistics Act 1973 (2020 Revised Edition). It was conducted from 23 August 2022 to 27 November 2022.

23 The supplementary survey was conducted since 2016 to obtain in-depth information on persons who operated as own account workers in their primary or secondary jobs as a regular form of employment over *a year*. The reference period for the supplementary survey is extended to cover own account work over the course of the year, rather than the main job of employed persons over the past week from the annual Comprehensive Labour Force Survey. The longer reference period enables us to capture more accurately the prevalence of own account work, given the ad hoc and transient nature of such work arrangements.

24 The survey also sought to understand the profile of own account workers, experiences and reasons for engaging in own account work and the concerns faced.

25 The supplementary survey covered residents aged 15 years and over who were involved in own account work during the reference year. 3,241 residents were surveyed, of whom 2,603 or 80.3% responded. The results of the supplementary survey were grossed up to the resident population using multiple estimation factors.

26 Concepts and Definitions

Primary Own Account Workers	These are persons who are own account workers in their main job. This includes (i) those who are own account workers in their single job (full-time or part-time) or (ii) those who work longer hours in own account work alongside other jobs.
Secondary Own Account Workers	These are multiple job holders who spend fewer hours in own account work relative to other types of employment. They also include students, homemakers and retirees who do such work on the side.
Preferred and Non-Preferred Choice of Work	Own account workers are asked about the reasons they engage in this form of work. Those for whom own account work is *not their preferred choice of work* refer to persons who engage in own account work because they are unable to find work as an employee. Among multiple job holders, it includes those unable to find full-time work. Those for whom own account work is a *preferred choice of work* are those who do not fall into the above estimate of persons for whom own account work is a non-preferred choice of work.

Labour Force Supplementary Survey on Adult Training, 2022

27 The Labour Force Supplementary Survey on Adult Training, 2022 was conducted by the Manpower Research and Statistics Department under the Statistics Act 1973 (2020 Revised Edition). It was conducted from 21 October 2022 to 15 December 2022 following the closure of the Comprehensive Labour Force Survey. The survey aimed to capture information on participation in job-related structured training by the resident labour force during the 12-month period ending June 2022 (i.e. 1 July 2021 to 30 June 2022). It also sought to ascertain the training outcomes. 3,379 residents in the labour force aged 15 to 64 years (excluding full-time National Servicemen) were surveyed, of whom 2,711 or 80.2% responded.

28 Concepts and Definitions

Training Participation Rate	The training participation rate (also known as training incidence) is defined as the proportion of residents aged 15 to 64 in the labour force who had engaged in some form of job-related structured training or education activities over the 12-month period ending June. Job-related structured training or education refers to training that is related to a current or future job. It includes classroom training, private lessons, correspondence courses, workshops, seminars, structured on-the-job training (OJT) (e.g. Attach-and-Train Career Conversion Programme), apprenticeship (e.g. SGUnited Traineeships and Mid-Career Pathways Programme), e-learning and mandatory courses. However, it excludes informal on-the-job training such as watching a video on management skills, observing others perform a task at work, time spent at work learning new tasks and keeping up to date with job-related developments by reading journals/newspapers and informal discussions.