

# **Labour Statistics**

## **Concepts, Sources and Methods**

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AUSTRALIAN BUREAU OF STATISTICS

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## CHAPTER 1: OVERVIEW OF LABOUR STATISTICS

### PURPOSE

This publication provides a comprehensive account of the concepts and definitions underpinning Australian labour statistics, and the data sources and methods used to compile them. It explains:

- What the statistics measure;
- How they can be used;
- How they relate to other economic series;
- How they are produced;
- Where they are published; and
- Why they are subject to varying degrees of accuracy and reliability.

It is designed to assist users in their understanding of Australian labour statistics, and thereby allow better analyses and interpretations of the resulting data.

### WHAT ARE LABOUR STATISTICS?

Labour statistics are some of Australia's key economic statistics. Labour is the aggregate of all human physical and mental effort used in the creation of goods and services. Labour statistics are, put simply, about people, their participation in the labour force, their success in finding employment, their earnings and other benefits, their type of work, their working hours and conditions.

Labour statistics provide insight into the economy and the effects of labour market policy settings, through measures related to the demand for labour (employment, job vacancies); to its supply (unemployment, underemployment, labour force participation); and to its price (labour costs).

Education and training statistics could also be included as a part of labour market statistics. Education and training are aspects of people's preparation for the labour market, and their maintenance of skills once in the labour market. However, the wide variety of issues in this field usually causes it to be treated as a separate area of statistics; accordingly, education and training statistics have largely been excluded from this publication.

### SCOPE OF AUSTRALIAN LABOUR STATISTICS

Australian labour statistics provide information on four key components of labour: people, jobs, volume of labour and labour payments (income and costs). Below is a brief and non-exhaustive summary of the information collected by Australian labour statistics on each of these topics:

- People: the total numbers of persons working, looking for work and not working; their demographic and personal characteristics; the efforts they have undergone to find work; their experience in employment, and the amount of work they do.
- Jobs: the number of filled and vacant jobs in the economy; the duration of the jobs; the number of jobs held by employed persons.
- Volume: the number of hours worked by persons in jobs; the number of hours paid for by employers; hours sought by the unemployed and additional hours preferred by the underemployed.

- Payments: average weekly earnings; earnings distribution; compensation of employees and labour price indexes.

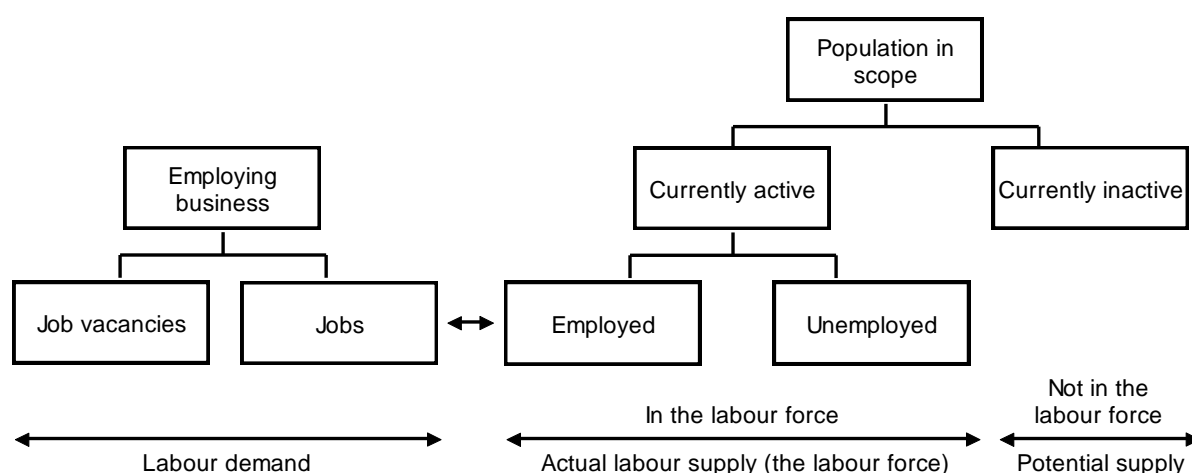
The concepts of supply and demand are integral to each of these four topics. Labour statistics provide information on the total demand for and supply of labour; filled and vacant jobs; underemployment; the price of labour; and many other topics.

Boundaries are necessary to define the scope and treatment of activities that occur within the economy and within the labour force. In Australia, the concept of economic activity underlies measures of the economically active population, which in turn is used to define the labour force as well as employing enterprises. For more information on economic activity, enterprises, and the economically active population, see Chapter 2: Institutional Units and the Economically Active Population. Labour statistics predominately provide information about the labour force and employing enterprises, however they also inform about groups outside of the labour force, such as those not in the labour force.

The labour force framework classifies the in-scope population into three mutually exclusive categories, at a given point in time: employed, unemployed and not in the labour force. The employed and unemployed categories together make up the labour force, which gives a measure of the number of persons contributing to, or actively looking and immediately available for, the supply of labour at that time. The third category (not in the labour force) represents the currently economically inactive population. Figure 1.1 shows these concepts. For more information on the labour force framework, see Chapter 3: Labour Force Framework.

The labour demand framework classifies demand for labour by employing business into job vacancies and filled jobs.

**Figure 1.1: The Scope of Labour Statistics**



## AUSTRALIAN LABOUR STATISTICAL OUTPUTS

The expansion of the labour statistics program since the 1960s has resulted in the Australian Bureau of Statistics (ABS) producing a wide range of labour statistics. Australian labour statistics comprise a large number of measures relating to the Australian labour market. Figure 1.2 illustrates the range of ABS labour statistics, their sources, and broadly how they relate to the labour market.

### Household Surveys

Household surveys and population censuses constitute the primary sources of ABS labour statistics on persons and households. In addition to information about current and previous labour force participation, information collected also includes demographic data, such as age, sex, family characteristics and country of birth. Labour statistics collected about persons provide insight into the supply of labour to the Australian labour market.

Household surveys falling within the labour statistics program include:

- The monthly Labour Force Survey (LFS) and its labour related supplementary topics:
  - Characteristics of Employment;
  - Participation, Job Search and Mobility;
  - Education and Work;
  - Pregnancy and Employment Transitions; and
  - Multipurpose Household Survey - labour related topics include Retirement and Retirement Intentions, Barriers and Incentives to Labour Force Participation, and Work Related Injuries.
- Special Social Surveys collecting information on aspects of the labour market - the Survey of Employment Arrangements, Retirement and Superannuation.

The ABS household survey program also includes Household Income and Expenditure Surveys, a General Social Survey, an Indigenous Social Survey, and other social surveys that contain a labour force status module. While some components do not fall specifically within the labour statistics program, they yield a variety of labour statistics about the Australian population.

### Business Surveys

Business surveys are the primary source of data on labour costs, earnings, filled jobs, job vacancies and industrial disputes, all of which provide insight into the demand for labour in the Australian labour market. Other sources of labour statistics include administrative data sets, which are the primary source for information on occupational injury.

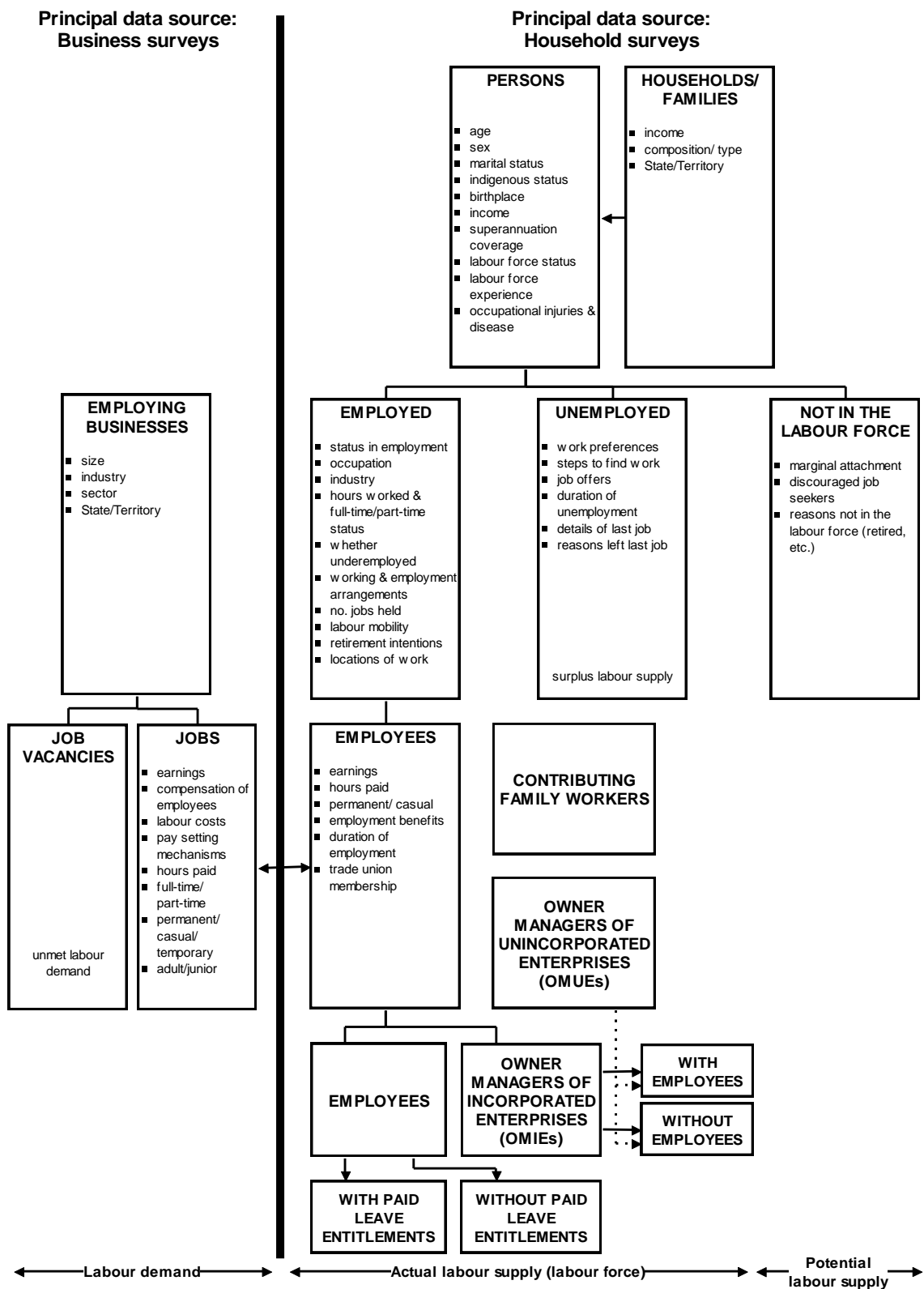
There are a number of ABS collections that produce labour statistics but do not fall within the ABS labour statistics program, as their primary purpose is not to produce labour market data. These collections nevertheless represent important sources of labour statistics and include various household, industry, and activity specific collections.

Business surveys falling within the labour statistics program collect information from employing businesses on a range of topics. The program includes:

- Average Weekly Earnings Survey;
- Employee Earnings and Hours Survey;

- Survey of Job Vacancies;
- Survey of Major Labour Costs;
- Industrial Disputes Collection;
- Wage Price Index;
- Survey of Employment and Earnings (public sector only from 2002);
- Economic Activity Survey; and
- Quarterly Business Indicators Survey.

Figure 1.2: Surveys and Sources of ABS Labour Statistics



Note: other ABS labour statistics include industrial disputes (events), and labour productivity (ratio of labour inputs to outputs).



## USES AND USERS OF LABOUR STATISTICS

Labour statistics are used to study the economic behaviours of employers and employees in response to changing prices, profits, wages and working conditions. They also provide information about the structure of the labour force and its relationship with the wider economy.

Labour statistics have two broad objectives:

- The measurement of the extent of available and unused labour capacity, in time and human resources, for the purpose of macro-economic monitoring and human resources development planning; and
- The measurement of the relationships between employment, income and other social and economic characteristics, for the purpose of formulating and monitoring employment policies and programs, income-generating and maintenance schemes, vocational training and other similar programs.

The first broad objective in collecting data on the economically active population may be labelled as the economic perspective, and the second as the social perspective.

Under each perspective, there are several more specific measurement objectives (footnote 1).

### *Macro-economic monitoring*

From an economic point of view, a major objective of collecting data on the economically active population is to provide basic information on the size and structure of a country's workforce. Data collected at different points in time provide a basis for monitoring current trends and changes in the labour market and in the employment situation. These data, supplemented by information on other aspects of the economy, including information on activities outside the strict definition of economic activity, provide a basis for the evaluation and analysis of the macro-economic policies of a country. The unemployment rate, in particular, is widely used as an overall indicator of the current performance of a country's economy.

### *Workforce planning and development*

Another objective in collecting data on the economically active population is to provide a basis on which to measure labour supply, labour input and the extent to which available human resources are being utilised in the production process of the economy. Such information is essential for planning and formulating policies on the development of human resources.

Labour supply refers to the population which furnishes the supply of labour for the production of goods and services during a given period; the amount of time that the population works or is available for work during that period; the intensity of work; and the level of training and skill of the population. Labour input is related to labour supply, and refers to the actual utilisation of the available labour. It corresponds to the number of workers at work, their actual time input, productivity and use of skills.

Information on persons outside of the economically active population (e.g. persons not in the labour force) or certain activities outside of economic activity (e.g. home duties or volunteering) supplements these data and allows for a more complete analysis of available human resources. Most of these elements for measuring labour supply and labour input are obtainable from household

surveys, but others, such as productivity, use of skills and intensity of work may be better obtained from other sources of data, or from combinations of data from different sources.

### *Employment policies*

Statistics on the economically active population are essential to the design and evaluation of overall government policies aimed at promoting and creating employment. These may include training programs, schemes to help people start or return to work, community work programs, assistance in setting up an enterprise, wage subsidies, tax exemptions and other positive incentives for employment promotion.

The relevant statistics, when broken down by sex, age group, occupational categories and branches of economic activity, also provide essential material for assessing the social effects of government employment policies. Further to this purpose, information is needed on changes in the level of employment and unemployment among women, young persons, elderly workers, Aboriginal and Torres Strait Islander peoples, and other population groups of particular social concern.

Information on activities outside of economic activity, such as the supply of voluntary labour or the care of children at home, provide further information to support the development of effective employment policies.

### *Income and wealth policies*

Employment is the main source of income for most people, and therefore employment statistics constitute a major element in formulating and evaluating government policies on income generation and maintenance, alleviation of poverty and redistribution of income. They can also be used in assessing the effects of price stabilising, structural adjustment and fiscal consolidation policies on the employment and income situation of the working population and its different subgroups. The joint measurement of employment and income provides the basis for analysing the adequacy of employment of different categories of workers, the income-generating capacity of different types of economic activities and the incidence of different forms of employment related economic hardships.

Data on employment and income, disaggregated by occupation, branch of economic activity and other socio-demographic characteristics, are needed in particular for negotiations among social partners, such as collective bargaining and programs for equal opportunity and treatment in employment. Data on labour provided by the persons not in the economically active population supplements information on income and wealth, particularly as it relates to decisions around labour force participation and domestic expenditure (e.g. the decision to care for children at home rather than to work and to pay for childcare).

### *Other uses*

Statistics on the economically active population may also serve a variety of other analytical purposes. Data may be used to explain the past growth of an economy and to study the demographic and socio-economic factors affecting the size and composition of a workforce, or they can be used to make projections of the economically active population and its components as a basis for socio-economic planning. Employment characteristics can serve as explanatory variables in many fields of research, ranging from testing theories on the segmentation of the labour market to formulating demographic models.

Data may be used to inform the public about the state of employment or to focus attention on particular issues, such as child labour or race or gender based discrimination, or alternatives to economic activity such as volunteering. Employment statistics may give useful indications to business planners on the future course of the economy. Statistics about persons not in the labour force and certain non-economic activity (e.g. childcare) may indicate structural changes in the composition of the labour force.

#### **Labour statistics: A user perspective**

The unemployment rate provides an important gauge of spare capacity in the labour market and the economy more generally. However, other factors also affect unemployment, which complicates its interpretation when informing monetary policy. Statistical methods can be used to estimate the extent to which the unemployment rate reflects spare capacity versus more enduring structural factors.

Reserve Bank of Australia: 'Unemployment and Spare Capacity in the Labour Market', 2014

Wide spectrums of users require information about labour statistics. These range from users with broad, general needs for information about the main aggregates, to those with highly specialised needs relating to particular data items. The main categories of users, and their likely needs, are set out below:

- The Commonwealth Treasury, the Reserve Bank of Australia (RBA), the Productivity Commission and other public sector economists - a reasonably detailed understanding of Australian sources and methods to support their interpretation of the estimates and forecasting of economic aggregates.
- Financial sector economists, economists working for interest groups, national and international investors, public sector economists in other countries and international credit rating agencies - a reasonably detailed understanding of the conceptual framework, the sources and how the estimates are compiled, to support their interpretation of the statistics and provision of advice to their organisations and clients.
- Trade unions, employer associations, industrial tribunals and lobby groups - a reasonably detailed understanding of the conceptual framework, the sources, and how the estimates are compiled, with more detail on particular items to support research.
- Financial journalists - a broad understanding of the conceptual framework, how the estimates are compiled, and the main outputs, to support media commentary on the current performance of the Australian economy. These users may occasionally require a more detailed understanding of particular aspects.
- Academic researchers - a reasonably detailed understanding of the conceptual framework, the sources and how the estimates are compiled, with more detail on particular items to support research and modelling.
- International agencies such as the International Labour Organisation (ILO), the Organisation for Economic Cooperation and Development (OECD), the World Bank and the United Nations Statistics Division - generally these agencies require a reasonably detailed understanding of all aspects of the statistics. Their uses encompass monitoring the extent of country

adherence to international standards and practices, the compilation of country groupings and world economic statistics, assisting in understanding differences in the economic performance of countries, and modelling work to support the preparation of country reports.

- Students at upper high school level or undergraduate level at university - a broad understanding of the conceptual framework, how the estimates are compiled and the main outputs (publication tables, written and graphic analysis, and explanatory notes), to understand the role of education in employment outcomes in the Australian economy.
- Teachers/teaching academics - a broad understanding of the conceptual framework, how the estimates are compiled and the main outputs, to support teaching about Australia's economy.
- Labour statisticians in other countries - a reasonably detailed understanding of Australian sources and methods, with more detail on particular accounts or items to compare with their own practices.

Labour statistics are used extensively in both economic and social analyses. They are used in the analysis, evaluation, and monitoring of: the economy; the labour market; a wide range of government policies (relating in particular to employment, income support, industrial relations); and population groups of particular concern (women, younger persons, older persons, indigenous people, etc.).

## **HISTORY OF INTERNATIONAL STANDARDS**

The ILO was founded in 1919, at the time of the Peace Conference that followed the end of the First World War. The ILO Constitution was written by the Labour Commission, which was set up by the Peace Conference. The Commission was composed of representatives from nine countries, and was chaired by the head of the American Federation of Labour. It resulted in a tripartite organisation, bringing together representatives of governments, employers and workers in its executive bodies. The ILO is unique among world organisations, in that employers' and workers' representatives have equal voice with those of governments in shaping its policies and programs. The ILO Constitution became Part XIII of the Treaty of Versailles.

The International Labour Conference (ILC) meets annually. It provides an international forum for the discussion of world labour and social issues, and sets minimum international labour standards and broad policies of the ILO. Each member country has the right to send four delegates to the Conference: two from the government and one each representing workers and employers, each of whom may speak and vote independently.

The most important instruments for the work of the ILO are the International Labour Conventions and Recommendations. These are adopted by the ILC and set international labour standards. Through ratification by member States, Conventions create binding obligations to implement their provisions. Recommendations provide guidance on policy, legislation and practice. In the field of labour statistics, the Labour Statistics Convention (No. 160) was adopted by the ILC in 1985, replacing an earlier and more restricted convention regarding wages and hours of work (No. 63, 1938).

The 1985 Convention lays down principles, obligations and recommendations for the collection and publication of labour and related statistics in the fields of employment, unemployment, earnings, hours of work, wage structure and distribution, labour costs, consumer prices, household income and expenditure, occupational injuries and disease, and industrial disputes. Australia ratified the 1985 Convention in 1987.

## **HISTORY OF AUSTRALIAN LABOUR STATISTICS**

Some statistics relating to wage levels, hours of work, labour organisations and unemployment were available in the separate self-governing colonies of Australia in the nineteenth century, when separate statistical bureaux were set up in the various states. However, it was only after Federation in 1901, the subsequent enactment of the Census and Statistics Act in 1905, and the establishment of the Commonwealth Bureau of Census and Statistics in 1906 (footnote 2), that the ground was prepared for the compilation of uniform labour statistics for the whole country. In the first national census of 1911, information was collected on occupation, wage rates, unemployment and duration of unemployment. In the same year a Labour and Industrial Branch was set up within the Commonwealth Bureau of Census and Statistics, with the responsibility for publishing a report 'Trade Unionism, Unemployment, Wages, Prices and the Cost of Housing 1891-1912'.

Responsibility shortly thereafter extended into the fields of industrial disputes, trade unions and industrial accidents. This established the pattern of labour statistics that was to be followed more or less unchanged until the early 1960s. The principal sources of information available during this era were:

- Population censuses – undertaken in 1911, 1921, 1933, 1947 and 1954;
- Trade unions – details of wage rates, numbers of unemployed union members and industrial disputes; and
- Administrative sources – details of awards, determinations, industrial agreements and industrial accidents provided in State and Federal statutory reports were all used in the production of labour statistics.

The first regular statistical measure of 'employment' in Australia dates from the introduction of Payroll Tax in 1941. This provided an administrative source of information suitable for deriving civilian employment by industry for each state and Australia, and average weekly earnings for employed wage and salary earners.

The Commonwealth Employment Service (CES) was established in 1947 to assist people seeking employment to obtain jobs best suited to their qualifications, skills, training and experience, and to assist employers seeking additional labour to obtain people best suited to their needs. As a by-product, the CES produced measures of unemployed persons awaiting placement, as well as measures of vacancies notified by employers. The unemployment measure of the CES remained the official measure of unemployment in Australia until the 1970s. Since one of the principal requirements for qualifying for unemployment benefits was registration with the CES, a high degree of coverage resulted.

The integration of the separate State Statistics Bureaux with the Commonwealth Bureau in the late 1950s (though the Tasmanian integration agreement had been reached in 1924) allowed the

resultant statistical organisation to place more emphasis on direct collections (more in line with international practices), and less emphasis on administrative by-product data.

The Commonwealth Bureau of Census and Statistics introduced household surveys in 1960, primarily to provide more detailed and comprehensive measures of the labour force than could be provided from administrative data sources (such as the CES series). Initially the program of household surveys comprised only the LFS, which was conducted in capital cities and on a quarterly basis. In 1964 the LFS was extended to the whole of Australia, and in 1978 it was expanded to a monthly frequency, when the Commonwealth Government decreed that it would provide the official measures for employment and unemployment. A supplementary topic was included with the LFS for the first time in November 1961, and this concept has been gradually extended so that a number of months in each year now include supplementary questions on one or more topics. In 1994 the LFS also became the vehicle for a continuous survey of income and housing costs.

In the 1980s the program of household surveys was further expanded to include a program of Special Social Surveys. These surveys collect in-depth information about a population group or subject area of interest, as well as a range of labour force data for the population in scope. In recent years two Special Social Surveys have focussed on labour topics - the longitudinal Survey of Employment and Unemployment Patterns (1994-1997), and the Survey of Employment Arrangements, Retirement and Superannuation (2007). In 1993, the quarterly Population Survey Monitor was introduced. This survey vehicle was designed to collect small amounts of data about simple topics at a reasonable cost, and to output results in a timely manner. It was discontinued in 2000.

In addition to household surveys, the Commonwealth Bureau of Census and Statistics also introduced labour employer surveys in the 1960s. The program of employer surveys initially comprised an annual survey of employing businesses, which was designed to supplement data being derived from payroll tax records to produce a quarterly average weekly earnings series. Conducted each October, the survey collected detailed dissections of earnings and hours paid for, for various categories of jobs (adult and junior, full-time and part-time, managerial and non-managerial) for both males and females. The quarterly series of average weekly earnings provided limited information about the composition of earnings, and no information on occupational earnings or the distribution of earnings. To supplement the quarterly series, a more extensive survey producing this information was introduced in 1974. Currently conducted biennially, this survey is known as the Survey of Employee Earnings and Hours. A survey of job vacancies was also launched in 1974.

By 1981 it was recognised that the payroll tax series used to produce the average weekly earnings and civilian employee series had deteriorated significantly in terms of coverage, due to increasing payroll tax exemptions. Both series were discontinued and replaced with new series based on two new quarterly surveys of employers - the Survey of Average Weekly Earnings (introduced in 1981 and subsequently modified in 1983), and the Survey of Employment and Earnings (introduced in 1983). The mid 1980s also saw the introduction of an irregular survey of labour costs in 1985-86, which in the early 1990s was supplemented by a series of surveys on training expenditure (1989, 1990, 1993, and 1996). In 1997 the quarterly Wage Cost Index was introduced.

As described in *the Information Paper: Outcomes of the Labour Household Surveys Content Review, 2012* (cat. no. 6107.0), the ABS conducted a review of content included in the labour household

survey program in 2010-11. The review aimed to improve the relevance of data released, maximise the coherence of interrelated topics and minimise the duplication of content. The scope of the review included the LFS, labour supplementary surveys and labour Multipurpose Household Survey topics. A major outcome of the review was the consolidation of a range of content collected across labour supplementary surveys into two annual collections. Content collected in the supplementary Employee Earnings, Benefits and Trade Union Membership and Forms of Employment surveys was combined and is now included in the content of the Characteristics of Employment supplementary survey, conducted annually each August from 2014. Content collected in the supplementary Persons not in the Labour Force, Underemployed Workers, Job Search Experience and Labour Mobility surveys was also combined and is now included in the content of the Participation, Job Search and Mobility supplementary survey, conducted annually each February from 2015.

## **STRUCTURE OF THE PUBLICATION**

The remaining chapters in this publication are organised into two parts. The first part (concepts and sources) explains the concepts that underlie labour statistics, outlines the major classifications used in labour statistics, and overviews the sources for a number of key labour statistics. The second part (methods) focuses on the various labour statistics surveys, describing the data collected in each, methodologies used, and changes to collections over time.

The concepts part of the publication includes the following broad topics: Populations, Work and Hours (Chapters 2-8); Jobs, Remuneration, Conditions, Occupational Injury and Productivity (Chapters 9-14).

Methods part of the publication includes: Other classifications used in labour statistics (Chapter 15); Overview of Survey Methods (Chapter 16); Methods Used in ABS Household Surveys (Chapter 17) and Methods used in ABS Business Surveys (Chapter 23).

Sources provides a brief overview, survey design, history and output for: Labour Force Survey (Chapters 19, 19.1, 20); Labour Force Supplementary Surveys (Chapter 21 and Chapters 21.1-21.5); Multipurpose Household Surveys (Chapter 22 and Chapters 22.1-22.4), ABS Business Surveys (Chapters 24-31) and Future Developments (Chapter 33).

## **PREVIOUS AND RELATED PUBLICATIONS**

This is a comprehensive and detailed publication produced by the ABS on concepts, sources and methods in the field of labour statistics.

Summary information on the collection methodology, survey definitions and conceptual frameworks are contained in the explanatory notes of every ABS statistical publication.

The ABS also periodically releases information papers, occasional papers etc. on various labour statistics and their associated sources, concepts, definitions and collection methodologies.

## **FOOTNOTES**

1. Hussmanns, R., Mehran, F., Verma, V., Surveys of Economically Active Population, Employment, Unemployment and Underemployment: An ILO manual on concepts and methods, International Labour Office, Geneva 1990.
2. In 1974 the Commonwealth Bureau of Census and Statistics was abolished and replaced by the Australian Bureau of Statistics.

## **ATTACHMENT ONE: LABOUR STATISTICS IN A POLICY CONTEXT – FROM THE RESERVE BANK OF AUSTRALIA**

The Reserve Bank of Australia published an article in 2014, which analysed spare capacity in the labour market from a monetary policy perspective. The article examines the causes of unemployment (frictional, structural or cyclical), and how each relates to the level of spare capacity in an economy.

The article also looks at the relationship between unemployment and inflation, and the extent to which each cause of unemployment influences wages and prices.

The article further explores the idea of spare capacity from the point of view of the characteristics of those who are unemployed – that is, the duration of unemployment, and the reasons for or factors contributing to unemployment.

A link to the full article can be found at:

<https://www.rba.gov.au/publications/bulletin/2014/sep/pdf/bu-0914-2.pdf>



## CHAPTER 2: INSTITUTIONAL UNITS AND THE ECONOMICALLY ACTIVE POPULATION

### INTRODUCTION

'Institutional units' and the 'economically active population' form the basis of many labour statistics. A clear understanding of the 'institution' and of 'economic activity' is fundamental to the correct definition of these groups.

This chapter discusses the institutional units from which data are collected by the ABS in its business and household surveys. It also explains the concepts underlying measures of the economically active population produced by the ABS. These include the scope of economic activity and the United Nations System of National Accounts (SNA) production boundary, the scope of the economically active population, and the differentiation between current and usual economic activity.

The definition and measurement of institutions, which create jobs and therefore generate demand for labour services of the economically active population, and economic activity, by which the economically active population produce goods and services, are both governed by international standards and guidelines. The fundamental definitions of both are laid out in the 2008 SNA.

Standards and guidelines for measuring the economically active population are set out by the International Labour Organisation (ILO), and were first presented in the 'Resolution concerning statistics of the economically active population, employment, unemployment and underemployment, 1982' (No. 170), which was adopted by the Thirteenth International Conference of Labour Statisticians (ICLS). These standards and guidelines were subsequently incorporated into the ILO's Labour Statistics Convention, 1985 (No. 160).

In its manual *Surveys of Economically Active Population, Employment, Unemployment and Underemployment* (1990), the ILO discusses the concepts and definitions underlying these standards and provides technical guidelines for how to apply them to the collection of data through household surveys. The ILO article 'Measurement of employment, unemployment and underemployment – Current international standards and issues in their application (2007)' provides a summary update of changes in the concepts and definitions.

### INSTITUTIONAL UNITS AND THE ABS ECONOMIC UNITS MODEL

This section provides a brief overview of both the concept of institutional units, as used in the SNA, the Australian System of National Accounts (ASNA) and in ABS surveys, and of the ABS Economic Units Model by which institutions are classified in ABS collections.

For more detail on the definition of institutions, see *Australian System of National Accounts, Concepts, Sources and Methods, Australia, 2015* (cat. no. 5216.0), Chapter 4, which implements the concepts of the 2008 SNA within the Australian context.

### INSTITUTIONAL UNITS

An **institutional unit** is defined as:

"4.2 ...an economic entity that is capable, in its own right, of owning assets, incurring liabilities and engaging in economic activities and in transactions with other entities."

2008 United Nations System of National Accounts

Institutional units can take a variety of forms, each of which operates with different objectives and behaviours. The SNA describes two types of institutional unit, being 'households' and 'legal or social entities.' It also describes the 'enterprise', being a view of an institutional unit as a productive unit.

The enterprise is the primary unit of the ASNA.

### **Households**

Households, which are providers of labour services, are defined as groups of persons who share the same living accommodation, who pool some, or all of their income and wealth, and who consume certain types of goods and services collectively, mainly housing and food (footnote 1). Households are primarily consumer units, although they may also engage in production and accumulation.

### **Legal or Social Entities**

Legal or social entities, which create jobs and therefore generate demand for labour services, are defined as institutional units whose existence is, either legally or by society, recognised independently of the persons or entities that may own or control them (footnote 2).

Legal or social entities include several forms of institutional units, such as 'corporations', 'non-profit institutions', and 'government units'.

### **Corporations**

Corporations produce goods and services for sale on the market, usually as a source of profit for their owners. They may not, however, undertake final consumption.

### **Non-profit institutions**

Non-profit institutions (NPIs) produce or distribute goods and services, but not for the purpose of generating income or profits. They are diverse in nature, with some behaving like corporations, some effectively part of general government, and some undertaking activities similar to general government but independent of it.

### **Government units**

Government units organise and finance the provision of goods and services to individual households and the community at large, mainly financed from taxation revenue. They are also concerned with the distribution and redistribution of income and wealth, in accordance with government policies. They undertake production and final consumption on behalf of the population.

### **Enterprise**

An enterprise is a view of an institutional unit as a producer of goods and services. Most enterprises consist of individual legal or social entities, or in some instances, combinations of unincorporated legal or social entities. A household can constitute an unincorporated enterprise with respect to its production of goods and services.

In the ASNA, the primary unit is the enterprise, which is part of the ABS Economic Units Model. Within the Economic Units Model, enterprises are grouped into institutional sectors and subsectors based upon their economic objectives, functions and behaviour. An enterprise can be a single legal entity, or a group of related legal entities which belong to the same institutional subsector. The Economic Units Model structures the often complex and unique relationships between businesses and parts of businesses into a framework that facilitates the compilation of meaningful statistics.

### **Institutional Sectors**

Corporations, non-profit institutions, government units and households are intrinsically different from each other in their economic objectives, functions and behaviour. The institutional sectors of

the SNA group together similar kinds of institutional units according to the nature of the economic role they perform (footnote 3). SNA defines the following institutional sectors (footnote 4):

- Financial Corporations;
- Non-financial Corporations;
- General government;
- Non-profit institutions serving households;
- Households; and
- Rest of the World.

The *Standard Economic Sector Classifications of Australia* (SESCA) (cat. no. 1218.0) is based upon international standards and contains a variety of classifications, including institutional sectors as laid out in the SNA. Within SESCO, the Standard Institutional Sector Classification of Australia (SISCA) describes these sectors. Within SISCA, sectors can be further divided into a range of subsectors, which more accurately describe the activities of the institutional units within them.

Sectors can also be divided more simply into public and private, where the former includes all government units and units controlled by government, and the latter includes all other units. This breakdown is often used in the classification and dissemination of statistics from ABS business surveys.

The ASNA utilises a combination of SISCA subsectors and public/private distinctions to assign institutions to ASNA institutional subsectors. These ASNA subsectors are the level at which legal entities may be grouped into enterprises in the ABS Economic Units Model.

## **ABS ECONOMIC UNITS MODEL**

For the compilation of statistics, the ABS has developed an Economic Units Model to further describe and categorise enterprises and their components. The Units Model is a tiered structure, containing four levels, namely the enterprise group, the legal entity, the type of activity unit, and the location unit. Most businesses are simple in structure and are considered to have only a single level (at all four levels, the business is identical), while some businesses are complex in structure and may be classified by all four levels of the Units Model.

### **Enterprise Groups**

The Enterprise Group (EG) is an institutional unit which contains one or more legal entities under common control and covers all of their collective activities in Australia. An EG can contain one or many legal entities and be divided into one or multiple Type of Activity Units or location units.

### **Legal Entities**

The Legal Entity (LE) is an institutional unit which covers all activities in Australia of a single entity which possesses some or all of the rights and obligations of individual persons or corporations, or which behaves as such in respect of those matters of concern for economic statistics. In most cases the LE is equivalent to a single Australian Business Number (ABN) registration. LEs approximate the SNA concept of legal or social entities, but the concept is extended to include households engaged in productive economic activity.

### **Type of Activity Units**

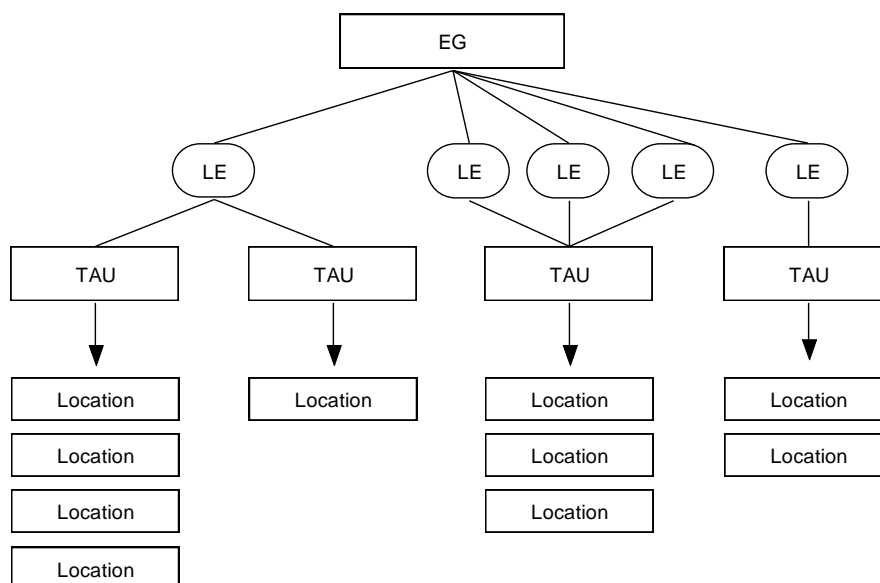
The Type of Activity Unit (TAU) is a producing unit comprised of one or more LEs, sub-entities or branches of a LE that can report productive and employment activities, and are homogeneous in their activity. TAUs operate within a single EG, and within a single industry subdivision in the Australian and New Zealand Standard Industrial Classification (ANZSIC).

## Location Units

The Location Unit is comprised of a single, unbroken physical area from which an organisation is engaged in productive activity on a relatively permanent basis, or at which the organisation is undertaking capital expenditure with the intention of commencing productive activity on a relatively permanent basis at some time in the future.

Figure 2.1 below illustrates the nature of the relationships between the different units within the model.

**Figure 2.1: ABS Economic Units Model**



Source: ABS, *Australian System of National Accounts: Concepts, Sources and Methods, Australia, 2015* (cat. no. 5216.0, 4.31)

## ECONOMICALLY ACTIVE POPULATION

The **economically active population** comprises all persons who, during a specific period, furnished the supply of labour for the production of economic goods and services.

International Labour Organization, 13th ICLS, 1982

Understanding the economically active population is critical to interpreting statistics on labour supply and demand. The following section discusses the concept of economic activity, and defines the scope of the economically active population.

## SCOPE OF ECONOMIC ACTIVITY AND THE SNA PRODUCTION BOUNDARY

The concept of economic activity underlies measurement of the economically active population. The basis of this concept is found in the SNA concepts of 'production' and 'economic activity'. Production is broadly defined as all activities within the SNA 'general production boundary'.

Within this boundary are all physical processes, under the control and responsibility of institutional units, by which labour and assets are used to transform inputs of goods and services into outputs of other goods and services. Within the SNA, a more restrictive production boundary also exists, known as the 'SNA production boundary', which separates economic activity from other production.

The SNA production boundary is a subset of the SNA general production boundary, allowing a distinction between economic activity and other production activities. Activities falling within the constraints of the SNA production boundary are considered to be economic activity, while those outside of it are not economic activity (regardless of whether they are within the SNA general production boundary or not). Activities within the SNA production boundary include all market and non-market production, and certain types of production for own final use.

### **Market Production**

Market production is considered in scope of the production boundary. Market production is the production of goods and services for sale on the market, at prices which are economically significant. Prices are said to be economically significant when they have a significant influence on the amounts the producers are willing to supply, and on the amounts purchasers wish to buy. Market production also extends to goods and services bartered; those used as payments in kind; those transferred within the same enterprise to be used as intermediate inputs into production over which the original producer has no responsibility; or changes in inventories of finished or in-progress goods, intended for one of the above purposes.

The activities of workers employed in factories, business enterprises, farms, shops, service undertakings, household enterprises and other economic units engaged in the production of goods and services intended for sale on the market are considered to be part of market production (footnote 5).

### **Non-market Production**

Non-market production is considered in scope of the production boundary. Non-market production is the production of goods and individual or collective services produced either by non-profit institutions serving households or government entities that are supplied free or at prices which are not economically significant. Prices are said to be not economically significant when they have little or no influence on how much the producer is prepared to supply, and are expected to have only a marginal influence on the quantities demanded.

Among the most prevalent forms of non-market production are the provision of education and health care to the general public. The activities of employees of government and other social and cultural institutions producing these goods and services are considered to be non-market production (footnote 6).

### **Production for Own Final Use**

Production for own final use can be subdivided into two groups based, roughly, on the divide between goods and services. The production of goods for own final use is included within the SNA production boundary, while the production of domestic and personal services for own final use is mostly excluded.

#### ***Production of Goods for Own Final Use***

The production of goods for own final use is considered in scope of the production boundary. Production of goods for own final use includes the production and processing of primary produce by households for their own final consumption, the construction of dwellings and structures for own use, and the production of fixed assets (footnote 7) for own use.

The production of goods is included as, although the output is intended for own use, the producer theoretically has the option of selling the goods on the market after they have been produced (e.g. if a household constructs a dwelling, the dwelling can then either be lived in or sold on the market). This production closely resembles market production, and could become market production if the choice was made to sell rather than consume the output (footnote 8).

### *Production of Domestic and Personal Services for Own Final Use*

The production of domestic and personal services for own final use is typically not considered in scope of the production boundary, however several exceptions exist.

The production of domestic and personal services is the production of services for consumption within the same household, such as the cleaning and repair of dwellings and household durables, goods and vehicles; the preparing of meals; caring for children or the sick; and the transportation of household members.

The decision to consume these services within the household is made even before the service is provided and, in contrast to the production of goods for own final use, the household cannot theoretically choose to sell the service after it has been produced (e.g. if a member of the household cleans a room or repairs a car, the cleaning or repair service cannot then be sold to another after it has been performed) (footnote 9).

Although the production of household domestic and personal services is productive in an economic sense, they are excluded from the national accounts for practical reasons. From an SNA perspective, household services have little relevance for the analysis of inflation or deflation or other fluctuations within the economy, as they can't be sold and wouldn't have a price. Without substantial changes to the measurement of production, their inclusion could obscure what is happening on markets and reduce the analytic usefulness of national accounts data.

The SNA provides a number of justifications for this exclusion (footnote 10), summarised as follows:

"6.30...the relative isolation and independence of these activities from markets, the extreme difficulty of making economically meaningful estimates of their values, and the adverse effects it would have on the usefulness of the accounts for policy purposes and the analysis of markets and market disequilibria."

2008 United Nations System of National Accounts

Domestic and personal services are also excluded from labour statistics because, without substantial revision to the way labour statistics are compiled, their inclusion would adversely affect the compilation of labour statistics that are relevant and useful in economic analysis. Using the current framework for labour statistics, which is linked to the SNA production boundary, the extension of the boundary to include the production of personal and domestic services by members of households for their own final consumption would result in all persons engaged in such activities becoming both economically active and self-employed. This would result in virtually the whole adult population being defined as 'economically active' and make unemployment virtually impossible by definition (footnote 11).

The production of housing services for own consumption by owner-occupiers is included in the SNA production boundary to account for large differences in rates of home ownership across countries. The production of own-account housing services has always been included in the SNA production

boundary, and its exclusion would limit the comparability of the data both internationally and inter-temporally.

The paid employment of external staff to produce domestic and personal services for final consumption in the household is included in the SNA production boundary. The production of domestic and personal services by employing paid staff is considered market activity (footnote 12).

With the exception of own-account housing services and the paid employment of domestic staff, the production of domestic and personal services for own final use is not within the SNA production boundary, and therefore is not considered to be economic activity.

### Unpaid Work and Volunteer Services

**Volunteers** are people who willingly give unpaid help, in the form of time, service or skills, to an organisation or group. Included in this category are the volunteer component of boards of management, fundraising committee members and auxiliary members.

*Australian National Accounts: Non-Profit Institutions Satellite Account (cat. no. 5256.0)*

Unpaid work and volunteer services are generally in scope of the SNA production boundary, however they are generally not considered in scope of the Australian production boundary in the ASNA and labour household surveys.

A distinction can be made between those who have an agreement to provide labour for token remuneration or only income in kind, those for whom there is explicitly no remuneration, and those where there is apparently no remuneration but the workers benefit directly from the output to which they contribute. In ILO statistics, all three types of worker may be included in the economically active population as employees.

In the SNA, persons working for token amounts or only income in kind are considered to be economically active if the unit employing these staff is responsible for whatever little remuneration is received. For example, if doctors or teachers work for only food and lodging, the value of this as income in kind is the only remuneration imputed to them, and they are considered within the SNA production boundary. Such instances may arise in religious institutions or in the wake of natural disasters.

If staff are purely voluntary, with no remuneration at all, not even in kind, but are working in a recognised institutional unit (business, government agency, not-for-profit organisation) engaged in economic activity, then these individuals are still regarded as being economically active in the SNA. Individuals providing services to groups of other individuals, such as coaching a children's sports team, without any associated infrastructure, are not regarded as being economically active but rather engaging in a leisure pursuit (footnote 13).

Although unpaid volunteers and volunteer services may fall within scope of the SNA production boundary, they are excluded from the ASNA and therefore, with the exception of contributing family workers, from Australian labour statistics. Persons working for token amounts or payment in kind are included in the ASNA and therefore in Australian labour statistics.



### *Contributing family workers*

If family members contribute to the output of an unincorporated enterprise, they are assumed to receive an element of remuneration in kind, and as such are treated as being in the economically active population (footnote 14). As such, Australian labour statistics include estimates for contributing family workers, even though other unpaid work is excluded.

### **Illegal Activities**

The SNA states that illegal production should be included within the production boundary, providing a production process exists and the outputs have market demand.

The SNA classifies illegal production within two categories:

- The production of goods or services whose sale, distribution or possession is forbidden by law; and
- Production activities that are usually legal, but become illegal when carried out by unauthorised producers; for example, unlicensed medical practitioners.

The treatment of illegal activities within the SNA is based upon whether the action is considered to be a 'transaction' or an 'externality'. Transactions are actions (regardless of their legality) in which two units enter by mutual agreement, such as buying and selling goods or services. Externalities, however, are actions carried out by one unit which change the condition or circumstances of other units without their consent, such as theft, violence, pollution, or other unsolicited service or disservice.

Illegal actions that fit the characteristics of transactions are treated in the same way as legal actions within the SNA production boundary. Thus, a variety of illegal work is considered to be economic activity. This includes, but is not limited to:

- the production of illegal goods such as narcotics;
- the sale of stolen goods;
- working without authority (e.g. selling merchandise without a licence, working in the construction industry without a permit, or a foreign citizen working without an appropriate visa); or
- working off-the-book for tax evasion purposes or for fear of losing entitlements, or because the employer wants to avoid their obligations (e.g. superannuation payments, taxation, or other labour legislation requirements).

Illegal actions that fit the characteristics of externalities are not considered to be economic activity. Thus, thefts of goods from persons or households and other illegal activities which do not resemble transactions are not considered economic activity.

Illegal activity may involve both transactions and externalities. In such cases, these actions are considered separately, such that an action which is a transaction may be considered economic activity but one that is an externality is not. For example, theft is an externality and is not economic activity; however, the sale of those stolen goods is a transaction and may be considered economic activity.

Due to the difficulty in identifying and valuing illegal transactions, no explicit estimates for such activities are made in the Australian System of National Accounts and Australian labour statistics for the production of illegal goods, such as narcotics or for stolen goods. However, some illegal transactions are likely to be included if they are reported as part of legal activities or as income for



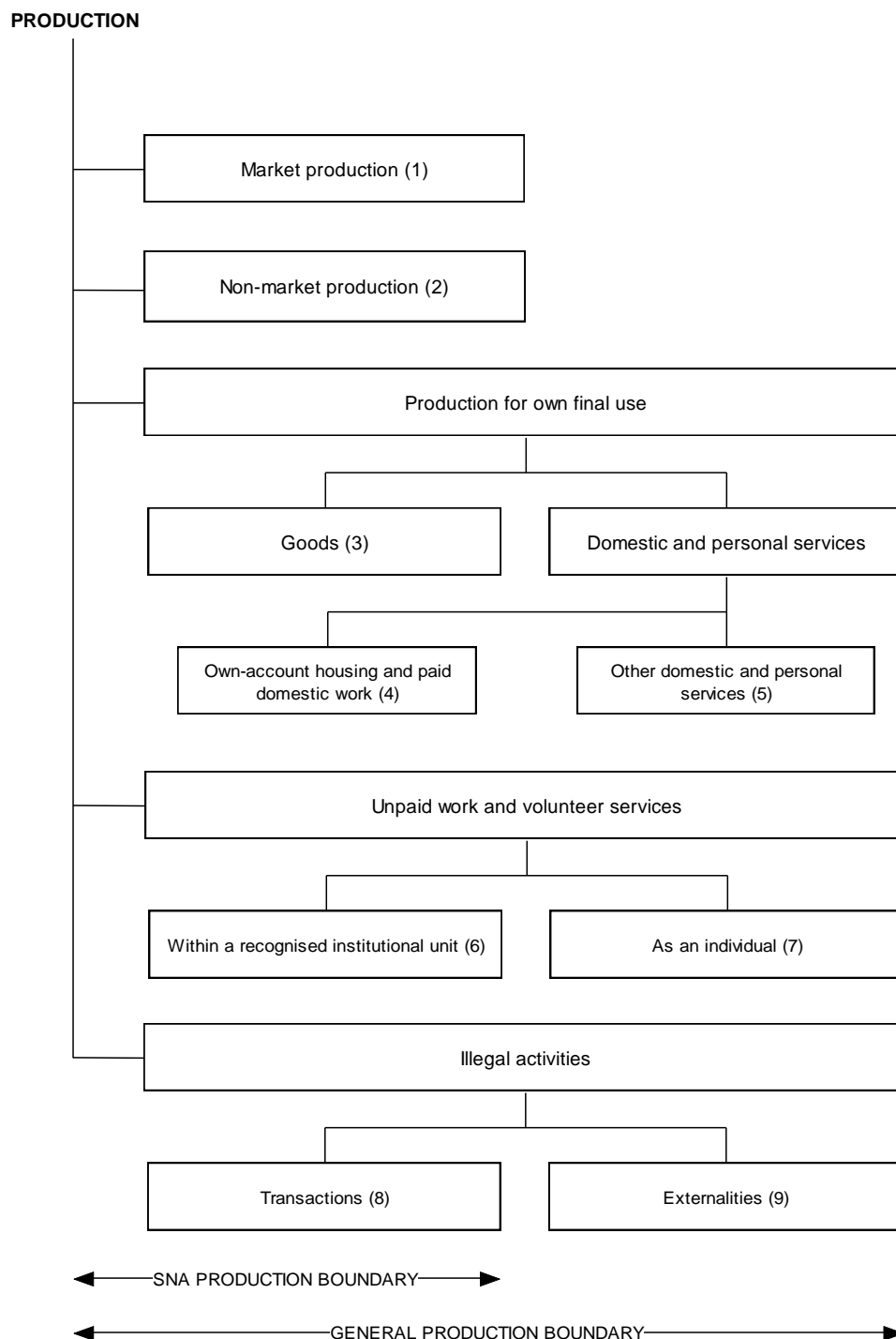
taxation purposes, such as prostitution and illegal workers. As a result, their effects on employment and unemployment statistics are difficult to assess.

For more information refer to *Information Paper: The Non-Observed Economy and Australia's GDP, 2012* (cat. no. 5204.0.55.008).

### Determining the Production Boundaries in the SNA and the ASNA

Figure 2.2 below summarises the preceding information, and shows how the SNA general and production boundaries are constructed.

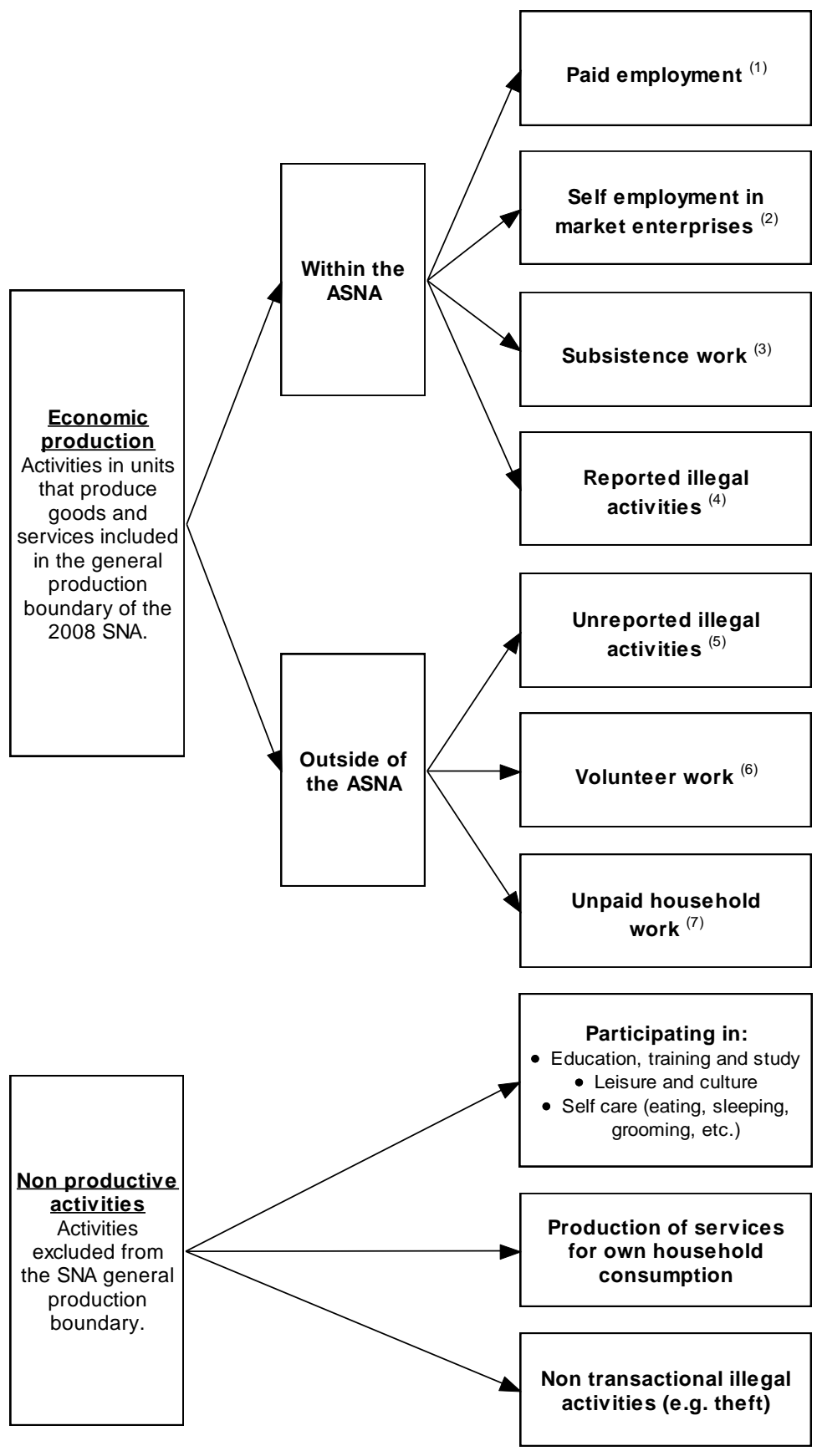
**Figure 2.2: The Production Boundaries in the SNA**



1. Production of goods and services normally intended for sale on the market.
2. Production of other goods and services, such as government activities.
3. Production and processing of primary products, construction of dwellings, and production of fixed assets.
4. Value gained from owning own home, and hiring a person external to the household to provide domestic and personal services to the household in exchange for remuneration.
5. Cleaning and repair of dwellings and household items, preparation of food, care for children or the sick, and transportation of household members.
6. Unpaid work within an institutional unit (e.g. working for an organised charity), work for token amounts or payment in kind received from an institutional unit (e.g. doctors or teachers working for food and lodging), and work of family members contributing to the output of an unincorporated family enterprise (e.g. children working in a family restaurant).
7. Unpaid work not within an institutional unit (e.g. charity work as an individual), work for token amounts of payment in kind not received from an institutional unit (e.g. a volunteer fed or housed by individuals), and the provision of services to groups of individuals (e.g. coaching children's sport) without any associated infrastructure.
8. Sale of stolen goods, production of illegal goods such as narcotics, illegal or unauthorised work (e.g. visitors working without an appropriate visa, working without appropriate permits, and work that is 'off the book').
9. Theft and violence.

Figure 2.3 below shows how the concept of economic activity is operationalised by the production boundary within the ASNA and Australian labour statistics.

**Figure 2.3: The Production Boundaries in the ASNA**



1. Activities of all employees remunerated in cash or in kind, including domestic paid employment.
2. Activities of employers, own account workers, members of producers' cooperatives and contributing family workers in units producing goods or services for the market. All activities in this category occur in household unincorporated market enterprises. Some goods or services produced may be consumed by the household. Includes the production of goods or services that are exchanged for other goods or services (barter). Includes self-employed workers rendering paid/remunerated domestic services to households.
3. Self-employment work in own household or another household with family ties that produces goods mainly for own final use. Considered in employment if such production comprises an important contribution to the total consumption of the household. A household with family ties relates to a household of which at least one member belongs to the family of the worker.
4. Illegal activities, despite a likelihood of being under-reported, are included in the scope of economic production in the ASNA if they are reported by businesses. These activities involve transactions between two parties, for example payments to employees below minimum rates or activities conducted without necessary permits or licenses.
5. Unreported transactional illegal activities are outside the scope of production in the ASNA. These activities include, for example, supply and purchase of illegal goods.
6. Volunteer work is performed without pay to advance a cause or produce a benefit that primarily helps someone other than one's own household or family. Volunteer work may be carried out in units that produce goods or services. Such units may be market enterprises, non-market organisations or households with no family ties that produce for own final use.
7. Unpaid work for another household with family ties that produces services for own final use. The output of these services is consumed by the household to which the services are rendered. Household services may be paid or unpaid. When paid, the worker may be in paid employment or self-employment and is a person engaged in economic activity. When unpaid, the worker may provide the service to his or her own household or to another household with family ties (i.e., as an unpaid household service) or to another household with no family ties (i.e., as volunteer work in the production of services by households).

## **SCOPE OF THE ECONOMICALLY ACTIVE POPULATION**

The economically active population is defined as all persons, within the population, who contribute to economic activity or are available to contribute to economic activity. The economically active population can be defined using the notion of time, such that a usually economically active population and a currently economically active population can be constructed.

The definition of the 'population' is therefore fundamental to the scope of the economically active population and must be clearly defined.

The notion of a 'population', from which the economically active population can be surveyed, is contingent on a variety of criteria. The two key criteria are those defining the economic territory, within which the population exists; and those defining residence, which enable the inclusion or exclusion of individuals, households, and institutions from that economic territory.

There are also other criteria applied for practical reasons and, as such, the survey population is usually not identical to the total resident population of the economic territory. The ILO manual 'Surveys of the Economically Active Population, Employment, Unemployment and Underemployment, 1990' highlights the need for these additional criteria:

"2.2 Surveys of the economically active population should, in principle, cover the entire population irrespective of activity status, sex, marital status, ethnic group, etc. In practice, however, certain restrictions may be necessary."

International Labour Organisation

Additional criteria which define the economically active population are age limitations, which restrict measures of the economically active population to certain age ranges; and membership of the armed forces, which typically restrict measures of the economically active population to the civilian population.

The following section discusses these four key population criteria, as they apply to Australian labour statistics, as well as the definitions of current and usual economic activity and the relationship between economic activity and the labour force.

### **Economic Territory**

The production of meaningful statistics about the economically active population requires that the economic territory to which the population relates is accurately defined.

The concept of economic territory in the SNA is not identical to the concept of country. The most commonly used definition is a territory under the effective economic control of a single government, and as such usually approximates the geographic borders of a country.

In principal, the economic territory of Australia as defined in the ASNA (footnote 15) includes the geographic territory under the effective control of the Australian government, including:

- any islands belonging to Australia which are subject to the same fiscal and monetary authorities as the mainland;
- the land area, airspace, territorial waters, and continental shelf lying in international waters over which Australia enjoys exclusive rights or over which it has, or claims to have, jurisdiction in respect of the right to fish or to exploit fuels or minerals below the sea bed; and
- territorial enclaves in the rest of the world (that is, geographic territories situated in the rest of the world and used, under international treaties or agreements, by general government agencies of the country). Territorial enclaves include embassies or consulates, military bases, scientific stations, etc. It follows that the economic territory of Australia does not include the territorial enclaves used by foreign governments which are physically located within Australia's geographical boundaries.

Specifically, the economic territory of Australia consists of geographic Australia including Cocos (Keeling) Islands, Christmas Island, Norfolk Island, Jarvis Bay, Australian Antarctic Territory, Heard Island and McDonald Islands, Territory of Ashmore Reef and Cartier Island, and the Coral Sea Islands.

The Joint Petroleum Development Area (JPDA) is considered joint territory between Australia and East Timor.

Within the Australian labour household surveys context, a distinction must be made between: the territories which determine the estimated resident population of Australia; those which are covered by household survey collection procedures; and those used to benchmark or 'weight' household survey estimates (i.e., the population benchmarks).

- The "other territories" of Australia, namely Jervis Bay, Christmas Island, Cocos (Keeling) Island, and Norfolk Island after the 2016 Census, are included in the estimated resident population of Australia, but excluded from household survey collection procedures and population benchmarks.
- The "external territories" of Australia, namely Territory of Ashmore and Cartier Islands, Coral Sea Islands Territory, Australian Antarctic Territory, and Territory of Heard and McDonald Islands, are not included in the estimated resident population, household survey collection procedures or the population benchmarks.

Within the Australian labour business surveys context, no further geographical restrictions are imposed. Samples for business surveys are typically selected from the ABS Business Register, and therefore all businesses within the economic territory of Australia may be included, providing they meet other relevant scope restrictions.

This is further detailed within the relevant entry for each collection.

## Residency

Within the SNA, residency is defined as the economic territory with which an institutional unit or individual has the strongest connection - in other words, its centre of predominant economic interest. Each institutional unit or individual is a resident of one and only one economic territory.

Actual or intended residence for one year or more is used as an operational definition in many countries (including Australia) to facilitate international comparability.

### *Residence of Individuals and Households*

Persons are considered to have the strongest connection with the economic territory in which they physically reside. In the broadest sense, the total population consists of either all usual residents of the country (the usually resident or *de jure* population) or all persons present in the country (the *de facto* population) at a particular time.

Household surveys use the first population category, the usually resident population. All persons who are usually resident in Australia are considered part of the usually resident population, regardless of nationality, citizenship or legal status.

To determine whether a person is usually resident, Australia has adopted a 12 in 16 month rule. This rule specifies that, to be considered a usual resident, a person must have been (or expect to be) residing in Australia for 12 months or more in a 16 month period. This 12 month period does not need to be consecutive.

The application of the 12 in 16 month rule in the labour household survey context cannot be so precise. A screening question asks if the respondent is a short term resident and, if so, they are excluded from the survey. Labour household surveys also include residents who are temporarily overseas for less than six weeks. However, the 12 in 16 month rule is explicitly applied in the estimated resident population, and the population benchmarks used to weight the LFS.

For more information regarding the 12 in 16 month rule, refer to *Information Paper: Improved Methods for Estimating Net Overseas Migration, 2006* (cat. no. 3107.0.55.003).

### *Residence of Students*

The **residence of students** is described as:

"26.83a ...People who go abroad for full-time study generally continue to be resident in the territory in which they were resident prior to studying abroad. This treatment is adopted even though their course of study may exceed a year. However, students become residents of the territory in which they are studying when they develop an intention to continue their presence in the territory of study after the completion of the studies."

2008 United Nations System of National Accounts

Within the Australian labour household survey context, there is no special treatment for students and they are treated using the same 12 in 16 month rule. Within the Australian business survey context, there is no distinction made between students and other persons, such that they are included if they are an employee, irrespective of their length of stay in the country.

### *Residence of Enterprises*

Within the labour business survey context, the de facto population is used, that is, all employees are included irrespective of their length of stay in the country. This is consistent with the SNA production boundary.

As a general principle, an enterprise is resident in an economic territory when it is engaged in a significant amount of production of goods or services from a location in the territory (footnote 16).

An enterprise is resident in an economic territory when there exists, within the economic territory, some location, dwelling, place of production, or other premises on which or from which the unit engages and intends to continue engaging, either indefinitely or over a finite but long period of time, in economic activities and transactions on a significant scale. The location need not be fixed, so long as it remains within the economic territory (footnote 17).

Corporations and non-profit institutions normally may be expected to have a centre of economic interest in the economy in which they are legally constituted and registered. Corporations may be resident in economies different from their shareholders, and subsidiaries may be resident in different economies from their parent corporations.

When a corporation, or unincorporated enterprise, maintains a branch, office, or production site in another territory to engage in a significant amount of production over a long period of time (usually one year or more) but without creating a corporation for the purpose, the branch, office, or site is considered to be a quasi-corporation (i.e., a separate institutional unit) resident in the territory in which it is located.

Within the Australian business survey context, residency is determined by deriving the sample selection of business frames from the Australian Business Register, which is an administrative data source maintained by the Australian Taxation Office (ATO). The registration of a business by the ATO is deemed to be a demonstration that the business has a centre of economic interest within Australia.

## Age Limits

The international standards and guidelines recognise the need to exclude persons below a certain age from measures of the economically population, without specifying a particular age limit. The responsibility for setting such limits lies with individual countries.

Examples of factors influencing the age limit are:

- legislation governing the minimum school leaving age;
- labour laws setting the minimum age for entering paid employment;
- the extent of the contribution to economic activity by young people; and
- the cost and feasibility of accurately measuring this contribution in household surveys.

Australian labour and compulsory schooling legislation have resulted in low numbers of young people being involved in economic activity. While such legislation varies from state to state, the net result is that age 15 is the lowest practical limit at which it is feasible, useful and cost-effective to measure the participation of young persons in economic activity with acceptable accuracy through household surveys. It should also be noted that this limit applies to all workers, including contributing family workers who perform unpaid work in a family business or farm.

As such, Australia has adopted a minimum age limit of 15 years and over in labour household surveys. While many household surveys do not use this age limit, estimates of economic activity are often made only for persons 15 years and over. Consistent with international guidelines, Australia does not apply a maximum age limit.

For more information regarding the significance of employment of those less than 15 years of age, refer to *Child Employment, Australia, Jun 2006* (cat. no. 6211.0).

Labour business surveys collect information irrespective of the age of the employee, consistent with the SNA.

## Members of the Armed Forces

The international standards require that members of the armed forces be classified as employed, and recommend that, for analytical purposes, the economically active population be divided into two parts: the armed forces and the economically active civilian population. The guidelines recognise that there may be difficulties in obtaining measures of the armed forces from labour household surveys due to scope restrictions, and that separate administrative counts may be necessary to supplement survey results to obtain statistics on total employment.

Within the Australian labour household surveys context, permanent members of the Australian Defence Force and members of non-Australian armed forces (and their dependants) are excluded.

The labour household surveys exclude permanent members of the Australian Defence Force because of practical collection difficulties. Where an estimate is required of the total economically active population, for example in international comparisons collated by the ILO, survey estimates are supplemented by administrative counts of the defence forces.

Non-permanent members of the Australian Defence Forces (i.e. Australian Army Reserve, Airforce Reserve or Navy Reserve) are included in the labour household surveys. Their work within the defence force is considered as economic activity in the same way as any other work.

## Current and Usual Economic Activity

The international standards identify two measures of the economically active population:



- The currently active population, measured in relation to a short reference period such as one week or one day; and
- The usually active population, measured in relation to a long reference period such as one year.

The currently active population provides a snapshot of the economically active population at a particular point in time. This current stock measure of the labour supply, collected at sufficiently frequent intervals, can contribute to the formation of national accounts data (particularly relating to compensation of employees), and can also be used to monitor labour market trends in general (and employment and unemployment levels in particular).

The usually active framework was introduced as an international standard in 1982. It provides a framework for the collection of data reflecting the dominant pattern of activities over a lengthy period. The use of a long reference period can provide more representative estimates of the economically active population, particularly where economic activity has significant seasonal variation. Further, as it permits collection of information on not only the main activity of individuals over the year but also their other activities (e.g. spells of employment and unemployment), it is useful for analysis of employment and income.

As Australia publishes frequent measures with short reference periods, in most cases it is the currently active concept which is measured.

### **The Economically Active Population and the Labour Force**

The currently economically active population is conceptually equivalent to the labour force.

Because the concept of the economically active population includes both persons who contribute to economic activity and those who are available to contribute to economic activity, the current economically active population includes both employed persons and unemployed persons.

As most labour statistics reference a short reference period, the labour force is equivalent to the currently, rather than the usually, economically active population.

For more information on the Labour Force, see Chapter 3: The Labour Force Framework.

## FOOTNOTES

1. 2008 SNA, 4.4; ANSA, 1. 4.7
2. 2008 SNA, 4.6; ASNA, 4.10
3. 2008 SNA, 4.16-17
4. The same categories are followed in the ASNA, with the exception of the NPISH sector, which is instead combined with the household sector.
5. 2008 SNA 6.99
6. 2008 SNA 6.128
7. Fixed assets are defined in the SNA as produced assets that are used repeatedly, or continuously, in processes of production for more than one year (2008 SNA, 10.11)
8. 2008 SNA 6.114
9. 2008 SNA 1.42
10. For more detail, see 2008 SNA 1.41-2, 6.29-31
11. 2008 SNA, 1.42, 6.31
12. 2008 SNA 6.34 - 6.35
13. 2008 SNA, 19.37-39
14. 2008 SNA, 19.40
15. ASNA 4.38
16. 2008 SNA 26.4
17. BPM6 4.114

## CHAPTER 3: THE LABOUR FORCE FRAMEWORK

### THE LABOUR FORCE FRAMEWORK OVERVIEW

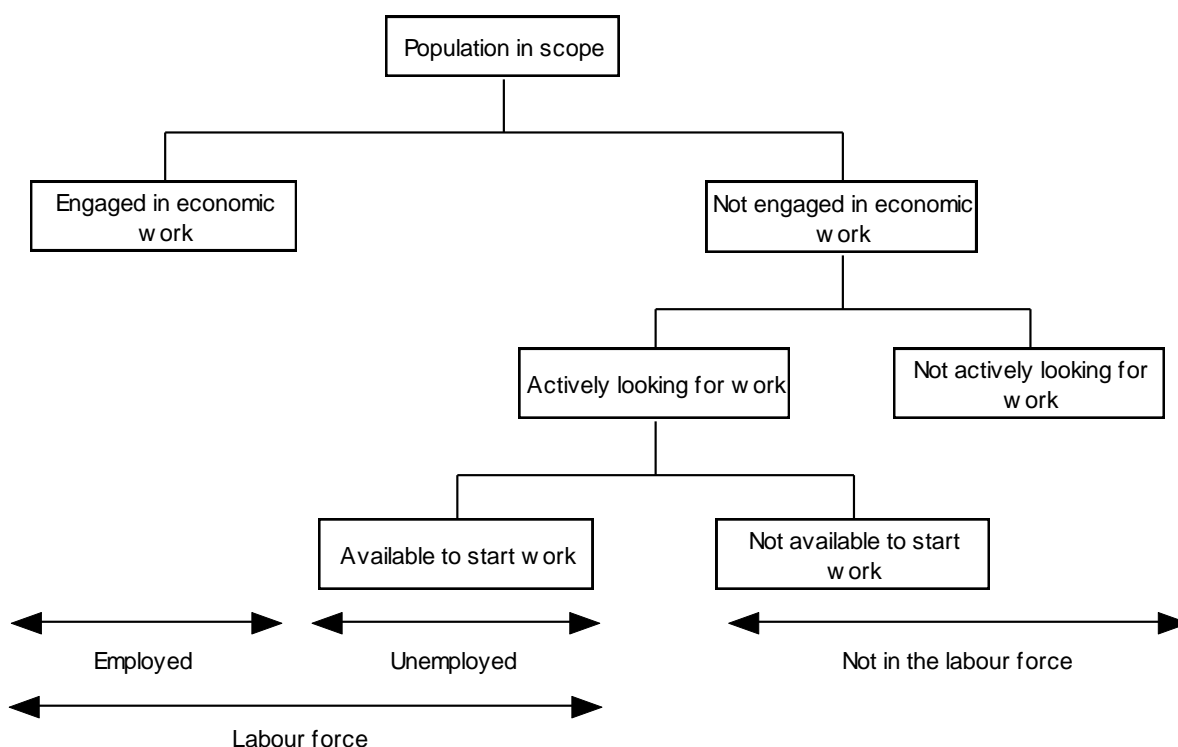
The currently economically active population, as described in Chapter 2, is also referred to as the labour force. The labour force is conceptually equivalent to the labour supply available for the production of economic goods and services in a given short reference period. The labour force is the most widely used measure of the economically active population. The term 'labour force', as defined by the International Labour Organisation (ILO) in the international standards, is associated with a particular approach to the measurement of employment and unemployment. Essentially, this approach is the categorisation of persons according to their activities during a short reference period, using a specific set of priority rules.

The ABS labour force framework classifies a population, at a given point in time, into three mutually exclusive categories:

- Employed;
- Unemployed; and
- Not in the Labour Force (NILF).

Those persons contributing to economic activity are also known as employed persons, while those seeking to contribute to economic activity are also known as unemployed persons. The employed and unemployed categories together make up the labour force, which gives a measure of the number of persons contributing to, or actively looking and immediately available for, the supply of labour at that time. The third category (not in the labour force) represents the currently economically inactive population. Figure 3.1 shows these concepts.

**Figure 3.1: The Labour Force Framework**



The labour force framework includes detailed rules for sorting the population into its categories. These rules are applied in population surveys through three steps. The first involves identifying the in-scope population. The second involves identifying, within the in-scope population, those persons who were engaged in economic activity and who were either at work or temporarily absent from work. The third step involves identifying, among the remaining persons, those persons who were actively seeking and available for work, or who were not seeking work because they were waiting to commence a job that they had already found. The labour force framework classifies persons identified in the second step as employed, and those identified in the third step as unemployed. The residual in-scope population is classified as 'not in the labour force'.

The labour force framework rules have the following features:

- the activity principle, which is used to classify the population into one of the three basic categories in the labour force framework;
- a set of priority rules, which ensure that each person is classified into only one of the three basic categories; and
- a short reference period, to reflect the labour supply situation at a specified point in time.

The rationale for the treatment of persons temporarily absent from work, and of persons waiting to start a job they have already found, stems directly from the labour supply perspective, and is discussed further in Chapter 3: The Labour Force Framework and Chapter 6: Unemployment.

### Activity Principle

The activity principle of the labour force framework requires that a person's labour force status is determined by what they were actually doing in the reference period, in terms of their engagement in, or capacity to engage in, economic activity. Commonly, surveys seek responses to a series of activity-based questions, which reflect both the reference period and the priority rules. The purpose of the activity principle is to provide an objective measure of the labour force.

### Priority Rules

Under the priority rules, precedence is given to employment over unemployment and to unemployment over economic inactivity. To ensure that all economic activity is covered, a practical minimum quantity of work is required (one hour or more in the short reference period); this also ensures that only those completely without work can be classified as unemployed. Of those completely without work, the unemployed must have taken active steps to obtain work and be currently available for work. The employed, the unemployed and the inactive are thus mutually exclusive and exhaustive components of the population.

Together, the priority rules and the activity principle provide unambiguous labour force measures, regardless of other activities that may be undertaken at the same time. For example, a person at work may also be actively seeking other employment; they are currently contributing to economic production and are therefore classed as employed, despite their job search. Similarly, a person working part-time while undertaking full-time study will be classed as employed. Likewise, a full-time student who is not working and is actively seeking and available for work will be classed as unemployed.

### Reference Period

The concepts of employed and unemployed need to relate to short time periods to allow meaningful measures of current levels and changes in employment and unemployment. Two short reference periods are presented in the international standards as suitable for the purpose: one week; and one day. Since employment and unemployment are stock concepts, the statistical measures would ideally be of a precise point in time. However, the closest practical time-span that could represent a

single point in time is one day or one week. The choice between a one week and a one day reference period is not a recent problem, but one that has been the subject of much consideration and debate by labour statisticians for over 50 years.

As a result of the application of the priority rule (under which economic activity, however little, has precedence over other non-economic activities), the labour force measured using a one week reference period must always be equal to or greater than the labour force measured using a single day of that reference week. The difference between the two measures depends on the relative number of persons who change their activity status during a week. The differences are likely to be fairly small, because, in the course of a week, the movement of persons from unemployed to employed, and from employed to unemployed, is more likely than persons changing their status from inside the labour force to outside the labour force.

The solution adopted in the international standards aims to satisfy different conditions which exist among countries. In countries such as Australia, where regular full-time employment is dominant, similar average results will arise from the use of a reference period of a week or a single day; however, the one week reference period is likely to provide results of lower variance and is therefore preferred. Conversely, where persons employed in casual, part-time, or temporary jobs constitute a significant proportion of total employment, the use of a one day reference period will provide a more precise measure of employment and unemployment than using a reference period of a week.

## **APPLICATION OF THE LABOUR FORCE FRAMEWORK TO THE SURVEY POPULATION**

In household surveys, labour force status is derived by asking a series of questions about a person's work-related activities and availability for work in the reference period.

The criteria for determining a person's labour force status are (broadly) as follows:

- whether a person has work (i.e. economic work, including production and processing of primary products for own consumption, own-account construction and other production of fixed assets for own use, but excluding activities such as unpaid domestic work and volunteer community services); and
- whether those who do not have work are:
  - actively looking for work; and
  - available to start work.

The determination of labour force status from these criteria is as follows:

- a person who meets the first criterion is classified as employed, and hence in the labour force (currently economically active);
- a person who meets all of the subsequent criteria (i.e. without work, actively looking for work, and available to start work) is classified as unemployed, and hence in the labour force (currently economically active); and
- a person not classified as employed or unemployed is classified as not in the labour force (not currently economically active).

## Employed

Employed persons are defined as all persons aged 15 years and over who, during the reference week:

- worked for one hour or more for pay, profit, commission or payment in kind, in a job or business or on a farm (comprising employees and owner managers of incorporated or unincorporated enterprises); or
- worked for one hour or more without pay in a family business or on a farm (i.e. contributing family workers); or
- were employees who had a job but were not at work and were:
  - away from work for less than four weeks up to the end of the reference week, or
  - away from work for more than four weeks up to the end of the reference week and received pay for some or all of the four week period to the end of the reference week, or
  - away from work as a standard work or shift arrangement, or
  - on strike or locked out, or
  - on workers' compensation and expected to be returning to their job; or
- were owner managers, who had a job, business or farm, but were not at work.

## Unemployed

Unemployed persons are defined as persons aged 15 years and over who were not employed during the reference week, and:

- had actively looked for full-time or part-time work at any time in the four weeks up to the end of the reference week and were available for work in the reference week; or
- were waiting to start a new job within four weeks from the end of the reference week and could have started in the reference week if the job had been available then.

## Persons Not In the Labour Force (NILF)

Persons not in the labour force are defined as persons aged 15 years and over who were neither employed nor unemployed. They include persons who are:

- retired or voluntarily economically inactive;
- performing home duties or caring for children;
- attending an educational institution;
- experiencing a long-term health condition or disability;
- experiencing a short-term illness or injury;
- looking after an ill or disabled person;
- undertaking travel or a leisure activity;
- working in an unpaid voluntary job;
- in institutions (hospitals, gaols, sanatoriums, etc.);
- permanently unable to work; and
- members of contemplative religious orders.

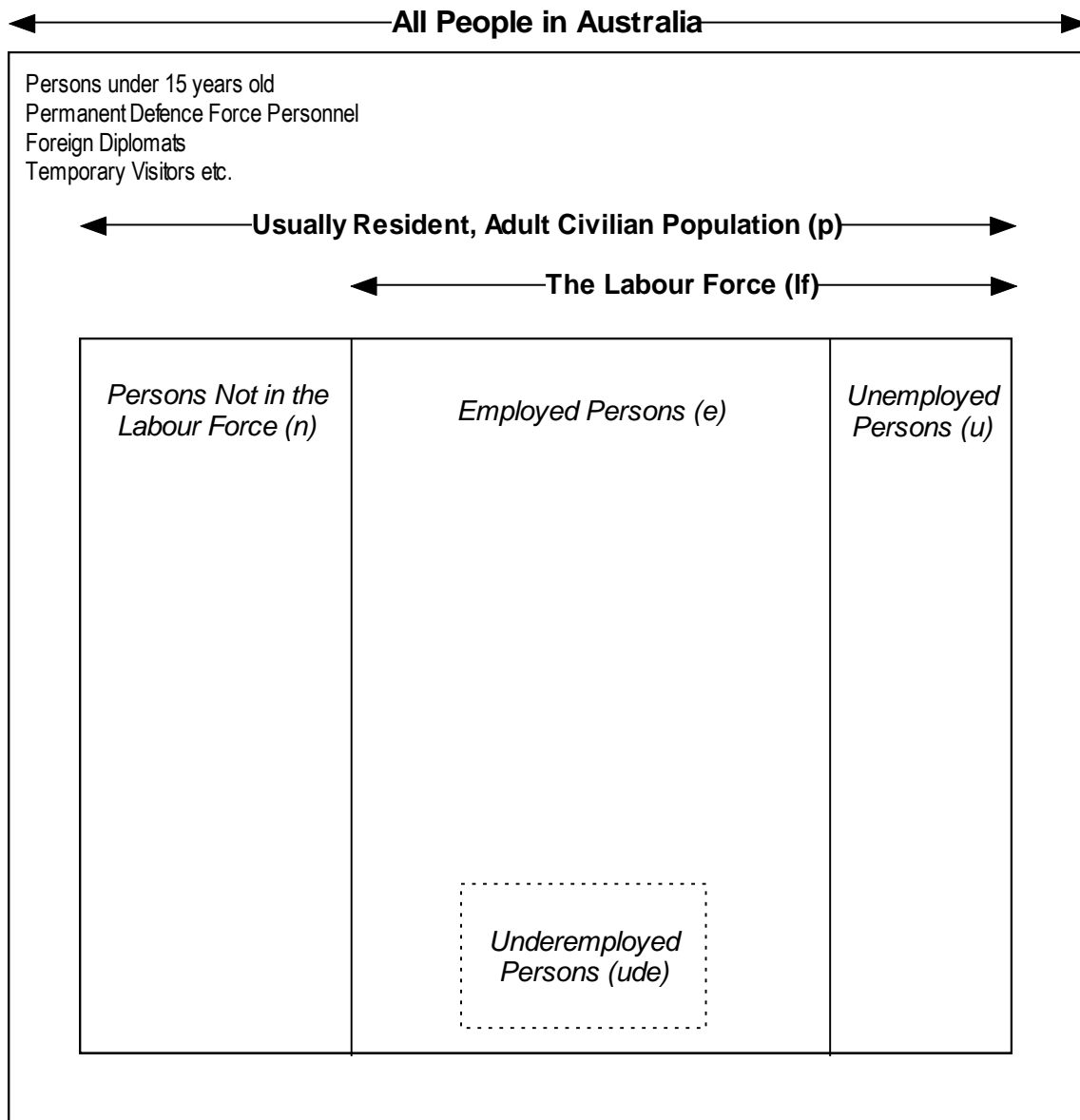
## STATISTICAL MEASURES IN THE LABOUR FORCE

The ABS produces a number of statistics to summarise the state of the labour market in relation to the number of people in Australia who are either:

- employed,
- unemployed, or
- not in the labour force.

The diagram below depicts how the labour force framework is applied to all persons in Australia.

**Figure 3.2: How the Labour Force Framework Applies to All People in Australia**



<p style="text-align: center;"> <math>Labour\ Force = e + u</math>  <math>Unemployment\ Rate = u/e * 100</math>  <math>Participation\ Rate = lf/p * 100</math>  <math>Employment\ to\ Populations\ Ratio = e/p * 100</math> </p>
--

**Basic Labour Force Formulae**

The labour force can be described and examined using a range of simple formulae. These provide both total numbers for various categories, as well as rates and ratios which serve as analytical tools for interpreting the data.

The Labour Force Survey publishes labour force participation rates and other population ratios on a regular basis. For more information on the contents and methodology of this survey, refer to Chapter 19.

### *Labour force categories*

The labour force (*lf*) is made up of all employed and unemployed persons.

$$\textit{labour force (lf)} = \textit{employed persons (e)} + \textit{unemployed persons (u)}$$

The usually resident, adult civilian population (*p*), often simply referred to as ‘the population’ or ‘the civilian population’, is made up of the labour force and all persons not in the labour force.

$$\textit{civilian population (p)} = \textit{lf} + \textit{persons not in the labour force (n)}$$

The underutilised population is made up all persons who are unemployed and all employed persons who want to and are available to work more hours, known as the underemployed.

$$\textit{underutilised persons} = \textit{u} + \textit{underemployed persons (ude)}$$

### *Rates and ratios*

Various rates and ratios are used extensively in analyses of labour statistics, in particular to monitor changes in the size and composition of the supply of labour. These include the unemployment rate, the labour force participation rate, the underemployment rate and ratio, the underutilisation rate, and several population ratios. Although the names of these relative measures often include ‘rate’ or ‘ratio’, they are typically published by the ABS as a percentage.

The unemployment rate shows the percentage of the labour force which is unemployed, relative to those in the labour force.

$$\textit{unemployment rate} = \frac{\textit{u}}{\textit{lf}} \times 100$$

The labour force participation rate shows the proportion of the in-scope population which is in the labour force, relative to those who are not in the labour force.

$$\textit{labour force participation rate} = \frac{\textit{lf}}{\textit{p}} \times 100$$

The underemployment rate and ratio are supplementary measures of underutilised labour capacity. Underemployed persons can be expressed either as a percentage of employed persons (underemployment ratio) or as a percentage of the total labour force (the underemployment rate).

$$\textit{underemployment ratio} = \frac{\textit{ude}}{\textit{e}} \times 100$$

$$\textit{underemployment rate} = \frac{\textit{ude}}{\textit{lf}} \times 100$$



The labour force underutilisation rate combines the unemployment and underemployment rates to show the proportion of the population who are looking for work, either as unemployed or as underemployed, expressed as a percentage of the total labour force.

$$\text{underutilisation rate} = \frac{u + ude}{lf} \times 100$$

Population ratios provide information on the percentage of persons in a population with certain characteristics. The employment to population ratio shows the proportion of the total population who are employed, relative to those who are unemployed or not in the labour force.

$$\text{employment to population ratio} = \frac{e}{p} \times 100$$

Relative frequencies can also be calculated for specific subgroups within the population with specific characteristics, such as a certain age group. These frequencies are typically calculated by applying the characteristics to both the numerator and denominator, such that they represent the frequency of a smaller group with specific characteristics relative to a larger group with those same characteristics. Examples are the employment to working age population ratio, and the youth unemployment rate.

The employment to working age population ratio is derived from the employment to population ratio, but restricted to include only persons below the retirement age, currently 65. It shows the ratio of employed persons aged 15-64 years ( $e^{15-64}$ ), relative to all persons aged 15-64 years ( $p^{15-64}$ ). The rationale is that this measure is less impacted over time by changing demographic structures than the employment to population ratio. It is, however, important to note that, since people do continue to work past the official retirement age or return to work after retirement, this measure does not capture the full scope of employment.

$$\text{employment to working age population ratio} = \frac{e^{15-64}}{p^{15-64}} \times 100$$

The youth unemployment rate facilitates the specific analysis of youth unemployment. It shows the proportion of persons aged 15-24 years who are unemployed ( $u^{15-24}$ ), relative to all persons aged 15-24 in the labour force ( $lf^{15-24}$ ).

$$\text{youth unemployment rate} = \frac{u^{15-24}}{lf^{15-24}} \times 100$$

### Example: Solving the formulas

The following example details how some of these formulae are calculated using data from the Labour Force Survey.

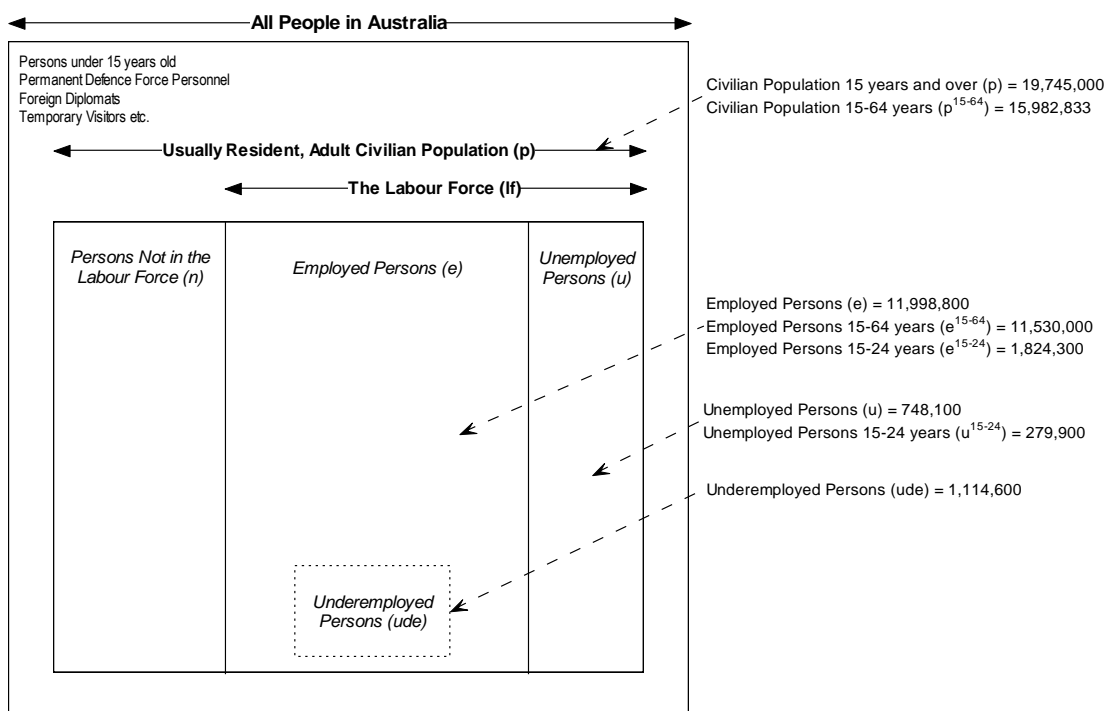
The February 2017 issue of the *Labour Force, Australia* (cat. no. 6202.0) gives the following original number for the civilian population, and seasonally adjusted numbers for various segments of the labour force.

- Civilian population 15 years and over = 19,745,000
- Civilian population aged 15-64 years = 15,982,833

- Employed persons = 11,998,800
- Employed persons aged 15-64 years = 11,530,000
- Employed persons aged 15-24 years = 1,824,300
- Unemployed persons = 748,100
- Unemployed persons aged 15-24 years = 279,900
- Underemployed persons = 1,114,600

The simple diagram of the labour force framework shown in Figure 3.2 above can be populated with these figures and expanded to include several new categories, as shown in Figure 3.3 below.

**Figure 3.3: Solving the formulas**



Using the data in figure 3.3 above, the employment to population ratio is calculated as:

$$\begin{aligned}
 \text{employment to population ratio} &= \frac{e}{p} \times 100 \\
 &= \frac{11,998,800}{19,745,000} \times 100 \\
 &= 60.8\%
 \end{aligned}$$

One might then want to know how much of the total population is in the labour force (the labour force participation rate), or how much of the labour force is unemployed (the unemployment rate). To do this, however, one would need to first work out the size of the labour force, which is made up of the employed and the unemployed.

$$\begin{aligned}
 \text{labour force} &= e + u \\
 &= 11,998,800 + 748,100 \\
 &= 12,746,900
 \end{aligned}$$

It is then possible to calculate the labour force participation rate and the unemployment rate.

$$\begin{aligned}
 \text{labour force} &= \frac{lf}{p} \times 100 \\
 \text{participation rate} &= \frac{12,746,900}{19,745,000} \times 100 \\
 &= 64.6\%
 \end{aligned}$$

$$\begin{aligned}
 \text{unemployment rate} &= \frac{u}{lf} \times 100 \\
 &= \frac{748,100}{12,746,900} \times 100 \\
 &= 5.9\%
 \end{aligned}$$

One might then want to examine the prevalence of underemployment, both among employed people and within the entire labour force. For this, one would turn to the underemployment ratio and the underemployment rate.

$$\begin{aligned}
 \text{underemployment ratio} &= \frac{ude}{e} \times 100 \\
 &= \frac{1,114,600}{11,998,800} \times 100 \\
 &= 9.3\%
 \end{aligned}$$

$$\begin{aligned}
 \text{underemployment rate} &= \frac{ude}{lf} \times 100 \\
 &= \frac{1,114,600}{12,746,900} \times 100 \\
 &= 8.7\%
 \end{aligned}$$

Neither unemployment nor underemployment alone tells the whole picture of underutilised labour. As such, one would then want to know about the total amount of underutilisation in the labour force, and therefore would want to know the labour force underutilisation rate. Firstly, the number of underutilised persons, which is the sum of unemployed and underemployed, needs to be calculated.

$$\begin{aligned}
 \text{underutilised persons} &= u + ude \\
 &= 748,100 + 1,114,600 \\
 &= 1,862,700
 \end{aligned}$$

It is then possible to calculate the underutilisation rate.

$$\begin{aligned}
 \text{underutilisation rate} &= \frac{u + ude}{lf} \times 100 \\
 &= \frac{1,862,700}{12,746,900} \times 100 \\
 &= 14.6\%
 \end{aligned}$$

One might also be interested in looking specifically at unemployment among young people. To do this, one might decide to calculate a youth unemployment rate by restricting the labour force to only persons aged 15-24 years. The correct formula would divide unemployed persons aged 15-24 years ( $u^{15-24}$ ) by all persons in the labour force aged 15-24 years. The first step is to calculate the labour force aged 15-24 years, which is the sum of employed persons aged 15-24 years ( $e^{15-24}$ ) and unemployed persons aged 15-24 years.

$$\begin{aligned}
 \text{labour force aged} \\
 \text{15 to 24 years} &= e^{15-24} + u^{15-24} \\
 &= 1,824,300 + 279,900 \\
 &= 2,104,200
 \end{aligned}$$

It is then possible to calculate the youth unemployment rate.

$$\begin{aligned}
 \text{youth unemployment rate} &= \frac{u^{15-24}}{lf^{15-24}} \times 100 \\
 &= \frac{279,900}{2,104,200} \times 100 \\
 &= 13.3\%
 \end{aligned}$$

One might further consider the implications of the age distribution of the population and realise that some of the previous frequencies, such as the employment to population ratio, might be impacted by an ageing population and greater numbers of retired persons not in the labour force. Therefore, one might decide to calculate an employment to population ratio only for persons aged between 15 and the retirement age, currently 65. The correct formula would divide employed persons aged between 15 and 64 years ( $e^{15-64}$ ) by a civilian population restricted to those aged between 15 and 64 years ( $p^{15-64}$ ).

$$\begin{aligned}
 \text{employment to working} \\
 \text{age population ratio} &= \frac{e^{15-64}}{p^{15-64}} \times 100 \\
 &= \frac{11,530,000}{15,982,833} \times 100 \\
 &= 72.1\%
 \end{aligned}$$

## EXTENSIONS TO THE LABOUR FORCE FRAMEWORK

The basic framework, as outlined above, can be extended to identify various sub-groups within the labour force. The full complexity of the extended labour force framework is depicted in Figure 3.4 below.

## **Employment types and arrangements**

The arrangements of employment vary among employed persons. Persons may be employed as employees; however, they may also be an owner-manager of an enterprise, either incorporated or unincorporated, and either with or without employees. The ABS Status in Employment classification allows these groups to be separately identified within the labour force. Employees may also be broken down into groups based on the arrangements of their employment. Such breakdowns may be based on casual employment, contract work, labour hire employment, or even on job stability and flexibility measures. For more detail on the various types of employment and employment arrangements, see Chapter 4.

## **Hours worked**

Hours of work can be used to break down employment into smaller categories based upon either actual or usual hours worked, or the desired hours worked. Employed persons are classified as employed full-time if they worked 35 or more hours in the reference week, or worked less than 35 hours in the reference week but usually work 35 or more hours in a week. They are classified as part-time if they usually work less than 35 hours and did so in the reference week. For more information on hours worked, see Chapter 5.

## **Labour participation potential: Underemployment, marginal attachment, and discouraged jobseekers**

Labour participation potential refers to potential labour which is not undertaken for a variety of reasons. It is a broader measure than unemployment, as potential labour can exist also within both of the other labour force categories of employment and not in the labour force.

The ABS produces both headcount (number of persons) and volume (number of hours) measures of underutilisation. Within employment, underemployment refers to a situation where the supply of labour is greater than the demand, and therefore employed persons are working fewer hours than they would like to. It is possible to identify employees who are underemployed by asking whether they want to work more hours than they currently do. Underemployment is a distinct measure of labour force underutilisation; however, it can also be combined with unemployment to form a broader measure of total underutilised labour in the economy. For more information on underemployment, see Chapter 7.

The underutilised population can be further extended by the addition of select groups of persons not in the labour force, known as the marginally attached. Marginal attachment refers to persons who are not currently in the labour force, but who want to work. They are divided into two categories: those actively looking for work but not available to start work in the reference week, and those not actively looking for work but available to start work within four weeks. Within the second category are discouraged jobseekers, who are persons not looking for work because they believe that they are unlikely to find a job for a variety of reasons. For more information on marginal attachment and discouraged jobseekers, see Chapter 8.

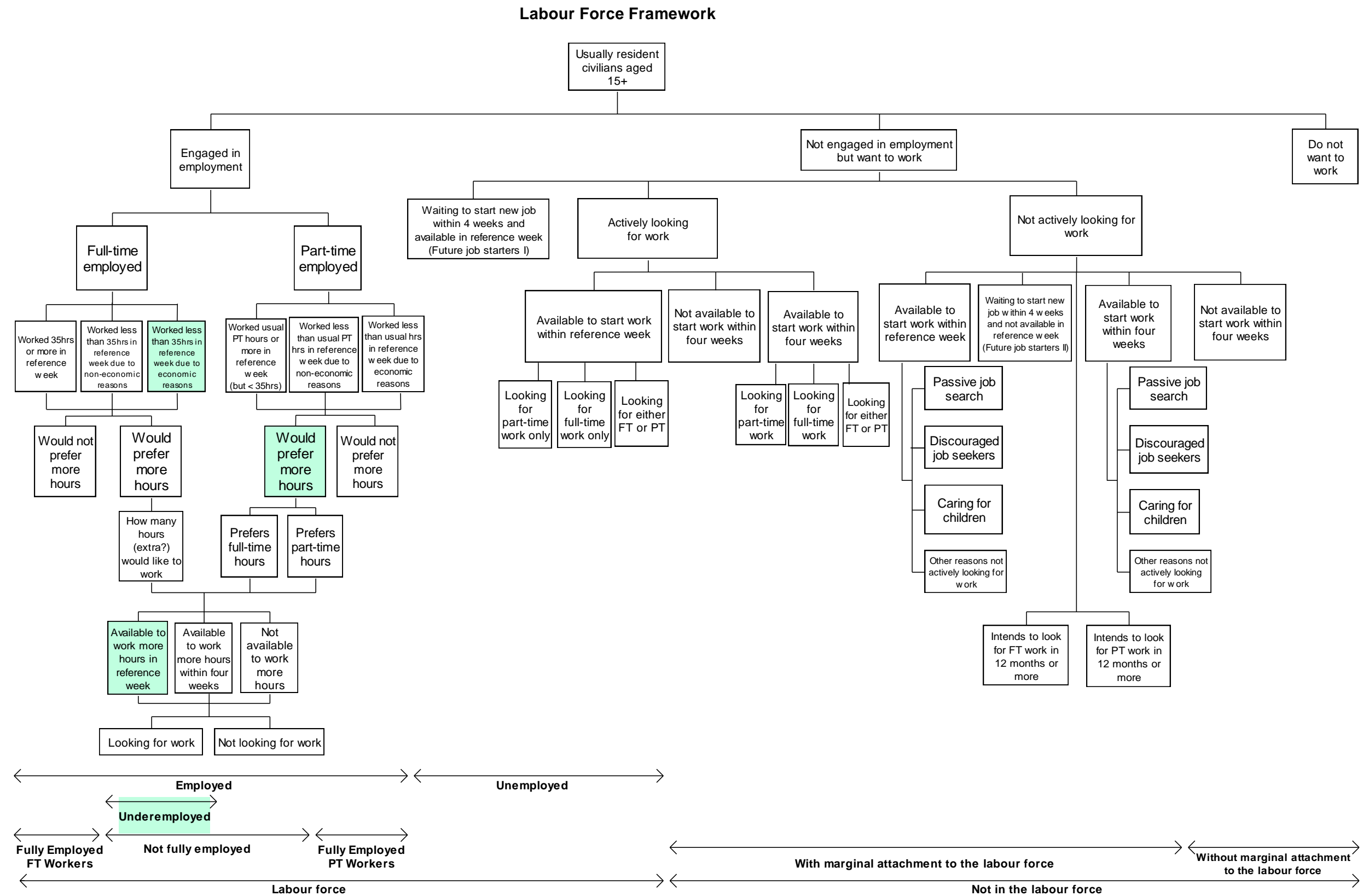
## **Long-term unemployed job seekers**

Within unemployment, it is possible to identify persons who are in long-term unemployment, defined as having duration of unemployment of 12 months or more. The number of unemployed people is an important social and economic indicator. The length of time that unemployed people have been looking for work or since they last worked (previously referred to as duration of unemployment) is also important from both an economic and social perspective. Long-term unemployment (i.e. where duration of job search is 52 weeks or more) is of particular social concern due to the consequences of being out of work for long periods, such as financial hardship and the loss of relevant skills. From an economic perspective, the longer people are unemployed the less likely they are going to be able to contribute to the economy.

Since its inception in 1960, the ABS Labour Force Survey (LFS) has collected information about duration of unemployment for unemployed persons. The survey collects data each month about the length, in completed weeks, of current (incomplete) spells of looking for work and/or time since last job from those who are currently unemployed.

The definition used by the ABS aligns with international standards (19th ICLS resolution (2013) concerning statistics of work, employment and labour underutilisation). For further information on long-term unemployment, see the article 'Long term employment' in *Australian Social Trends, Sep 2011* (cat. no. 4102.0).

Figure 3.4: Extensions to the Labour Force Framework



## LABOUR FORCE FRAMEWORK: EXAMPLES

The section below discusses the treatment in the Labour Force Survey of particular groups of persons as employed, unemployed or not in the labour force. These groups include: participants in labour market programs (such as the 'Work for the Dole', 'Community Development Employment Projects (CDEP)' and 'Structured Training and Employment Project (STEP)' schemes); students; contributing family workers; and future starters.

### Participants in labour market programs

A wide range of labour market programs are provided by governments. These programs aim to: assist the efficient functioning of the labour market; help individuals and industry to improve the productivity and skills of the labour force; and improve the skills and employment prospects of persons disadvantaged in the labour market. Programs implemented by governments take various forms including wage subsidies to employers, vocational training, paid and unpaid work experience, and assistance in finding employment.

The Labour Force Survey does not ask any questions directly related to participation in labour market programs. Such information is neither necessary nor sufficient to determine labour force status. Individual participants are counted as employed, unemployed or not in the labour force according to economic (work-related) activity undertaken in the survey reference period. The labour force measure, based on economic activity tests, is thus consistent over time and independent of administrative changes to labour market programs or their eligibility rules.

Persons working for pay in a job for which their employer receives a government subsidy are 'working in a job' (employed), regardless of the subsidy (about which the person may have no knowledge).

The treatment of participants in programs involving training but no subsidy (paid either to employers or participants) depends on the individual circumstances of the participant. If the participant worked for pay in a job (or was temporarily away from work) during the reference week, they should be classified as employed. If they did no paid work (and were not temporarily away from work), they are classified as either unemployed or not in the labour force depending on whether they actively looked for, and were available to commence work, in the survey reference period.

Below are some common labour market programs, and how the participants of these programs are treated in the Labour Force Survey.

### *Work for the Dole*

Work for the Dole is a government program aimed at providing work experience to improve the skills, and future (paid) employment prospects, of persons registered for unemployment benefits. Under 'Work for the Dole' schemes, to maintain their eligibility for benefits, persons are required to undertake work-like activities at a host organisation (e.g. government agencies) or as part of a community-based project for a number of hours per week.

Superficially, such persons might be regarded as 'employed' as they are working for one hour or more and receive a payment. However, they are not paid for their work by the organisations undertaking the community projects. The participants are receiving only their unemployment benefit entitlement (footnote 1), paid directly by the administering government agency. As the community organisations do not have employer/employee relationships with the scheme participants, activity in a 'Work for the Dole' scheme is not considered to be engagement in an employee job.



Accordingly, the labour force status of persons participating in 'Work for the Dole' schemes is determined according to economic (work-related) activity undertaken in the survey reference period. They are classified either as unemployed or not in the labour force, depending on whether they actively looked for, and were available to commence work, in the survey reference period.

### *General job-search assistance programs*

Various government programs have provided assistance to job-seekers. Interaction with these programs may constitute actively looking for work, and therefore impact on a person's labour force status.

Up to June 2014, as well as being registered with any other employment agency, being registered with Centrelink as a jobseeker was considered to be an active step. In July 2014, being registered with Centrelink was removed, while being registered with a Job Services Australia provider was added.

In July 2015, Job Services Australia was replaced by the "jobactive" program. As the names of employment programs may change in the future, the question wording was updated to remove any explicit references to agencies or programs and now refers to the generic "employment agency".

### *Programs in remote areas of Australia*

Community Development Employment Projects (CDEP) was a scheme of the Australian Government which provided local employment opportunities for Aboriginal and Torres Strait Islander communities. Under the scheme, Indigenous communities and organisations could receive a grant, similar in value to the collective unemployment benefit entitlements of participating community members, to undertake a wide range of community development projects. Individuals could choose whether or not to participate in the scheme, by which they would forgo their unemployment benefits in exchange for paid employment. The work in which they might engage was determined by the community or organisation, and included activities such as housing repairs and maintenance, artefact production, road works, market gardening, fishing and other business and cultural activities.

Under the CDEP scheme, the community met all legal responsibilities to its workers, including the provision of award wages and conditions, workers' compensation insurance, and income tax liabilities. Accordingly, an employment relationship was deemed to have existed between the community (employer) and the members of the community undertaking work (employees). Participation in the scheme was considered to have been engagement in a paid employment job, and participants were classified as having been employed.

From July 2009 onwards, the CDEP scheme was discontinued in non-remote locations where the economy is well established. Individuals in these communities who were formerly paid wages under CDEP instead received alternative income support benefits.

Unless they had another form of paid employment, persons receiving income support benefits were not considered to have been employed. Instead, they were classified as unemployed or not in the labour force, depending on whether or not they were actively looking for, and were available to, work.

In remote communities, participants who joined CDEP prior to July 2009 continued receiving wages until June 2017, and continued to be classified as employed. New participants received income support benefits, and were treated as either unemployed or not in the labour force.

In July 2013, the Remote Jobs and Community Program (RJCP) replaced CDEP. Like CDEP, RJCP participants received income support payments, and were treated as either unemployed or not in the labour force.

On 1 July 2015, the Community Development Programme (CDP) replaced the RJCP. The CDP has two objectives: helping people find work, and allowing them to contribute to their communities and gain skills while looking for work. Under this program, job seekers with activity requirements are expected to do up to 25 hours per week of work-like activities. Activities can take different forms that are suited to the job seeker, their community and the local job market. Job seekers can undertake formal training (as an opportunity to gain qualifications), or foundation skills training (e.g. language, literacy, numeracy and driver training) as part of their activity requirements. Like RCJP, CDP participants receive income support payments, and are therefore classified as either unemployed or not in the labour force.

### **Students**

Persons engaged in full-time or part-time study who satisfy the criteria for classification as employed are treated in the same way as any other group. Their labour force status is determined according to economic (work-related) activity undertaken in the survey reference period. International students meeting these same requirements, including residency requirements, are similarly included.

### **Contributing family workers**

Persons working without pay in an economic enterprise operated by a related person are called 'contributing family workers'. They are classified as 'employed' if they worked one hour or more in the reference week, and as 'unemployed' or 'not in the labour force' if they did not work during the reference week.

Although ILO guidelines indicate that an unpaid family worker is a person working without pay in an economic enterprise operated by a related person living in the same household (footnote 2), in Australia there is no requirement for the related person to be living in the same household.

### **Future starters**

Future starters are those persons who were not employed during the reference week, were waiting to start a job within four weeks from the end of the reference week, and could have started in the reference week if the job had been available then. Future starters are classified in both international standards and in Australia's labour statistics as unemployed.

Under ILO guidelines, future starters do not have to be actively looking for work in order to be classified as unemployed. Until February 2004, the Labour Force Survey definition of unemployed only included the subset of future starters who had actively looked for work in the four weeks to the end of the reference week. Hence, the Labour Force Survey treatment of future starters was not fully consistent with the ILO standards, as the precondition of active job search was not waived meaning some future starters were defined as 'not in the labour force'. From February 2004, future starters who had not actively looked for work are classified as unemployed in the Labour Force Survey, in line with ILO guidelines. Labour Force Survey estimates were revised back to April 2001 to reflect this change. This revision created a small trend break at April 2001 in unemployed persons and unemployment rate series. For further information on this change, see pages 11 and 12 of *Information Paper: Forthcoming Changes to Labour Force Statistics, 2003* (cat. no. 6292.0), or page 3 of *Labour Force, Australia, Feb 2004* (cat. no. 6202.0).

### **Hours worked and the one hour criterion**

Employment is determined using a minimum amount of work within a specific period. Guided by international standards (footnote 3), it is usually set at one hour, either per day or per week.

The ABS has always used a one hour per week criterion. The ABS uses this criterion for several reasons:

- It equally covers the various types of employment; including full-time work, part-time work, shift work, casual work, on-call work and other irregular employment which may be missed should a higher threshold be set.
- By classifying a person working even for only one hour as employed, it maintains the priority rules discussed above, ensuring that employment always takes precedence over other activities, regardless of the amount of time devoted to it.
- As the definitions of employment and unemployment are interrelated, it allows unemployment to be defined as a total lack of work.
- It allows employment to be used alongside hours worked as a complete measurement of labour input for productivity analysis.

It is important to understand that 'employed' is a binary category: a person is either employed or not employed (with the latter separated into either unemployed or not in the labour force). The employment classification does not take into account whether the employment is satisfactory for the employed person, or sufficient to live on. The ABS publishes additional information on the characteristics of employment, including number of hours worked and remuneration received which, when analysed in the light of other labour, economic, and social data (e.g. purchasing power, measured in the Consumer Price Index), provides more detail about the quality and sufficiency of employment.

The number of hours worked by employed persons is a statistic collected for a number of reasons. It is used to measure the total volume of labour input, which is useful for economic analysis, but also as a characteristic of employment, useful for analysis of economic and social well-being, as well as structural changes in the labour force. In addition, it is used to define jobs and employment as either full-time or part-time.

There is no standard international definition of 'full-time'; however, many countries specify a minimum number of hours per week in statistical collections. Australia considers persons who work a total of 35 or more hours in the reference week to be employed full-time. This can be calculated for individual jobs (e.g. was the person employed full-time in their main job in the reference week?) and for all jobs combined (e.g. did the person work full-time in the reference week, in one or more jobs combined?). This definition is designed to be a robust and stable measure across the labour market, and as such does not take into account what individual employees, employers or industries subjectively consider to be 'full-time.'

Australia defines full-time employed persons as those who worked 35 hours or more during the reference week in all jobs in headline labour force estimates and publications.

Hours of work are measured in multiple ways, including hours actually worked in the reference period (which includes overtime), hours usually worked (which excludes irregular overtime and leave), or hours paid for in the reference period (which includes paid leave).

## FOOTNOTES

1. Plus an allowance to cover expenses associated with participation, such as transport, meals and so on.
2. Hussmanns, R., Mehran, F., Verma, V., *Surveys of Economically Active Population, Employment, Unemployment and Underemployment: An ILO manual on concepts and methods*, International Labour Office, Geneva 1990.
3. *Surveys of Economically Active Population, Employment, Unemployment and Underemployment*, pp.71-72

## CHAPTER 4: EMPLOYMENT

### INTRODUCTION

The labour force framework discussed in Chapter 3 categorises the population into three mutually exclusive groups: employed, unemployed and not in the labour force. This chapter discusses the concept of employment, and contrasts estimates of employment produced from the Labour Force Survey (LFS) with those collected in other labour statistics.

This chapter also addresses the employment relationship variables, specifically Status in Employment, Full-time/ Part-time status and Employment Arrangements.

### CONCEPTS AND INTERNATIONAL GUIDELINES

Persons in **employment** are those of working age who, during a short reference period, were engaged in any activity to produce goods or provide services for pay or profit.

Nineteenth International Conference of Labour Statisticians (ICLS) 2013

The notion 'for pay or profit' refers to work done as part of a transaction in exchange for remuneration payable in the form of wages or salaries for time worked or work done, or in the form of profits derived from goods and services produced through market transactions. It includes remuneration in cash or in kind, whether actually received or not, and may also comprise additional components of cash or in kind income. The remuneration may be payable directly to the person performing the work, or indirectly to a household or family member.

According to the international guidelines, persons in employment comprise:

- employed persons "at work", i.e. who worked in a job for at least one hour; and
- employed persons "not at work" due to temporary absence from a job, or due to working-time arrangements (such as shift work, flex time and compensatory leave for overtime).

The international definition of employed persons on "temporary absence" during a short reference period refers to those who, having already worked in their present job, were "not at work" for a short duration but maintained a job attachment during their absence. In such cases, "job attachment" is established on the basis of the reason for the absence and, in the case of certain reasons, the continued receipt of remuneration and/or the total duration of the absence as self-declared or reported, depending of the statistical source.

Reasons for absence that are by their nature usually of short duration, and where "job attachment" is maintained, include those such as sick leave due to own illness or injury (including occupational), public holidays, vacation or annual leave, and periods of maternity or paternity leave as specified by legislation.

Reasons for absence where the "job attachment" requires further testing include, among others: parental leave, educational leave, care for others, other personal absences, strikes or lockouts, reduction in economic activity (e.g. temporary lay-off, slack work), disorganisation or suspension of work (e.g. due to bad weather, mechanical, electrical or communication breakdown, problems with information and communication technology, shortage of raw materials or fuels). For these reasons, a further test of receipt of remuneration and/or a duration threshold should be used.

The duration threshold should be, in general, not greater than three months taking into account periods of statutory leave entitlement specified by legislation or commonly practiced, and/or the length of the employment season so as to permit the monitoring of seasonal patterns. Where the return to employment in the same economic unit is guaranteed, this threshold may be greater than three months. For operational purposes, where the total duration of the absence is not known, the elapsed duration may be used.

## DEFINITIONS USED IN ABS SURVEYS

The ABS produces estimates of employment from both household and business surveys. The definition of employment used in household surveys is designed to be consistent with the international standards. The definition of employment used in business surveys relates more closely to paid employment.

## DEFINITIONS USED IN ABS HOUSEHOLD SURVEYS

Three different definitions of employment are used in ABS household surveys. Information on the relevant questionnaire modules is contained in *Standards for Labour Force Statistics, Dec 2014* (cat. no. 1288.0), detailed in Appendix 3.

### Labour Force Survey

The LFS is designed to produce precise estimates of employment (and unemployment), and the definition used aligns closely with international standards and guidelines.

The questionnaire module used in the LFS is referred to as the Labour Force Survey Questionnaire Module. It uses a comprehensive and detailed set of questions to precisely measure the numbers and certain characteristics of persons in employment and unemployment. Detailed information on the LFS questionnaire module is in *Information Paper: Questionnaires used in the Labour Force Survey, 2014* (cat. no. 6232.0), detailed in Appendix 2.

The definition of employment used in the LFS aligns closely with the concepts and international definitions outlined in earlier chapters. Employed persons are defined as all persons aged 15 years and over who, during the reference week:

- worked for one hour or more for pay, profit, commission or payment in kind, in a job or business or on a farm (comprising employees and owner managers of incorporated or unincorporated enterprises); or
- worked for one hour or more without pay in a family business or on a farm (i.e. contributing family workers); or
- were employees who had a job but were not at work and were:
  - away from work for less than four weeks up to the end of the reference week, or
  - away from work for more than four weeks up to the end of the reference week and received pay for some or all of the four week period to the end of the reference week, or
  - away from work as a standard work or shift arrangement, or
  - on strike or locked out, or
  - on workers' compensation and expected to be returning to their job; or
- were owner managers, who had a job, business or farm, but were not at work.

For employees absent from work, a condition of formal job attachment is considered to exist in any of the following circumstances:

- short periods of absence (less than four weeks to the end of the reference week);

- long periods of absence (four weeks or more to the end of the reference week) and receipt of wages or salary for some or all of the four week period to the end of the reference week, such as persons on paid leave;
- any period of absence away from work as a standard work or shift arrangement;
- any period of absence on strike or locked out; and
- any period of absence with continued receipt of workers' compensation payments, and an expectation to return to work for the current employer.

The LFS, while mostly aligned with the international definition, has a narrower temporal definition of formal job attachment for employees absent from work. The international definition notes a duration threshold should be, in general, not greater than three months taking into account periods of statutory leave entitlements specified by legislation or common practices, and/or the length of the employment season so as to permit the monitoring of seasonal patterns. Where the return to employment in the same economic unit is guaranteed, this threshold may be greater than three months. The LFS condition of formal job attachment for employees is outlined above.

In the LFS, those who are self-employed, employers and owner managers absent from work during the reference week are defined as employed without further testing of formal job attachment. Contributing family workers who are absent from work in the reference week are not considered to be employed. The international guidelines relating to formal job attachment outlined above apply to all employed persons who were temporarily absent from work.

### **Other ABS household surveys and Special Social Surveys**

In other household surveys and Special Social Surveys, where employment is an explanatory or classificatory variable, it is generally not practical to determine employment as precisely as in the LFS. While estimates of employment produced from these surveys are designed to be consistent with the international concept of employment, the definition used is slightly broader than that used in the LFS.

A shorter module, referred to as the Household Survey Questionnaire Module, is used in most other ABS household surveys and Special Social Surveys to produce estimates of labour force status. Employment is more broadly defined in these modules than in the LFS.

### **Census**

There is also a labour force module in the Census of Population and Housing, referred to as the Census of Population and Housing Questionnaire Module. This module is shorter than the Household Survey Questionnaire module, and is generally completed through a self-enumeration mode.

While aggregates produced from household surveys and the Census, which do not use the Labour Force Survey Questionnaire Module, are designed to be consistent with the international concepts of employment and unemployment, the treatment of certain small population groups is simpler and less precise than that used in the LFS. Consequently, there are differences between estimates produced from the LFS and those produced from the Census or from household surveys using the reduced modules.

## **DEFINITION OF EMPLOYMENT USED IN ABS BUSINESS SURVEYS**

Concepts of employment used in ABS business surveys are narrower than the concept used in ABS household surveys. While estimates of employment from household surveys are comprised of persons engaged in work, estimates from business surveys are of jobs involving paid employment. There are two important distinctions between these estimates: the first relates to the statistical unit

being measured, i.e. persons versus jobs; and the second to the concept being measured, i.e. (total) employment versus paid employment. These are discussed further below.

Estimates of employment from business surveys refer to jobs rather than persons. For example, persons holding jobs with different employers would be counted in ABS household surveys as employed once, but in ABS business surveys would be counted for each job held.

Estimates of employment from business surveys mainly relate to paid employment. Paid employment is one component of total employment; when combined with self-employment, it would provide a concept of employment that is consistent with the international concepts. However, the coverage of paid employment applied in ABS business surveys is narrower than that outlined in the international guidelines. It excludes:

- jobs involving paid employment that do not appear on business payrolls (from which information on employment is sourced within businesses), such as jobs that are paid in kind only, and jobs from which occupants are absent without pay (for a lengthy period); and
- jobs involving paid employment in businesses that have limited coverage on the ABS Business Register (from which the samples for most ABS business surveys are drawn), such as private households engaging staff.

Some industry and economy-wide ABS business surveys, however, do include a component of self-employment as well as paid employment in their surveys.

Estimates of the number of paid employment jobs (also referred to as employee jobs) from business surveys are not equivalent to estimates of the number of persons in paid employment jobs (also referred to as employees) from household surveys. When comparing estimates of the employee jobs from ABS business surveys to estimates of employees from ABS household surveys, the differences outlined above should be considered.

## **DATA SOURCES**

Estimates of employment are available from the following ABS household surveys:

- the LFS;
- the Census of Population and Housing; and
- Special Social Surveys.

Estimates of employee jobs are produced from the following ABS business surveys:

- the Survey of Employment and Earnings (SEE) (Public Sector only);
- the Economic Activity Survey (EAS) (predominantly Private Sector);
- the Survey of Employee Earnings and Hours (EEH); and
- from time to time, business surveys targeted to particular industries or sectors.

### **Labour Force Survey**

The monthly LFS is the official source for Australia's employment and unemployment statistics. The definition of employment used in the LFS is outlined above. The survey uses a comprehensive and detailed set of questions to precisely measure the numbers and certain characteristics of persons in employment and unemployment as well as persons not currently economically active. Estimates from the LFS are available by State/Territory, Capital City/Rest of State, and 87 sub-State regions (see Chapter 15 and Appendix 1 for more information on geographic classifications available from ABS household surveys). For more detail on the content and methodology of the LFS, see Chapter 19.



## **Census of Population and Housing**

As discussed above, the Census of Population and Housing uses the Census of Population and Housing Questionnaire Module to produce employment estimates consistent with the international standards. However, because the self-enumerated questionnaire module defines employment less precisely than the LFS, estimates produced are not strictly comparable with those from the LFS. For these reasons, employment estimates from the Census should be used with caution in analyses where labour force activities are a major focus.

When comparing estimates of employment from the Census of Population and Housing with those produced from the LFS, users should also note differences between the two surveys in scope (for example, the inclusion of permanent defence forces in Census employment data) and methodology. Refer to Chapter 18 for further information on the Census of Population and Housing.

## **Special Social Surveys**

As discussed above, most Special Social Surveys use the Household Survey Questionnaire Module for personal interviews to produce employment estimates that are consistent with the international standards. However, because the reduced questionnaire module defines employment less precisely than the LFS, estimates produced are not strictly comparable with those produced from the LFS. When comparing employment estimates from Special Social Surveys with estimates from the LFS, users should also note differences in scope and methodologies across the surveys.

## **Survey of Employment and Earnings**

The Survey of Employment and Earnings is a business survey producing estimates of employee jobs in the public sector. There are conceptual reasons, as well as methodological reasons, for differences in estimates of employment produced from business and household surveys. For further information on the scope and collection methodology of this survey, refer to Chapter 30.

## **Economic Activity Survey**

The Economic Activity Survey is a business survey producing employment estimates. There are conceptual as well as methodological reasons for differences in estimates of employment produced from business and household surveys. For further information on the scope and collection methodology of this survey, see Chapter 24.

## **Employee Earnings and Hours**

The Employee Earnings and Hours Survey is a business survey producing estimates on the composition and distribution of earnings and hours paid for, of employees, as well as information on how employees' pay is set - by award only, collective agreement or individual arrangement. For further information on the scope and collection methodology of this survey, see Chapter 29.

## **STATUS IN EMPLOYMENT**

Status in Employment is a classification of employed persons according to the nature of their relationship to the enterprise in which they work.

The term Status in Employment is used in the international standard as outlined in the International Classification of Status in Employment (15th International Conference of Labour Statisticians, 1993). The term Employment Status should be avoided, as it is easily confused with the concept of Labour Force Status. The classification Employment Type has previously been used by the ABS, but is now redundant as the groups identified within the Employment Type classification are now specified in Status in Employment.

Status in Employment is an attribute of the measurement unit 'job'.

## History

Previously in labour statistics two main employment classifications were used: Status in Employment and Employment Type. The LFS used the Status in Employment classification for its standard output, while the labour supplementary surveys (and other social surveys) predominantly used the Employment Type classification. Status in Employment was necessary in the context of national accounting and the measurement of income, as Compensation of Employees (the largest component of Gross Domestic Product) is based on the System of National Accounts definition of 'employee'. However, it did not provide the most useful representation for analysis of the labour market.

The Employment Type classification was considered preferable for most labour market analysis. Unlike Status in Employment, Employment Type aimed to capture the fundamental nature of employment relationships, which was whether a person worked for an employer or operated their own business, regardless of the legal status of that business. This meant that in the Status in Employment classification, persons who operated their own incorporated enterprise (owner managers of incorporate enterprises (OMIEs)) were included in the Employees category, whereas in Employment Type, this group was identified separately.

To overcome the complexities, and potential misinterpretation or comparison of data, the ABS revised the Status in Employment classification in 2014 to provide a single labour market relevant classification that can meet all uses. This was achieved by removing OMIEs from the Employees category and having them separately identified. As a result, the Employment Type classification is no longer required.

While the Status in Employment classification is different, there is effectively no break in LFS or supplementary survey series as the categories are conceptually consistent and able to be aggregated or disaggregated to match the previous version of the Status in Employment classification and the Employment Type classification. For more information, see *Information Paper: Outcomes of the Labour Households Surveys Content Review, Australia, 2012* (cat. no. 6107.0) and 'Status of employment and population concordance (Appendix)' published in *Characteristics of Employment, Australia, August 2014* (cat. no. 6333.0).

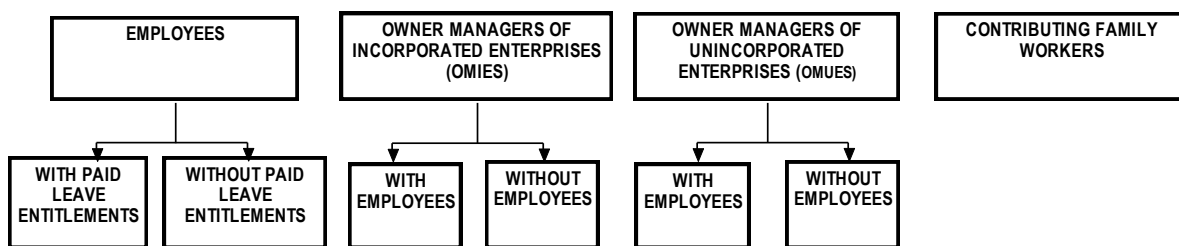
## Definition

Status in Employment is determined by an employed person's position in relation to their job, and is usually collected in respect of a person's main job if they hold more than one job. The Australian Status in Employment classification classifies employed persons according to the reported relationship between the person and the enterprise for which they work, together with the legal status of the enterprise where this can be established. The groups distinguished in the Australian classification are:

- Employee: A person who works for a public or private employer and receives remuneration in wages, salary, on a commission basis (with or without a retainer), tips, piece-rates, or payment in kind, and who does not operate his or her own incorporated or unincorporated enterprise;
- Owner manager of incorporated enterprise (OMIE) with employees: A person who operates his or her own incorporated enterprise, that is, a business entity which is registered as a separate legal entity to its members or owners (also known as limited liability company), and hires one or more employees in addition to themselves and/or other owners of that business;
- Owner manager of incorporated enterprise (OMIE) without employees: A person who operates his or her own incorporated enterprise, that is, a business entity which is registered

- as a separate legal entity to its members or owners (also known as a limited liability company), and hires no employees apart from themselves or other owners of that business;
- Owner manager of unincorporated enterprise (OMUE) with employees: A person who operates his or her own unincorporated enterprise or engages independently in a profession or trade, and hires one or more employees in addition to themselves and/or other owners of that business;
- Owner manager or unincorporated enterprise (OMUE) without employees: A person who operates his or her own unincorporated enterprise or engages independently in a profession or trade, and hires no employees apart from themselves or other owners of that business;
- Contributing family worker: A person who works without pay in an economic enterprise operated by a relative.

**Figure 4.1: Status in Employment**



To ensure consistency with the System of National Accounts, the 'Employee', 'Owner manager of incorporated enterprise with employees', and 'Owner manager of incorporated enterprise without employees' series combine to provide estimates consistent with Compensation of Employees within the National Accounts.

It is permissible to aggregate the two 'Owner manager of incorporated enterprises' categories (with and without employees) into a single 'Owner managers of incorporated enterprises' category, similarly for the two 'Owner managers of unincorporated enterprises' categories (with and without employees). It is also permissible to aggregate the two categories 'Owner managers of incorporated enterprises with employees' and 'Owner managers of unincorporated enterprises with employees' into a single category 'Owner managers with employees', and similarly for the categories of owner managers without employees, provided it is clearly labelled.

### Data Sources

Status in Employment is collected in household collections. Each of the three labour force status questionnaire modules includes questions to derive Status in Employment. They are:

- the Labour Force Survey Questionnaire Module used in the ABS Labour Force Survey (interviewer administered or on-line collection);
- the Household Survey Questionnaire Module used in other ABS household based surveys (interviewer administered); and
- the Census of Population and Housing Questionnaire Module used in the Census, and also suitable for use in other self-enumeration and administrative data collections conducted by agencies other than the ABS.

### FULL-TIME/PART-TIME STATUS

Full-time/part-time status is widely used to categorise persons or jobs in terms of the number of hours worked. This status is of interest in understanding the nature of employment, particularly when cross-classified with socio-economic characteristics.

Most ABS household surveys, including the LFS, define full-time/part-time status of employed persons in terms of the hours actually and/or usually worked (in all jobs). In some cases, a subjective approach based on respondents' perception of their full-time or part-time status is used. This approach is most often used where information is sought about work that is not currently being undertaken, and where recall problems may be encountered using a more objective approach.

ABS business surveys classify employee jobs, rather than people, as full-time or part-time. Classification of employee jobs as full-time or part-time is based on the employer's perception of whether the person has been engaged on a full-time or part-time basis.

### Definition

People are defined as employed part-time in the LFS if they **usually** work less than 35 hours per week, **and actually** worked less than 35 hours in the survey reference week in **all of their jobs**. Full-time employed persons are defined as those who **usually** work 35 hours or more per week, regardless of how many hours they **actually** worked, and those who actually worked 35 hours or more in the reference week despite usually working less than 35 hours per week. Part-time employment is defined solely on the basis of hours worked, and does not depend on employee or employer perception of whether the person is full-time or part-time. Figure 4.2 below shows the LFS definition of full-time/ part-time employment by usual and actual hours worked.

**Figure 4.2: Full-time and part-time employment**

	Usually works less than 35 hours	Usually works 35 or more hours
Actually worked less than 35 hours	Part-time	Full-time
Actually worked 35 or more hours	Full-time	Full-time

Actual hours worked refers to hours actually worked during normal periods of work in the reference week, as well as any overtime worked, excluding any time off or leave. Usual hours refer to those worked in a 'typical' period, as opposed to strictly in the specified reference period. Collecting information on usual hours reduces the impact that leave and other absences have on actual hours worked, while actual hours mitigates the subjective nature of defining 'usual' or 'typical' behaviour.

In the LFS both actual and usual hours worked information are collected, deriving full-time employed people as those who:

- usually work 35 hours or more per week (in all jobs); or
- although usually working less than 35 hours a week, actually worked 35 hours or more during the reference week.

Part-time employed people as those who:

- usually work less than 35 hours per week, and either did so during the reference week, or were not at work in the reference week.

In other household surveys only usual hours of work are collected, and full-time/part-time status is based on the total number of hours usually worked per week in all jobs. Full-time employed people are those who usually work 35 hours or more per week (in all jobs), while part-time employed people are those who usually work less than 35 hours per week (in all jobs).

Where only actual hours worked are collected (e.g. the Census of Population and Housing), full-time/part-time status is based on the actual hours worked in the reference week. Full-time employed people are those who worked 35 hours or more in the reference week (in all jobs), while part-time employed people are those who worked less than 35 hours in the reference week (in all jobs). Where actual hours worked is used, there is also a third category for people who are employed, but not at work in the reference week.

Where hours worked are not collected, full-time/part-time status is based on the respondent's perception of whether they work full-time or part-time, however this method is not considered a standard. Guidance can be given to refer to a 35 hour per week threshold to be full-time.

In business surveys, full-time/part-time status is collected for employee jobs. Full-time employee jobs are defined as those where the occupant normally works the agreed or award hours for a full-time employee in their occupation. If agreed or award hours do not apply, the job is regarded as full-time if the occupant usually works 35 hours or more per week. Part-time employee jobs are those where the occupant normally works less than the agreed or award hours for a full-time employee in their occupation. If agreed or award hours do not apply, the job is regarded as part-time if the occupant usually works less than 35 hours per week.

In comparison with the estimates of full-time/part-time status from the Labour Force Survey, other household surveys result in lower estimates of persons employed full-time, and higher estimates of persons employed part-time. This is because other household surveys do not include a question on actual hours worked in the reference week, so it is not possible to include persons who usually work part-time, but who worked full-time hours in the reference week, in the estimate of persons employed full-time. Usual hours worked is used in other household surveys because it can be meaningfully asked of all employed persons, whether or not they are at work during the reference week. Asking only one question for hours worked minimises the size of the question set and avoids complex sequencing.

### Data Sources

Full-time/part-time Status is collected in the following surveys:

- the Labour Force Survey;
- household based surveys, such as the Survey of Income and Housing;
- the Census of Population and Housing;
- the Survey of Employee Earnings and Hours; and
- Average Weekly Earnings Survey.

## EMPLOYMENT ARRANGEMENTS

ABS measures of employment arrangements are collected from a number of sources, and include the following aspects:

- terms of engagement; including casual employment, independent contractors and labour hire work, and
- job stability and flexibility measures.

## CASUAL EMPLOYMENT

There is no single definitive measure to determine the number of people in casual employment at any one time; however, the ABS most regularly uses information on paid leave entitlements as a proxy for measuring casual employment in the Australian labour force. The ABS has three data items related to casual employment:

- Employees without paid leave entitlements;
- Employees who receive a casual loading; and
- Employees who consider their job to be casual (self-perception).

### **Paid Leave Entitlements**

The ABS uses 'employees without paid leave entitlements' as the primary measure of casual employment. This is an objective measure that can be collected consistently. An employee with paid leave entitlements has access to either paid holiday leave or paid sick leave, or both. An employee is considered to be without leave entitlements if they identify as not having access to either paid sick leave or holiday leave, or did not know their entitlements.

### **Casual Loading**

In lieu of paid leave, some casual employees are entitled to a 'casual loading' - a higher hourly rate of pay to compensate for not being entitled to paid holiday and/or sick leave. Survey respondents are asked whether they receive a casual loading, however around one-third of respondents report not receiving a casual loading, despite being without leave entitlements. This may be the case, or may reflect a lack of awareness that a loading is included in their pay. In some households, responses are provided by one member of the household on behalf of other members, and the respondent may be unaware of whether a casual loading is paid to the other household members.

### **Self-Perception**

The third data item used to consider casual employment is whether the survey participant considers their job to be casual. This question is asked in order to provide a different perspective of casual employment. Casual work is often viewed as less secure than other types of employment, as there may not be a guarantee of ongoing work, and hours of work may vary based on availability of hours offered by the employer. These are common characteristics of casual employment, but they apply to casual workers to varying degrees, and may also apply to non-casual workers. An employee's perception of whether or not their job is casual may be based on commonly recognised features of casual employment such as these, and may or may not reflect the actual conditions of their employment. For example, an employee may perceive that they are guaranteed a minimum workload per week, but this may not align with their employer's understanding.

Despite variability in the experience of casual employment, the vast majority of respondents' own perception of their casual status aligns with whether they have access to leave entitlements. This indicates that access to leave entitlements as a measure of casual status provides a definition that is broadly aligned with a general understanding of casual employment.

### **Data Sources**

The following ABS household surveys collect data on measures of casual employment:

- Characteristics of Employment Survey (COE);
- Survey of Employment Arrangements, Retirement and Superannuation; and
- Multipurpose Household Survey topics:
  - Retirement and Retirement Intentions
  - Work Related Injuries.

In addition to the household surveys, the Employee Earnings and Hours business survey also collects information about whether an employee is casual. In this survey, employers are asked to identify whether the employees selected in the survey are casual, and in conjunction they are asked whether these employees receive a casual loading or a higher rate of pay to compensate for a lack of leave entitlements. Information on employees is collected directly from the employer's payroll records,

and this is an alternative way of looking at casuals as in this survey they are identified as such by their employers.

## INDEPENDENT CONTRACTORS

Independent contractors are sometimes referred to as consultants or freelancers. The term 'contractors' is also frequently used, however this is a broad term that is often used to describe people with a variety of forms of employment, for example, not only true independent contractors, but also employees engaged in short-term or fixed-term work, often engaged through a third-party (e.g. a labour hire firm/employment agency). The ABS measure of independent contractors refers to people who are not employees, but who may be operating in a similar manner to employees.

**Independent contractors** are persons who operate their own business, and contract to perform services for others without having the legal status of an employee, i.e. persons who are engaged by a client rather than an employer. Independent contractors are engaged under a contract for services (a commercial contract), whereas employees are engaged under a contract of service (an employment contract).


Questions in the Characteristics of Employment Survey (COE) identify the key characteristics of independent contractors. These questions are:

- Do you work as an independent contractor in your job?
- Do you receive a pay slip/advice?
- Do you/Does your business invoice or bill clients/employers?
- Excluding wages and salary, are you able to make drawings from your employer/business?

The following decision table shows how people are classified as independent contractors.



Decision table: Independent Contractors					
	Whether considered to be independent contractor?	Whether received pay slip/advice?	Whether invoices/bills clients/ employers?	Whether able to make drawings from employer/ business	Result
Employees (excluding OMIEs)	Yes	Yes	Yes		Independent Contractor
	Yes	Yes	No	Yes	Independent Contractor
	Yes	Yes	No	No	
	Yes	No	Yes		Independent Contractor
	Yes	No	No		Independent Contractor
	No	Yes			
	No	No	Yes		Independent Contractor
	No	No	No		
Owner managers (OMIEs and <del>OMUEs</del> )	Yes	Yes	Yes		Independent Contractor
	Yes	Yes	No	Yes	Independent Contractor
	Yes	Yes	No	No	
	Yes	No	Yes		Independent Contractor
	Yes	No	No		Independent Contractor
	No	Yes	Yes		
	No	Yes	No	Yes	
	No	Yes	No	No	
	No	No	Yes		
	No	No	No		

 Sufficient information was obtained from respondents after answering the second or third questions to determine their 'Form of employment', therefore people were not asked these questions to reduce respondent burden.

### Data Sources

Information on independent contractors is collected every second year from 2014 as a rotating questionnaire module in the COE survey. Information prior to 2014 can be obtained from the *Forms of Employment Survey* (cat. no. 6359.0).

### EMPLOYEES WORKING ON A FIXED-TERM CONTRACT

A fixed-term contract is an employment contract which specifies that employment with the employer is not expected to continue beyond a particular date or event.

### Data Sources

Data classifying employees of businesses as permanent, fixed-term contract, or casual are available from the Survey of Employee Earnings and Hours (EEH).

### LABOUR HIRE WORKERS

Instead of contacting employers directly, some people engage the services of a labour hire firm or employment agency to act as a third party to assist in finding suitable employment. Similarly, some businesses use the services of these firms to source labour rather than directly engaging workers.

Labour hire firms and employment agencies are engaged in personnel search, or selection and placement of persons for an employing organisation. Such firms may either match employees and employers directly, or might provide labour through their own pool of employees.



Labour hire firms and employment agencies perform a number of functions in the labour market, including maintaining a pool of potential employees, matching a person directly with an appropriate employer, and assisting employers to source suitable staff. They often also bear employee labour costs, such as wages, workers compensation and superannuation, which are transferred to employers through service fees.

### **Data Sources**

Information on labour hire workers is collected every second year as a rotating questionnaire module in the Characteristics of Employment Survey (COE).

## **JOB STABILITY AND FLEXIBILITY MEASURES**

Measures of job stability complement measures of hours of work, full-time and part-time status, and other classifications of jobholders (such as status in employment), in order to further describe the nature of employment conditions. The ABS collects a range of data items related to job stability and flexibility. These include data on the variability of earnings and hours from week to week, whether an employed person has guaranteed minimum hours, and whether an employed person is required to be on call or standby.

Job flexibility measures include whether employees had an agreement with their employer to work flexible hours, whether they usually work at home in their main job, and the main reason for working at home.

Data on perceptions of working arrangements are also collected. These include measures such as expectations about job tenure (for example, whether an employee expects to be with their current employer in 12 months' time).

### **Data Sources**

Estimates on job flexibility and stability are available from the Characteristics of Employment Survey (COE).

## CHAPTER 5: HOURS OF WORK

### INTRODUCTION

Measuring the levels and trends of hours worked for different groups of employed persons is important in order to monitor working and living conditions, as well as analysing economic cycles. Information on hours of work enables various analytical insights such as: classification of employed persons into full-time and part-time status; the identification of underemployed persons; and the creation of aggregate monthly hours worked estimates.

There are four concepts addressed in this chapter:

- Hours usually worked;
- Hours actually worked;
- Hours paid for; and
- Normal hours of work.

**Hours worked** has been defined in terms of time when (paid) employees were at the disposal of an employer; that is, when available to receive work orders from an employer or person in authority, with hours worked covering all jobs.

International Labour Organisation (ILO)

During such periods of availability as defined by hours worked, workers are expected to be ready to work if work is possible, requested or necessary. This general concept is made meaningful for the self-employed if it is taken to mean time when the self-employed are available to do their work, such as being at the disposal of clients, ready to receive purchase orders or available to make sales, etc. Further information is available in the ILO Resolution concerning the measurement of working time (Eighteenth International Conference of Labour Statisticians, 2008).

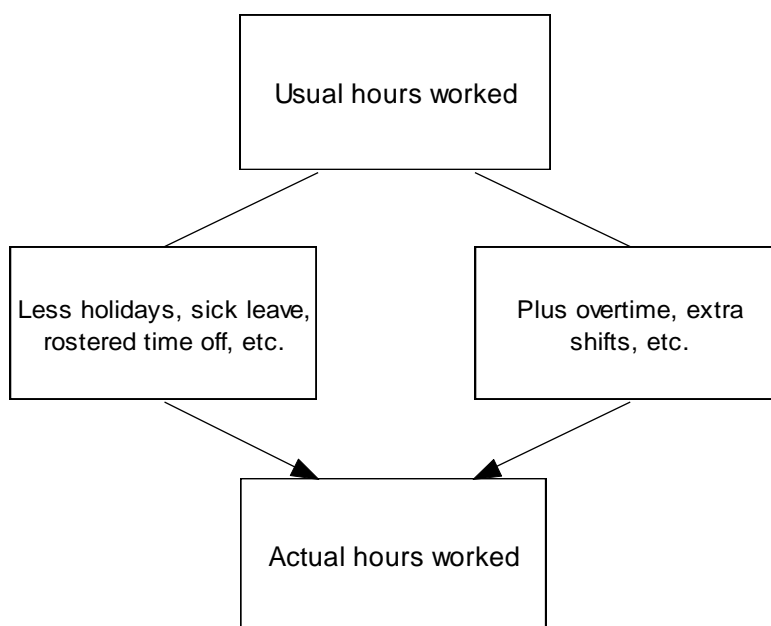
### HOURS USUALLY WORKED

**Hours usually worked** is the typical number of hours worked in a job for a short reference period (such as one week) that is representative of a longer reference period (e.g. a month, quarter, season or year).

United Nations Economic Commission Europe

Usual hours may differ from actual hours worked at a given time if employed persons are away from work due to illness, vacation, strike, a change of job or other reasons, or are at work for more hours than normal due to overtime, extra shifts, etc.

**Figure 5.1: Usual Hours and Actual Hours Worked**



When analysing usual hours worked, consideration should be given to appreciate the different perceptions respondents may have when reporting the typical hours they work. The ILO guidelines say that "the typical value may be the modal (most frequently occurring) value of the distribution of hours actually worked per short period over the long observation period, where meaningful". However, it is also possible that respondents average their actual hours worked over a long reference period to derive a typical value for the shorter period.

Measures of hours usually worked (in all jobs) are available from: the Labour Force Survey (LFS) and LFS supplementary surveys, such as Participation, Job Search and Mobility (PJSM) and Characteristics of Employment (COE). Measures of usual hours of work are not available from ABS business surveys, and are not collected in the Census of Population and Housing.

## **HOURS ACTUALLY WORKED**

Hours actually worked is the time spent in a job for the performance of activities that contribute to the production of goods and services during a specified short or long reference period.

International Labour Organisation

International resolutions relating to actual hours worked, adopted by the Eighteenth International Conference of Labour Statisticians (ICLS) in 2008, refer to wage and salaried employees. There are no international recommendations relating to actual hours worked for all categories of the employed population. However, the ILO in its manual 'Surveys of Economically Active Population, Employment, Unemployment and Underemployment' suggests that actual hours worked in a given job should be defined to cover all types of employment in labour force surveys. Hours actually worked is the time spent in a job for the performance of activities that contribute to the production of goods and services during a specified short or long reference period.

According to the ILO resolution, actual hours of work measured within the System of National Accounts production boundary includes all time spent directly on, and in relation to, productive activities, down time and resting time, such as:

- time spent in addition to hours worked during normal periods of work (including overtime);
- time spent at the place of work on activities such as the preparation of the workplace, repairs and maintenance, preparation and cleaning of tools, and the preparation of receipts, time sheets and reports;
- time spent at the place of work waiting or standing by due to machinery or process breakdown, accident, lack of supplies or power or internet access, etc.; and
- time corresponding to short rest periods (resting time) including tea and coffee breaks or prayer breaks.

Excluded are:

- hours paid for but not worked such as paid annual leave, public holidays or paid sick leave;
- meal breaks; and
- for paid employment, time spent on travel to and from work when no productive activity for the job is performed (even when paid by the employer).

The ILO suggests that for multiple job holders, actual hours worked should include the hours worked at all jobs.

ABS measures of actual hours of work are consistent with the international recommendations outlined above.

Measures of actual hours of work are available from a number of ABS household surveys: the LFS; various labour-related supplementary topics to the LFS; and various Special Social Surveys, including the Census of Population and Housing. Measures of actual hours of work are not available from ABS business surveys.

## **MONTHLY HOURS WORKED IN ALL JOBS**

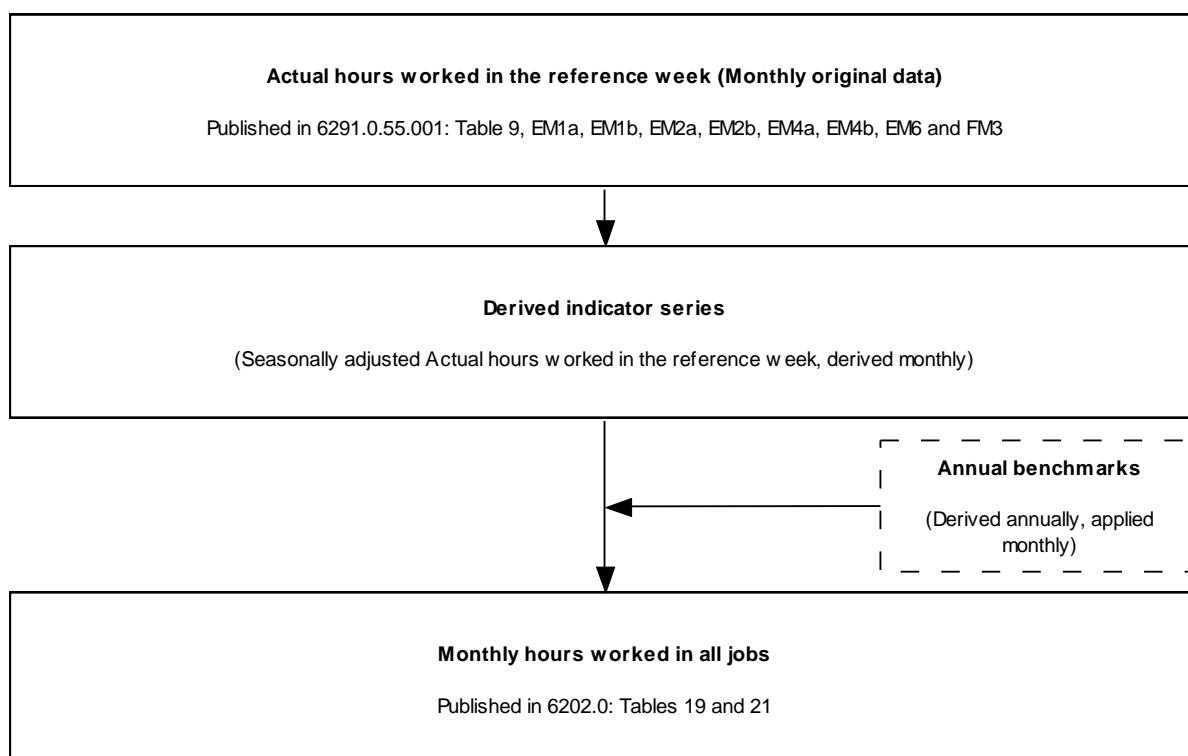
Monthly hours worked in all jobs is a measure of the total number of hours worked by employed persons in a calendar month. The methodology used to produce monthly hours worked in all jobs means that they are synthetic or modelled estimates.

Seasonally adjusted monthly hours worked in all jobs estimates are produced by combining two series.

The first series is the seasonally adjusted actual hours worked in the reference week, adjusted for holiday timing. These estimates provide an indication of movements across months.

The second series is an annual benchmark series containing original estimates of actual hours worked in each financial year. The annual actual hours worked original estimates are calculated by determining the actual hours worked for each week of the financial year. As actual hours worked are only collected in respect of the reference week of the LFS, actual hours worked for weeks not covered by the LFS are imputed based on the actual hours worked for the reference weeks in the adjacent months. Amongst other things, the imputation accounts for the effect of public holidays on hours worked; that is, it accounts for holidays that occur in the reference week of the LFS, as well as holidays that occur in weeks other than the reference week.

**Figure 5.2: Actual Hours and Monthly Hours**



These two series are then combined to produce the seasonally adjusted monthly hours worked in all jobs series. A trend series is also subsequently produced. This approach ensures that:

- the level of the aggregate monthly hours worked (seasonally adjusted) series is consistent with the level of the annual benchmarks; and
- the movements in the series are consistent with the movements in the seasonally adjusted actual hours worked in the reference week series.

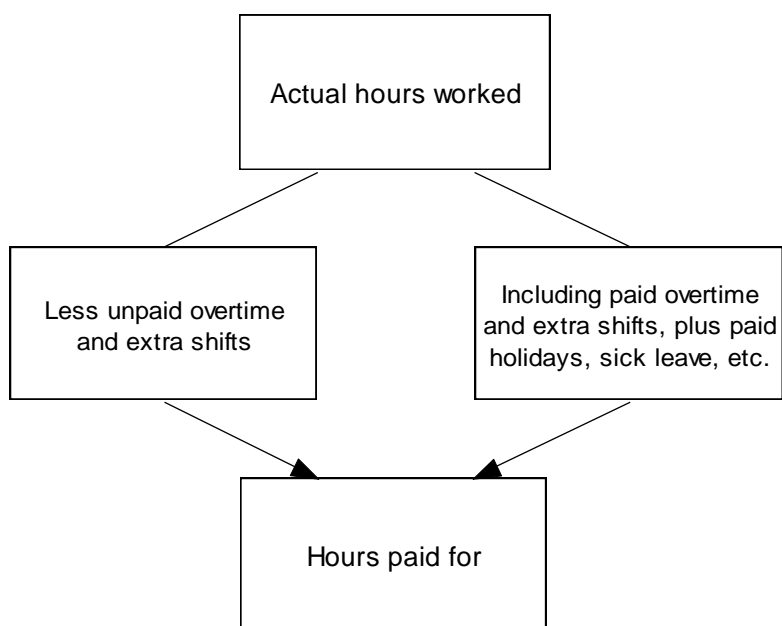
Estimates of monthly hours worked in all jobs are available from the LFS. For more information on monthly hours worked in all jobs, refer to the *Information Paper: Expansion of Hours Worked Estimates from the Labour Force Survey* (cat. no. 6290.0.55.001).

## **HOURS PAID FOR**

Hours paid for applies to a paid-employment job and to a self-employment job paid on the basis of time units. For a paid-employment job, hours paid for is the time for which payment has been received from the employer (at normal or premium rates, in cash or in kind) during a specified short or long reference period, regardless of whether the hours were actually worked or not. Hours paid for:

- includes time paid but not worked, such as paid annual leave, paid public holidays and certain absences such as paid sick leave; and
- excludes time worked but not paid by the employer, such as unpaid overtime, and absences that are not paid by the employer, such as unpaid educational leave or maternity leave that is paid through transfers by government from social security systems.

**Figure 5.3: Actual Hours Worked and Hours Paid For**



As such, hours paid for will differ from the number of hours actually worked if an employee works more or less hours than their paid hours. Hours paid for will also differ from usual hours in some cases, for example if an employee performs long hours in some weeks to have rostered days or weeks off.

Measures of hours paid for are collected from business payroll records in the ABS business survey of Employee Earnings and Hours (EEH). EEH also collects information on the following components:

- ordinary time hours paid for - defined as the award, standard or agreed hours of work paid for at the ordinary rate. Ordinary hours paid for include: stand-by or reporting time hours which are part of standard hours of work, and hours of paid annual leave, paid sick leave and long service leave taken during the reference period. Ordinary time hours paid for at penalty rates (e.g. for shift work) are not converted to their ordinary time equivalent; and
- overtime hours paid for - defined as hours paid for in excess of award, standard or agreed hours of work, at both standard and penalty rates.

Measures of average (mean) and median hours paid for and average hourly earnings are available from both EEH and COE.

## **NORMAL HOURS OF WORK**

Normal hours of work is defined in a 2008 ICLS resolution as "the hours fixed by or in pursuance of laws or regulations, collective agreements or arbitral awards to be performed in specified paid-employment jobs over a specified reference period, such as per day, week, month or year (within the System of National Accounts production boundary). Normal hours of work may also apply to a job in self-employment when the hours are in accordance with the hours fixed for all jobs in a specific industry or occupation (such as for drivers to ensure public safety)".

Measures of normal hours of work are not produced by the ABS. However, the concept is used to assist in allocating respondents in the full-time/part-time status classification in ABS business surveys.

## DATA SOURCES

### Labour Force Survey

The main source of hours worked data is the LFS. The list of hours worked data items from the LFS, and the publications they are contained in, are provided in the ABS publication *Labour Force Survey Standard Products and Data Item Guide, Jun 2016* (cat. no. 6103.0). The following is a summary of the three main labour force releases:

- *Labour Force, Australia* (cat. no. 6202.0) is the first release and contains aggregate monthly and quarterly hours worked;
- *Labour Force, Australia, Detailed - Electronic Delivery* (cat. no. 6291.0.55.001) is released a week later, and provides additional detail on hours worked (for example by age, by sex, by State/Territory); and
- *Labour Force, Australia, Detailed, Quarterly* (cat. no. 6291.0.55.003) is published with the second release of data on a quarterly basis. This release provides the most detailed information on hours worked by selected labour force variables (such as hours worked by industry or by occupation).

### LFS Supplementary Surveys

Hours worked data for specific populations are available in *Participation, Job Search and Mobility, Australia* (cat. no. 6226.0). A complete list of data items and populations for this survey is available from the Downloads tab for this publication.

The sole source of hours paid for from ABS household surveys is *Characteristics of Employment* (cat. no. 6333.0), previously *Employee Earnings, Benefits and Trade Union Membership* (cat. no. 6310.0). A complete list of data items and populations for this survey is available from the Downloads tab for this publication.

### Other ABS Sources

Measures of hours paid for are collected from business payroll records in *Employee Earnings and Hours* (cat. no. 6306.0). This survey provides statistics on the composition and distribution of employee earnings, hours paid for and methods used to set employees' pay in Australia. See Chapter 29 for more information on this survey.

The Census of Population and Housing has data on the number of hours worked by an employed person in all jobs during the week prior to Census night. Hours worked data are generally published in ranges, but are also available for individual numbers of hours worked.

## CHAPTER 6: UNEMPLOYMENT

### INTRODUCTION

The labour force framework discussed in Chapter 3 categorises the population into three mutually exclusive groups: employed, unemployed, and not in the labour force. This chapter discusses in detail the concept of unemployment, and contrasts the measures of unemployment collected in the Labour Force Survey (LFS) with those collected elsewhere. The chapter also discusses a range of classifications and measures that are related to unemployment.

### CONCEPTS AND INTERNATIONAL GUIDELINES

Persons in **unemployment** are defined as all those of working age who were not in employment, carried out activities to seek employment during a specified recent period and were currently available to take up employment given a job opportunity.

Nineteenth International Conference of Labour Statisticians (ICLS) 2013

### NOT IN EMPLOYMENT

The 'not in employment' is assessed with respect to the short reference period for the measurement of employment. The purpose of the 'not in employment' criterion is to ensure that employment and unemployment are mutually exclusive. As precedence is given to employment, a person should only be classified as unemployed if they do not satisfy the criteria for employment. The not in employment criterion refers to a total lack of work, that is, not in paid employment or self-employment, as defined in international standards for employment (refer to Chapter 4). Persons who are 'without work' should not have undertaken any work at all (not even for one hour) during the reference period, nor should they have been temporarily absent from a job to which they have a formal attachment.

There are other measures of labour underutilisation available to supplement the measures related to unemployment. See Chapter 7 for information on measures of underutilised labour and underemployment.

### SEEKING EMPLOYMENT

**Seeking employment** refers to any activity when carried out, during a specified recent period comprising the last four weeks or one month, for the purpose of finding a job or setting up a business or agricultural undertaking.

Nineteenth International Conference of Labour Statisticians (ICLS) 2013

According to the international guidelines seeking employment includes also part-time, informal, temporary, seasonal or casual employment, within the national territory or abroad. Examples of such activities are: "arranging for financial resources, applying for permits, licences; looking for land, premises, machinery, supplies, farming inputs; seeking the assistance of friends, relatives or other types of intermediaries; registering with or contacting public or private employment services; applying to employers directly, checking at worksites, farms, factory gates, markets or other



assembly places; placing or answering newspaper or online job advertisements; placing or updating resumes on professional or social networking sites online, etc." (Nineteenth International Conference of Labour Statisticians (ICLS) 2013).

To ensure that unemployment serves as a measure of current labour market performance that can capture short-term changes in labour market absorption, a 'specified recent period' is used to capture activities to seek employment. It is intended to be interpreted as a longer period than the reference day or week, in order to account for the time-lags that often follow initial steps to seek employment, during which jobseekers may choose not to take any other steps to find employment.

The international guidelines note that to be considered undertaking an active job search, a person must have done something specific to obtain work before being classified as 'seeking work'. A general declaration of being in search of work is not sufficient.

The active job search criterion is waived for persons waiting to start a new job that they have already obtained and that is to begin after the end of the reference period (these persons are referred to as future starters). According to the international standards, future starters are defined as persons 'not in employment' and 'currently available' who did not 'seek employment', because they had already made arrangements to start a job within a short subsequent period, set according to the general length of waiting time for starting a new job in the national context but generally not greater than three months. The active search criterion is waived; having already secured employment, persons waiting to take up a job may not feel the need to look for work. The international guidelines consider that this group should be treated as unemployed rather than employed because, since they are available to start work, such persons would presumably have started work had the job begun earlier and, as such, this group forms part of currently underutilised labour resources.

The international guidelines recommend that countries develop classifications of persons not in the labour force, according to the relative strength of their attachment to the labour market. Persons with marginal attachment include those persons who are not in the labour force, who wanted to work but were not actively looking for work, and were available to start work within four weeks from the end of the reference period. See Chapter 8 for more information about marginal attachment.

## CURRENTLY AVAILABLE FOR EMPLOYMENT

Persons without employment who are seeking employment should also be **available for employment** if they are to be considered as unemployed.

Nineteenth International Conference of Labour Statisticians (ICLS) 2013

In this context, availability for employment is a test of readiness to start a job in the present, assessed with respect to a short reference period comprising that used to measure employment: depending on national circumstances, the reference period may be extended to include a short subsequent period not exceeding two weeks in total, so as to ensure adequate coverage of unemployment situations among different population groups. The international standards recommend that a slightly longer reference period of measurement than the reference week would be better suited to capturing situations of unemployment among different population subgroups. Reasons for choosing a longer reference period include: the fact that not everyone who is seeking work can be expected to take up a job immediately when one is offered; and the fact that there are

some forms of employment where workers are employed on a pay period basis and have to wait until a new pay period starts before taking up work.

The international guidelines recommend that countries develop classifications of persons not in the labour force according to the relative strength of their attachment to the labour market. Persons with marginal attachment include those persons who are not in the labour force, who wanted to work and had actively looked for work (in the four weeks up to the end of the survey reference week), but did not meet the availability criterion to be classified as unemployed. See Chapter 8 for more information about marginal attachment.

## DEFINITIONS USED IN ABS SURVEYS

The ABS produces estimates of unemployment from most household surveys. The LFS is designed to produce precise estimates of unemployment (and employment), and the definition used aligns closely with the international definitions outlined above. In other household surveys, where unemployment is an explanatory or classificatory variable, the definition of unemployment is less precise than that used in the LFS.

### Labour Force Survey

Unemployed persons are defined as all persons aged 15 years and over who were not employed during the reference week, and:

- had actively looked for full-time or part-time work at any time in the four weeks up to the end of the reference week, and were available for work in the reference week, or
- were waiting to start a new job within four weeks from the end of the reference week, and could have started in the reference week if the job had been available then.

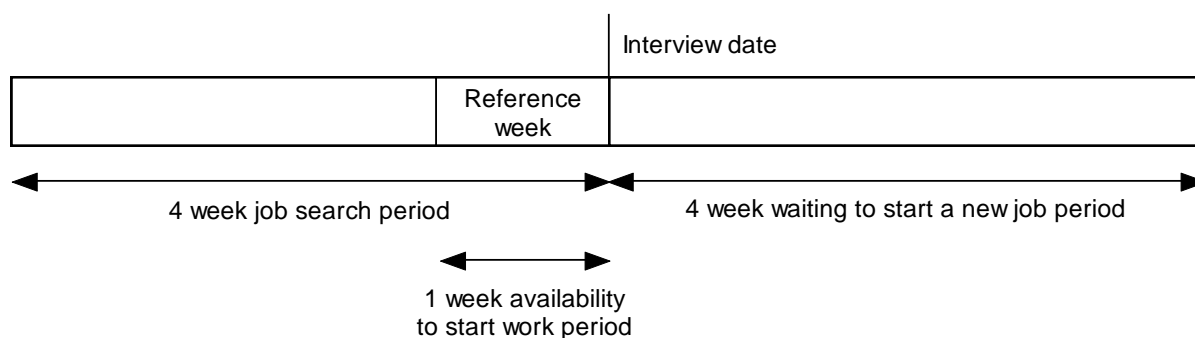
'Actively looked for work' includes: written, telephoned or applied to an employer; had an interview with an employer for work; answered an advertisement for a job; checked or registered with an employment agency; taken steps to purchase or start your own business; advertised or tendered for work; and contacted friends or relatives to find work.

Persons who only looked in newspapers or at job advertisements on the internet are seen as passively, rather than actively, looking for work and so are not considered unemployed. Similarly, just checking noticeboards is not considered an active job search step. These steps in isolation do not meet the active search criterion, as it is impossible to obtain work by looking at a job advertisement without some additional, active, job search step (for example, contacting the employer).

Future starters are those persons who were not employed during the reference week, were waiting to start a job within four weeks from the end of the reference week, and could have started in the reference week if the job had been available then. As described above, under International Labour Organisation (ILO) guidelines, future starters do not have to be actively looking for work in order to be classified as unemployed. Until February 2004, the Labour Force Survey definition of unemployed only included the subset of future starters who had actively looked for work in the four weeks to the end of the reference week. Hence, the Labour Force Survey treatment of future starters was not fully consistent with the ILO standards, as the precondition of active job search was not waived meaning some future starters were defined as 'not in the labour force'. From February 2004, future starters who had not actively looked for work are classified as unemployed in the Labour Force Survey, in line with ILO guidelines. Labour Force Survey estimates were revised back to April 2001 to reflect this change. This revision created a small trend break at April 2001 in unemployed persons and unemployment rate series. For further information on this change, see pages 11 and 12 of

Different reference periods apply for defining not employed, availability to start work, job search, and waiting to start a new job. These are summarised in Figure 6.1. The short, one week reference period ('reference week') is used in defining those 'not employed', and in determining their availability for work, in accordance with the international guidelines. For active job search, a longer (four week) period that includes the reference week is applied. For future starters, a period of four weeks is used for the waiting period beyond the reference week in which the job will commence.

**Figure 6.1: Reference Periods Used in the Labour Force Survey for Determining Unemployment**



### Other ABS household surveys

To produce unemployment estimates, most other ABS household surveys use one of the two alternative questionnaire modules: the reduced questionnaire module (used for personal interviews); or the self-enumerated questionnaire module. As discussed above, unemployment is defined less precisely in these modules than in the LFS.

Most Special Social Surveys use the reduced questionnaire module for personal interviews. Unemployment in this module is defined as persons aged 15 years and over who were not employed during the reference week, had actively looked for work and were available to start work. Compared with estimates of unemployment from the LFS, the reduced questionnaire module for personal interviews results in lower estimates of unemployment. This arises from the simplified treatment of certain categories of persons:

- the reduced questionnaire module for personal interviews does not ask respondents about the reasons they did not actively look for work. Therefore, the reduced questionnaire module does not identify those 'future starters' who had not actively looked for. When the reduced questionnaire module is used, these 'future starters' are classified as not in the labour force rather than as unemployed; and
- in the LFS, persons on workers' compensation 'last week' and not returning (or who do not know if they will be returning) to work, and persons away from work for four weeks or more without pay, are classified as either unemployed or not in the labour force. Where the reduced questionnaire module is used, all persons absent from work, but who usually work one hour or more a week, are classified as employed.

The self-enumerated questionnaire module used in the Census of Population and Housing also produces different estimates of unemployment when compared to the LFS. Some differences result from the shortened set of questions, which cannot determine unemployment as precisely as the LFS. Other differences result from the self-enumeration nature of the questions and the inevitable

differences in interpretation among respondents. As a result, estimates of unemployment from the self-enumerated questionnaire module are best used as explanatory or classificatory variables to explain other phenomena, rather than for detailed analysis of the labour force itself.

## DATA SOURCES

Unemployment estimates are available from:

- the Labour Force Survey (LFS);
- the Participation, Job Search and Mobility Survey (PJSM);
- the Census of Population and Housing; and
- Special Social Surveys.

### Labour Force Survey (LFS)

The LFS is the official source of Australian employment and unemployment statistics. The definition of unemployment used in the LFS is outlined above. The LFS uses a comprehensive and detailed set of questions to precisely measure the numbers and selected characteristics of persons in employment and unemployment, as well as persons who are not currently economically active. Estimates from the LFS are available by State/Territory, Capital City/Rest of State, and for LFS regions. (For more information on LFS regions, see the article 'Labour Force Survey regions', published in *Australian Labour Market Statistics, July 2004* (cat. no. 6105.0)). Chapter 15 provides more information on geographic classifications available from ABS household surveys. For more detail on the content and methodology of the LFS, see Chapter 19.

### Participation, Job Search and Mobility (PJSM)

The supplement to the LFS, the PJSM Survey, defines unemployment in the same way as the LFS, but excludes persons living in Aboriginal and Torres Strait Islander communities in very remote parts of Australia. The exclusion of these persons will have only a minor impact on any aggregate estimates that are produced for individual states and territories, except the Northern Territory where such persons account for around a quarter of the population. For further information on the content and methodology of the survey refer to Chapter 21.2.

### Census of Population and Housing

The self-enumerated questionnaire module defines unemployment less precisely than the LFS, and the estimates produced are not strictly comparable with those from the LFS. For this reason, unemployment estimates from the Census should be used with caution in analyses where labour force activities are a major focus. When comparing estimates of unemployment from the Census of Population and Housing with those produced from the LFS, users should also note differences between the two surveys in scope (for example, the inclusion of permanent defence forces in Census employment data) and methodology. See Chapter 18 for more information on the Census of Population and Housing.

### Special Social Surveys

As the reduced questionnaire module defines unemployment less precisely than the LFS, estimates produced are not strictly comparable with those from the LFS. When comparing estimates from the Special Social Surveys with those from the LFS, users should also note differences in scope and methodology across the collections.

Unlike most Special Social Surveys, the Survey of Employment Arrangements, Retirement and Superannuation, and the Survey of Employment and Unemployment Patterns, did not use the reduced questionnaire module to produce measures of unemployment as described above. Instead, these surveys used the full set of questions asked in the LFS.

## MEASURES OF UNEMPLOYMENT

### Unemployment rate

The unemployment rate for any group is defined as the number of unemployed persons expressed as a percentage of the labour force (employed plus unemployed). As one measure of the proportion of the labour force that is underutilised, an important use is as an indicator of the performance of the economy. A high rate of unemployment indicates limited employment opportunities in a labour market that is oversupplied. A low rate of unemployment indicates a tight labour market, a potential scarcity of skilled labour, and future cost pressures from wage demands from workers.

The trend over time in the overall unemployment rate serves as an indicator of the performance of the economy, while the unemployment rate for different groups of persons (e.g. younger persons, older persons, and women) identifies areas of social concern when rates for some groups are much higher than for others.

### Duration of job search

Conceptually, duration of job search is the period of time during which an unemployed person has been in a continuous state of unemployment. To measure this period accurately would require that all three criteria for defining an unemployed person be satisfied continuously and simultaneously over the whole period (i.e. without paid work, actively looking for work and available to commence work). However, it is impractical to apply all three criteria to past periods in a household survey because of the lengthy and complex questioning needed to test for the criteria, and the memory recall difficulties of respondents. For this reason, in practice the measurement of duration of unemployment focuses on the period of time that a person has been without paid work, and/or has been looking for work.

Duration of job search measures the elapsed number of weeks to the end of the reference week since an unemployed person began looking for work, or since that person last worked, whichever is the shorter. For persons who began looking for work while still employed, it is the period from the time the person last worked to the end of the reference week.

### Long-term unemployed job seekers

Within unemployment, it is possible to identify persons who are in long-term unemployment, defined as having duration of unemployment of 12 months or more. The number of unemployed people is an important social and economic indicator. The length of time that unemployed people have been looking for work or since they last worked (previously referred to as duration of unemployment) is also important from both an economic and social perspective. Long-term unemployment (i.e. where duration of job search is 52 weeks or more) is of particular social concern due to the consequences of being out of work for long periods, such as financial hardship and the loss of relevant skills. From an economic perspective, the longer people are unemployed the less likely they are going to be able to contribute to the economy.

Since its inception in 1960, the ABS Labour Force Survey (LFS) has collected information about duration of unemployment for unemployed persons. The survey collects data each month about the length, in completed weeks, of current (incomplete) spells of looking for work and/or time since last job from those who are currently unemployed.

Duration of unemployment refers to the amount of time that an unemployed person has not been employed. Over an extended period an unemployed person may have changes in their availability or active job search behaviour, with a spell or multiple spells of being not in the labour force.

The definition used by the ABS aligns with international standards (19th ICLS resolution (2013) concerning statistics of work, employment and labour underutilisation). For further information on long-term unemployment, see the article 'Long term employment' in *Australian Social Trends, Sep 2011* (cat. no. 4102.0).

## CHAPTER 7: UNDERUTILISED LABOUR

### INTRODUCTION

The ABS produces a range of measures on the performance of the labour market. In a broad sense, labour underutilisation encapsulates the extent to which people's desire for work is not being met. It covers persons who are not working but want to work, and those who are working but want to work more. A measure of underemployment supplements other measures of underutilisation of labour, such as the number of unemployed persons (Chapter 6) and the number of marginally attached discouraged jobseekers (Chapter 8), to inform the community about the performance of the labour market. This chapter discusses the concepts and definitions underlying measures of underutilised labour and underemployment.

In conceptual terms, underemployment, unemployment and marginal attachment to the labour force all measure different aspects of labour underutilisation. In isolation these measures provide important contextual information about the degree to which labour is being underutilised.

### CONCEPTS AND INTERNATIONAL GUIDELINES

#### Underutilised labour

**Underutilisation** encapsulates both unemployment and underemployment.

It provides more comprehensive information on the state of the labour market, and measures the extent to which all available labour force resources are not being fully used in the economy.

The need to produce broader measures of underutilisation emerged from the need to provide more comprehensive information on the state of the labour market than the unemployment rate (footnote 1). The unemployment rate is often one of the most cited indicators of underutilisation within the labour market. However, the standard definition used to define unemployment is necessarily quite restrictive. Consequently, the unemployment rate gives a relatively narrow view of the degree to which labour is being underutilised in the labour market. The production of broader measures of underutilisation is intended to provide a more comprehensive view of the labour market.

While these specific measures provide important information about labour underutilisation, individually they are narrow and in isolation do not provide a comprehensive picture of the degree to which labour is being underutilised in the labour market as a whole. By bringing various measures together, a broader picture of the degree to which labour is being underutilised can be obtained.

The labour force underutilisation rate and the extended labour force underutilisation rate are both aggregate measures that provide a broader picture of labour underutilisation.

## Underemployment

**Underemployment** is defined by the International Labour Organization (ILO) as the underutilisation of the productive capacity of the employed population.

It describes a situation where the potential labour of employed people is not fully utilised. Along with unemployment, it is an important indicator of unused capacity given current labour market conditions.

Two related concepts are recognised in the current international standards when measuring underemployment: **time-related underemployment**, which reflects insufficient hours of work in relation to an alternative employment situation that a person is willing and available to engage in; and **inadequate employment situations**, which refers to all those in employment who want to change their work activities and/or work environment for a set of reasons chosen according to national circumstances. Such reasons might include: insufficient use and mismatch of skills and experience; inadequate income; and excessive hours of work. Employed persons may be simultaneously in time-related underemployment and inadequate employment situations.

Previous international standards on underemployment identified two concepts of underemployment: one reflecting an insufficient volume of work, referred to as visible underemployment; and one reflecting an insufficient use of skills and experience or low productivity, termed invisible underemployment. Visible underemployment is closely related to time-related underemployment, while invisible underemployment, as it was previously defined, is now one component of inadequate employment situations.

### *Time-related underemployment*

According to the international standard, time-related underemployment exists when the hours of work of an employed person are below a threshold, and are insufficient in relation to an alternative employment situation in which the person is willing and available to engage (Nineteenth International Conference of Labour Statisticians 2013). Table 7.1 sets out the international definition for time-related underemployment.

**Table 7.1: International Definition of Time-Related Underemployment (ICLS 2013)**

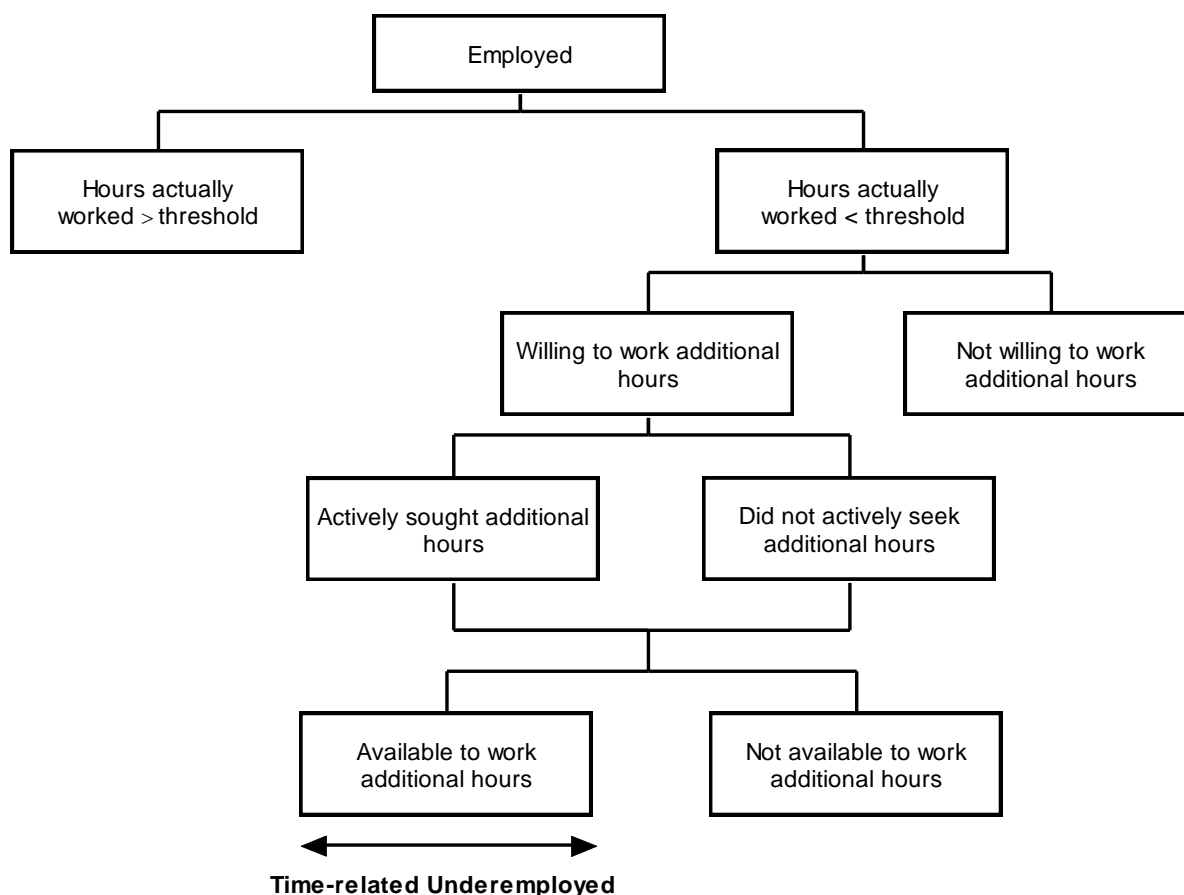
**Persons in time-related underemployment** are defined as all persons in employment who, during a short reference period, wanted to work additional hours, whose working time in all jobs was less than a specified hours threshold, and who were available to work additional hours given an opportunity for more work, where:

- The **working time** concept is hours actually worked or hours usually worked, dependent on the measurement objective (short or long-term situations) and in accordance with the international statistical standards on the topic.
- **Additional hours** may be hours in the same job, in an additional job(s) or in a replacement job(s).
- The **hours threshold** is based on the boundary between full-time and part-time employment, on the median or modal values of the hours usually worked of all persons in employment, or on working time norms as specified in relevant legislation or national practice, and set for specific worker groups.
- **Available** for additional hours should be established in reference to a set short reference period that reflects the typical length of time required in the national context between leaving one job and starting another.



The concepts underpinning the international definition of time-related underemployment are shown in Figure 7.2. The framework classifies persons who satisfy each of the criteria outlined above - willingness to work additional hours (note that persons actively seeking additional hours of work are distinguished from those who are not); availability to work additional hours; and worked less than a threshold relating to working time - as time-related underemployed.

**Figure 7.2: Conceptual Framework: Time-Related Underemployment**



Among persons in time-related underemployment, depending on the working time concept applied (i.e. who wanted and were “available” to work “additional hours”), it is possible to identify the following groups:

- persons whose hours usually and actually worked were below the “hours threshold”;
- persons whose hours usually worked were below the “hours threshold”, but whose hours actually worked were above the threshold; and
- persons “not at work”, or whose hours actually worked were below the “hours threshold” due to economic reasons (e.g. a reduction in economic activity, including temporary lay-off and slack work, or the effect of the low or off season).

The current international standard (ICLS 2013) also notes that countries should include, as part of a broad set of statistical indicators, the following in relation to underutilised labour:

- the rate of volume of time-related underemployment;

- activities to “seek employment” by persons in employment, indicating pressure on the labour market;
- inadequate employment situations due to skills, income or excessive working time, according to the relevant international statistical standards;
- slack work among the self-employed; and
- gross labour market flows between labour force statuses and within employment.

## MEASURES OF LABOUR UNDERUTILISATION

### Measures of labour underutilisation

Labour underutilisation measures can be divided into two broad types of measurements: headcount measures and volume measures. Headcount measures of labour underutilisation are based on the number of persons who are underemployed, unemployed or marginally attached to the labour force. Volume underutilisation measures relate to the number of potential hours of labour that are not utilised. Whether persons are unemployed or underemployed, not all persons who are in search of work (or more work) are seeking the same number of hours of work. For this reason, volume measures of underutilisation are often more relevant for analysing the spare capacity of the labour force than headcount measures. The various labour underutilisation measures that the ABS produces are discussed below.

#### *Unemployed*

Measures of unemployment provide important information on the supply of labour that is immediately available from persons who are currently not employed. The ABS produces both headcount and volume measures of unemployment. The unemployment rate is the number of persons that are unemployed, expressed as a percentage of the labour force. The volume unemployment rate is the hours of labour sought by unemployed persons, expressed as a percentage of the potential hours in the labour force. Total potential hours in the labour force is comprised of the number of hours sought by the unemployed, the number of additional hours sought by the underemployed, and the number of hours usually worked by all employed persons. For more information on unemployment, please refer to Chapter 6.

#### *Underemployed*

Measures of underemployment provide important information on the degree to which labour is being underutilised in the employed population of the labour market. The ABS produces both headcount (by population) and volume (hours based) measures of underemployment. The underemployment rate is the number of underemployed workers, expressed as a percentage of the labour force. The volume underemployment rate is the additional hours of labour preferred by underemployed workers, expressed as a percentage of the potential hours in the labour force.

## DEFINITIONS USED IN ABS SURVEYS

### Underutilisation rate

The labour force **underutilisation rate** is defined as the sum of the number of persons unemployed and underemployed, expressed as a percentage of the labour force.

The labour force underutilisation rate is an aggregate measure of underutilisation. It can also be viewed as the sum of the unemployment rate and the underemployment rate.

The labour force underutilisation rate is also expressed as a volume measure in the volume labour force underutilisation rate. The volume labour force underutilisation rate is expressed as the total volume of underutilised labour in the labour force (hours sought by unemployed persons, plus additional hours preferred by underemployed persons), as a percentage of the potential hours in the labour force.

The **extended labour force underutilisation rate** is expressed as the sum the unemployed, underemployed and two marginally attached groups, as a proportion of the labour force augmented by the number of persons in the two marginally attached groups.

The extended labour force underutilisation rate is the broadest measure of underutilisation the ABS currently produces, and takes the measure of underutilised labour beyond what is conventionally measured in the labour force. The measure includes, in addition to the unemployed and the underemployed, two groups of persons with marginal attachment to the labour force:

- persons actively looking for work, who were not available to start work in the reference week, but were available to start work within four weeks, and
- discouraged job seekers, defined as persons who want to work and could start work within four weeks if offered a job, but who have given up looking for work for reasons associated with the labour market.

The population with marginal attachment to the labour force is a relatively large and heterogeneous group. It includes persons who may have a strong likelihood of joining the labour force in the near future, as well as some who have little or no commitment to finding employment. The ABS does provide statistics about this large and diverse group, but does not include the whole group in its broadest supplementary measure of labour underutilisation. There may be other subgroups (in addition to the two marginally attached groups identified above) which fit the requirements of underutilised labour resources.

**Underemployed workers** are employed people who would prefer, and are available for, more hours of work than they currently have. They comprise:

- part-time workers who would prefer to work more hours and were available to start work with more hours, either in the reference week or in the four weeks subsequent to the survey; and
- full-time workers who worked part-time hours in the reference week for economic reasons (such as being stood down or insufficient work being available). It is assumed that these people would prefer to work full-time in the reference week and would have been available to do so.

### **Underemployment – Measurement and scope**

For practical reasons, ABS measurement of underemployment is confined to time-related underemployment. The ABS underemployment framework is based on separating employed persons into two mutually exclusive groups:

- workers who are considered to be fully employed; and
- workers who are not fully employed.

Fully employed workers comprise:

- employed persons who worked full-time during the reference week (including persons who usually work part-time);
- employed persons who usually work full-time, but worked part-time in the reference week for non-economic reasons (including illness or injury, leave, holiday or flex time, and personal reasons); and
- part-time workers (who usually work part-time and did so in the reference week) who do not want to work additional hours.

Full-time workers who worked part-time in the reference week for non-economic reasons are considered to be fully employed because they usually work full-time, and worked part-time in the reference week voluntarily.

Persons who are not fully employed comprise:

- part-time workers (who usually work part-time and did so in the reference week) who want to work more hours; and
- full-time workers who worked part-time in the reference week for economic reasons (such as being stood down or insufficient work being available).

Time-related underemployed workers (as defined in the ILO guidelines) are a subgroup of persons 'not fully employed'.

The ABS underemployment framework further classifies persons who are not fully employed according to whether they were looking for and/or available to start work with more hours and according to the number of additional hours sought. The framework further defines workers who are underemployed, comprising:

- part-time workers who would prefer to work more hours and were available to start work with more hours, either in the reference week or in the four weeks following the survey; and
- full-time workers who worked part-time hours in the reference week for economic reasons (such as being stood down or insufficient work being available).

### **Underemployment – Expanded analytical series**

As a result of the implementation of the *Outcomes of the Labour Household Surveys Content Review, 2012* (cat. no. 6107), the ABS also publishes an analytical series which expands the scope of headline underemployment measures to include all employed persons.

Headline measures of underemployment include those persons who are employed part-time who are wanting, and available, to work more hours. The expanded analytical underemployment series includes all employed persons who want, and are available, to work more hours, and all employed persons whose actual hours were fewer than usual hours for economic reasons.

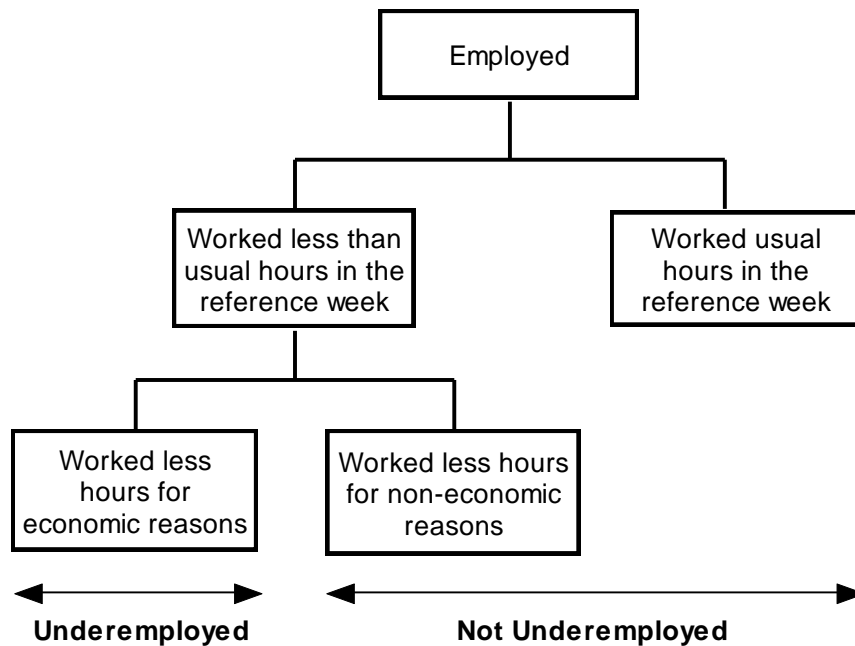
The following additional groups are therefore included in the expanded analytical measures of underemployment:

- full-time workers who would prefer to work more hours and were available to start work with more hours, either in the reference week or in the four weeks following the survey;

- full-time workers who still worked full-time hours in the reference week, but worked less than their usual full-time hours for economic reasons (such as being stood down or insufficient work being available); and
- part-time workers who worked less than their usual part-time hours during the reference week for economic reasons.

The ABS framework for the expanded analytical underemployment series is set out in Figure 7.3.

**Figure 7.3: ABS Framework: Expanded analytical underemployment series**



## COMPARISON OF ABS AND INTERNATIONAL DEFINITIONS

The ABS underemployment framework is consistent with the ILO concept of time-related underemployment, although the international standards do not specifically identify the group 'fully employed workers' as is the case in the ABS framework.

### Worked less than a threshold relating to working time

The international definition of time-related underemployment includes a threshold relating to working time. Only persons actually working less than the threshold are included in statistics of time-related underemployment. The international standards do not specify the threshold to be used. Instead they suggest a number of alternative approaches which may be suitable.

The threshold used in the current ABS underemployment framework is based on the boundary between full-time and part-time work. Only those employed persons actually working less than 35 hours in the reference week may be further classified as not fully employed. Persons actually working less than 35 hours in the reference week include part-time workers (persons who usually work part-time and did so in the reference week), as well as some full-time workers who actually worked part-time hours in the reference week for non-economic reasons.

Only full-time workers who worked part-time in the reference week for economic reasons are classified as not fully employed in the current ABS framework. Those who worked part-time in the reference week for non-economic reasons are assumed to be fully employed, on the basis that they usually work full-time, and that they 'voluntarily' worked part-time in the reference week.

### **Willingness to work additional hours**

In the ABS framework, willingness to work additional hours is tested by asking part-time workers whether they want to work additional hours. Starting from the July 2014 reference month, all employees are asked whether they want to work additional hours. This additional information allows for the production of the expanded analytical underemployment series.

### **Availability to work additional hours**

In the ABS framework, availability to work additional hours is determined both in terms of immediate availability (i.e. available in the reference week), and availability within the following four weeks. The international guidelines are not prescriptive on this issue.

### **Volume of time-related underemployment**

The ABS previously produced annual volume measures of underemployment and underutilisation. Volume measures relate to the quantum of unused potential hours of labour, and were previously compiled using information collected in the Job Search Experience Survey, the Underemployed Workers Survey and the Labour Force Survey (LFS). They are often more relevant for analysing the spare capacity of the labour force than the usual 'headcount' measures, as they take into account the number of hours sought and additional hours preferred by individuals.

Starting from the July 2014 reference month of the LFS, the ABS increased the frequency of the volume measures of labour underutilisation from an annual to a quarterly basis, estimated directly from LFS data. These data were made available from November 2015. For more information, see *Information Paper: Forthcoming Changes to Labour Force Statistics, Oct 2014* (cat. no. 6292.0).

## **DATA SOURCES**

Estimates of labour unemployment, underemployment and underutilisation are available monthly from *Labour Force, Australia* (cat. no. 6202.0):

- underemployment (headcount);
- unemployment (headcount);
- unemployment rate; and
- underutilisation rate.

Estimates of persons not fully employed are available from:

- the Labour Force Survey (LFS); and
- the supplement to the LFS, the Participation, Job Search and Mobility (PJSM) Survey.

### **Labour Force Survey**

The LFS collects information on underemployment on a monthly basis. The survey classifies workers according to the framework outlined above:

- part-time workers who would prefer to work more hours and were available to start work with more hours, either in the reference week or in the four weeks following the survey; and
- full-time workers who worked part-time hours in the reference week for economic reasons.

Based on the new survey starting with the July 2014 reference month, the ABS increased the reporting frequency of the underemployment rate and labour force underutilisation rate from a quarterly to a monthly basis. The underemployment and underutilisation information was integrated into LFS output, together with unemployment information, from November 2015. For more

information, see *Labour Force, Australia*, Nov 2015 and *Information Paper: Forthcoming Changes to Labour Force Statistics, Oct 2014* (cat. no. 6292.0).

In addition to monthly headcount underemployment and underutilisation measures, the ABS produces volume measures of underemployment and underutilisation on a quarterly basis.

The criteria used in the LFS are analogous to the criteria for determining unemployment (that is, actively looking for work and available for work in the reference week). Additional information is also available on full-time workers who usually work part-time.

For more information on the content and methodology of the LFS, see Chapter 19.

### **Participation, Job Search and Mobility (PJSM)**

The annual LFS supplementary topic, PJSM, is the primary ABS data source on underemployment. The survey classifies workers according to the framework outlined above, comparable with ICLS 2013 and the LFS quarterly measure, but with a much wider range of information: for example, on the number of hours usually worked, number of preferred hours, steps taken to find work, and difficulties finding work. For more information on the content and methodology of this survey, see Chapter 21.2.

### **FOOTNOTES**

1. 'Beyond the measurement of unemployment and underemployment; The case for extending and amending labour market statistics', International Labour Organisation (ILO) Underutilisation Working Group Report (2011).

## CHAPTER 8: NOT IN THE LABOUR FORCE

### INTRODUCTION

The labour force framework discussed in Chapter 3 categorises the population into three mutually exclusive groups: employed; unemployed; and not in the labour force. This chapter discusses the concept 'not in the labour force', and follows on from the discussion on employment (Chapter 4) and unemployment (Chapter 6).

### CONCEPTS AND INTERNATIONAL GUIDELINES

The population **not in the labour force** (that is, not currently economically active) comprises all persons not currently employed or unemployed, irrespective of age.

Thirteenth International Conference of Labour Statisticians 1982

Theoretically, then, persons not in the labour force include those below the age specified for measuring the economically active population. The international standards recognise that, for analytical purposes, the economically active population may be related to the total population to derive a crude participation rate or, more appropriately, to the population above the age prescribed for the measurement of the economically active population. In practice, many countries restrict the population scope of household surveys, and provide separately sourced estimates for those below the age limit when a total population estimate or a crude participation rate is required (e.g. for international reporting).

In the international guidelines (Nineteenth International Conference of Labour Statisticians 2013), the national system of work statistics will cover the work activities of the population in all age groups. To service different policy concerns, separate statistics are needed for the working age population.

To determine the working age population:

- the lower age limit should be set taking into consideration the minimum age for employment and exceptions specified in national laws or regulations, or the age of completion of compulsory schooling; and
- no upper age limit should be set, so as to permit comprehensive coverage of work activities of the adult population and to examine transitions between employment and retirement.

Not all persons who are classified as not in the labour force are voluntarily economically inactive; some want to work but are classified as not in the labour force because they do not satisfy the criteria for unemployment (active job search and availability to start work - see Chapter 6).

The international guidelines (Thirteenth International Conference of Labour Statisticians 1982) recommend that persons not in the labour force may be classified by reasons for inactivity, which are listed as:

- attendance at educational institutions;
- engagement in household duties;
- retirement or old age; and
- other reasons such as infirmity or disablement.



### **Marginal attachment to the labour force**

The international guidelines (Thirteenth International Conference of Labour Statisticians 1982) suggest that, where the standard definition of employment is used, countries develop classifications of persons not in the labour force according to the relative strength of attachment to the labour market. The International Labour Organisation, in its manual *Surveys of Economically Active Population, Employment, Unemployment and Underemployment*, states that persons marginally attached to the labour force are those not economically active under the standard definitions of employment and unemployment, but who, following a change in one of the standard definitions (of employment or unemployment, such as active job search or availability to start a job), would be reclassified as economically active.

### **Potential labour force (Entrants)**

In the international guidelines (Nineteenth International Conference of Labour Statisticians 2013), the potential labour force is defined as all persons of working age who, during the short reference period, were neither in employment nor in unemployment and:

- carried out activities to seek employment, were not currently available but would become available within a short subsequent period established in the light of national circumstances (unavailable jobseekers); or
- did not carry out activities to seek employment, but want employment and were currently available (available potential jobseekers).

### **Discouraged workers**

The guidelines recognise that, though not precise in concept (nor defined in the international guidelines), the term 'discouraged workers' generally refers to persons who want a job and are currently available for work, but have given up any active job search because they believe they cannot find a job.

### **Discouraged job seekers**

In the international guidelines (Nineteenth International Conference of Labour Statisticians 2013), there are those who are currently available for work who did not seek employment for the following labour market-related reasons:

- personal reasons (own illness, disability, studies);
- family-related reasons (pregnancy, presence of small children, refusal by family);
- lack of transport;
- other sources of income (pensions, rents); and
- social exclusion.

### **Willing non-jobseekers**

The guidelines (Nineteenth International Conference of Labour Statisticians 2013) state that willing non-jobseekers are defined as persons not in employment who wanted employment, but did not seek employment and were not currently available. This group have an expressed interest in employment not included within the potential labour force, but relevant for social and gender analysis.

## **DEFINITIONS USED IN ABS SURVEYS**

The ABS produces estimates of persons not in the labour force in a number of household surveys. The definition used is consistent with the concepts outlined above except for persons aged less than 15 years, who are generally excluded from ABS measures of labour force status. Persons not in the labour force are therefore generally defined in ABS household collections as 'persons aged 15 years

and over who are neither employed nor unemployed'. Examples of those not in the labour force includes persons who are:

- retired or voluntarily inactive;
- performing home duties or caring for children;
- attending an educational institution;
- experiencing a long-term health condition or disability;
- experiencing a short-term illness or injury;
- looking after an ill or disabled person;
- on a travel, holiday or leisure activity;
- working in an unpaid voluntary job;
- in institutions (hospitals, jails, sanatoriums, etc.);
- permanently unable to work; and
- members of contemplative religious orders.

Estimates of persons not in the labour force vary across different household surveys because of differences in the definitions of employment and unemployment used in these surveys, and the respective scope of these surveys. As discussed in preceding chapters, the Labour Force Survey (LFS) is designed to produce precise estimates of employment, unemployment and persons not in the labour force, and definitions used align closely with international standards. In other household surveys, it is generally not practical to define employment and unemployment as precisely as in the LFS. Two alternative questionnaire modules are used to collect measures of labour force status (i.e. employment, unemployment and persons not in the labour force) in these surveys: the reduced questionnaire module (for use in personal interview), and the self-enumerated questionnaire module.

Estimates of persons not in the labour force produced from the reduced questionnaire module (used in most Special Social Surveys) are higher than those produced from the LFS. This is due to differences in the treatment of certain categories of persons:

- the reduced questionnaire module for personal interviews does not ask respondents about the reasons they did not actively look for work. Therefore, the reduced questionnaire module does not identify 'future starters'. Future starters are persons who were not employed during the reference week, were waiting to start a job within four weeks from the end of the reference week, and could have started in the reference week if the job had been available then. Using the reduced questionnaire module, such persons are classified as not in the labour force rather than as unemployed, and
- in the LFS, persons on workers' compensation 'last' week and not returning or 'don't know if returning' to work, and persons away from work for four weeks or more without pay, are classified as either unemployed or not in the labour force. Using the reduced questionnaire module, all persons absent from work, but who usually work one hour or more a week, are classified as employed.

The self-enumerated questionnaire module (used in the Census of Population and Housing) also produces different estimates of persons not in the labour force when compared to the LFS. Some differences result from the shortened set of questions, which cannot determine labour force status as precisely as the LFS. Other differences result from the self-enumeration nature of the questions, and the inevitable differences in interpretation across respondents. As a result, estimates of persons not in the labour force from the self-enumerated questionnaire module are best used as explanatory or classificatory variables to explain other phenomena, rather than for detailed analysis of the labour force itself.

## Marginal attachment to the labour force and discouraged job seekers

Measures of persons marginally attached to the labour force and discouraged job seekers are collected by the ABS annually in a supplementary survey to the LFS, the Participation, Job Search and Mobility Survey. Definitions used in this survey are outlined below.

### Marginal attachment

Persons with marginal attachment to the labour force comprise those persons who are not in the labour force, who wanted to work, and:

- are actively looking for work, but are not available to start work in the reference week; or
- are not actively looking for work, but are available to start work within four weeks.

This definition is consistent with that suggested by the international guidelines, and involves relaxing the criteria used to determine unemployment in the LFS as follows:

- persons meeting the first set of criteria above (wanting to work, actively looking for work, not available to start work) would have been classified as unemployed if the unemployment criterion 'currently available for work' had been waived; and
- persons meeting the second set of criteria above (wanting to work, not actively looking for work, available to start within four weeks) would have been classified as unemployed if the unemployment criterion 'active job search' had been waived and the criterion 'currently available for work' had been relaxed to include the next four weeks. The circumstances that would permit people to start a job are likely to differ between persons in the labour force and those not in the labour force. Accordingly, a reference period of four weeks for the availability criterion is adopted, rather than current availability, as for the unemployed.

### Discouraged job seekers

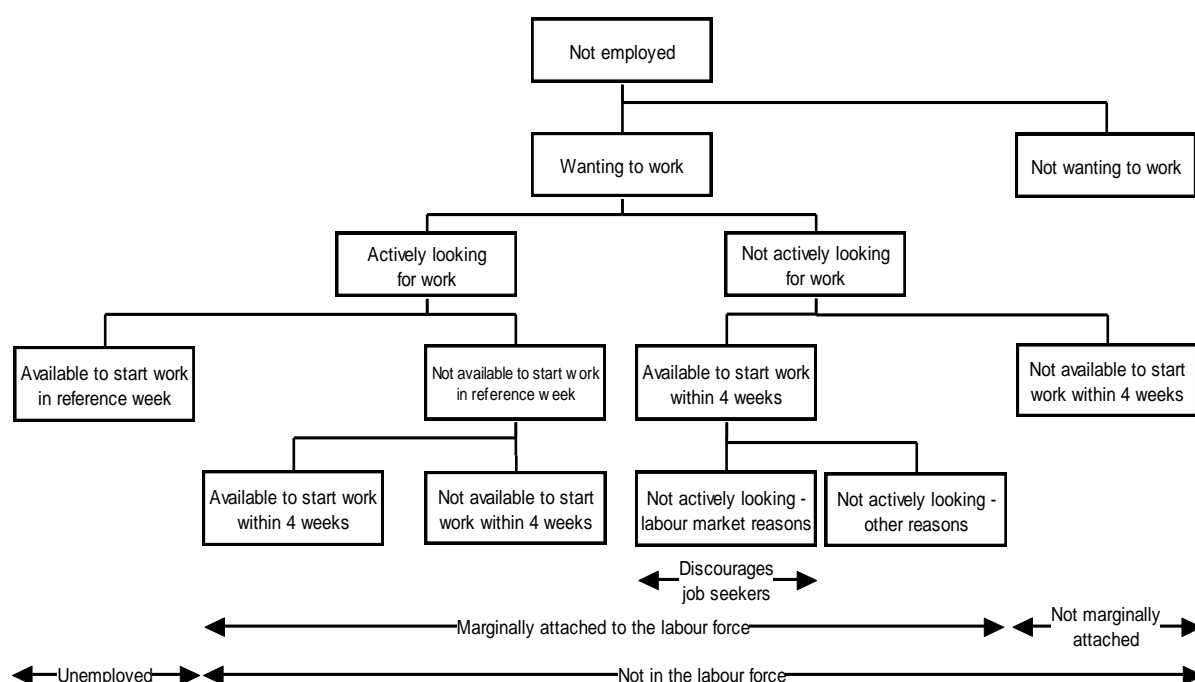
Discouraged job seekers are defined as persons with marginal attachment to the labour force who want to work and could start work within four weeks if offered a job, but who have given up looking for work for reasons associated with the labour market. This group includes persons who believe they would not find a job for any of the following reasons:

- considered to be too young or too old by employers;
- believes ill health or disability discourages employers;
- lacked necessary schooling, training, skills or experience;
- difficulties because of language or ethnic background;
- no jobs in their locality or line of work;
- no jobs in suitable hours; or
- no jobs available at all.

This definition of discouraged job seekers is consistent with the definition of discouraged workers outlined in international guidelines.

Figure 8.1 illustrates the concepts of not in the labour force, unemployed, marginally attached, and discouraged job seekers, as measured in the Participation, Job Search and Mobility (PJSM) Survey.

**Figure 8.1: Conceptual Framework: Persons Not in the Labour Force**



## DATA SOURCES

Estimates of persons not in the labour force are available from:

- the Labour Force Survey (LFS);
- the Participation, Job Search and Mobility Survey (PJSM);
- the Census of Population and Housing; and
- Special Social Surveys.

### Labour Force Survey (LFS)

The LFS is the official source for Australian employment and unemployment statistics and defines persons not in the labour force according to the definitions outlined above, using the full questionnaire module. Persons not in the labour force are further classified as:

- looking for work (i.e. either undertook active job search and were not available to commence work, or undertook only passive job search);
- not looking for work;
- permanently unable to work; and
- in institutions.

Estimates of reason for inactivity, marginal attachment and discouraged job seekers are impractical to collect in the LFS, because of cost, time and respondent burden. These topics are therefore measured in an annual supplement to the LFS, as noted below. Notwithstanding this, quarterly estimates of the number of marginally attached persons who had actively looked for work, were not available to start work in the reference week, but were available to start within four weeks, are available from the LFS. For more details on the content and methodology of the LFS, refer to Chapter 19.

### **Participation, Job Search and Mobility (PJSM)**

The supplement to the LFS, the PJSM Survey, is the main source of detailed information on persons not in the labour force. Persons not in the labour force are defined as for the LFS, but exclude persons living in Aboriginal and Torres Strait Islander communities in very remote parts of Australia. The exclusion of these persons will have only a minor impact on any aggregate estimates that are produced for individual states and territories, except the Northern Territory where such persons account for around a quarter of the population. In addition, the supplementary surveys exclude institutionalised persons, and this group of persons represents approximately 4% of persons not in the labour force. The survey produces estimates of persons marginally attached to the labour force, of discouraged job seekers, and of persons not in the labour force classified by reasons for inactivity. The definitions for marginal attachment and discouraged job seekers used in the survey are discussed above. For further information on the content and methodology of the survey, refer to Chapter 21.2.

### **Census of Population and Housing**

The Census of Population and Housing uses the self-enumerated questionnaire module and defines persons not in the labour force as 'persons aged 15 years and over who, during the week before census night, were neither employed nor unemployed'. As discussed previously, the self-enumerated questionnaire uses a limited set of questions to collect labour force status and measures persons not in the labour force more broadly than collections using the full questionnaire modules. The LFS and its supplementary topic PJSM both use the full questionnaire. When comparing estimates from the Census with those from the LFS, or the PJSM Survey, users should also note differences in scope and methodologies across the collections. See Chapter 18 for more information on the Census of Population and Housing.

### **Special Social Surveys**

The Special Social Surveys generally use the reduced questionnaire module and define persons not in the labour force as 'persons who were neither employed nor unemployed during the reference period'. Estimates are generally only produced for persons (in scope of the survey) aged 15 years and over. As discussed previously, the reduced questionnaire module uses a limited set of questions to determine labour force status, and measures 'not in the labour force' less precisely than collections using the full questionnaire modules, including the LFS and its supplementary topic PJSM. When comparing estimates from the Special Social Surveys with the LFS, or with PJSM, users should also note differences in scope and methodologies across the collections.

## CHAPTER 9: JOBS

### INTRODUCTION

This chapter discusses the concepts, definitions and data sources for data on filled jobs. It explains the international definitions and their application within ABS surveys, and highlights the differences between filled and vacant jobs and between jobs and employment.

### CONCEPTS AND DEFINITIONS

#### Definition of a Job

The 2008 System of National Accounts (SNA) provides one definition of a job:

"19.30...The agreement between an employee and the employer defines a job and each self-employed person has a job."

A job is conceptualised as a relationship between an employed person and employing enterprise, that is, between an employee and an employer or between a self-employed person (employee) and their own enterprise (employer). These jobs are often referred to in ABS statistics as 'filled jobs'.

Jobs can also exist in the absence of an employed person, referred to in ABS statistics as a 'vacant job'. Vacant jobs are positions which are available for immediate filling and for which recruitment action has been undertaken. For more information on vacant jobs, see Chapter 10: Job Vacancies.

#### Payment

Most jobs are performed by employed persons in return for some form of payment, whether it is in cash or in kind. As such, persons paid solely in kind, such as contributing family workers, are considered to have a job.

Not all jobs are paid, however, either in cash or in kind. People can be engaged in productive economic activity within an institutional unit for no apparent reward, in which case they are contributing to output but receiving no compensation. The 2008 SNA concept of a job includes these people as volunteer labour (footnote 1); however, they are excluded from the Australian System of National Accounts and also from Australian labour statistics (see Chapter 2: Institutional Units and the Economically Active Population).

#### Multiple jobs

A person can hold multiple jobs. For a person who is an employee of multiple employing enterprises, the SNA definition allows each agreement to be considered a separate job. The wording of the SNA is less clear in relation to self-employed persons, as it suggests that each self-employed person has only one job. In practice, however, this is not the case. Many self-employed persons hold additional jobs, either in additional self-employment enterprises or with employing enterprises as employees (footnote 2). In ABS statistics, both employees and self-employed persons can have multiple jobs.

#### Jobs and Employment

Every employed person has a job, however, because they can have multiple jobs, measures of employment and measures of jobs are conceptually different. It is important to distinguish between estimates of employment and estimates of jobs as conceptually different measures of labour.

Household surveys typically estimate employment, such that they provide data on the number of people in the labour force (those who have jobs), not the number of jobs in the economy.

Estimates of employment from business surveys are typically measures of jobs. The employer is generally unable to provide information about their employees' other jobs (footnote 3). Because ABS business surveys sample businesses and not employees, multiple job holders may be included in the sample multiple times.

### **“EMPLOYMENT” OR “JOBS”**

The Labour Force Survey (LFS) is the official source of Australian employment and unemployment statistics. Current estimates of the number of people who are employed, unemployed and not in the labour force, classified by sex, full-time / part-time status, and state and territory are released in *Labour Force, Australia* (cat. no. 6202.0) each month. However, users sometimes refer to the increase (or decrease) in employment from month to month as the number of “jobs” created (or lost). This is an incorrect inference, as estimates of “employment” from the LFS (an ABS household survey) refer to counts of people rather than jobs.

The LFS is designed to produce estimates of the number of people engaged in economic activity, and the definition used aligns closely with international standards and guidelines. The concept of employment used in the LFS (and other ABS household surveys) differs to the concept used in ABS business surveys, where estimates are based on the number of jobs involving paid employment. For example, a person holding multiple jobs with different employers would be counted in ABS household surveys as employed once, but in ABS business surveys would be counted once for each job that they held.

Estimates of the number of employee jobs from ABS business surveys are most commonly compared to estimates of the number of persons in paid employment (referred to as employees) from ABS household surveys. However, estimates of employees from household surveys are not equivalent to estimates of employee jobs from business surveys for the same reason as described above. An example of an ABS business survey which provides estimates of the number of employee jobs (limited to the private sector) is the Economic Activity Survey (EAS). Estimates of employee jobs from *Australian Industry* (cat. no. 8155.0) can only be compared to estimates of the number of employees in the LFS, if the differences outlined above are considered and ideally quantified. For the purposes of this comparison, the estimates from the LFS would provide counts of the number of people in employee jobs, whereas estimates from the EAS would provide counts of the number of jobs that are occupied by employees. People who appear on more than one payroll are only counted once in the LFS, whereas in the EAS they are counted once for each payroll on which they appear.

The distinction between jobs and employment is also important when considering full-time/part-time status. As full-time/part-time status relates to a person's employment (based on the total hours they work in all of their jobs), the number of full-time employed people (and changes in that number) does not equate to the number of full-time jobs in the labour market. A person in full-time employment can hold more than one job (for example, two part-time jobs for which the combined number of hours worked totals 35 hours or more per week), whereas a full-time job represents one person employed full-time.

A number of examples illustrate this:

- if an unemployed person became employed full-time (by starting one full-time job), then the full-time employment estimate from the LFS would increase by one (in a business survey, or a 'jobs' count, this would lead to an increase in the jobs estimate of one);

- if an unemployed person became employed full-time (by starting two part-time jobs with a total of 35 hours of work or more per week), then the full-time employment estimate from the LFS would increase by one (however, in a business survey, or a 'jobs' count, this would lead to an increase in the jobs estimate of two);
- if a person who was already employed in one part-time job took on another part-time job, this would have differing impacts on the employment estimates from the LFS depending on the total number of hours worked: if the sum of hours worked in the two part-time jobs was fewer than 35 hours per week, the employment estimates from the LFS would remain unchanged, but if the sum of hours worked was 35 hours or more, the employment estimates from the LFS would show a decrease of one in part-time employment and an increase of one in full-time employment (however, in both cases this would lead to an increase of one in the jobs estimate from a business survey);
- if a person who was employed in three part-time jobs (working a total of more than 35 hours per week) resigned from these and assumed one full-time job, this would have no impact on the employment estimates from the LFS (however, this would lead to a decrease of two in the jobs estimate - the number of part-time jobs would decrease by three while the number of full-time jobs would increase by one); and
- if a person employed in two part-time jobs became unemployed, the employment estimate from the LFS would decrease by one (however, this would lead to a decrease of two in the jobs estimate from a business survey).

To correctly cite the employment estimates from the LFS, users should refer to employment or the number of people employed, not the number of jobs. Multiple job holding is the main reason why estimates of employment from the LFS cannot be equated to estimates of jobs. One employed person does not necessarily equate to one job - one person can hold more than one job.

## DATA SOURCES

### Labour Force Survey

Data from the Labour Force Survey (LFS) are used to provide regular estimates of employment; however, specific estimates of jobs are not produced. Up to June 2014, the LFS collected data on the number of multiple job holders, however did not collect the number of jobs they held. Estimates of jobs were created by weighting estimates of the number of multiple job holders from the LFS using estimates of the average number of jobs held by multiple job holders from the 2007 Survey of Employment Arrangements, Retirement and Superannuation. This method provided aggregate numbers of jobs but did not allow detailed disaggregation. For more information on this process, see the article 'Estimating Jobs in the Australian Labour Market' in *Labour Force, Australia, Feb 2013* (cat. no. 6202.0).

In July 2014, the ABS introduced a series of changes resulting from the Labour Household Surveys Content Review. These included for the first time the collection in the LFS of the actual number of jobs held by each multiple job holder each month. These new data allow the number of jobs to be more accurately estimated, as the number of jobs held by each multiple job holder is directly collected. This allows for further disaggregation of the statistics; however, because the LFS does not provide detail about the jobs separately (such as which industry they are in), this analysis is still limited.

For more information on the data content and methodology of the LFS, see Chapter 19: Labour Force Survey.



## Job Vacancies Survey

Estimates from this survey are produced according to the definitions outlined in Chapter 10: Job Vacancies. For more information on the data content and methodology of this survey, see Chapter 25: Job Vacancies Survey.

## Other business surveys

Estimates of employment are created from several business surveys. Because these surveys are unable to identify individual employees across multiple businesses, these are rather estimates of jobs. The key business surveys which provide data on jobs are listed below. For more information on the specific data content and methodology of these surveys, see the relevant sections:

- Economic Activity Survey (Chapter 24);
- Quarterly Business Indicators Survey (Chapter 24); and
- Survey of Employment and Earnings (Chapter 30).

## Linked Employer-Employee Data

In 2015 and 2016, the ABS published experimental statistics on employee jobs for the 2011-12 financial year. These statistics were created using data from a prototype linked employer-employee database (the Prototype LEED) for over 10 million employees sourced from the Australian Taxation Office. Employee jobs were defined as continuous contracts between employer and employee, as recorded in data from the Australian Taxation Office.

Measures of jobs from this source differ from other estimates in several key ways. Because of the year-long reference period, employees may have several jobs throughout the year (either concurrently or consecutively) with one or multiple employers, and thus the statistics differ from point-in-time estimates of filled jobs. The Prototype LEED only measures paid employee jobs, so jobs held by owner-managers of unincorporated enterprises and any unpaid jobs (for example contributing family workers) are excluded. The data sources used in the Prototype LEED were not created for statistical purposes, and therefore differ both conceptually and in the way they are collected and maintained. The Prototype LEED data is not a sample and the statistics produced from it are not estimated, as are ABS survey estimates.

For more information on the Prototype LEED, see Chapter 33: Future Directions of Labour Statistics and *Information Paper: Construction of Experimental Statistics on Employee Earnings and Jobs from Administrative Data, Australia, 2011-12* (cat. no. 6311.0).

## Australian Labour Account

In 2017, the ABS released data from an experimental Australian Labour Account. The Australian Labour Account includes jobs as one of its four quadrants of labour, along with persons, volume, and payments, and sources data on jobs from a number of ABS household and business surveys.

The Australian Labour Account defines jobs as a set of production related tasks that can be assigned to and undertaken by a person, and for which they are usually, but not necessarily, remunerated either in money or in kind.

The Australian Labour Account includes all jobs created and maintained by institutional units resident in Australian economic territory, involving economic activity within the Australian application of the 2008 SNA production boundary. It includes both filled and vacant jobs, and distinguishes between main and secondary jobs. It classifies jobs according to the status in employment categories of the person filling the job, as well as a variety of job characteristics.

For more information on the Australian Labour Account, see *Australian Labour Account: Concepts, Sources and Methods, 2017* (cat. no. 6150.0).

## FOOTNOTES

1. 2008 SNA, 19.39
2. See the article 'People with more than one job' in *Australian Social Trends, Sep 2009* (cat. no. 4102.0).
3. 2008 SNA, 19.31

## CHAPTER 10: JOB VACANCIES

### INTRODUCTION

This chapter discusses the concepts, definitions and sources of job vacancies data. Job vacancies are an indicator of unmet labour demand, and complement indicators of underutilised labour supply such as underemployment (Chapter 7) and unemployment (Chapter 6). Job vacancy data are used by Commonwealth and State government departments, employer associations and trade unions as a leading economic indicator and econometric forecasting.

### CONCEPTS AND DEFINITIONS

"A **'vacant post'** can be said to exist if an employer before or during the reference period has taken concrete steps to find a suitable person to carry out a specific set of tasks and would have taken on (entered into a job contract with) such a person if she/he had been available during the reference period".

International Labour Organisation, 15th ICLS, 1993

There are currently no international recommendations or guidelines relating to job vacancies statistics. The concept of vacant post was discussed in the general report to the Fifteenth International Conference of Labour Statisticians 1993, where the above definition was put forward.

Job vacancies statistics are collected in the Australian Bureau of Statistics (ABS) Job Vacancies Survey (JVS) (see Chapter 25). The ABS defines job vacancies in the JVS as employee jobs available for immediate filling on the actual survey reference day and for which employers have undertaken recruitment action. Recruitment action includes efforts to fill vacancies by advertising, by factory notices, by notifying public or private employment agencies or trade unions and by contacting, interviewing or selecting applicants already registered with the business or organisation.

Measures of job vacancies exclude:

- jobs not available for immediate filling on the reference day;
- jobs for which no recruitment action has been taken;
- jobs which became vacant on the survey reference day and were filled on the same day;
- jobs of less than one day's duration;
- jobs only available to be filled by internal applicants within an organisation;
- jobs to be filled by employees returning from paid or unpaid leave, or after industrial disputes;
- vacancies for work to be carried out by contractors; and
- jobs for which a person has been appointed but has not yet commenced duty.

### DATA SOURCES

Data on job vacancies are available from the ABS, while data on the number of job advertisements are available from a number of other sources including the private sector. Job vacancies should not be confused with job advertisements. Job vacancies data may differ from data on the number of job advertisements for a number of reasons, including the multiple advertising of a single vacancy.

Estimates of job vacancies and job advertisements are available from:

- the ABS Job Vacancies Survey (cat. no. 6354.0);
- the Australian and New Zealand Banking Group (ANZ) Job Advertisement Series;
- the SEEK Employment Index Report, which includes the New Job Ads Index; and
- the Department of Employment Vacancy Report.

### **ABS Job Vacancies Survey**

Estimates from this survey are produced according to the definitions outlined above. For more information on the data content and methodology of this survey see Chapter 25: Job Vacancies Survey.

### **ANZ Job Advertisement Series**

The ANZ produces two series, one based on counts of newspaper advertisements placed in major metropolitan newspapers, the other on counts of internet advertisements on selected employment internet sites. Readers should refer to the ANZ Job Advertisement Series for more detail on the content and methodology of these series.

Counts of job advertisements can differ from counts of job vacancies for several reasons, including the multiple advertising of a single job.

### **SEEK New Job Ads Index**

SEEK produces a monthly New Job Ads Index, which measures the number of new job ads posted on their website in a particular month. The series is adjusted to ensure that multiple postings count as one ad. The index is available in both original and seasonally adjusted terms. Readers should refer to the SEEK Employment Index report for more detail on the content and methodology of these series.

### **Department of Employment Vacancy Report**

The Department of Employment produces four series:

- the Internet Vacancy Index (IVI), based on a count of newly lodged online vacancies on selected employment internet sites (from secondary sources);
- the Skilled IVI, based on counts of internet advertisements for skilled vacancies (the aggregation of Australian and New Zealand Standard Classification of Occupations (ANZSCO) categories Professionals, and Technicians and Trade Workers);
- the Regional IVI, which provides indices for more detailed geographic areas; and
- the Detailed Occupational IVI, which provides indices for occupations based on the Australian and New Zealand Standard Classification of Occupations (ANZSCO).

The Department of Employment codes internet advertisements to occupation at the ANZSCO four digit level for Australia. Readers should refer to the Department of Employment Vacancy Report for more detail on the content and methodology of these series.

## CHAPTER 11: EMPLOYEE REMUNERATION

### INTRODUCTION

Statistics of employee remuneration are required for the planning, evaluation and monitoring of economic and social development. Demand for these statistics comes from governments, social and labour market analysts, industrial tribunals, trade unions, employer associations, academics and international agencies.

Comprehensive statistics on remuneration, classified by sex, occupation, skill, industry etc., are in demand because of the role they play in the evaluation of social welfare, taxation, monetary, wage fixation, inflation and prices policies; investment decisions; studies of corporate and international competitiveness; and measurement of living standards.

In recognition of the variety of needs for data in this area, the 12th International Conference of Labour Statisticians (ICLS) in 1973 recommended that countries collect a range of interrelated wages statistics to meet users' differing needs. More information on wages statistics can also be found in a manual of methods (footnote 1).

The ABS produces a range of statistics relating to the remuneration of employees in return for work done. These statistics have been developed to meet the various needs of users for information on the returns to labour from economic production, the contribution of employee income to total household income, and the level and distribution of weekly earnings.

The remuneration paid to employees for their work is of interest from both social and economic perspectives, in terms of the income received by employees and the cost of labour for employers. The measures produced include compensation of employees in the quarterly national accounts, employee income in income distribution statistics, average weekly earnings series and the Labour Price Indexes.

The first section of this chapter outlines international concepts of labour costs, compensation of employees, earnings, and household (and employee) income. The rest of this chapter outlines the definitions associated with various ABS statistics of employee remuneration; measures and classifications associated with these statistics; and sources of Australian statistics, including non-ABS series.

### CONCEPTS AND INTERNATIONAL GUIDELINES

International standards and guidelines provide the broad principles behind ABS statistics of employee remuneration, ensuring comparability with those of other countries that use the standards. However, the international standards are very general, and need to be interpreted in the context of each country's own situation.

This section outlines the international guidelines in the four main areas of interest, namely:

- costs incurred by employers as a consequence of employing labour;
- the compilation of the national accounting aggregate compensation of employees;
- the measurement of earnings received by employees in exchange for their labour; and
- the measurement of household and employee income.

## LABOUR COSTS

**Labour costs** are defined as:

"...remuneration for work performed, payments in respect of time paid for but not worked, bonuses and gratuities, the cost of food, drink and other payments in kind, cost of workers' housing borne by employers, employers' social security expenditures, cost to the employer for vocational training, welfare services and miscellaneous items, such as transport of workers, work clothes and recruitment together with taxes..."

International Labour Organisation, 11th ICLS, 1966

The statistical measure of labour costs is based on the concept of labour as a cost to the employer in the employment of labour, and relates to: all cash and in-kind payments of wage and salaries to employees; all contributions by employers in respect of their employees to social security, private pension, casualty insurance, life insurance and similar schemes; and all other costs borne by employers in the employment of labour that are not related to employee compensation (such as costs of training, welfare services to employees, payroll taxes etc.). Measures of labour cost should be net of any subsidies, rebates or allowances from governments for wage and salary payments to employees, or for other labour costs borne by employers.

## COMPENSATION OF EMPLOYEES

The System of National Accounts 2008 (2008 SNA) provides the statistical framework for summarising and analysing economic flows, such as economic production, the income generated by production, the distribution of income among the factors of production, and the use of income through consumption or the acquisition of assets.

The 2008 SNA, produced jointly by the United Nations, International Monetary Fund, World Bank, Commission of the European Communities and the Organisation for Economic Co-operation and Development, has been adopted by the ABS as the conceptual basis for compiling the Australian System of National Accounts (ASNA).

National accounts statistics are measured at the aggregate macro-economic level, and are compiled as aggregations of transactions that occur between units in the various institutional sectors (such as the household sector and the government sector). Although compiled at a macro-economic level, the structure and definitions of the national accounts can also be related to the micro-data collected in household surveys and other data collections.

### Compensation of employees concepts and international guidelines

**Compensation of employees** is defined as:

"...the total remuneration, in cash or in kind, payable by an enterprise to an employee in return for work done by the latter during the accounting period."

United Nations, System of National Accounts 2008

The national accounting aggregate that is of main interest in relation to remuneration of employees is compensation of employees, which measures income earned by employees from their employers for services rendered.

The 2008 SNA partitions compensation of employees into three main components: wages and salaries in cash, wages and salaries in kind, and employers' social contributions.

### *Wages and salaries in cash*

Wages and salaries in cash include wages and salaries paid at regular intervals, together with payments by measured result and piecework payments, allowances for working overtime, for working away from home and similar taxable allowances, pay for annual and other leave for short periods, ad-hoc bonuses and commissions, gratuities and tips received by employees.

### *Wages and salaries in kind*

Employees can also be remunerated in wages and salaries in kind, such as goods or services. The provision of goods and services as part of remuneration may reflect taxation advantages for the employer or employee by avoiding payments in cash, or arrangements where the employer provides free or subsidised accommodation, travel, food, motor vehicles, employee stock options and other goods and services for the private use of employees.

In terms of valuing the in-kind payments, the 2008 SNA recommends: "When the goods or services have been purchased by the employer, they should be valued at purchasers' prices. When produced by the employer, they should be valued at producers' prices. When provided free, the value of the wages and salaries in kind is given by the full value of the goods and services in question. When provided at reduced prices, the value of the wages and salaries in kind is given by the difference between the full value of the goods and services and the amount paid by the employee."

### *Employers' social contributions*

Employers' social contributions are incurred by employers in order to secure social benefits for their employees. In theory, the contributions are made well in advance of the benefits being paid; for example, there is a time difference between the payment of contributions to a superannuation fund and the receipt of superannuation benefits by retired employees. In the national accounts, entitlements to social benefits are generally dependent on certain events or circumstances occurring, such as sickness, accidents, redundancy or retirement. Contributions are treated as part of remuneration, while the benefits are treated as part of households' secondary income. The treatment is largely analogous to the payment of premiums and the receipt of claims with respect to insurance transactions.

### **Compensation of employees concept as applied in Australia**

In the ASNA, the same basic framework as presented in 2008 SNA is used. However, for measurement reasons, there are differences between the conceptual ideal presented above and the actual estimates compiled within the ASNA. The differences relate to severance, termination and redundancy payments, sick leave and other leave payments (except annual and long service leave payments), and changes in provisions for future employee entitlements.

Severance, termination and redundancy payments, sick leave and other leave are types of social benefit payments. There is no separately modelled estimate of the contributions required to provide the benefits, with the actual benefit payments in any period used to estimate the contributions. It is this amount that is included in compensation of employees. Although some information has been collected in the past to separately identify severance, termination and redundancy payments from other wages and salaries, currently no information is available to consistently differentiate between these types of payments and other wage and salary payments. Consequently, the imputed

contributions that relate to these benefits are included in wages and salaries in cash, rather than in employers' social contributions.

Under full accrual accounting the estimate of the remuneration of employees would be based on the change in the level of outstanding entitlements to remuneration, particularly with respect to annual, sick and long service leave. While the ASNA would ideally use information on a full accruals basis, a reasonably large proportion of the data collected with respect to wages and salaries is on a cash basis, and hence the ASNA does not fully account for the changes in provisions as required by the international standards.

### **Treatment of shares and share options**

Wages and salaries paid in kind covers the cost of goods and services which are provided to the employee, or to another member of the employee's household, free of charge or at a substantial discount, and which are clearly of benefit to the employee as a consumer. This includes stock options paid as bonuses, redundancy packages or annual salary agreements.

The value of employee stock options that forms part of compensation is estimated as at the vesting date, which is the date at which the employee becomes entitled to receive shares or exercise an option to buy shares. However, in view of the fact that the entitlement is usually earned progressively over a longer period, the value will be spread over the period from the original grant date to the vesting date. Any change in value between the vesting date and the date of actual exercise of options will not be treated as employee compensation, but as a capital gain or loss.

## **EARNINGS**

The integrated system of wages statistics, developed by the International Labour Organization (ILO) as a result of the 12th ICLS in 1973, sets out the international standards for the concepts, definitions and classifications used in the collection and compilation of statistics of wage rates, earnings and labour costs. More recent international statistical standards, including the 2008 SNA and the 17th ICLS resolution on household income statistics, have remained consistent, as far as possible, with the ILO's integrated system of wages statistics.

The system of wages statistics is designed to meet the needs for information on the levels and movements in average earnings, and on distribution of earnings and hours for different employee types.

### **Earnings concepts and international guidelines**

The statistical measure from the integrated system of wages statistics of main interest in measuring remuneration of employees is 'earnings'. Earnings statistics are based on the concept of wages and salaries as income to the employee. The concept broadly aligns with the wages and salaries component of compensation of employees in the 2008 SNA. However, whereas the national accounts measures wages and salaries as an economic flow over an annual or quarterly period, earnings statistics are generally a series of 'point-in-time' measures of the average earnings of employees in a short reference period. As a result, the definition of earnings is slightly narrower than the national accounts definition of wages and salaries. It refers to remuneration paid 'as a rule at regular intervals', to differentiate between earnings that can be expected to be received regularly (e.g. annually, quarterly or fortnightly) and one-off payments.



International guidelines for wages statistics define **earnings** as:

"...remuneration in cash and in kind paid to employees, as a rule at regular intervals, for time worked or work done together with remuneration for time not worked such as for annual vacation, other paid leave or holidays. Earnings exclude employers' contributions in respect of their employees paid to social security and pension schemes and also the benefits received by employees under these schemes. Earnings also exclude severance and termination pay.

Statistics of earnings should relate to employees' gross remuneration, i.e. the total before any deductions are made by the employer in respect of taxes, contributions of employees to social security and pension schemes, life insurance premiums, union dues and other obligations of employees."

International Labour Organization, 12th ICLS, 1973

The ICLS guidelines state that the value of wages and salaries in kind should be the value directly accruing to the employee (rather than the cost to the employer). In other words, the value should reflect what it would cost the employee to purchase the goods or services themselves. As individuals are generally only able to purchase goods and services at retail prices, it is appropriate to value wages and salaries in kind at retail prices. However, the guidelines also note that, for employer based surveys, the valuation of wages and salaries in kind depends on whether the employer is supplying its own product (in which case producer prices should be used) or acquiring goods or services to be passed to the employee (in which case purchaser prices should be used).

### **Earnings concept as applied in Australia**

Notionally, the earnings concept used in Australia is consistent with the international concept, although in operationalising the concept in surveys of employers, measures of earnings generally excluded wages and salaries in kind prior to 2006, largely due to practical considerations. Information on the value of benefits provided by the employer has not always been readily available from employer payrolls, and the contribution of wages and salaries in kind to total employee earnings was relatively insignificant when most of the relevant surveys were first established.

However, as a result of changes in the nature of employee remuneration arrangements in recent years, in particular the increasing use of salary sacrifice arrangements, the ABS reviewed the conceptual basis of remuneration statistics in late 2006. The key change to the conceptual basis following on from this review is that the value of goods and services obtained through salary sacrifice arrangements, i.e. where the employee has chosen to forgo wages and salaries in cash in order to receive the goods or services, are now included conceptually in wages and salaries in cash. Wages and salaries in kind will continue to be excluded from earnings measures. For further information, see *Information Paper: Changes to ABS Measures of Employee Remuneration* (cat. no. 6313.0).

## **HOUSEHOLD INCOME**

Statistics on household income at the aggregated macro-economic level are described within the 2008 SNA. Total gross household sector income is the income accruing to the household sector from production (principally compensation of employees, which is of main interest in analysing remuneration issues) and from property income (such as interest and dividends), together with current transfers from other sectors.

In addition to forming sector level aggregates, statistics on household income can be compiled from the perspective of measuring the economic well-being of individuals and households, in terms of the distribution of income across households and individuals for various population subgroups of interest.

### Household income concepts and international guidelines

International guidelines for the measurement of household income were revised in 2003 at the 17th International Conference of Labour Statisticians (ICLS), an expert group convened by the ILO. The guidelines were developed for the purposes of measuring income distribution on a comparable basis internationally, and for the collection and dissemination of household income statistics at aggregate and micro-data levels that are consistent, to the extent possible, with other international guidelines, including SNA93.

In the ICLS guidelines the concept of household income consists of all receipts, whether monetary or in kind (goods and services), that are received by the household or by individual members at annual or more frequent intervals, but excludes windfall gains and other such irregular and typically one-time receipts. Household income receipts are available for current consumption and do not reduce the net worth of the household through a reduction of its cash, the disposal of its other financial or non-financial assets, or an increase in its liabilities.

The 2003 ICLS guidelines include definitions for the components of household income. The component 'employee income' is defined to be broadly comparable with the definition of compensation of employees in the 2008 SNA.

### Employee income concepts and international guidelines

Guidelines for household income statistics define **employee income** as comprising:

"...direct wages and salaries for time worked and work done, cash bonuses and gratuities, commissions and tips, directors' fees, profit-sharing bonuses and other forms of profit-related pay, remuneration for time not worked as well as free or subsidised goods and services from an employer. It may include severance and termination pay as well as employers' social contributions."

International Labour Organization, 17th ICLS, 2003

The flexibility in the ICLS definition of employee income regarding both severance and termination pay and employers' social contributions can give rise to two situations where employee income will not be consistent with the 2008 SNA definition of compensation of employees. Firstly, compensation of employees includes employers' social contributions, so if the option to exclude them from employee income is exercised then a difference arises between the two measures. Secondly, provision for severance and termination pay is classified in SNA93 as part of employers' social contributions, and SNA93 provides practical advice that these provisions can be approximated by the actual payments occurring in a reference period. Exercising the option to include the actual severance and termination payments in employee income, when the provision for them is not included as part of employers' social contributions within employee income, will reduce the difference between employee income and compensation of employees.

The 2003 ICLS guidelines value employee income in kind at relevant market prices (producer or basic prices) for equivalent goods and services, in line with SNA93 recommendations. Market prices include transport costs, taxes and subsidies. Where the employee income in kind consists of the

outputs of the employer's production processes, and is 'imposed payments in-kind' with little or no market value, a zero value is applied in computing employee income.

### **Employee income concept as applied in Australia**

In the dissemination of household income statistics, the ABS defines the employee component of income to include regular and recurring cash receipts from wages and salaries.

The severance and termination payments and other employers' social contributions, which are part of compensation of employees in the ASNA, are excluded from Australian household income statistics. In addition, the concept of employee income differs from the ASNA concept of wages and salaries by excluding income in kind, which includes employee benefits such as the provision of a house or a car.

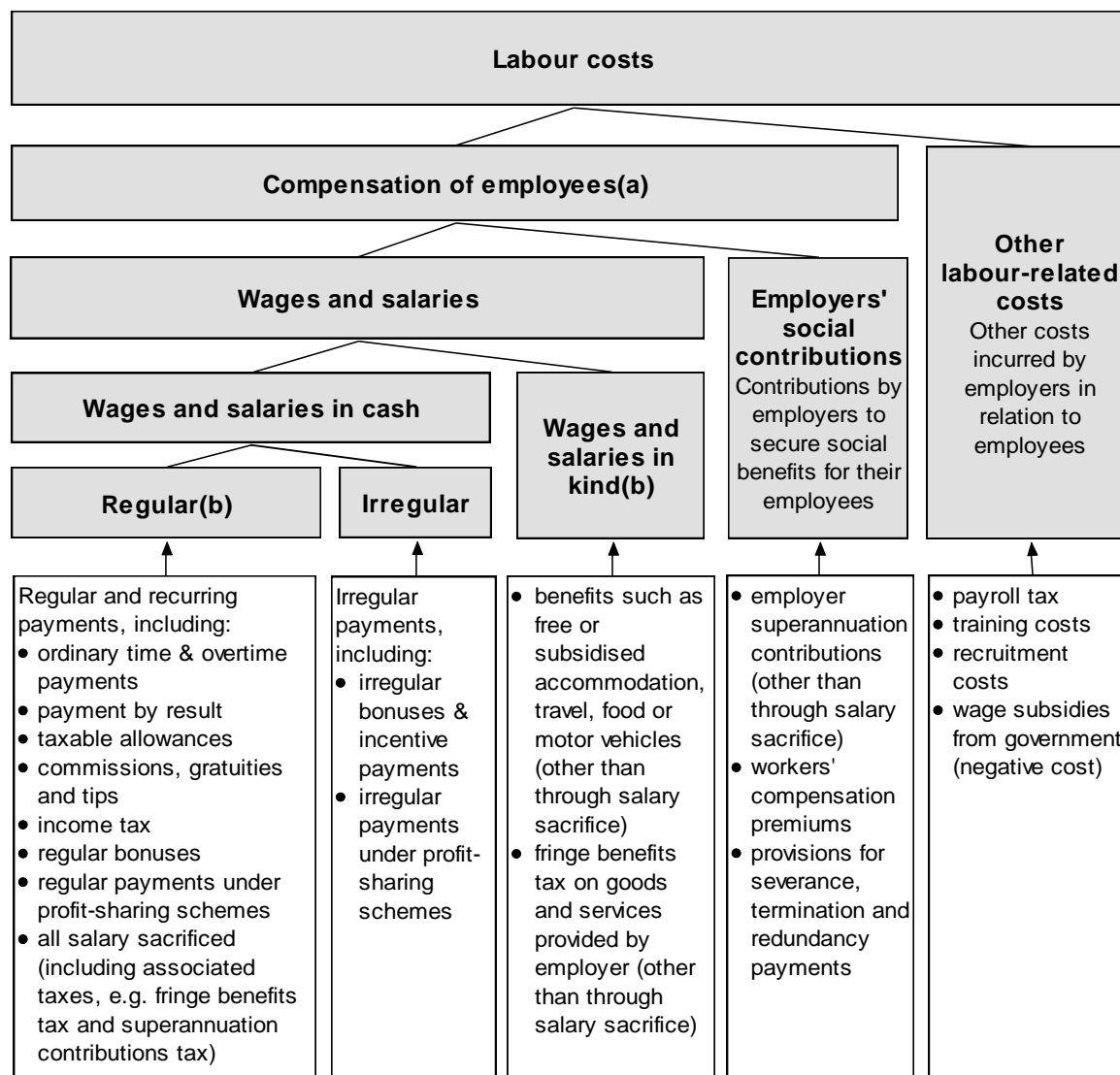
Restricting measurement of employee income to regular and recurring wages and salaries in a 'current income' concept was intended to provide a measure of the income that was currently available to the household to support their living standards, and the income that was likely to be available in the near future. That is, in looking at weekly income at the household level, a one-off payment received during the survey reference period was not included in measures of household income as it was not ongoing income.

The exclusion of income in kind was largely an historical issue arising from the impracticality of reliable reporting by householders for the value of income in kind, and reflected an expectation that the amounts would not be so significant as to affect distributional analysis at the household level. Changes in aggregate household income, inclusive of such in-kind income over time, would be reflected in the national accounts concept.

### **EMPLOYEE REMUNERATION CONCEPTUAL FRAMEWORK**

Figure 11.1 below summarises the conceptual framework for statistical measures of employee remuneration in Australia (in the context of the broader concept of labour costs). The narrowest concept outlined in the international guidelines is that of 'Earnings'. Concepts of 'Wages and salaries', 'Employee income', 'Compensation of Employees' and 'Labour costs' all include and extend upon the concept of 'Earnings'.

**Figure 11.1: Australian Conceptual Framework for Measures of Employee Remuneration**



(a) The concept 'employee income' is broadly comparable with compensation of employees.

(b) Conceptually, earnings comprise regular wages and salaries in cash and regular wages and salaries in kind.

## DEFINITIONS, MEASURES AND ABS DATA SOURCES

Changes in the nature of employee remuneration led to the need to review ABS measures of employee remuneration, to ensure that the conceptual basis of the measures is still sound. Further information on this review is contained in *Information Paper: Changes to ABS Measures of Employee Remuneration, 2006* (cat. no. 6313.0).

## EARNINGS

Estimates of earnings are produced from a number of ABS surveys and include measures of average weekly earnings, earnings distributions and earnings composition. The definition of earnings, and the measures produced, varies between surveys as discussed below.

The key ABS collections producing earnings statistics are:

- the biannual (six-monthly) survey of Average Weekly Earnings (AWE) (cat. no. 6302.0);
- the biennial (two-yearly) survey of Employee Earnings and Hours (EEH) (cat. no. 6306.0); and
- the annual survey of Characteristics of Employment (COE) (cat. no. 6333.0).

In the first two surveys (which are employer based), the measure of earnings relates to a short reference period (e.g. a pay period), and is restricted to cash wages and salaries that are received regularly and frequently. The measure of earnings includes, for practical reasons, employer payments for sick leave (conceptually part of employers' social contributions in 2008 SNA).

The measure of earnings used in the COE survey (which is a household survey) relates to the most recent pay; that is, the last total pay before tax or any other deductions. It also includes irregular and infrequent payments, and payments related to other periods. This is for practical reasons only.

Estimates of earnings are also produced from the Survey of Employment and Earnings (SEE) and the Survey of Major Labour Costs (MLC); however, these surveys use a broader definition which is not compatible with the above earnings surveys.

### Survey of Average Weekly Earnings

The AWE survey measures regular wages and salaries in cash associated with employee jobs. Estimates of average weekly earnings, and changes in average weekly earnings, are published twice yearly (in respect of the May and November quarters). The definition used in the AWE survey aligns closely with the international definition of earnings.

The earnings measure collected in the AWE survey is limited to:

- remuneration for time worked or work done - ordinary time and overtime pay, penalty payments, commissions (where a retainer, wage/salary is also paid), taxable allowances (e.g. shift, site, dirt, height allowances), incentive and piecework payments, directors salaries;
- remuneration for time not worked - including paid leave and public holidays, and workers compensation payments paid through the payroll; and
- bonuses and gratuities - includes regular and frequent bonuses only (e.g. weekly, fortnightly or quarterly), and regular payments made under profit sharing schemes.

The following components of remuneration are excluded from AWE earnings measures:

- wages and salaries in kind;
- amounts salary sacrificed; and
- all other payments that are irregular or are not related to the survey reference period - including retrospective pay and pay in advance, severance, termination and redundancy payments; leave loadings; and half-yearly, annual or irregular bonuses.

In addition, estimates which are inclusive of salary sacrifice are now compiled from the AWE survey. The Average Weekly Cash Earnings (AWCE) series are available in respect of the May 2010 quarter onwards. The new AWCE series complement (rather than replace) the existing series by providing estimates of average weekly earnings which include salary sacrificed earnings.

Estimates of average weekly earnings are derived by dividing estimates of gross weekly earnings by estimates of number of employees. These measures do not relate to the earnings of the 'average employee'.

Changes in the average may be affected not only by changes in the underlying rates of pay, but also by changes in the weekly hours worked (or paid for) and by changes in the composition of jobs in the workforce. Compositional changes can be the result of variations in the proportion of full-time, part-time, casual, adult and junior employees, variations in the occupational distribution within and

across industries, variations in the distribution of employees between industries, and variations in the proportion of male and female employees.

The AWE survey produces a range of estimates of average weekly earnings paid per employee job. The following estimates are produced: average weekly ordinary time earnings for full-time adults; average weekly total earnings for full-time adults; and average weekly total earnings for all employee jobs (i.e. whether full-time or part-time, or whether paid at adult or junior rates). These estimates can be classified by sex, sector, industry and state/territory. For more detail on the content and methodology of the Survey of Average Weekly Earnings, see Chapter 28.

### **Survey of Employee Earnings and Hours**

The biennial Survey of Employee Earnings and Hours (EEH) measures regular wages and salaries in cash associated with employee jobs. The EEH survey produces estimates of earnings distributions and average weekly earnings classifiable by sex, adult/junior status, managerial/non-managerial status, full-time/part-time status, hours paid for, components of pay, occupation, industry, sector, level of government, state/territory, and method of setting pay.

From the 2006 EEH survey onwards, earnings measures include amounts salary sacrificed.

The components of earnings available from the EEH survey are ordinary time cash earnings and overtime cash earnings. Ordinary time cash earnings relates to payment for award, standard or agreed hours of work, including allowances, penalty payments, payment by measured result, regular and frequent bonuses and commissions (where a retainer/wage/salary is also paid). Overtime cash earnings relates to payment for hours in excess of award, standard or agreed hours of work.

The EEH survey also produces estimates of average hourly total earnings for non-managerial employees, classified by male/female, permanent/fixed-term contract/casual, state/territory, and method of setting pay. These estimates are derived by dividing estimates of gross weekly earnings by estimates of total weekly hours paid for. For more detail on the content and methodology of the EEH, see Chapter 29.

### **Characteristics of Employment Survey**

Earnings measures used in the annual Characteristics of Employment (COE) household survey relate to gross payments received from either the main job or all jobs during the reference period. No adjustments are made to exclude components of pay that are outside the international earnings definition, such as irregular bonuses, and components of pay that do not relate to the reference period (such as retrospective pay and pay in advance). Earnings measures produced from COE are restricted to cash earnings, i.e. they exclude contributing family workers.

The COE survey produces estimates of mean and median weekly earnings per employee. Estimates of mean weekly earnings of employees are derived by dividing estimates of gross weekly earnings by estimates of the number of employees. Mean weekly earnings represent the average gross (before tax) earnings of employees. Median weekly earnings are defined as the earnings amount which divides the earnings distribution into two groups with equal numbers of employees, one half having weekly earnings below the median and the other half having weekly earnings above the median.

Separate estimates are produced for earnings in main, second and all jobs held by employees; and earnings distributions. Estimates are produced for both main job and all jobs, classifiable by a range of socio-demographic and economic variables including age, birthplace, sex, relationship in household, state/territory of usual residence, industry, occupation, sector, full-time/part-time status and hours worked. For more detail on the content and methodology of the COE survey, see Chapter 21.1.

## Survey of Employment and Earnings and Survey of Major Labour Costs

Earnings statistics are also produced from the Survey of Employment and Earnings (SEE) and the Survey of Major Labour Costs (MLC). However, unlike the AWE, EEH and COE surveys, the SEE and MLC surveys are not designed to produce estimates of the concept of earnings per se, but estimates which align with the broader concepts of wages and salaries, compensation of employees or labour costs. As such, SEE and MLC define earnings more broadly than in the AWE and EEH surveys, and estimates are not comparable across surveys.

The definition used in SEE and MLC extends upon the definition of earnings by also including irregular payments (such as irregular bonuses) and other payments which may not relate to the reference period (such as pay in advance and retrospective pay). MLC also includes severance, termination and redundancy payments, and all fees paid to directors and office holders. Separate estimates of severance, termination and redundancy payments are also available from SEE.

Estimates from SEE and MLC are primarily used in the production of estimates of compensation of employees within the Australian National Accounts. Unlike the AWE and EEH surveys, which are designed to estimate average earnings levels at a point in time, the SEE and MLC surveys are designed to estimate earnings flows to employees over a financial year. For further information on the content and methodology of MLC refer to Chapter 27, and for SEE refer to Chapter 30.

## COMPENSATION OF EMPLOYEES

The remuneration earned by employees for labour services rendered is measured in the Australian National Accounts aggregate 'compensation of employees'. The compensation of employees measure comprises wages and salaries in cash or in kind, and the value of employer's social contributions for their employees.

The key sources used in compiling estimates of compensation of employees are:

- the Economic Activity Survey (EAS);
- the Quarterly Business Indicators Surveys (QBIS); and
- the SEE.

Data from the infrequent MLC survey are also used to provide benchmark information. A more detailed description of the concepts, sources and methods used to compile the national accounts is presented in *Australian System of National Accounts: Concepts, Sources and Methods* (cat. no. 5216.0).

Estimates of compensation of employees are contained within the Income Accounts of the Australian National Accounts, which are published in *Australian System of National Accounts* (cat. no. 5204.0), and *Australian National Accounts: National Income, Expenditure and Product* (cat. no. 5206.0).

## LABOUR COSTS

Estimates of labour costs are produced from the MLC, and the annual Economic Activity Survey.

Estimates of the underlying changes in the price of labour (indexes of changes in hourly labour costs for employee jobs) are produced from the Labour Price Index.



## Survey of Major Labour Costs

The measure of labour costs available from the MLC survey relates to the main costs incurred by employers as a consequence of employing labour. The labour cost components collected in the MLC survey are:

- Employee earnings;
- Superannuation;
- Payroll tax;
- Workers' compensation; and
- Fringe Benefits Tax.

A number of labour costs are not collected in the MLC Survey. These include: training costs; costs associated with employee welfare services; and recruitment costs. With the exception of training costs, these items are not considered to make a significant contribution to total labour costs. Training costs were collected in the ABS Training Expenditure and Practices Survey, conducted for financial year 2001-02, and in the earlier Training Expenditure Survey conducted for September quarters of 1989, 1990, 1993 and 1996. Costs covered in these surveys are for structured training provided by employers. For information see *Employer Training Expenditure and Practices, Australia* (cat. no. 6362.0).

All data are collected on a cash basis, i.e. they reflect actual payments made in the survey reference period. As such, they do not reflect costs incurred in the reference period for which payments are made in a later period, but they include payments made in the survey reference period for costs incurred in a prior period. The survey has a 12 month (financial year) reference period and is conducted on an infrequent basis (every 5 to 6 years).

Estimates of total labour costs and costs per employee job can be cross classified by state/territory, industry, sector, level of government and employer size. For more detail on the content and methodology of this survey, see Chapter 27.

### *Earnings*

As discussed above, the definition of earnings used in the MLC is broader than that used in the AWE, EEH and COE surveys.

### *Superannuation*

For the MLC survey, superannuation costs are the total employer superannuation contributions paid during the year on behalf of employees. It excludes the value of salary sacrificed by employees in exchange for superannuation contributions. During 2002-03, legislation underlying the Superannuation Guarantee Charge (SGC) required that employers provide superannuation contributions of at least 9% of gross wages and salaries for all eligible employees. Although employers may treat the value of salary sacrificed by employees to superannuation as employer contributions under SGC obligations, in this survey such contributions are treated as earnings, and not as superannuation costs. Occasionally, surplus funds of some defined benefit superannuation schemes are used to offset the superannuation cost incurred by contributing employers in a particular time period.

### *Payroll tax*

Payroll tax is defined as the amount of tax paid during the survey reference year in respect of employee earnings, net of any rebates. Payroll tax assessed for payments to contractors and other persons not considered employees is excluded.



### **Workers' compensation**

Workers' compensation is the cost to the employer of providing workers' compensation cover for employees. There are three ways to meet these costs. The majority of employers pay a premium to an insurer. In this case, workers' compensation costs are considered to comprise premiums paid during the reference year, including the component that covers the employee for common law damages, and any workers' compensation costs not reimbursed by the insurer, including 'make-up' and 'excess' pay.

Some larger employers may become 'self-insurers' and cover most costs themselves. In this case, workers' compensation costs are considered to comprise lump sum payments and payments made as part of employee earnings, premiums paid during the year to offset liability at common law for workers' compensation, and any other costs, including common law costs not reimbursed by the insurer, such as legal, accounting, medical and administrative costs.

In the public sector, some workers' compensation costs are paid from consolidated funds. In most cases these payments relate to liabilities incurred under prior legislation.

### **Fringe Benefits Tax**

Fringe benefits are remuneration provided to employees in the form of benefits such as goods or services - for example, use of a work car, a cheap loan, or health insurance costs. These may be provided through salary sacrifice arrangements, as part of salary packages, or through other arrangements. Fringe benefits tax (FBT) is payable on the value of benefits provided, although exemptions apply to some categories of employers (e.g. certain not-for-profit organisations) and certain benefits (e.g. laptop computers).

### **Australian Industry**

Estimates of labour costs from the Australian Industry series are derived using a combination of data from the annual ABS Economic Activity Survey (EAS) and business income tax data provided by the Australian Taxation Office. This series defines labour costs more narrowly than the MLC survey. Labour costs are restricted to: wages and salaries paid to employees; employer contributions to superannuation; and workers' compensation. Severance, termination, and redundancy payments are included in wages and salaries. For further information on data content and collection methodology of this series, see *Australian Industry* (cat. no. 8155.0).

### **Wage Price Index**

The quarterly Wage Price Index (WPI) measures the quarterly change in the price employers pay for labour due to market factors. The WPI is unaffected by changes in the quality or quantity of work performed; that is, it is unaffected by changes in the composition of the labour force, hours worked, or changes in characteristics of employees (e.g. work performance).

Wage Price Indexes (WPIs) were first produced by the ABS in the December quarter 1997. In the September quarter 2004, the inclusion of non-wage indexes complimented the existing suite of WPIs, and combined with WPIs to create Labour Price Indexes (LPIs). In March 2012, ABS program reductions led to the non-wage and LPI indexes being discontinued, with the September quarter 2011 representing the last in the series.

The ABS constructs four wage price indexes on a quarterly basis:

- ordinary time hourly rates of pay excluding bonuses;
- ordinary time hourly rates of pay including bonuses;
- total hourly rates of pay excluding bonuses; and
- total hourly rates of pay including bonuses.

For further information, see *Wage Price Index: Concepts, Sources and Methods* (cat. no. 6351.0.55.001).

## **EMPLOYEE INCOME**

Employee income is defined as "regular and recurring cash receipts from wages and salaries".

Employee income includes: wages and salaries; tips, commissions and regular bonuses; other profit-sharing bonuses; piecework payments; payment for recurring odd jobs, casual work; penalty payments and shift allowances; directors' fees; remuneration for time not worked (e.g. holiday pay, sick pay, pay for public and other holidays, and other paid leave); worker's compensation paid by the employer; and leave loadings.

Employee income excludes severance or termination pay, allowances paid by an employer purely to cover the cost of work-related expenses, and pension payments from unfunded schemes paid to former employees.

Measures of employee income are available from a number of ABS household collections including:

- the Survey of Income and Housing;
- the Household Expenditure Survey; and
- the Census of Population and Housing.

### **Survey of Income and Housing**

The Survey of Income and Housing is a two-yearly survey that collects detailed information on employee income. For detail on the content and methodology of the survey, see *Household Income and Wealth, Australia* (cat. no. 6523.0).

### **Household Expenditure Survey**

The Household Expenditure Survey (HES) also collects detailed information on employee income. Some information is collected on income in kind (namely consumable goods provided by employers). For more detail on the content and methodology of the survey, see *Household Expenditure Survey, Australia: Summary of Results* (cat. no. 6530.0).

### **Census of Population and Housing**

The Census of Population and Housing collects information on total income levels (ranges) only. Estimates cannot be classified according to type of income. For more detail on the content and methodology of the Census, refer to Chapter 18.

## **OTHER NON-ABS DATA SOURCES**

### **Household Income and Labour Dynamics Australia**

The Household Income and Labour Dynamics Australia (HILDA) survey is a household-based panel study which began in 2001. HILDA collects information about economic and subjective well-being, labour market dynamics and family dynamics. For further information, refer to the Household Income and Labour Dynamics Australia (HILDA) survey.

### **Trends in Federal Enterprise Bargaining**

The Department of Employment produces measures of changes in wages rates in its quarterly Trends in Federal Enterprise Bargaining publication. Indexes of Average Annualised Wage Increases per employee are published for federally registered collective agreements. For further information, refer to Trends in Federal Enterprise Bargaining.

### **Melbourne Institute Wages Report**

The Melbourne Institute of Applied Economic and Social Research (University of Melbourne) produces measures of change in wage rates for total and base pay (these measures are referred to as Pay Indicators) in its quarterly Melbourne Institute Wages Report. The sample is drawn from the Melbourne Institute's Consumer Sentiment Survey of Australian adult residents. Information is collected on percentage changes to total and base wage rates, over a 12 month period, from persons who have been employed in the same job for the preceding 12 months. The final sample used to construct the Pay Indicators averages around 400-450 persons. Changes in wage rates are weighted averages of responses provided to questions: "By what percentage has your base pay changed over the last 12 months?" and "By what percentage has your total pay changed over the last 12 months". For further information, refer to the Melbourne Institute Wages Report.

### **FOOTNOTES**

1. K. M. Bashir, K. M. Hempstead, K. J. Penniment, 'An integrated system of wages statistics', A manual on methods, International Labour Office, Geneva, 1979

## CHAPTER 12: WORKPLACE RELATIONS

### INTRODUCTION

Workplace relations can be regarded as the relationships and interactions in the labour market between employers and employees (and their representatives), and the intervention in these relations by governments, government agencies and tribunals (e.g. Fair Work Commission).

The field of workplace relations is complex and diverse and, for statistical purposes, is not easily measured. The ABS collects information on a number of topics to provide an insight into the state of the workplace relations environment. This chapter discusses statistics on: the different methods that are used to set pay of employees in Australia (such as award only, collective agreements and individual arrangements); trade union membership; and industrial disputes. Where they exist and are relevant, international guidelines relating to these statistics are also outlined.

### HISTORICAL OVERVIEW OF WORKPLACE RELATIONS IN AUSTRALIA

Historically, governments have regulated the Australian labour market to varying degrees. Changes to the structure or processes underpinning the workplace relations environment have generally followed changes in governments, and periods of social or economic change. For most of the last century, employee-employer relationships were shaped by highly centralised Commonwealth and state tribunal-based systems of conciliation and arbitration. However, since the late-1980s, the workplace relations environment in Australia has undergone significant change and is now characterised by more decentralised enterprise level arrangements.

Initially, unions and employers opposed the establishment of a system of conciliation and arbitration. However, following a series of disastrous strikes in the 1890s, it was narrowly agreed at the Constitutional Conventions to include in the Australian Constitution powers of conciliation and arbitration for the prevention and settlement of industrial disputes that extended beyond the limits of any one state. The first legislation to put the Commonwealth's industrial power into effect was the *Conciliation and Arbitration Act 1904*, under which the Commonwealth Court of Conciliation and Arbitration (forerunner to the Australian Industrial Relations Commission) was established.

The *Excise Tariff Act 1906*, under which employers were granted tariff protection provided that a fair and reasonable wage was paid to their workers, proved attractive to both unions and employers. The first attempt to define a fair and reasonable wage was made in the Harvester case (1907). This case established the 'basic wage' and initiated an important principle of wage determination: that a fair and reasonable wage should be based on "the normal needs of the average employee, regarded as a human being living in a civilised community". The Harvester standard was used in making other awards; and the basic wage, with margin for skill, became the foundation wage rate.

The federal system, with jurisdiction over matters extending beyond state borders, gradually became dominant over the individual state systems. By 1976 nearly 90% of the workforce had come under awards, of which nearly 40% came under federal jurisdiction. By the mid-1980s there were over 9,000 separate awards, with over 250,000 individual award classifications.

The nexus between tariff protection and the fair wage was weakened in 1973 when the government oversaw a reduction in overall tariff protection, in an attempt to open up the Australian economy to international competition.

The opening up of the Australian economy to international competition has continued since then. This in turn has resulted in a much greater emphasis being given to increases in productivity,

improvements in work performance, the abolition of rules of demarcation, and workplace restructuring.

Coincident with these developments was an increased emphasis on agreement making and decentralised bargaining. Decentralisation related to movements away from centralised arbitration and conciliation arrangements (such as awards). These transformations have occurred in both the Commonwealth and State jurisdictions, although the timing and nature of workplace reforms have varied.

At the Federal level, the introduction of a series of bargaining principles (the Restructuring and Efficiency Principle, the Structural Efficiency Principle, and the Enterprise Bargaining Principle) by the Australian Industrial Relations Commission in 1991 provided a framework for decentralised bargaining and workplace reform. The *Industrial Relations Reform Act 1993* encompassed provisions to better allow enterprise bargaining in non-unionised workplaces. The opening up of collective bargaining to workers not represented by unions meant that wages and employment conditions could be changed without unions being directly involved in negotiations. The *Workplace Relations Act 1996 (Commonwealth)* introduced further labour market reforms, enabling the development of individual worker agreements (Australian Workplace Agreements) as well as continuing collective worker agreements (Certified Agreements). The same legislation also facilitated the simplification of awards. At the same time, industrial reform also took place at the state level aimed at encouraging decentralised bargaining and workplace reform.

The level of trade union membership has been generally declining, coinciding with the workplace relations changes noted above. For most of the past century, the proportion of employees who were union members ranged between 42% and 62%. However, the 1990s witnessed significant reductions and membership has generally continued to decline over the years. From August 1992 to August 2016, the proportion of those who were trade union members in their main job has fallen from 40% to 15%.

For most of the past century, the combined effects of State and Federal industrial relations legislation encouraged unionism. One of the aims of the *Conciliation and Arbitration Act 1904* was to facilitate and encourage the organisation of bodies of employers and of employees and the submission of industrial disputes to the Court by organisations. Unions played a critical role in the centralised tribunal based system – the only parties that could request the settlement of a dispute by the Court under the Act were 'registered organisations'; that is, unions of employers or employees. The granting of preference clauses in awards for engagement and retrenchment, to unionists over non-unionists, further promoted membership in unions.

In more recent times the roles of unions under State and Federal workplace relations legislation have been less pivotal. The emphasis on decentralised bargaining and the opening up of both collective and individual bargaining to workers not represented by unions have reduced the role of unions in the wage negotiation process. Restriction of the content of Federal awards to certain allowable matters has further encouraged workers to bargain for wages and other employment conditions outside of award provisions. Other reasons for the decline in union membership include the exclusion of union preference clauses from awards, changing public sentiment towards unions, declines in employment in industries that traditionally were highly unionised, and the emergence of new industries that are less unionised.

The level of industrial disputation in Australia has also decreased in recent years, with significant declines in strike and lockout activity since the 1980s. Traditionally, awards were the mechanism used by industrial tribunals to settle and prevent disputes, with unions bringing disputes (both

'actual disputes' and 'paper disputes') to the tribunals to improve the wages and other conditions of employment of their members. However, few disputes are now brought before the industrial tribunals for resolution. Those disputes that are brought before the tribunals tend to be of a longer duration and involve fewer workers. The majority of disputes tend to be short (one day or less in duration) and involve many workers.

Under decentralised bargaining systems, industrial action is only legal during the period in which employees and employers bargain on wages and other conditions of employment, so long as the action is supporting or advancing claims in relation to the enterprise bargaining, and that the existing agreement has passed its nominal expiry date. Accordingly, neither party may legally engage in industrial action when an agreement is in place (except over Occupational Health and Safety issues). However, disputes sometimes occur outside these periods.

More recent times have seen significant changes to the workplace relations landscape in Australia. The introduction of the *Workplace Relations Amendment (Work Choices) Act 2005* represented a movement towards a single, unified system of labour law, through the use of the corporations powers of the constitution. Work Choices resulted in key areas of change in the workplace relations environment, such as new arrangements for setting minimum wages and conditions, award simplification and rationalisation, a changed role for the Australian Industrial Relations Commission and the creation of the Australian Fair Pay Commission, increased regulation of industrial disputes, and changes to unfair dismissal laws.

The *Fair Work Act 2009*, which took effect on 1 July 2009, replaced the *Workplace Relations Amendment (Work Choices) Act 2005*. While the new legislation has resulted in considerable change to the workplace relations landscape, the general structure of a unitary national system for workplace relations, based primarily on the powers of the constitution, has remained. In addition, all states and territories, except Western Australia, had already or have now referred their workplace relations powers with respect to sole traders and partnerships to the Commonwealth as of 2011 (while Victoria, Northern Territory and Australian Capital Territory did not have a state workplace relations system in operation). This has seen the proportion of employees who are in the federal jurisdiction rise to 87% in 2010. As well as the introduction of modern awards, a set of minimum National Employment Standards were introduced from early 2010. The *Fair Work Act 2009* also established Fair Work Australia (now Fair Work Commission) to operate as the body responsible for setting minimum wages and conditions for employees in the national workplace relations system.

On 26 November 2015 the *Fair Work Amendment Act 2015* came into effect. The Act amended the *Fair Work Act 2009* to: reform greenfields agreement making, including to apply good faith bargaining rules to negotiations and to provide an optional six month notified negotiation period; introduce measures to maintain the value of monies held by the Commonwealth for underpaid workers; provide that a request for extended unpaid parental leave cannot be refused unless the employer has given the employee a reasonable opportunity to discuss the request; and provide that an application for a protected action ballot can only be made once bargaining for a proposed enterprise agreement has commenced (footnote 1).

The Australian Government introduced the Fair Work Amendment (Remaining 2014 Measures) Bill 2015 into Parliament on 3 December 2015. The Bill includes: measures to provide clarity and certainty for employees and employers around the use of individual flexibility arrangements, while maintaining existing protections for employees; reforms to transfer of business rules to provide that where an employee transfers to an associated entity of their current employer on their own initiative, their industrial instrument will not transfer with them; and reforms to union workplace access rules to address excessive workplace visits for discussion purposes (footnote 1).

## METHODS OF SETTING PAY

Statistical measures relating to how employees' pay is set (such as award only or through an agreement) are used to monitor the effects of industrial and workplace relations reforms and wages policy.

### Concepts and International Guidelines

A **collective agreement** is defined as:

"...a written agreement concluded between one or more employers or an employers' organisation on the one hand, and one or more workers' organisations of any kind on the other, with a view to determining the conditions of individual employment, and in certain cases, to the regulation of other questions relative to employment".

International Labour Organization, 3rd ICLS, 1926

International guidelines on the production of statistical measures on how pay is set concern collective agreements (ICLS 1926) and relate to the numbers of, contents of, and employee coverage of collective agreements.

### Definitions used in ABS surveys

The ABS does not collect statistics on the numbers or contents of collective agreements as defined by ICLS guidelines described above. However, data about pay setting methods are collected in the ABS Survey of Employee Earnings and Hours (EEH) biennially from May 2000 onwards. The definitions associated with these methods are outlined below.

The survey identifies the main methods used to set pay for employees in Australia, and estimates the proportion of employees who had their pay set using each method. The methods used to set pay identified in the survey are:

- award only;
- collective agreement; and
- individual arrangement.

Employees are classified to the award only category if they are paid at the rate of pay specified in the award, and are not paid more than that rate of pay. Awards are defined as legally enforceable determinations made by Federal or State industrial tribunals or authorities that set the terms of employment (pay and/or conditions), usually in a particular industry or occupation. Awards have been the traditional way of setting minimum pay and conditions in Australia, and provide a safety net for employees. Employees on 'over-award' pay (i.e. paid at a certain amount or percentage above the rate of pay specified in an award) are classified as having their pay set by an unregistered individual arrangement. Under the current workplace relations system established by the Fair Work Act (2009), Fair Work Australia determines the minimum pay and conditions of employees in the national workplace relations system (federal jurisdiction) through modern awards. The minimum wage of each modern award is reviewed annually.

Employees who have a collective agreement with their employer which sets the main part of their pay are classified as having their pay set by a collective agreement. A collective agreement is defined as an agreement between an employer (or group of employers) and a group of employees (or one or

more unions or employee associations representing the employees). A collective agreement sets the terms of employment (pay and/or conditions) for a group of employees. Collective agreements are further classified as registered or unregistered, reflecting whether they are registered with a Federal or State industrial tribunal or authority.

Employees who have an individual agreement, contract or other arrangement with their employer which sets the main part of their pay, or are a working proprietor of an incorporated business, are classified as having pay set by an individual arrangement. An individual arrangement is defined as an arrangement between an employer and an individual employee on the terms of employment (pay and/or conditions) for the employee. Common types of individual arrangements are individual contracts (which are not allowed to be made under the Fair Work Act), letters of offer and common law contracts. An individual contract (or letter of offer) may specify all terms of employment, or alternatively may reference an award for some conditions and/or in the setting of pay (e.g. over-award payments). Working proprietors of incorporated businesses are regarded as having their pay set by an individual arrangement, and are identified separately in the individual arrangement category.

There are some differences between the international definition of collective agreement and that used in the EEH:

- the definition of collective agreements outlined in the international guidelines is broader than the definition used in the EEH. The international definition encompasses both collective agreements and awards as defined in the ABS survey; and
- the definition of collective agreements outlined in the international guidelines is restricted to written agreements, whereas the survey definition includes both written and verbal agreements.

### **Data sources**

Statistics on the characteristics of employees, their earnings and how their pay is set, for each of the methods of setting pay (award or pay scale only, collective agreement, and individual arrangement), are currently produced from the biennial ABS business survey, the Survey of Employee Earnings and Hours. For more information on the content and collection methodology of this survey, refer to Chapter 29.

### **Numbers and contents of collective agreements**

The ABS does not collect statistics on the numbers or contents of collective agreements, as defined by ICLS guidelines described above. However, information of this type is available from other sources for collective agreements available under various State and Federal industrial relations jurisdictions. The amount and type of information available varies significantly, and readers should note that statistical measures produced are not necessarily consistent with international statistical guidelines or other ABS measures of the economically active population.

Measures of numbers of awards and collective agreements that have been arbitrated, certified or registered with industrial tribunals are often published in the annual reports of the various State and Federal industrial relations tribunals. They are generally restricted to the numbers of award or pay scale only and collective agreements registered over a given reference period, and may also include details of the numbers of award or pay scale only and collective agreements currently in force and not replaced, and details of employees covered at registration date. Details of the numbers, employee coverage, wage outcomes and contents of certain types of collective agreements are also available from the Australian Centre for Industrial Relations Research and Training, the Commonwealth Department of Employment (Federal certified agreements) and, from time to time, the equivalent State government departments.



## TRADE UNION MEMBERSHIP

Union membership in Australia has declined since the mid-1970s. The changing workplace relations environment is one of the key factors in the decline in trade union membership. Another factor is the change in the composition of the labour market, with a decline in jobs in the industries and types of employment (full-time permanent) that were traditionally highly unionised. An article entitled 'Trade union membership', published in *Australian Labour Market Statistics, July 2010* (cat. no. 6105.0), provides further information on the decline in trade union membership.

### Concepts and definitions

A **trade union** is defined as an organisation consisting predominantly of employees, the principal activities of which include the negotiation of rates of pay and conditions of employment for its members.

Australian Bureau of Statistics

There are no international recommendations or guidelines relating to statistics on trade union membership. Since August 2014, numbers of employees who are members of a trade union are collected on a two-yearly rotating basis from the Characteristics of Employment Survey (COE), a supplementary survey to the Labour Force Survey (LFS). Prior to August 2014, trade union membership was collected from the Employee Earnings, Benefits and Trade Union Membership (EEBTUM) Survey.

### Data sources

Estimates of the number and proportion of employees who are trade union members, and the duration of and time since an employee was previously a trade union member, are produced annually from COE. Readers should refer to Chapter 21.1 for more detail on the content and methodology of this survey.

## INDUSTRIAL DISPUTES

### International concepts and guidelines

International guidelines define **labour disputes** as:

"...a state of disagreement over a particular issue or group of issues over which there is conflict between workers and employers or about which grievance is expressed by workers or employers, or about which workers or employers support other workers or employers in their demands or grievances."

International Labour Organization, 15th ICLS, 1993

Labour disputes comprise strikes, lockouts and other types of action in which workers may be involved. Involvement may be direct or indirect: for example, workers may participate directly in a strike by stopping work, or indirectly if they are prevented from working because of the strike. Secondary effects of action due to labour disputes are excluded from measures of disputes.

International guidelines define **strikes** as:

"...a temporary work stoppage affected by one or more groups of workers with a view to enforcing or resisting demands or expressing grievances, or supporting other workers in their demands or grievance".

**Lockouts** are defined as:

"...a total or partial temporary closure of one or more places of employment or the hindering of the normal work activities of employees, by one or more employers with a view to enforcing or resisting demands or expressing grievances, or supporting other employers in their demands or grievances."

International Labour Organization, 15th ICLS, 1993

Other types of action are defined as "actions affected by one or more groups of workers or by one or more employers, with a view to enforcing or resisting demands or expressing grievances, or supporting other workers or employers in their demands or grievances, in which there is no cessation of work". Other types of action include work bans, go slows, work limitations etc. Secondary effects are "the effects on other establishments where workers are prevented from working or their work is disrupted, or the effects on other groups of self-employed workers who are prevented from working or whose work is disrupted". Examples of secondary effects include stand-downs because of lack of materials, disruption of transport services, and power shortages.

The international guidelines recommend a core set of statistical measures of disputes be collected, and that these be supplemented or extended by additional measures as appropriate. The core set of statistical measures should cover all strikes and lockouts, and all employees directly involved. Other types of industrial action and the self-employed are not core and should only be included where relevant. Measures of strikes and lockouts that should be collected include: numbers and duration of strikes and lockouts; and both numbers of workers involved and amounts of time lost by workers involved. Where possible, data relating to strikes and lockouts should be collected, compiled and presented separately.

### **Definitions used in ABS Industrial Disputes collection**

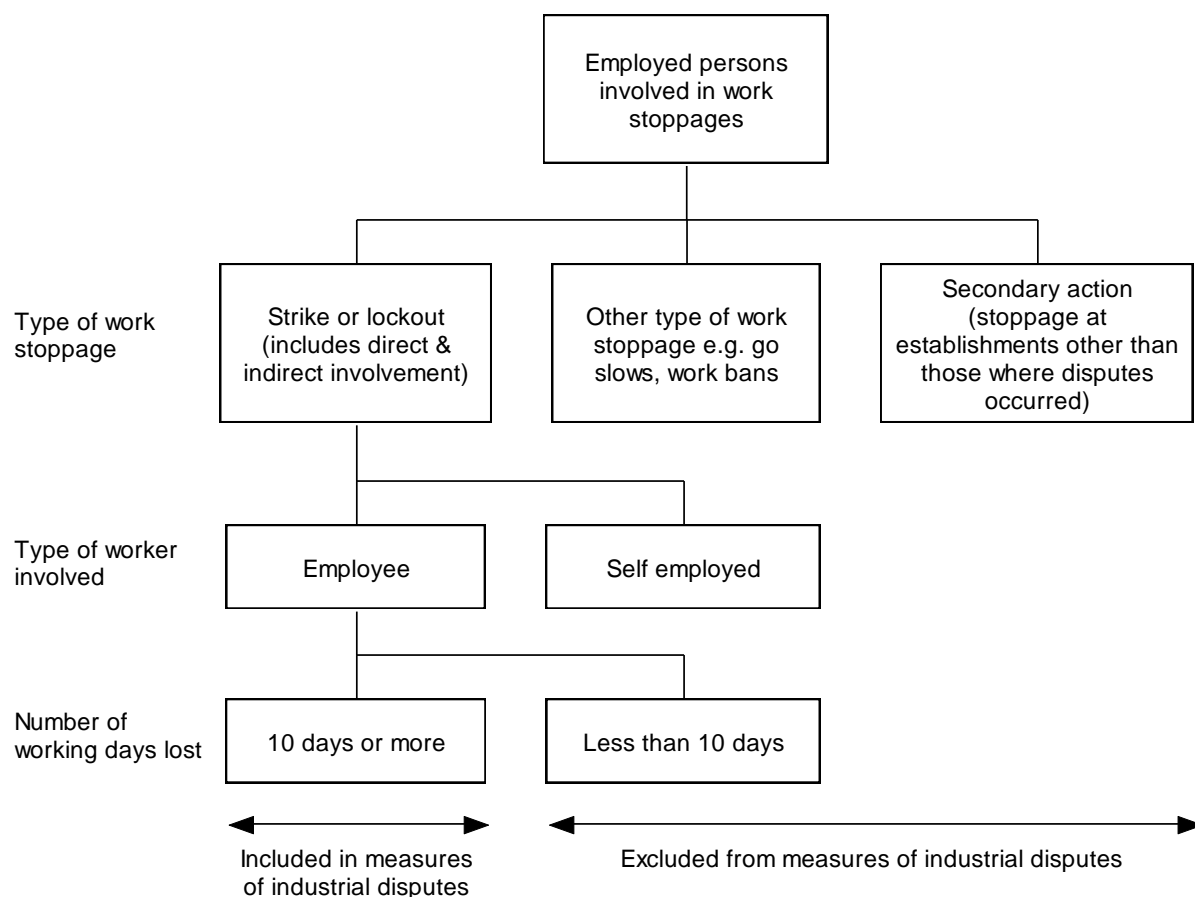
Statistics on industrial disputes are collected by the ABS on a monthly basis in the Industrial Disputes collection and released for a quarterly reference period. Statistics on disputes in this collection are, as much as possible, based on the concepts and definitions outlined in international guidelines. The term 'industrial dispute' is defined more narrowly than in the international guidelines and refers to only 'strikes' and 'lockouts'. An industrial dispute is defined as "a state of disagreement over an issue or group of issues between an employer and its employees, which results in employees ceasing work. Industrial disputes comprise strikes, which are a withdrawal from work by a group of employees; and lockouts, which are a refusal by an employer or group of employers to permit some or all of their employees to work".

The ICLS definitions of strikes and lockouts explicitly mention the temporary nature of the stoppage or closure, and disputes in support of other workers. However, while neither of these issues is explicitly included in the ABS definition, both are applied in the collection of statistics. Statistics on industrial disputes are restricted to stoppages of work of ten working days or more and exclude both 'other forms of action' and the 'self-employed'. The number of working days lost is defined as the total amount of ordinary time lost by employees on strike or locked out, regardless of the length of the stoppage. Statistics include direct and indirect involvement at the locations where the stoppages

occurred, but exclude secondary effects of industrial action (e.g. stand-downs at other locations because of lack of materials).

Figure 12.1 illustrates the criteria used to include or exclude industrial disputes from ABS statistics.

**Figure 12.1: Types of Disputes Included in the ABS Industrial Disputes Collection**



Other data collected in the Industrial Disputes collection include:

- Cause of dispute - relates to the main cause of stoppages of work, and not necessarily all causes that may have been responsible for work stoppages. Initially, the classification of cause of dispute identifies whether a dispute occurred during a process of workplace/enterprise bargaining. Disputes are then further classified according to the main cause of the dispute. Causes include: remuneration; employment conditions; health and safety; job security; managerial policy; and union issues.
- Working days lost per employee involved - for an individual dispute, defined as the average number of working days lost per employee involved in the dispute. It is calculated by dividing the number of working days lost in the dispute by the number of employees involved (both directly and indirectly).
- Employees directly involved in a dispute - those who actually participated in the dispute in order to enforce or resist a demand or to express a grievance.
- Employees indirectly involved in a dispute - those who were stood down at the location where the dispute occurred, but who were not themselves parties to the dispute. Employees who were stood down at locations other than those where the dispute occurred are excluded.

- Employees newly involved in a dispute - for a new dispute, comprise all employees involved and, for an ongoing dispute, those involved for the first time.
- Total employees involved - comprises employees newly involved and, for an ongoing dispute, those who continue to be involved. Total employees involved for any period of time is obtained by adding together the number of employees involved in each dispute for the period.
- Reason work resumed - relates to the reason(s) for ending the stoppage of work, and not necessarily to the reason(s) for settling all matters in the dispute. Reasons include: negotiation without intervention of a third party; State legislation; Federal legislation; pre-determined return to work; resumption without negotiation; and mediation.
- Working days lost - refers to working days lost by employees directly and indirectly involved in the dispute. Estimates of working days lost per thousand employees are calculated for a quarterly period by dividing the total number of working days lost in the period by the total number of employees in the Australian workforce in the period (obtained from the ABS Labour Force Survey) and multiplying by 1,000.

### Data sources

ABS statistics on industrial disputes are released each quarter in *Industrial Disputes, Australia* (cat. no. 6321.0.55.001). Readers should refer to Chapter 26 or more detail on the content and methodology of this collection.

### FOOTNOTES

1. Department of Employment: Australia's National Workplace System.  
<https://www.employment.gov.au/australias-national-workplace-relations-system>

## CHAPTER 13: LABOUR PRODUCTIVITY

### INTRODUCTION

A productivity measure is an indicator of the efficiency or effectiveness of production; that is, how much production (or output) is achieved given a certain amount of resources (or input). The broadest definition of 'productivity', from the International Labour Organization (ILO) is "the ratio between output and the total input of factors required to achieve it". In this sense, productivity is "the end result of a complex social process including: science, research and development, education, technology, management, production facilities, workers and labour organisations".

Most analyses seeking to measure productivity have confined themselves to a partial (or single factor) measure, as opposed to total factor (or multi-factor) productivity. Single factor measures of productivity are expressed as a ratio between a given measure of output and a given measure of one factor of production (labour, capital, raw materials, etc.). It follows that there are many measures of productivity, each of which relates to a particular factor of production. It is therefore possible to speak of the productivity of labour, of capital, of raw materials, etc. Such measures reflect the growth in output not accounted for by the growth in that particular factor of production. The ratio of output to hours worked - often referred to as a measure of labour productivity - reflects the growth in output attributable to all factors of production other than hours worked. Often the measure used varies in accordance with the level at which productivity is analysed, e.g. plant, industry, branch of the economy or the economy as a whole.

Increases in labour productivity are often regarded as an indicator of improvements in aggregate living standards, as either more output (and thus total income) is achieved with given labour, or a given amount of output (and thus total income) is achieved with less time spent on labour.

### CONCEPTS AND INTERNATIONAL GUIDELINES

While the ILO has published two studies (in 1951 and 1969) on the measurement of labour productivity, no fixed definitions have been promulgated by that organisation. The view taken in the 1969 study was that, while it was useful to have a set of definitions which correspond to the various measures of productivity, it was premature to set a single productivity ratio for each measure. At the same time it was recognised that time worked or labour force may be suitable measures of labour input, while physical output and value-based measures were appropriate for considering output for particular purposes. This flexibility remains appropriate depending on what use or analysis is to be performed with the productivity measure involved.

Considerations such as those led an ILO Working Group on Productivity Statistics to make recommendations, especially on the economic coverage of productivity series, the choice of units of measurement for output, and the corresponding labour input. For output, estimates of real gross domestic product (GDP) were preferred. For labour inputs, the objective was to ensure that account was taken of all the activities of all persons engaged in production.

The Working Group considered that the improvement of labour productivity statistics depended on better national statistics on output, and on the existence of corresponding data for employment or hours of work. Similarly, it was considered that the ability to compare the trend and level of productivity between one country and another improved with the use of comparable concepts for the definition of output, input and prices, and the wider use of international standards in existence in these fields. The standards being referred to, in particular, were those of the International Conference of Labour Statisticians in respect of input, the United Nations System of National

Accounts in respect of output, and the International Standard Industrial Classification in respect of scope and classification.

More recently, the ILO have included labour productivity information as part of the suite of statistics known as Key Indicators of the Labour Market (KILM). This recognises labour productivity as "output per unit of labour input (persons engaged or hours worked)". Output is defined as GDP for the economy adjusted to account for price differences in countries, while the appropriate measure of labour input is identified as the total number of annual hours actually worked by all persons employed.

## **ABS DEFINITIONS, METHODOLOGY AND SOURCES**

The ABS recognises that the level of GDP and changes in real GDP are a function of many different factors including capital, labour, technical knowledge, scale of production and managerial efficiency. Changes in any one of these factors can result in productivity changes. While it is impossible to objectively measure the role of these factors separately, it is recognised that one of the most important and widely accepted analytical series, which is a measure of labour productivity, is real GDP per hour worked.

Estimates of labour productivity (based on GDP per hour worked), for the market sector as a whole and for each industry, are compiled by the ABS and published in the annual *Australian System of National Accounts* (cat. no. 5204.0). Quarterly indexes of GDP per hour worked are published for the market sector and for the whole economy in *Australian National Accounts: National Income, Expenditure and Product* (cat. no. 5206.0).

As partial measures of productivity, labour productivity indexes implicitly reflect the other factors of production, such as the contribution of capital and other factors affecting production such as technological change. When multiple factors of production such as labour and capital are explicitly considered as inputs, this is termed multi-factor productivity (MFP), which is measured as GDP per combined unit of labour and capital. MFP is often also used in productivity analysis, and for this reason the ABS also publishes annual indexes of MFP for the market sector in *Australian System of National Accounts* (cat. no. 5204.0). In addition, the ABS produces annual MFP estimates at the industry level for industries within the market sector, which are available from *Estimates of Industry Multifactor Productivity* (cat. no. 5260.0.55.002). The choice of which productivity measure to use depends on what analysis is being performed.

## **LABOUR INPUT**

The most common measure of labour input used in compiling the estimates presented in *Australian System of National Accounts* (cat. no. 5204.0) and *Australian National Accounts: National Income, Expenditure and Product* (cat. no. 5206.0) is hours worked. It captures the hours worked in the production of goods and services by civilian wage and salary earners, employers, self-employed persons, unpaid family workers, and members of the Australian Defence Force.

Measuring labour input as hours worked implicitly assumes that the workforce is homogeneous. An alternative approach is to use quality adjusted labour inputs (QALI). The QALI method recognises improvements to human capital due to the varying educational achievements and experience within the workforce. QALI indexes are published for the market sector in the Australian System of National Accounts, for each market-sector industry and the twelve selected industries aggregates in *Estimates of Industry Multifactor Productivity* (cat. no. 5260.0.55.002).

The quality changes in labour input are captured through accounting for heterogeneity across different types of workers, by aggregating different types of workers with weights (based on wage

share) reflecting differences in their productive capacity. In this way, increases in labour input can be divided between total hours worked and compositional changes in the labour force. As the workforce evolves, this compositional change can directly affect how much output can be produced from a given quantity of hours worked.

The estimates of employment and hours worked are primarily drawn from the Labour Force Survey (LFS). Aggregate and industry QALI indexes are compiled using data from the Census of Population and Housing. Intercensal periods are interpolated, and therefore care should be taken interpreting year on year changes in labour composition. For further details refer to Chapter 19 of *Australian National Accounts: Concepts, Sources and Methods* (cat. no. 5216.0).

## **CHAIN VOLUME ESTIMATES OF GROSS DOMESTIC PRODUCT**

The estimates of real GDP used in the derivation of the ABS labour productivity statistics are annually reweighted chain Laspeyres volume measures. The concepts and definitions used in deriving chain volume estimates are explained in Chapter 6 of *Australian National Accounts: Concepts, Sources and Methods* (cat. no. 5216.0).

## **GROSS DOMESTIC PRODUCT PER HOUR WORKED**

In *Australian National Accounts: National Income, Expenditure and Product* (cat. no. 5206.0) and *Australian System of National Accounts* (cat. no. 5204.0) the term 'GDP per hour worked' (and similar terminology for the industry statistics) is generally used in preference to 'labour productivity' because:

- the term is more self-explanatory; and
- the measure does not attribute change in GDP to specific factors of production.

## **INDUSTRY CLASSIFICATION**

The industry dissections of GDP are referred to as industry gross value added. Industry gross value added and the associated industry estimates of hours worked are derived as consistently as possible in accordance with the *Australian and New Zealand Standard Industrial Classification, 2006* (cat. no. 1292.0).

## CHAPTER 14: OCCUPATIONAL INJURIES AND DISEASES

### INTRODUCTION

From its inception, the International Labour Organisation (ILO) recognised the importance of establishing an adequate statistical basis for the measurement and analysis of work related hazards and risks. Recommendations on the concepts associated with those statistics were made at the first, sixth, tenth, thirteenth and sixteenth (1998) International Conferences of Labour Statisticians (ICLS). Recommendations of the sixteenth ICLS are described in this chapter, along with sources of occupational injuries and diseases data available for Australia.

### CONCEPTS AND INTERNATIONAL GUIDELINES

An **occupational injury** is defined as:

"...any personal injury, disease or death resulting from an occupational accident."

An **occupational disease** is defined as:

"...a disease contracted as a result of an exposure over a period of time to risk factors arising from work activity."

International Labour Organization, 16th ICLS, 1998

The following terms, used when measuring the nature and incidence of occupational injuries, were also defined by the sixteenth ICLS:

- occupational accident - an unexpected and unplanned occurrence, including acts of violence, arising out of or in connection with work, which results in one or more workers incurring a personal injury or death;
- commuting accident - an accident resulting in death or injury which occurs on the habitual route, in either direction, between the place of work or work-related training and: (1) the worker's residence; (2) the place where the worker usually takes meals; or (3) the place where the worker usually receives remuneration; and
- incapacity for work - the inability of a worker, due to an occupational injury, to perform the normal duties or tasks of the job occupied at the time of the accident.

The sixteenth ICLS made recommendations in relation to the coverage of statistics on occupational injuries and the types of information countries should aim to collect. Data should be collected for all of the occupational injuries defined above, for both fatal and non-fatal injuries, which cause an absence of work of at least one day (excluding the day of the accident). The statistics should cover all workers regardless of their status in employment (e.g. employees, employers and own-account workers), as well as child workers, informal sector workers and home workers.

The measurement unit recommended to be used for statistics on the nature and incidence of occupational injuries should be the 'case of occupational injury'. If a person is injured in more than one occupational accident during the reference period, each case of injury to that person should be separately counted. The sixteenth ICLS also recommended that data should be collected on: the



enterprise, establishment or local unit; the person injured; the injury; and the accident and its circumstances.

## AUSTRALIAN COLLECTIONS AND DEFINITIONS

In Australia, statistics on occupational injuries and diseases are available from household surveys conducted by the ABS, and administrative records of state, territory and Australian compensation authorities compiled by Safe Work Australia.

### ABS Household Surveys

The main ABS statistics relating to the incidence of occupational injury and disease are available from the Work-related injuries topic on the Multipurpose Household Survey (MPHS) (see Chapter 22). The survey covers injuries sustained by all categories of employed workers, including injuries that have been claimed under workers' compensation and injuries that have not been claimed under workers' compensation. It excludes work-related illnesses or injuries resulting in death.

While the terminology used in the Work-related injuries survey topic ('work-related injuries') differs from that used in the international standards, the underlying definitions are broadly consistent with those recommended by the ICLS. The survey has not sought to distinguish between 'work-related illnesses', 'work-related injuries' or 'work-related injuries sustained on journeys to or from work'. Instead, it broadly defines work-related injuries as illnesses or injuries sustained as a result of work activities, on a journey to or from work, or the aggravation of pre-existing conditions where employment was a contributory factor.

Some data are also available from the Australian Health Survey, which collects information about recent illnesses and long term conditions and whether they are work-related. For more information on survey content and methodology, see the *Australian Health Survey: Users' Guide, 2011–13* (cat. no. 4363.0.55.001).

### Safe Work Australia's National Data Set for Compensation-based statistics

Safe Work Australia's National Data Set (NDS) for Compensation-based Statistics is a standard set of data items, concepts and definitions for inclusion in workers' compensation systems operating in Australia, and enables the production of national and nationally comparable workers' compensation-based data. It is compiled from compensable injuries and diseases made under the state, territory and Australian Government worker's compensation Acts, and as such only covers compensable injuries and diseases (not information on workers not covered for workers' compensation, or who choose not to make a claim).

The NDS is supported by several classification systems, including the Australian and New Zealand Standard Industrial Classification (ANZSIC), the Australian and New Zealand Standard Classification of Occupations (ANZSCO) and the Type of Occurrence Classification System (TOOCS). TOOCS is central to NDS. It consists of hierarchical classifications for the nature, bodily location, mechanism, breakdown agency and agency of injury or disease.

Definitions of occupational injuries and occupational diseases used in the NDS are consistent with international standards. These definitions are:

- Occupational injuries - all employment related injuries which are the result of a single traumatic event occurring while a person is on duty or during a recess period, and where there was a short or non-existent latency period. This includes injuries which are the result of a single exposure to an agent(s) causing an acute toxic effect.

- Occupational diseases - all employment related diseases which result from repeated or long-term exposure to an agent(s) or event(s), or which are the result of a single traumatic event where there was a long latency period (for example, the development of hepatitis following a single exposure to the infection).

The NDS coverage of workers' compensation claims is consistent with international standards, except for:

- occupational injuries of self-employed persons (note: the definition of self-employed workers varies across jurisdictions and is not necessarily consistent with ABS definitions);
- occurrences covered under separate legislation for specific groups of workers;
- occurrences where the workers' compensation claims are pending, in dispute, withdrawn or rejected; and
- occurrences not claimed as workers' compensation.

The type and level of detail of the information to be collected for each claim is consistent with international standards and include:

- employer description - industry, size of business;
- employee characteristics - date of birth, sex;
- job characteristics - occupation, duty status (e.g. at work, commuting, away from work), number of hours usually worked each week, normal weekly earnings, labour hire indicator, apprentice/trainee indicator;
- occurrence details - date of occurrence/report, nature of injury/disease, bodily location of injury/disease, mechanism of injury/disease, agency of injury/disease, breakdown agency of injury/disease; and
- outcome of incident - time lost, severity indicator, payments made.

More information on the NDS and workers' compensation data is available from Safe Work Australia's website, see Workers' compensation data.

## CHAPTER 15: CLASSIFICATIONS USED IN LABOUR STATISTICS

### INTRODUCTION

Classifications group and arrange statistics into a coherent and standard structure. They are used for compilation and analysis, and to facilitate comparison with other statistical series. This chapter briefly outlines a number of standard economic, socio-demographic, and geographic classifications used to aggregate labour statistics.

### OCCUPATION

The occupation classification used in Australian Bureau of Statistics (ABS) surveys is the Australian and New Zealand Standard Classification of Occupations (ANZSCO). ANZSCO is a skill-based classification of occupations which covers all jobs in the Australian and New Zealand workforce. Occupation information collected in surveys and the Census provides a description of a person's job, and refers to the kind of work undertaken by an employed person irrespective of the industry in which that job is held. Jobs and occupations are fundamental concepts to the classification. A job is a set of tasks designed to be performed by one individual for an employer, whereas an occupation is a set of jobs with similar sets of tasks. Occupations are classified according to two criteria - skill level and skill specialisation.

**Skill level** is a function of the range and complexity of the set of tasks involved. A greater range and complexity of tasks leads to a higher skill level of the occupation. The criteria used in ANZSCO to measure skill level are the formal education and/or training, previous experience and on-the-job training usually required to competently perform the set of tasks required for that occupation.

**Skill specialisation** of an occupation is based on the field of knowledge required, tools and equipment used, materials worked on, and goods or services provided in relation to the tasks performed. Skill specialisation is used to group occupations according to type, rather than level of skill.

The structure of ANZSCO comprises five hierarchical levels: Major Groups (the broadest level), Sub-Major Groups, Minor Groups, Unit Groups and Occupations (the finest level). The Major Groups are distinguished from each other on the basis of skill level, and, where necessary, the broad concept of skill specialisation. The eight Major Groups are:

- 1 Managers;
- 2 Professionals;
- 3 Technicians and trades workers;
- 4 Community and personal service workers;
- 5 Clerical and administrative workers;
- 6 Sales workers;
- 7 Machinery operators and drivers; and
- 8 Labourers.

The sub-major group, minor group, unit group and occupation levels provide increasingly detailed dissections of the broad categories. For further information on ANZSCO, refer to *ANZSCO: Australian and New Zealand Standard Classification of Occupations, 2013, Version 1.2* (cat. no. 1220.0).

Occupation data are available from the Labour Force Survey (LFS) quarterly, a number of supplementary topics to the LFS, most Special Social Surveys, the five-yearly Census of Population and Housing, and employer surveys such as the Survey of Employee Earnings and Hours (EEH).

For additional information on occupation, see *Labour Force Survey Standard Products and Data Item Guide* (cat. no. 6103.0).

## **FULL-TIME/PART-TIME STATUS**

The notion of what constitutes a standard full-time working week has required continual re-examination over several decades with the progressive decline in standard hours of work, accompanied by substantial growth in the number of persons employed under part-time working arrangements.

In the absence of any internationally accepted definition of full-time work, two approaches have been taken in various countries. The first is objective and is based on the number of hours worked. This approach is relatively simple to apply without requiring the respondent to know details about their contractual arrangements on hours worked, but provides no flexibility to accommodate variations in 'normal' hours of work in different industries and occupations. The second is more subjective and involves classifying workers as full-time or part-time based on the self-assessment of the person concerned, irrespective of the number of hours actually worked. The self-assessment approach does accommodate such differences but is based solely on self-perception, and its accuracy is dependent on respondents' knowledge of whether they work full-time or part-time in their activity. Both approaches are used in ABS surveys, with ABS household surveys primarily using the hours based method since 2003. For further detail on hours worked, see Chapter 5: Hours of work.

The full-time/part-time status classification differs from, and should not be confused with, the criteria for being casual (as measured through employees with or without leave entitlements). While the classification of full-time and part-time employment is based on hours worked, whether a person is classified as casual is unrelated to hours worked. For further information see Chapter 4: Employment.

Persons working part-time hours should not be confused with underemployed workers (see Chapter 7) even though both may be working less than 35 hours per week. Part-time workers can be classified into two groups: fully employed part-time workers; i.e. those who don't want to work more hours, and underemployed part-time workers who work part-time on an involuntary basis (i.e. they want more hours of work) and who are available to work those extra hours.

For additional information on full-time/part-time status, see *Labour Force Survey Standard Products and Data Item Guide* (cat. no. 6103.0).

## **ABS Household Surveys**

The approach used in the LFS and adopted in many other ABS household surveys is to define full-time and part-time status in terms of hours worked. The definition used in the LFS and related surveys designates full-time workers as persons who (a) usually work 35 hours or more per week in all jobs, or (b) although usually working less than 35 hours a week, actually worked 35 hours or more during the survey reference week. Part-time workers are those who usually work less than 35 hours per week, and either did so during the reference week, or were not at work in the reference week. Under this definition, persons with more than one job are defined as full-time if they work 35 hours or more across all of their jobs.

The approach based on respondents' perception of their full-time or part-time status is used in some supplementary topics to the LFS, for example Participation, Job Search and Mobility Survey (PJSM) (see Chapter 21.2). This approach is most often used where information is sought about work that is not currently being undertaken, and where recall problems may be encountered using a more objective approach (e.g. for jobs held 12 months prior to the survey date).

Full-time/part-time status is available from most ABS labour-related household surveys including: the monthly LFS; labour-related supplementary topics to the monthly LFS; various Special Social Surveys; and the Census of Population and Housing.

The precise definition used in different collections varies, so please refer to the explanatory material for specific collections. For example, in the Census full-time/part-time status is based on actual hours worked in the week prior to the Census.

### **ABS Business Surveys**

In ABS business surveys, the classification of employee jobs as full-time is based on whether normal hours are equal to, or greater than, what has been agreed to as being full-time under the relevant award or agreement (i.e. normal hours). If there are no agreed or award hours associated with the job, then it is classified as full-time where the usual hours of work per week are 35 or more. Part-time jobs are those which are not full-time.

The full-time/part-time status classification is used in the following ABS business surveys: the EEH (see Chapter 29) and the Survey of Average Weekly Earnings (AWE) (see Chapter 28).

### **MANAGERIAL/NON-MANAGERIAL STATUS**

Managerial employees are defined as those who have strategic responsibilities in the conduct or operations of the organisation, and/or are in charge of a significant number of employees. They do not usually have overtime payment entitlements. Jobs occupied by professionally qualified persons are defined as managerial only if the occupant primarily performs managerial tasks. Jobs occupied by working proprietors of incorporated businesses (also referred to as owner-managers of incorporated enterprises) are considered managerial. Non-managerial employee jobs include clerical staff, tradespersons, non-managerial professionals, apprentices, trainees and cadets.

Care should be taken when comparing estimates based on ANZSCO groups with estimates based on the managerial status of employees. Jobs with managerial status include those classified to ANZSCO categories other than the ANZSCO major group Managers, e.g. Professionals according to ANZSCO may be categorised as having managerial status. Conversely, estimates for non-managerial jobs include some employees classified to the ANZSCO major group Managers.

The managerial/non-managerial classification is only available from the EEH.

### **ADULT/JUNIOR STATUS**

The adult/junior classification is mainly available from ABS labour-related business surveys. In these surveys, adults are defined as employees aged 21 years or over, and employees who are paid at the adult rate regardless of their age (employees aged under 21 may be paid at the full adult rate for their occupation). Juniors are employees aged less than 21 years who are not paid at the adult rate of pay for their occupation. ABS labour-related business surveys for which the adult/junior classification is available include the EEH (see Chapter 29). The AWE (see Chapter 28) also produces estimates relating to full-time adult jobs.

## INDUSTRY

An industry classification provides a framework which enables the grouping of businesses which carry out similar productive activities. The Australian and New Zealand Standard Industrial Classification 2006 (ANZSIC) is the standard industry classification used in Australia for the collection, compilation and publication of statistics by industry. It closely aligns with the International Standard Industrial Classification of All Economic Activities (ISIC), Revision 4, adopted by the United Nations Statistical Commission.

The ANZSIC has a hierarchical structure comprising four levels: Divisions (the broadest level), Subdivisions, Groups and Classes (the finest level). At the divisional level, the main purpose is to provide a limited number of categories for a broad overall picture of the economy and used for publication in summary tables. There are 19 divisions within the ANZSIC, each identified by a letter from A to S:

- A Agriculture, Forestry and Fishing
- B Mining
- C Manufacturing
- D Electricity, Gas, Water and Waste Services
- E Construction
- F Wholesale Trade
- G Retail Trade
- H Accommodation and Food Services
- I Transport, Postal and Warehousing
- J Information Media and Telecommunications
- K Financial and Insurance Services
- L Rental, Hiring and Real Estate Services
- M Professional, Scientific and Technical Services
- N Administrative and Support Services
- O Public Administration and Safety
- P Education and Training
- Q Health Care and Social Assistance
- R Arts and Recreation Services
- S Other Services

The Subdivision, Group and Class levels provide increasingly detailed dissections of these categories for the compilation of specific and detailed statistics. For further information on ANZSIC, refer to *Australian and New Zealand Standard Industrial Classification 2006* (cat. no. 1292.0).

For additional information on industry, see *Labour Force Survey Standard Products and Data Item Guide* (cat. no. 6103.0).

## SECTOR

There are a number of standard classifications which group the national economy into broad economic sectors. These sector classifications enable information to be provided about groups of economic units that have similar functions or institutional characteristics; for example, households, corporations or government units. The most relevant sector classifications for labour statistics are the Public/Private and Level of Government classifications. Other sector classifications include the Standard Economic Sector Classification of Australia (SESCA), Not for Profit, and Type of Legal Organisation. These are used within economic statistics. Sector classifications are described within the *Standard Economic Sector Classifications of Australia (SESCA), 2008* (cat. no. 1218.0).

## Public/private sector

The public/private classification is used to identify whether an enterprise is a public or private unit.

The public sector includes:

- Financial corporations controlled by government;
- Government agencies, Government departments;
- Non-financial corporations controlled by government;
- Notional institutional units controlled by government;
- Public financial corporations; and
- Public non-financial corporations.

The private sector includes:

- Household institutional units;
- Not-for-profit institutions;
- Private corporations;
- Private notional institutional units;
- Superannuation funds for public sector employees; and
- Unincorporated enterprises.

## Level of government

The level of government classification is based on the economic function, or role, of public sector units, and enables identification of public sector units by the level of government in which they operate. The classification has the following structure:

- National (or Commonwealth) Government;
- State/Territory Government; and
- Local government.

Note that when a public sector unit cannot be defined unambiguously as under the control of a single government, that unit will be classified to the level of government which typically has that role or function.

For more information on the classifications within the SESA, refer to *Standard Economic Sector Classifications of Australia* (cat. no. 1218.0). For additional information on sector, see *Labour Force Survey Standard Products and Data Item Guide* (cat. no. 6103.0).

## SOCIO-DEMOGRAPHIC CLASSIFICATIONS

A range of socio-demographic data is available from labour-related household collections. Standard classifications used in the presentation of labour statistics include age, sex, birthplace, marital status, families and households, schooling and educational qualifications, language, and Aboriginal and Torres Strait Islander status. Statistical standards for social and demographic variables have been developed by the ABS and are described in *Family, Household and Income Unit Variables* (cat. no. 1286.0). Those relating to marital status, families and households, post-school educational qualifications, language, and Aboriginal and Torres Strait Islander status are discussed below.

## MARITAL STATUS

Marital status is a core variable in a wide range of social, labour and demographic statistics, and is almost universally collected in ABS household collections. Its main purpose is to establish the living

arrangements of couples in the Australian population. These living arrangements may be based on a legal concept (i.e. registered marriage), or a social, marriage-like arrangement (i.e. de facto marriage). Two separate concepts of marital status are measured, Registered Marital Status and Social Marital Status. These are discussed briefly below.

### Registered marital status

Registered marital status is a person's relationship status in terms of whether he or she has, or has had, a registered marriage with another person for whom he or she holds, or held, a valid marriage certificate. Persons may be distinguished as:

- Never married;
- Widowed;
- Divorced;
- Separated; or
- Married.

### Social marital status

Social marital status of an individual describes their relationship to another person who is usually resident in the household, regardless of whether the relationship is formalised through marriage registration. A social marriage exists when two persons live together as husband and wife, or partners, and individuals are regarded as married if they are in a de facto marriage, or if they are living with the person to whom they are registered as legally married. Persons may be distinguished as:

- Registered marriage;
- De facto marriage; or
- Not married.

For additional information on marital status, see *Labour Force Survey Standard Products and Data Item Guide* (cat. no. 6103.0).

## FAMILIES AND HOUSEHOLDS

The concepts of families and households are fundamental in the collection and dissemination of both social and labour statistics. A household can be thought of, in its broadest sense, as a group of persons who live and eat together as a single unit within a household. Notions of what constitutes a family vary. However, for statistical purposes it is defined within ABS collections as two or more related (by blood, marriage, adoption, step or fostering) persons, one of whom is at least 15 years of age, who are usually resident in the same household. Households and families constitute the basic groups of social aggregation. While the concept of household is broader than the concept of family, in practice both often refer to the same set of persons. Classifications relating to Household Composition, Relationship in Household, Family Composition and Relationship between families are discussed briefly below. For further information on these classifications, refer to *Family, Household and Income Unit Variables* (cat. no. 1286.0).

### Household Composition

Household Composition is used to describe and categorise households on the basis of the number of families present, whether or not non-family members are present (family households only), and the number of household members (non-family households only). The standard Household Composition classification is:

- One family household



- One family household with only family members present
- One family household with non-family members present
- Multiple family household
  - Two family household
  - Two family household with only family members present
  - Two family household with non-family members present
  - Three or more family household
  - Three or more family household with only family members present
  - Three or more family household with non-family members present
- Non-family household
  - Lone person household
  - Group household

### Relationship in Household

Relationship in Household describes the familial and non-familial relationship of each person within each family in a given household. The familial relationship within each family is measured with reference to a family reference person chosen for that particular family.

The Relationship in Household classification has a four level hierarchical structure: major group and detailed minor groups. The major groups are distinguished from each other in terms of the presence or absence of residency, family membership, and relationship to reference person within the household. The major groups are:

- Husband, wife or partner
- Lone parent
- Child under 15
- Dependent student
- Non-dependent child
- Other related individual
- Non-family member
- Lone person
- Not living alone.

The minor groups provide more detailed information about the relationship within the household. For example, a child under 15 years of age is further classified as being: a natural or adopted child; a step child; a foster child; grandchild; an otherwise related child; or an unrelated child.

### Family Composition

Statistics on family type are used to identify family structures, and are used extensively in measures of the social wellbeing of the family unit and the individuals within those families. Operationally a family is defined as two or more persons, one of whom is at least 15 years of age, who are related by blood, marriage (registered or de facto), adoption, step or fostering, and who are usually resident in the same household. The basis of a family is formed by identifying the presence of a couple relationship, lone parent-child relationship, or other blood relationship. Some households will, therefore, contain more than one family.

The Family Composition classification has a four level hierarchical structure. The groups at the highest level are distinguished from each other on the presence or absence of a couple relationship, parent-child relationship, or other blood relationship. The four groups are:

- Couple family with no children
- Couple family with children
- One parent family
- Other family

The remaining three levels provide increasingly detailed dissections of the broad categories, based on the presence or absence of children aged less than 15 years, dependent students and non-dependent children. In addition to the four distinct levels, information about the 'type of couple' is provided to distinguish the sex of partners in couple relationships, to support analysis of family composition change over time:

- Opposite-sex couple
- Same-sex male couple
- Same-sex female couple

For additional information on Families and Households, see *Labour Force Survey Standard products and Data Item Guide* (cat. no. 6103.0).

## EDUCATION

The standard classification of educational activity, the Australian Standard Classification of Education (ASCED), was released in 2001.

The ASCED has been developed to classify educational activity by the level and field of the activity. It also provides the flexibility to report statistics on different aspects of education such as enrolments, resources (human and financial) used, or the educational attainment of the population. ASCED has been designed to be applied to a number of education-related concepts, such as a 'qualification', a 'unit of study', a 'module' or a 'course'. The classification includes all pre-primary, primary and secondary school education, as well as all formal non-school education and training. ASCED classifies education according to two elements: level of education; and field of education. These elements are described below and can be used separately or in combination. For further information, refer to *Information Paper: Australian Standard Classification of Education (ASCED)* (cat. no. 1271.0).

### Level of education

Level of education is a function of the quality and quantity of learning associated with an educational activity, and is assessed in terms of the following criteria: the theoretical and vocational orientation of the educational activity; the minimum entry requirements for the educational activity (i.e. the minimum amount of prior education needed to undertake the educational activity at that level); and the course length (or notional duration of the educational activity).

The level of education classification has nine broad levels:

- Postgraduate Degree Level
- Graduate Diploma and Graduate Certificate Level
- Bachelor Degree Level
- Advanced Diploma and Diploma Level
- Certificate Level
- Secondary Education
- Primary Education
- Pre-Primary Education
- Other Education

## Field of education

Field of education refers to the subject matter included in an educational activity. Fields of education are related to each other through the similarity of subject matter, through the broad purposes for which the study is undertaken, and through the theoretical content which underpins the subject matter. Fields of education are classified into progressively broader groups according to the following criteria: the theoretical content of the course; the purpose of learning; the objects of interest; the methods and techniques; and the tools and equipment.

The Field of Study Classification consists of three hierarchical levels; Broad Field; Narrow Field; and Detailed Field. The detailed fields aggregate into narrow fields and the narrow fields in turn aggregate into broad fields. The 12 Broad Field categories are:

- Natural and Physical Sciences
- Information Technology
- Engineering and Related Technologies
- Architecture and Building
- Agriculture, Environmental and Related Studies
- Health
- Education
- Management and Commerce
- Society and Culture
- Creative Arts
- Food, Hospitality and Personal Services
- Mixed Field Programmes

For additional information on education, see *Labour Force Survey Standard products and Data Item Guide* (cat. no. 6103.0).

## LANGUAGE VARIABLES

The development of Australia as a multicultural society and the subsequent wider interest in constructing statistical profiles of particular ethnic or cultural population groups has, over the years, increased the use of and need for quality language data. To meet these growing needs, the ABS has incorporated language questions in a range of social statistics collections. Variables collected include 'main language spoken at home', 'first language spoken', and 'proficiency in spoken English'.

Languages are classified according to the *Australian Standard Classification of Languages (ASCL)* (cat. no. 1267.0), and readers should refer to this publication for more information about what constitutes a language, as well as for further information on the classification itself.

Questions on 'proficiency in spoken English' are asked only of persons who speak languages other than English at home, or whose first language spoken was other than English. Respondents are asked to classify themselves as speaking English: very well; well; not well; or not at all.

## INDIGENOUS STATUS

Accurate and consistent statistics about Aboriginal and Torres Strait Islander peoples are needed in order to plan, promote and deliver essential services, to monitor changes in well-being and to account for government expenditure in this area. The 'Commonwealth working definition' of an Aboriginal or Torres Strait Islander is "a person of Aboriginal or Torres Strait Islander descent, who identifies as an Aboriginal or Torres Strait Islander and is accepted as such by the community in which he or she lives" (footnote 1). In ABS statistical collections, it is not feasible to collect

information on the community acceptance part of this definition, and therefore questions on Aboriginal and Torres Strait Islander Status relate to descent and self-identification only. In practice, persons are asked if they are of Aboriginal or Torres Strait Islander origin.

The classification for Aboriginal and Torres Strait Islander Status has a hierarchical structure comprising two levels. There are four categories at the detailed level of the classification (see below), which are grouped into two categories at the broader level. There is one supplementary category. Statistics are often only available at the broad levels of the classification. For further information, refer to *Indigenous Status Standard, 2014, version 1.5* (cat. no. 1200.0.55.008):

- Aboriginal but not Torres Strait Islander Origin
- Torres Strait Islander but not Aboriginal Origin
- Both Aboriginal and Torres Strait Islander Origin
- Neither Aboriginal nor Torres Strait Islander Origin.

## GEOGRAPHIC CLASSIFICATIONS

There are two geographic classifications used by the ABS for the collection and dissemination of geographical statistics: the Australian Statistical Geography Standard (ASGS); and the Standard Australian Classification of Countries (SACC). The ASGS brings all Australian regions for which the ABS publishes statistics within the one framework. The SACC is a classification of countries based on the concept of geographic proximity. Both classifications are used in the collection and dissemination of ABS labour-related statistics. They are discussed further below.

### Australian Statistical Geography Standard (ASGS)

The ASGS brings together all Australian regions on which the ABS publishes statistics within the one framework. It was used for the 2011 Census of Population and Housing, and introduced into ABS labour collections from mid-2013. The ASGS replaced the *Australian Standard Geographical Classification (ASGC)* (cat. no. 1216.0).

The ASGS classification structures are split into two broad groups, the ABS Structures and the Non-ABS Structures. The ABS Structures are hierarchies of regions defined and maintained by the ABS. The Non-ABS Structures are hierarchies of regions which are not defined or maintained by the ABS, but for which the ABS is committed to providing a range of statistics. They generally represent administrative units such as Postcode and Local Government Areas. The ABS Structures are built directly from Mesh Blocks. Non-ABS Structures are approximated by either Mesh Blocks, the Statistical Areas Level 1 (SA1s) or the Statistical Areas Level 2 (SA2s).

The ABS Structures comprise six interrelated hierarchies of regions. They are:

- Main Structure
- Indigenous Structure
- Urban Centres and Localities/Section of State Structure
- Remoteness Area Structure
- Greater Capital City Statistical Area (GCCSA) Structure
- Significant Urban Area Structure.

Under the main structure, Statistical Area Level 4 (SA4) regions are the largest sub-State regions in the ASGS and are used for the release of Labour Force Statistics. They are designed for the output of labour force data, and reflect labour markets within each State and Territory within the population limits imposed by the Labour Force Survey (LFS) sample.

The Non-ABS Structures comprise eight hierarchies of regions. They are:

- Local Government Areas (LGAs)
- Postal Areas
- State Suburbs
- Commonwealth Electoral Divisions
- State Electoral Divisions
- Australian Drainage Divisions
- Natural Resource Management Regions
- Tourism Regions

The ASGS is constructed on the principle that it must fulfil user needs for spatial statistics while also conforming to general classification principles.

For further information about the ASGS, refer to the *Australian Statistical Geography Standard (ASGS): Volume 1 - Main Structure and Greater Capital City Statistical Areas (ASGS)* (cat. no. 1270.0.55.001) and also *Labour Force Survey Standard products and Data Item Guide* (cat. no. 6103.0).

### **Standard Australian Classification of Countries (SACC)**

The Standard Australian Classification of Countries (SACC) is a classification of countries essentially based on the concept of geographic proximity. In its structure, it groups neighbouring countries into progressively broader geographic areas on the basis of their similarity in terms of social, cultural, economic and political characteristics.

The base level units in the classification are 'countries', which is defined to include:

- fully independent countries (sovereign nation states);
- administrative subdivisions of the United Kingdom (England, Scotland, Wales and Northern Ireland);
- external territories and dependencies of independent countries, for example, Falkland Islands, Martinique;
- units which are recognised geographic areas, the ownership or control of which is in dispute, e.g. West Bank/Gaza Strip; and
- residual categories ('not elsewhere classified' (n.e.c.) categories) consisting of geographic areas which are not separately identified in the classification, and which are not part of one of the separately identified base level units, e.g. Polynesia (excludes Hawaii), n.e.c. contains a number of minor islands which are not part of any of the separately identified country units of the Minor Group Polynesia (excludes Hawaii).

The classification includes all countries currently existing in the world, as defined above.

The SACC is a three-level hierarchical classification ranging from broad major groups to the base unit of discrete countries, as defined above. The three levels consist of:

- 255 discrete countries, as described above;
- 27 minor groups, which are groups of neighbouring countries; and
- 9 major groups.

Each of the 9 major groups are formed by aggregating geographically proximate minor groups, which in turn are groups of neighbouring countries similar in terms of social, cultural, economic and political characteristics. Each major group lies wholly within the bounds of a single geographic

continent (with two exceptions: North Africa and the Middle East, and Americas). The nine major groups are:

- Oceania and Antarctica
- North-West Europe
- Southern and Eastern Europe
- North Africa and the Middle East
- South-East Asia
- North-East Asia
- Southern and Central Asia
- Americas
- Sub-Saharan Africa

For further information about the SACC, please refer to the *Standard Australian Classification of Countries (SACC)* (cat. no. 1269.0) and also *Labour Force Survey Standard Products and Data Item Guide* (cat. no. 6103.0).

## **FOOTNOTES**

1. Department of Aboriginal Affairs 1981, 'Report on a review of the administration of the working definition of Aboriginal and Torres Strait Islanders'.

## CHAPTER 16: OVERVIEW OF SURVEY METHODS

### INTRODUCTION

This chapter provides an overview of key aspects of survey design. It defines and explains key concepts and terms that relate to survey design. It commences with a discussion of sample surveys and censuses, and collection methodologies used in ABS surveys. The rest of the chapter is organised into the following topics: sample design and sampling techniques; estimation; time series estimates; reliability of estimates; output; and data comparability over time.

The subsequent chapters are organised into two sections. ABS household surveys are presented in chapters 18 to 22.4, and ABS business surveys in chapters 23 to 31. Each section begins with a chapter outlining aspects of survey methodology which are common to the type of survey being discussed (i.e. household or business survey). A separate chapter is then devoted to each major labour-related ABS survey. Detailed information on scope, coverage, sample design, collection processes, estimation techniques and statistical output is presented for each of the surveys.

### SAMPLE SURVEYS VERSUS CENSUSES

The ABS uses both sample surveys and censuses to collect information from a population about characteristics of interest. In the field of labour statistics, the ABS uses sample surveys of households and businesses, as well as censuses (such as the Industrial Disputes collection).

Censuses involve the collection of information from all units in the target population, while sample surveys involve the collection of information from only a part (sample) of the target population.

Sample surveys have both advantages and disadvantages when compared with censuses. Some advantages are reduced costs (as less time is needed to collect, process and produce data), possible reductions in non-sampling error (this concept is discussed in further detail later in this chapter), improved timeliness, and the potential to gather more detailed information from each respondent.

A disadvantage of sample surveys is that estimates are subject to sampling error, which occurs because data were obtained from only a sample rather than the entire population (this concept is discussed in further detail later in this chapter). Also, as a result of obtaining only a small number of observations in particular geographical areas and sub-populations, detailed cross-tabulations may be subject to high levels of error and be of limited use.

Censuses are generally used when broad level information is sought for many fine sub-groups of the population, whereas sample surveys are used to collect detailed information to estimate for broader levels of the population.

### COLLECTION METHODOLOGY

A number of methods are used by the ABS for collecting data. Those most commonly used in labour-related surveys can be categorised into three basic groups:

1. interview;
2. self-enumeration; and
3. documentary sources.

Historically, these collection methods have been manual, paper-based methods. Each of these methods has a corresponding electronic method, generally referred to as 'computer assisted'.

## Interview

The interview method of data collection involves an interviewer contacting data providers, asking the questions, and recording the responses. Interviews can be personal, where the data provider is interviewed personally, or involving Any Responsible Adult (ARA), where the ARA responds on behalf of other survey units. Interviews can be conducted either face to face or over the telephone. Interviews are most commonly used in household surveys.

Personal interviewing involves each provider being questioned about his or her own details. The Any Responsible Adult (ARA), or proxy, method of interviewing is used in a number of ABS household surveys as an alternative to personal interviewing. This involves obtaining information about all the persons in a selected household who are in scope of the survey, from the first responsible adult with whom the interviewer makes contact (rather than speaking to each individual personally). The method is only used for collecting information on topics where other members of the household are likely to be able to answer the question. If the ARA is unable to supply all of the details for another individual in the household, a personal interview is conducted with that particular individual.

### *Face to face interview (CAPI - Computer Assisted Personal Interviewing)*

When performing a computer-assisted personal interview (CAPI), the interviewer takes a laptop computer to the interview and codes the data into the computer as it is provided. Advantages of this method of data collection are:

- more flexibility to move around the form and skip questions;
- higher response rates;
- interviewers are able to help respondents understand the questions, thereby allowing for the collection of more complex data;
- some edit checks are carried out at the time of the interview, thus improving data quality; and
- the overall timeliness of the survey is improved.

However, face to face interviews are expensive. Face to face interviews involve a trained interviewer visiting the provider to conduct the survey. There are costs involved in time and travel to reach the respondents; maintenance of the computer equipment; in the recruitment, training in the use of CAPI; management of an interviewer work force; and the actual interview time increases as responses are coded and edited at the time of the interview. Other disadvantages are that data can possibly be subject to bias caused by the interviewer's appearance and attitude, and that respondents may not feel free to disclose sensitive or private information to an interviewer.

### *Telephone interview (CATI - Computer Assisted Telephone Interviewing)*

Computer Assisted Telephone Interviewing (CATI) involves responses being keyed directly into a computer by the interviewer as the providers are asked the survey questions over the telephone. This technique allows for:

- reduced costs compared to face to face interviews, as fewer interviewers are needed and there are no travel costs involved;
- telephone interviews potentially producing more timely results;
- some editing to be carried out immediately (which improves the data quality and decreases processing time);
- 'call scheduling' to take place. Respondents can be called at convenient times or when data is available. Also, if the phone is engaged, the system will reschedule the call, and follow-ups for additional information are relatively quick and inexpensive;



- questions to be sequenced so that only relevant questions are visible to the interviewer (therefore reducing interviewer errors); and
- monitoring of interviewing staff so that consistency of performance is higher.

As with other methods of data collection, there are some drawbacks associated with this approach. There are limits on the number and complexity of questions that can be asked and, because of the ease with which the respondent can terminate the interview, non-response and partial non-response can be higher than with face to face interviews.

Telephone interviewing is used in both ABS household and business surveys, and may be used in conjunction with face to face interviews. For example, in the Labour Force Survey (LFS) the first interview is generally conducted face to face and the remaining interviews are conducted by telephone if the provider agrees.

### **Self-enumeration**

Self-enumeration surveys require the providers to self-complete the survey questions. Self-enumeration surveys are most commonly used in business surveys, but can be used in household surveys. Four of the most common self-enumeration methods are drop-off/mail-back, drop-off/pickup, mail-out/mail-back and online self-completion. They are discussed below.

#### ***Drop-off/Mail-back and Drop-off/Pickup***

Drop-off/mail-back and drop-off/pickup methods are used in a number of ABS household surveys, and provide higher response rates and data quality than postal surveys. In both cases the questionnaire is delivered to respondents by an interviewer who explains the aims of the survey and how to fill out the questionnaire. The questionnaire is left with the respondent to be completed, and then is either mailed back or picked up at a later date. An example of a drop-off/pickup survey is the 2011 Census of Population and Housing. The costs involved in using interviewers makes this technique more expensive than postal surveys, but usually less expensive than personal interviews. This method has the same disadvantage as personal interviewing, in that the respondent has to be available when the interviewer visits.

#### ***Mail-out/Mail-back***

Mail-out/mail-back surveys are used most commonly in ABS business surveys. This approach involves mailing questionnaires to respondents with a return-paid envelope so that the respondent can mail back the completed questionnaire. It allows wide geographic areas to be covered at a relatively low cost (compared to personal interviews), and allows access to 'difficult-to-contact' respondents (e.g. where a post office box is the only address provided, or respondents are away from home a great deal). Another advantage is that more detailed instructions and explanations can be included for better quality data. It also allows respondents to complete questionnaires in their own time and not all in one session, and respondents can check records and with other people. Another advantage of mail-out/mail-back surveys is that respondents may feel more comfortable providing data directly to the ABS without divulging confidential information to an interviewer.

There are some disadvantages with this approach: response rates can be low, due in part to the difficulty in maintaining accurate address and contact details; there can be delays between the time the questionnaire is sent out and returned; there are limits on the length and complexity of the questionnaire to avoid confusion or errors compared to interviewers trained in questionnaire use; and it is necessary to have a complete list of addresses for all units in the sample. This method is not appropriate for potential respondents with limited ability to read or write English, unless questionnaires are provided in the appropriate language.

### ***Online self-completion (CAWI – Computer Assisted Web Interviewing)***

Online self-completion of surveys was introduced in December 2012. Respondents were offered the option of self-completing the survey online, in place of a face-to-face or telephone interview. The online self-completion offer was later expanded to all private households. Interviewer collection (both face-to-face and via telephone) continues to be available for those respondents where it is inappropriate for operational, technological or personal reasons.

The use of electronic returns produces a faster response than other self-enumeration methods. Questions can also be sequenced so that only the questions relevant to the respondent are visible. The disadvantages are: increased cost for development of the forms, maintenance of the related systems and security, and help-desk staff to support the use of the form. Also, this technique requires respondents to have computer access.

### **Administrative data**

Existing data, such as administrative data, can be used to obtain information about the survey population as a whole and as individual units. The approach is used in some ABS business surveys to collect information about individual units in the survey population. For example, payroll records from some government departments are used in business surveys that collect information on earnings and employment.

An advantage of using administrative data is that it can save both time and money by removing the need for the ABS to collect the information directly from respondents. Disadvantages of using administrative data are that: often the data quality is below ABS quality standards, requiring substantial manipulation and checking before the data can be used (adding to the expense); the underlying concepts relate to administrative procedures, rather than statistical constructs; and sometimes not all the data required for statistical purposes have been collected, or they have not been collected in a manner suitable for the purposes of the ABS.

One example of the use of administrative data in labour statistics is the Linked Employer-Employee Database (LEED). The LEED is a dataset generated using a combination of administrative data sourced from the Australian Taxation Office and data held by the ABS. It consists of data on employees, employing businesses (employers) and jobs held throughout Australia. Comprised of three files and linked using a combination of Australian Business Numbers, Tax File Numbers and information collected by the ABS, the LEED contains over ten million employee records and over thirteen million job records, which are linked to the records of over six hundred and eighty thousand employing businesses.

## **SAMPLE DESIGN AND SAMPLING TECHNIQUES**

All the ABS labour-related sample surveys referred to in this publication (household and business) use probability sampling techniques, drawing their samples from a population frame. This section briefly defines and explains key concepts and terms related to survey design. Subsequent chapters provide more detail on aspects of survey design that are particular to household surveys (Chapter 17) and business surveys (Chapter 23).

### **Population**

A survey is concerned with two types of population: the target population, and the survey population. The target population is the group of units about which information is sought, and is also known as the scope of the survey. It is the population at which the survey is aimed. The scope should state clearly the units from which data are required and the extent and time covered, e.g. households (units) in Australia (extent) in August 2000 (time).

However, the target population is a theoretical population, as there are usually a number of units in the target population which cannot be surveyed. These include units which are difficult to contact and units which are missing from the frame. The survey population is that part of the population that is able to be surveyed, and is also called the coverage population.

### **Statistical Units**

Statistical units are used in the design, collection, analysis and dissemination of statistical data. There are several types of units, including: sampling units (the units selected in the sample survey), collection units (the units from which data are collected), reporting units (the units about which data are collected), and analysis units (the units used for analysis of the data). The units used in a survey may change at various stages in the survey cycle. For example, the LFS uses a sample of households (sampling unit) from which information is collected from any responsible adult (collection unit) about each person in the household in scope of the survey (reporting units). The results of the survey may then be analysed for families (analysis unit).

### **Frame**

The frame comprises a list of statistical units (e.g. persons, households or businesses) in the population, together with auxiliary information about each unit. It serves as a basis for selecting the sample. Two types of frames are used in ABS labour-related surveys: list based frames and area based frames.

#### ***List based frames***

List based frames comprise a list of all sampling units in the survey population. List based frames are commonly used in surveys of businesses. ABS business surveys currently draw their list frames from the ABS Business Register. The ABS Business Register is discussed further in Chapter 23.

#### ***Area based frames***

Area based frames comprise a list of non-overlapping geographic areas. These areas may be defined by geographical features such as rivers and streets. They are usually used in household surveys. Once an area is selected, a list is made of the households in the area, and a sample of households selected from the list. Examples of geographic areas that may be used to create area frames include: local government areas; census collection districts; and postcodes.

### **Auxiliary variables**

Auxiliary variables are characteristics of each unit for which information is known on the frame prior to the survey. Auxiliary variables can be used in the sample design to better target the population of interest, if the information on the frame is of sufficiently high quality and is correlated with the variables of interest in the survey. They can also be used in the estimation process in conjunction with the survey data: for example, industry of businesses.

### **Frame issues**

For most sampling methodologies, it is desirable to have a complete list from which to select a sample. However, in practice it can be difficult to compile such a complete list and therefore frame bias may be introduced. Frame bias occurs when an inappropriate frame is used or there are problems with the composition of the frame, with the result that the frame is not representative of the target population. Frames become inaccurate for many reasons. One of the most common problems is that populations change continuously, causing frames to become out of date. Frames may also be inaccurate if they are compiled from inaccurate sources. The following are some of the problems that can occur in the composition of frames.

Under coverage occurs when some units in the target population that should appear on the frame do not. These units may have different characteristics from those units which appear on the frame, and therefore results from the survey will not be representative of the target population.

Out of scope units are units that appear on the frame but are not elements of the target population. Selection of a number of out of scope units in the sample reduces the effective sample size, and increases sampling error. Furthermore, out of scope units appearing on the frame may be incorrectly accounted for in the estimation process, which may lead to bias in survey estimates.

Duplicates are units that appear more than once on the frame. The occurrence of duplicates means that the probability of selection of the units on the frame is not as it should be for the respective sample design. In particular, the duplicate units will have more than the correct chance of selection, introducing bias towards the characteristics of these units. Duplicates also increase sampling error.

Deaths are units that no longer exist in the population but are still on the frame. Deaths have the same impact on survey results as out of scope units.

The quality of auxiliary variables can affect the survey estimates of the variables of interest, through both the survey design and the estimation process.

The ABS attempts to minimise frame problems and uses standardised sample and frame maintenance procedures across collections. Some of the approaches taken are to adjust estimates using new business provisions (explained further in Chapter 23), and to standardise across surveys the systems for handling estimation, imputation and outliers (explained later in this chapter).

### **Probability samples**

Probability samples are samples drawn from populations such that every unit in the population has a known, or calculable, non-zero probability of selection which can be obtained prior to selection. In order to calculate the probability of selection, a population frame must be available. The sample is then drawn from this frame. Alternatives to probability samples are samples formed without a frame, such as phone-in polls.

Probability sampling is the preferred ABS method of conducting major surveys, especially when a population frame is available. Probability samples allow estimates of the accuracy of the survey estimates to be calculated. They are also used in ABS surveys as a means of avoiding bias in survey results. Bias is avoided when either the probability of selection is equal for all units in the target population or, where this is not the case, the effect of non-equal probabilities is allowed for in estimation.

### **Stratified sampling**

Stratified sampling is a technique which uses auxiliary information available for every unit on the frame to increase the efficiency of a sample design. Stratified sampling involves the division (stratification) of the population frame into non-overlapping, homogeneous (similar) groups called strata, which can be treated as totally separate populations. A sample is then selected independently from each of these groups, and can therefore be selected in different ways for different strata, e.g. some strata may be sampled using 'simple random sampling' while others may be 'completely enumerated'. These terms are explained below. Stratification variables may be geographical (e.g. State, capital city/balance of State) or non-geographical (e.g. number of employees, industry, turnover).

All surveys conducted by the ABS use stratification. Household surveys use mainly geographic strata. Business surveys typically use strata which are related to the economic activity undertaken by the business, for example industry and size of the business (the latter based on employment size).

### **Completely enumerated strata**

Completely enumerated strata are strata in which information is obtained from all units. Strata that are completely enumerated tend to be those where: each population unit within the stratum is likely to contribute significantly to the estimate being produced (such as strata containing large employers where the estimate being produced is employment); or there is significant variability across the population units within the stratum.

### **Simple random sampling**

Simple random sampling is a probability sampling scheme in which each possible sample of the required size has the same chance of selection. It follows that each unit of the population has an equal chance of selection.

Simple random sampling can involve units being selected either with or without replacement. Replacement sampling allows the units to be selected multiple times, whereas without replacement sampling allows a unit to be selected only once. In general, simple random sampling without replacement produces more accurate results as it does not allow sample to be 'wasted' on duplicate selections. All ABS surveys that use simple random sampling use the 'without replacement' variant. Simple random sampling without replacement is used in most ABS business surveys.

### **Systematic sampling**

Systematic sampling is used in most ABS household surveys, and provides a simple method of selecting the sample. It involves choosing a random starting point within the frame and then applying a fixed interval (referred to as the 'skip') to select members from a frame.

Information on auxiliary variables can be used in systematic sampling to improve the efficiency of the sample. The units in the frame can be ordered with respect to auxiliary variables prior to calculating the skip interval and starting point. This approach ensures that the sample is spread throughout the range of units on the frame, ensuring a more representative sample with respect to the auxiliary variable.

Systematic sampling with ordering by auxiliary variables is only useful if the frame contains auxiliary variables about each of the units in the population, and if these variables are related to the variables of interest. The relationship between the variables of interest and the auxiliary variables is often not uniform across strata. Consequently, it is possible to design a sample survey with only some of the strata making use of auxiliary variables.

### **Probability proportional to size sampling**

Probability proportional to size sampling is a selection scheme in which units in the population do not all have the same chance of selection. With this method, the larger the unit with respect to some measure of size, the greater the probability that unit will be selected in the sample. Probability proportional to size sampling will lead to unbiased estimates, provided the different probabilities of selection are accounted for in estimation.

### **Cluster sampling**

Cluster sampling involves the units in the population being grouped into convenient clusters, usually occurring naturally. These clusters are non-overlapping, well-defined groups which usually represent geographical areas. The sample is selected by selecting a number of clusters, rather than directly selecting units. All units in a selected cluster are included in the sample.

## Multi-stage sampling

Multi-stage sampling is an extension of cluster sampling. It involves selecting a sample of clusters (first-stage sample), and then selecting a sample of population units within each selected cluster (second-stage sample). The sampling unit changes at each stage of selection. Any number of stages can be employed. The sampling units for any given stage of selection each form clusters of the next-stage sampling units. Units selected in the final stage of sampling are called final-stage units (or ultimate sampling units). The Survey of Employee Earnings and Hours uses multi-stage sampling - businesses (the first-stage units) selected in the survey are asked to select a sample of 'employees' (the final-stage units) using employee payrolls. Household surveys also use multi-stage sampling.

## Multi-phase sampling

Multi-phase sampling involves collecting basic information from a sample of population units, then taking a sub-sample of these units (the second-phase sample) to collect more detailed information. The second-phase sample is selected using the information collected in the first phase, and allows the second-phase sample to be targeted to the specific population of interest. Population totals for auxiliary variables, and values from the first-phase sample, are used to weight the second-phase sample for the estimation of population totals.

Multi-phase sampling aims to reduce sample size and the respondent burden and collection costs, while ensuring that a representative sample is still selected from the population of interest. It is often used when the population of interest is small and difficult to isolate in advance, or when detailed information is required. Multi-phase sampling is also useful when auxiliary information is not known for all of the frame units, as it enables the collection of data for auxiliary variables in the first-phase sample.

The first-phase sample is designed to be large to ensure sufficient coverage of the population of interest, but only basic information is collected. The basic information is then used to identify those first-phase sample units which are part of the population of interest. A sample of these units is then selected for the second-phase sample. Therefore, the sampling unit remains the same for each phase of selection. If multi-phase sampling was not used, detailed information would need to be collected from all first-phase sample units to ensure reasonable survey estimates. In this way, multi-phase sampling reduces the overall respondent burden.

## Estimation

Sample survey data only relate to the units in the sample. Therefore, the sample estimates need to be inflated to represent the whole population of interest. Estimation is the means by which this inflation occurs.

The following section outlines various methods of calculating the population estimates from the sample survey data. It then describes various editing procedures used in labour-related statistics to improve the population estimates.

## Weighting

Estimation is essentially the application of weights to the individual survey, and summing these weighted records to estimate totals. The value of these weights is determined with respect to one or more of the following three factors:

- the probability of selection for each survey unit (probability weighting);
- adjustment for non-response to correct for imbalances in the characteristics of responding sample units (post-stratification); and

- adjustments to agree with known population totals for auxiliary variables - to correct for further imbalances in the characteristics of the selected sampled units (post-stratification, ratio estimation, calibration).

Weights are determined using formulae (estimators) of varying complexity.

### *Number-raised estimation*

Number-raised weights are given by  $N_h/n_h$  (where  $N_h$  is the total number of units in the population for the stratum, and  $n_h$  is the number of responding units in the sample for that stratum). The weight assigned to each survey unit indicates the number of units in the target population that the survey unit is meant to represent. For example, a survey unit with a weight of 100 represents 100 units in the population. Each survey unit in a stratum is given the same weight. Number-raised weights can only be used to weight simple random samples.

Advantages of number-raised estimation are: it does not require auxiliary data; it is unbiased; and the accuracy of the estimates can be calculated relatively simply. However, number-raised estimation is not as accurate as some other methods with the same overall sample size.

### *Ratio estimation*

Ratio estimation involves the use of known population totals for auxiliary variables to improve the weighting from sample values to population estimates. It operates by comparing the survey sample estimate for an auxiliary variable with the known population total for the same variable on the frame. The ratio of the sample estimate of the auxiliary variable to its population total on the frame is used to adjust the sample estimate for the variable of interest.

The ratio weights are given by  $X/x$  (where  $X$  is the known population total for the auxiliary variable, and  $x$  is the corresponding estimate of the total based on all responding units in the sample). These weights assume that the population total for the variable of interest will be estimated by the sample equally as well (or poorly) as the population total for the auxiliary variable is estimated by the sample.

Ratio estimation can be more accurate than number-raised estimation if the auxiliary variable is highly correlated with the variable of interest. However, it is subject to bias, with the bias increasing for smaller sample sizes and where there is lower correlation between the auxiliary variable and the variable of interest.

### *Post-stratification*

Post-stratification estimation also involves the use of auxiliary information to improve the weighting from sample values to population estimates. Subgroups of the survey sample units are formed based on auxiliary variables after the survey data have been collected. Estimates of subgroup population sizes (based on probability weighting) are compared with known subgroup population sizes from independent sources. The ratio of the two population sizes for each subgroup is used to adjust the original estimate for the variable of interest (based on probability sampling).

Post-stratification is used to refine the estimation weighting process by correcting for sample imbalance and, assuming that the survey respondents are representative of missing units, correcting for non-response. For example, in the LFS, the sample is post-stratified by age, sex, capital city/rest of State, and State/Territory of usual residence. Estimates of the number of persons in these subgroups based on Census data are then compared to the estimates based on the survey sample to give the post-stratification weights.



## Calibration

Calibration essentially uses all available auxiliary information to iteratively modify the original weights (based on number-raised weights). The new weights ensure that the sample estimates are consistent with known auxiliary information. Both post-stratification and ratio estimation can be used as part of the calibration weighting process. Calibration is useful if the survey sample estimates need to match the unit totals for a number of different subgroups, or for more than one auxiliary variable. It is mostly used in Special Social Surveys. For example, the Survey of Employment and Unemployment Patterns was weighted so that the survey estimates aligned with both population estimates based on Census data and estimates of the number of persons 'employed', 'unemployed' and 'not in the labour force' from the LFS.

## EDITING

Editing is the process of correcting data suspected of being wrong, in order to allow the production of reliable statistics. The aims of editing are:

- to ensure that outputs from the collection are mutually consistent: for example, two different methods of deriving the same value should give the same answer;
- to correct for any missing data;
- to detect major errors, which could have a significant effect on the outputs; and
- to find any unusual output values and their causes.

The purpose of editing is to correct non-sampling errors, such as those introduced by misunderstanding of questions or instructions, interviewer bias, miscoding, non-availability of data, incorrect transcription, non-response, and non-contact. Non-response occurs when all (total non-response) or part (partial non-response) of a questionnaire is not completed by the respondent. High levels of non-response can cause bias in the sample based estimates.

Editing is also used to identify outliers. The statistical term 'outlier' has several definitions, depending on the context in which it is used. Here it is used loosely to describe extreme values that are verified as being correct, but are very different from the values reported by similar units, and are expected to occur only very rarely in the population as a whole. In practice, an outlier is usually considered to be a unit that has a large effect on survey estimates of level, on estimates of movement, or on the sampling variance. This may occur because the unit is not similar to other units in the stratum - for example, if its' true employment is much greater than the frame employment. It may also occur when an extreme value is recorded for some variable from an otherwise ordinary sampling unit.

Certain types of non-response, and the presence of outliers in the sample, may be addressed using a variety of statistical techniques.

## Imputation

Imputation involves supplying a value for a non-responding unit, or to replace 'suspect' data. Imputation methods fall into three groups:

- the imputed value may be derived from other information supplied by the respondent;
- the imputed value may be derived from information supplied by other similar respondents in the current survey; and
- the values supplied by the respondent in previous surveys may be modified to derive a value.

Three imputation methods used in labour-related surveys are described below.



**Deductive imputation** involves correcting a missing or erroneous value by using other information that reveals the correct answer. For example, a response of 18,000 has been given where respondents have been asked to reply in '\$000s' and where the expected range of responses is 13-21. A quick examination of other parts of the form shows that \$18,000 is very likely the amount actually spent by the respondent, so 18,000 is 'corrected' to 18.

**Central-value imputation** involves replacing a missing or erroneous item with a value considered to be 'typical' of the sample or sub-sample concerned. Live respondent mean is an example of central-value imputation. This technique involves calculating the average stratum value for the data item of interest across all responding live units in the stratum, and assigning this value to all live non-responding units in the stratum.

**Hot-deck imputation** is similar to central-value imputation, but takes the absolute value from a donor unit: for example, earnings per hour for a given combination of occupation, location and industry in Characteristics of Employment.

**Cold-deck imputation** involves using previous survey data to amend items which fail edits. It may involve copying data from the previous survey cycle to the current cycle. One specific example of this type of imputation is Beta imputation, which involves estimating missing values by applying an imputed growth rate to the most recently reported data for these units, provided that data have been reported in either of the two previous periods.

### **Adjustments for outliers**

When adjusting for outliers, a compromise is always necessary between the variability and bias associated with an estimate. There are two methods available for dealing with outliers. Historically the ABS has used the 'surprise outlier' approach for most business surveys, but over time has gradually changed to using 'winsorization'.

#### ***Surprise outlier approach***

Generally, this technique is used to deal with a selected unit which is grossly extreme for a number of variables. The approach treats each outlier as if it were the only extreme unit in the stratum population. The outlier is given a weight of one, as if it had been selected in a CE stratum. As a result of the outlier's movement to the CE stratum, the weight for units in the outlier's selection stratum has to be recalculated, as the population and sample size have effectively been reduced by one. This has the effect that the other population units which would have been represented by the outlier are now represented by the average of the other units in the stratum. Therefore, the choice of treatments for a suspected outlier using the surprise outlier approach are either for it to represent all of the units it would normally represent, or to represent no units other than itself. It is preferable to set a maximum number of surprise outliers which can be identified in any one survey.

#### ***Winsorization technique***

This technique is a more flexible approach. Here a value is considered to be an outlier if it is greater than a predetermined cut off. The effect of the outlier on the estimates is reduced by modifying its reported value.

On application of the winsorization formula, sample values greater than the cut off are replaced by the cut off plus a small additional amount. The additional amount is the difference between the sample value and the cut off, multiplied by the stratum sampling fraction. Thus winsorization has most impact in strata with low sampling fractions, and the impact decreases as sampling fractions increase. Effectively, winsorization results in the outlier only representing itself, with the remaining

population units that would have been represented by the outlier being instead represented by the cut off.

## TIME SERIES ESTIMATES

Time series are statistical records of various activities measured at regular intervals of time, over relatively long periods. Data collected in irregular surveys do not form time series. The following section outlines the various elements of time series, and describes the ABS method of calculating seasonally adjusted and trend estimates.

ABS time series statistics are published in three forms: original, seasonally adjusted and trend.

Original estimates are the actual estimates the ABS derives from the survey data or other non-survey sources. Original estimates are comprised of trend behaviour, systematic calendar related influences, and irregular influences.

Systematic calendar related influences operate in a sustained and systematic manner that is calendar related. The two most common of these influences are seasonal influences and trading day influences.

Seasonal influences occur for a variety of reasons:

- They may simply be related to the seasons and related weather conditions, such as warmth in summer and cold in winter. Weather conditions that are out of character for a particular season, such as snow in summer, would appear as irregular, not seasonal, influences.
- They may reflect traditional behaviour associated with various social events (e.g. Christmas and the associated holiday season).
- They may reflect the effects of administrative procedures (e.g. quarterly provisional tax payments and end of financial year activity).

Trading day influences refer to activity associated with the number and types of days in a particular month, as different days of the week often have different levels of activity. For instance, a calendar month typically comprises four weeks (28 days) plus an extra two or three days. If these extra days are associated with high activity, then activity for the month overall will tend to be higher.

Seasonal and trading day factors are estimates of the effect that the main systematic calendar related influences have on ABS time series. These evolve to reflect changes in seasonal and trading patterns of activity over the life of the time series, and are used to remove the effect of seasonal and trading day influences from the original estimates.

Seasonally adjusted estimates are derived by removing the systematic calendar related influences from the original estimates. Seasonally adjusted estimates capture trend behaviour, but still contain irregular influences that can mask the underlying month to month or quarter to quarter movement in a series. Seasonally adjusted estimates by themselves are only relevant for sub-annual collections.

Irregular influences are short term fluctuations which are unpredictable, and hence are not systematic or calendar related. Examples of irregular influences are those caused by one-off effects such as major industrial disputes or abnormal weather patterns. Sampling and non-sampling errors that behave in an irregular or erratic fashion with no noticeable systematic pattern are also irregular influences.

Trend estimates are derived by removing irregular influences from the seasonally adjusted estimates. As they do not include systematic, calendar related influences or irregular influences, trend estimates are the best measure of the underlying behaviour of the series, and the labour market.

## **CALCULATION OF TREND ESTIMATES**

Trend estimates are produced by smoothing the seasonally adjusted series using a statistical procedure based on Henderson moving averages. At each survey cycle, the trend estimates are calculated using a centred x-term Henderson moving average of the seasonally adjusted series. The moving averages are centred on the point in time at which the trend is being estimated. The number of terms used to calculate the trend estimates varies across surveys. Generally, ABS monthly surveys use a 13-term Henderson moving average, and quarterly surveys use a 7-term Henderson moving average.

Estimates for the most recent survey cycles cannot be directly calculated using the centred moving average method, as there are insufficient data to do so. Instead, alternative approaches that approximate the smoothing properties of the Henderson moving average are used - such as asymmetric averages. This can lead to revisions in the trend estimates for the most recent survey cycles, until sufficient data are available to calculate the trend using the centred Henderson moving average. Revisions of trend estimates will also occur with revisions to the original data and re-estimation of seasonal adjustment factors.

## **RELIABILITY OF ESTIMATES**

The accuracy of an estimate refers to how close that estimate is to the true population value. Where there is a discrepancy between the value of the sample estimate and the true population value, the difference between the two is referred to as the 'error of the sampling estimate'. The total error of the sampling estimate results from two types of error:

- sampling error - errors which occur because data were obtained from only a sample rather than the entire population, and
- non-sampling error - errors which occur at any stage of a survey, and can also occur in censuses.

All ABS data are subject to one or both of these types of errors. The following section provides further information on both sampling and non-sampling error, and describes various measures of each.

## **SAMPLING ERROR**

Sampling error equals the difference between the estimate obtained from a particular sample, and the value that would be obtained if the whole survey population were enumerated. It is important to consider sampling error when publishing survey results as it gives an indication of the accuracy of the estimate, and therefore reflects the importance that can be placed on interpretations. For a given estimator and sample design, the expected size of the sampling error is affected by how similar the units in the target population are and the sample size.

### **Variance**

Variance is a measure of sampling error that is defined as the average of the squares of the deviation of each possible estimate (based on all possible samples for the same design) from the expected value. It gives an indication of how accurate the survey estimate is likely to be, by measuring the spread of estimates around the expected value. For probability sampling, an estimate of the variance can be calculated from the data values in the particular sample that is generated.

Methods used to calculate estimates of variance in ABS labour-related surveys are outlined below.

- Jack-knife: This method starts by dividing the survey sample into a number of equally sized groups (replicate groups), containing one or more units. Pseudo-estimates of the population total are then calculated from the sample by excluding each replicate group in turn. The jack-knife variance is derived from the variation of the respective pseudo-estimates around the estimate based on the whole sample. This method is used in a number of household surveys, including the LFS (from November 2002), supplementary surveys (from August 2005), the Multipurpose Household Survey (MPHS) and some labour-related business surveys.
- Bootstrap: The Bootstrap is a variance estimation method which relies on the use of replicate samples, essentially sampling from within the main sample. Each of these replicate samples is then used to calculate a replicate estimate and the variation in these replicate estimates is used to calculate the variance of a particular estimate.
- Ultimate cluster variance: This method is used in some multi-stage sampling, and involves using the variation in estimates derived from the first-stage units to estimate the variance of the total estimate. This method is used in the Survey of Employee Earnings and Hours.
- Split halves: This method involves dividing the sample into half and, from each half, obtaining an independent estimate of the total. The variance estimate is produced using the square of the difference of these estimates. Variations of the split halves method for calculating variance estimates were used in a number of household surveys, including the LFS prior to November 2002 and supplementary surveys prior to August 2005.

The variances indicated in ABS household survey publications are generally based on models of each survey's variance. The variances for a range of estimates are calculated using one of the above methods, and a curve is fitted to the results. This curve indicates the level of variance which could be expected for a particular size of estimate.

### Standard Error (SE)

The most commonly used measure of sampling error is called the standard error (SE). The SE is equal to the square root of the variance. An estimate of the SE can be derived from either the population variance (if known) or the estimated variance from the sample units. Any estimate derived from a probability based sample survey has an SE associated with it (called the SE of the estimate). The main features of SEs are set out below.

- SEs indicate how close survey estimates are likely to be to the expected population values that would be obtained from a census conducted under the same procedures and processes;
- SEs provide measures of variation in estimates obtained from all possible samples under a given design;
- Small SEs indicate that variation in estimates from repeated samples is small, and it is likely that sample estimates will be close to the true population values, regardless of the sample selected;
- Estimates of SEs can be obtained from any probability sample - different random samples will produce different estimates of SEs;
- SEs calculated from survey samples are themselves estimates, and thus also subject to SEs;
- When comparing survey estimates, statements should be made about the SEs of those estimates; and
- SEs can be used to work out confidence intervals. This concept is explained below.

## Confidence Interval (CI)

A confidence interval (CI) is defined as an interval, centred on the estimate, with a prescribed level of probability that it includes the true population value (if the estimator is unbiased), or the mean of the sampling distribution (if the estimator is biased). Estimates from ABS surveys are usually unbiased.

Estimates are often presented in terms of a CI. Most commonly, CIs are constructed for 66%, 95%, and 99% levels of probability. The true value is said to have a given probability of lying within the constructed interval. For example:

- 66% chance that the true value lies within 1 standard error of the estimate (2 chances in 3);
- 95% chance that the true value lies within 2 standard errors of the estimate (19 chances in 20); and
- 99% chance that the true value lies within 3 standard errors of the estimate (99 chances in 100).

CIs are constructed using the standard error associated with an estimate. For example, a 95% CI is equivalent to the survey estimate, plus or minus two times the standard error of the estimate. For example, the originally published LFS estimate of employment (seasonally adjusted) for September 2017 was 12,290,200 persons, and the estimate had a standard error of 44,400. The 95% CI could be expressed: "we are 95% confident that the true value for employment lies between 12,201,400 and 12,379,000".

## Relative Standard Error (RSE)

Another measure of sampling error is the relative standard error (RSE). This is the standard error expressed as a percentage of the estimate. Since the standard error of an estimate is generally related to the size of the estimate, it is not possible to deduce the accuracy of the estimate from the standard error without also referring to the size of the estimate. The relative standard error avoids the need to refer to the estimate, since the standard error is expressed as a proportion of the estimate. RSEs are useful when comparing the variability of population estimates of different sizes. They are commonly expressed as percentages.

Very small estimates are subject to high RSEs, which detract from their usefulness. In some ABS labour-related statistical publications, estimates with an RSE greater than 25% but less than 50% have an asterisk (\*) displayed beside the estimate, indicating they should be used with caution. Estimates with an RSE greater than 50% have two asterisks (\*\*) displayed beside the estimate, indicating they are so unreliable as to detract seriously from their value for most reasonable uses. All cells in a Data Cube with RSEs greater than 25% contain a comment indicating the size of the RSE. These cells are identified by a red indicator in the corner of the cell. The comment appears when the mouse pointer hovers over the cell.

## NON-SAMPLING ERROR

Non-sampling error refers to all other errors in the estimate. Non-sampling error can be caused by non-response, badly designed questionnaires, respondent bias, interviewer bias, collection bias, frame deficiencies and processing errors. It is often difficult and expensive to quantify non-sampling error.

Non-sampling errors can occur at any stage of the process, and in both censuses and sample surveys. Non-sampling errors can be grouped into two main types: systematic and variable. Systematic error (called bias) makes survey results unrepresentative of the population value by systematically

distorting the survey estimates. Variable error can distort the results on any given occasion, but tends to balance out on average over time.

### Reducing non-sampling error

Every effort is made to minimise non-sampling error in ABS surveys at every stage of the survey, through careful design of collections, and the use of rigorous editing and quality control procedures in the compilation of data. Some of the approaches adopted are listed below.

- Reducing frame deficiencies.
- Reducing non-response: Non-response results in bias in the estimate because it is possible the non-respondents have different characteristics to respondents, leading to an under-representation of the characteristics of non-respondents in the sample survey estimate. The ABS pursues a policy of intensive follow up of non-respondents. This includes multiple visits or telephone calls in an attempt to contact respondents, and letters requesting compliance with the survey. Partial non-response is also followed up with respondents.
- Reducing instrument errors: These errors relate to poor questionnaire design, leading to questions which are not easily understood by respondents, and hence incorrect responses. This is particularly relevant for household surveys. The ABS ensures that all household survey questionnaires are carefully tested using cognitive testing and dress rehearsals of the survey before it is officially conducted. New business survey questionnaires and additional questions in business surveys are also rigorously tested before they are introduced.

### Measures of non-sampling error

Non-sampling error is difficult to quantify; however, an indication of the level of non-sampling error can be determined from a number of quality measures. These include:

- Response rates: The number of responding units in a survey expressed as a proportion of the total number of units selected (excluding deaths). Response rates can also be calculated for individual questions within a survey.
- Imputation rates: The number of responses which need to be imputed expressed as a proportion of the total number of responses
- Coverage rates: An estimate of the proportion of units in the target population which are not covered by the frame
- Any Responsible Adult rates: The number of responding units in a survey for which information was supplied by a responsible adult rather than personally, expressed as a proportion of the total number of responding units. Any Responsible Adult rates can only be calculated for household surveys.

## CONFIDENTIALITY

All releases of data from the ABS are confidentialised to ensure that no unit (e.g. person or business) is able to be identified. The ABS applies a set of rules, concerning the minimum number of responses required to contribute to each data cell of a table, and the maximum proportion that any one respondent can contribute to a table cell, to ensure that information about specific units cannot be derived from published survey results.

In some instances it is not possible to confidentialise responses from businesses that contribute substantially to a data cell. In this case, agreement is sought from the business for their data to still be published. If agreement is not reached, all affected data cells are suppressed.

Under the *Census and Statistics Act, 1905* it is an offence to release any information collected under the Act that is likely to enable identification of any particular individual or organisation. Introduced

random error is used to ensure that no data are released which could risk the identification of individuals in the statistics.

A technique, known as perturbation, has been developed to randomly adjust cell values. Random adjustment of the data is considered to be the most satisfactory technique for avoiding the release of identifiable data. When the technique is applied, all cells are slightly adjusted to prevent any identifiable data being exposed. These adjustments result in small introduced random errors. However, the information value of the table as a whole is not impaired.

These adjustments may cause the sum of rows or columns to differ by small amounts from table totals. The counts are adjusted independently in a controlled manner, so the same information is adjusted by the same amount. However, tables at higher geographic levels may not be equal to the sum of the tables for the component geographic units.

It is not possible to determine which individual figures have been affected by random error adjustments, but the small variance which may be associated with derived totals can, for the most part, be ignored.

## **DATA COMPARABILITY OVER TIME**

The ABS aims to produce consistent and comparable time series of data by minimising changes to ongoing surveys. However, the frequency of collection, collection and sample methods, concepts, data item definitions, classifications and time series analysis techniques are all subject to maintenance, change and/or development.

The desire for comparable data must be balanced with a requirement for data to remain relevant. In addition, sound survey practice requires careful and continuing maintenance and development to ensure the integrity of the data and the efficiency of the collection. Some survey features are reviewed regularly, while others are changed only as the need arises. For example, the sample design for the LFS is, in part, based on information from the Population Census (conducted every five years), and is therefore reviewed on a five-yearly cycle. Updates to the seasonally adjusted and trend series resulting from time series analysis are also changed regularly.

On the other hand, irregular changes to questionnaires may arise from:

- changes in international recommendations (these usually occur infrequently);
- changes in local needs or conditions;
- reviews of ABS data standards, such as changes to the Industry and Occupation classifications;
- changes to population frames, such as the Business Register; and
- developments in ABS collection methods, such as the introduction of telephone interviewing or computer assisted personal interviewing.

Changes to ABS surveys which affect the comparability of data over time are usually documented in the explanatory notes of survey publications. Changes to individual labour-related surveys which have occurred to date are also summarised in subsequent chapters.



## CHAPTER 17: METHODS USED IN ABS HOUSEHOLD SURVEYS

### INTRODUCTION

This chapter provides an overview of the survey methodology used in ABS household surveys. It should be used in conjunction with Chapter 16, which provides a broad overview of ABS survey methodology, and Chapters 19-22, which provide more detail on aspects of survey design that are particular to specific labour-related household collections.

### SCOPE AND COVERAGE

The scope of ABS household surveys varies from survey to survey. The Census of Population and Housing has the broadest scope of all ABS household collections, and aims to collect information from all persons residing in Australia on Census night. The scope of the Labour Force Survey (LFS) is the civilian population aged 15 years and over, and while the Labour Force Supplementary Surveys (LFSSs) vary, their scope is generally narrower than that of the LFS. The target populations of Special Social Surveys (SSS) also vary.

Practical collection difficulties, low levels of response, high levels of sample loss and the small numbers involved have resulted in the exclusion of persons living in remote and sparsely settled parts of Australia from a number of household surveys (exceptions include: the Census of Population and Housing; the LFS; and some SSSs). The exclusion of these persons has only a minor impact on any estimates produced for individual states and territories, with the exception of the Northern Territory.

Some household surveys exclude all persons living in special dwellings from their scope. Special dwellings include hotels, motels, hospitals, prisons and boarding houses. Other household surveys exclude certain types of persons living in special dwellings: for example, institutionalised persons (footnote 1) and boarding school pupils (footnote 2) are excluded from the scope of most supplementary surveys.

Coverage rules are generally applied in all household surveys to ensure that each person is associated with only one dwelling, and hence has only one chance of selection. The chance of a person being enumerated at two separate dwellings in the one survey is considered to be negligible. Some surveys remove certain dwellings from coverage but not from scope; the estimates still are intended to include these excluded dwellings. The estimation method used for the survey makes an adjustment to include these dwellings and persons in the final outputs.

### COLLECTION METHODOLOGY

A number of collection methods are used in household surveys, and some surveys use more than one method. The most common method used is computer assisted interviewing, conducted either face-to-face or over the telephone, and online self-enumeration. Personal interviewing is generally used in SSSs, while Any Responsible Adult (ARA) interviewing is generally used in the LFS and supplementary surveys. Self-enumeration and administrative data sources are also used, particularly to collect sensitive data or to supplement the data collected by interview.

From December 2012 to April 2013, the ABS conducted a trial of online electronic data collection. Respondents in one-eighth of the survey sample were offered the option of self-completing their labour force survey questionnaire online instead of via a face-to-face or telephone interview. From September 2013, online electronic collection was offered to 100% of private dwellings in each new survey group. From April 2014, 100% of private dwellings are offered online electronic collection.



Refer to Chapter 16: Overview of Survey Methods for further explanation of different collection methods.

The following table shows the different household surveys and the different collection methods generally used for each:

**Table 17.1: Household surveys and collection methods**

	<i>Respondent modes</i>	<i>Respondent selection</i>
<b><i>Labour Force Survey and associated Supplementary Surveys</i></b>	Predominantly interviewer administered – first month often face-to-face, with telephone interview thereafter.  Online self-enumeration offered as the primary response mode.	Any responsible adult.
<b><i>Multipurpose Household Survey</i></b>	Predominantly interviewer administered – first month often face-to-face, with telephone interview thereafter.  Online self-enumeration offered as the primary response mode.	Personal interview – self-reporting.
<b><i>Special Social Survey</i></b>	Interviewer administered – face to face or telephone interviewing.	Personal interview – self-reporting.
<b><i>Census of Population and Housing</i></b>	Self-enumeration – either pen and paper or on-line.	Any responsible adult.

Intensive follow up procedures for non-response are in place for household surveys. Interviewers make a number of attempts to contact households at different times of the day and on different days during the week. For households unable to be contacted by telephone, a face-to-face visit is attempted. If the household can still not be contacted within the survey period after repeated attempts, and the dwelling has been verified as not vacant, the household is listed as a non-contact.

## SAMPLE DESIGN

With the exception of the Census of Population and Housing, most ABS household surveys use probability sample designs, drawing their sample from the Monthly Population Survey (MPS) and the SSS samples, which are drawn from a 'Master Sample'. These household surveys all use a multi-stage, stratified sample design. Typically three stages are used; the first stage units (FSUs) are randomly selected areas the size of Statistical Area Level 1's (SA1s) - about 200 dwellings. The Master Sample consists of these FSUs.

The Master Sample is drawn from the Population Survey Framework, which is composed of three components: the private dwelling framework, the special dwelling framework, and the Aboriginal and Torres Strait Islander Communities framework. These three frames are generally non-overlapping, and therefore enable the selection of samples that represent the Australian population. The overlap occurs as there are some special dwellings within the Aboriginal and Torres Strait Islander Communities framework.

For more information about sample design and method of estimation, see articles 'Sample Design' and 'Method of estimation' in *Information Paper: Labour Force Survey Sample Design* (cat. no. 6269.0).

## Private dwelling framework

In general, private dwellings are structures built specifically for living purposes, such as houses, flats, home units, and any other structures used as private places of residence. A private dwelling can also be a caravan, a houseboat, a house attached to an office, or rooms above a shop. In practice, some dwellings such as caravan parks and marinas are listed on the special dwelling list.

In most areas of Australia, private dwelling sample selection is structured around the selection of fine geographic regions defined by the aggregation of mesh blocks. Mesh blocks are the finest unit in the Australian Statistical Geography Standard (ASGS), the ABS Geography Standard which replaced the previous standard in 2012. For more information about mesh blocks, see *Australian Statistical Geography Standard (ASGS): Volume 1 - Main Structure and Greater Capital City Statistical Areas* (cat. no. 1270.0.55.001).

The key geographic sampling unit in the new framework is called the Base Frame Unit. These Base Frame Units were created by combining contiguous mesh blocks in nearly all regions of Australia, and were created solely for the purpose of household survey sampling. Their intended role is to define the geographic area within which dwellings are organised into groups which are selected in a sample together. These selected dwellings within the selected Base Frame Units are termed the "cluster". The clusters vary in size from 5-15, reflecting the cost of enumeration. If an area is remote and costly to enumerate, it will have a cluster size at the upper-end of this range of cluster sizes.

Three special strata are adopted: Secure Apartment Buildings, Pre-Determined Growth, and Indigenous geography strata. There is a single special stratum of each type within a State/Territory (at most), so the sample in these strata can cut across the area unit boundaries

Each area selection unit in the master sample is assigned an "area type" class based on the geography of Australia. A variety of geographic classifications defined by different sources are combined to derive the area type classes:

- ASGS: Greater Capital City Statistical Area (GCCSA);
- ABS Geography classifications: Remoteness area (RA), Section of state (SoS), Urban centre or locality (UCL); and
- Household Survey Methodology (HSM): Self representing Area (SRA) / non-SRA (based on estimated population density).

## Special dwelling framework

The special dwelling household framework is a list of 'special' dwellings, from which samples of special dwellings and their residents can be selected. Special dwellings are establishments which provide predominantly short-term accommodation for communal or group living, and often provide common eating facilities. They include hotels, motels, hostels, hospitals, religious institutions providing accommodation, educational institutions providing accommodation, prisons, boarding houses, short-stay caravan parks, and may include some Aboriginal and Torres Strait Islander communities that are not on the Aboriginal and Torres Strait Islander Community Frame. Some special dwellings are designed for a particular purpose (e.g. hospitals) and, as such, provide accommodation for specific groups of persons. Special dwellings each comprise a number of dwelling units. Currently, there are around 26,000 special dwellings on the frame.

The framework contains information about the occupancy of each special dwelling as it was on Census night.

The special dwelling framework is also stratified geographically, though at a broader level than the private dwelling framework. In many cases the demographic, social and labour force characteristics of the occupants of special dwellings are not typical of the population residing in private dwellings, and therefore it is necessary to sample special dwellings separately by placing them in separate strata within each geographic (sample design) region. This provides for more effective samples of persons within special dwellings and private dwellings, and the flexibility to select some samples which exclude all or some special dwellings, or to select samples in which special attention is paid to persons residing in particular special dwellings.

### **Aboriginal and Torres Strait Islander Community Frame**

The Aboriginal and Torres Strait Islander Community frame is a tool used to ensure adequate sample selection for this population. It can be thought of as an extension of the private dwelling frame. A Mesh Block is classified as a discrete community mesh block if it is deemed to have an Aboriginal or Torres Strait Islander community population of 75% or more, and lies in the non-metropolitan area of Queensland, South Australia and Western Australia or Northern Territory. This frame is constructed using information from the Census of Population and Housing and other information covering the communities.

There are two sample groups included on this frame. Discrete Aboriginal and Torres Strait Islander communities (including any out-stations associated with them) are referred to as the 'community sample'. Dwellings in areas not covered by the community sample are referred to as 'non-community sample'. Information on the Aboriginal and Torres Strait Islander Community frame, community and non-community sample is contained in the ABS publication *National Aboriginal and Torres Strait Islander Social Survey: User Guide, 2014–15* (cat. no. 4720.0).

The Aboriginal and Torres Strait Islander Communities frame is stratified geographically by State/Territory, with Torres Strait Islander communities in Queensland separately stratified.

### **MPS AND SSS MASTER SAMPLES**

From July 2018, there will be a single Master Sample covering the sample requirements for both the Monthly Population Survey (MPS) and the Special Social Surveys (SSS)'s. The 2018 Master Sample will be the first to make use of the Address Register, which is now also used to support the enumeration of the Census of Population and Housing. In addition, a new method of selection (known as Conditional Selection) will also operate from 2018 onward, which will support more flexible sampling methods. Conditional selection is a method of selecting survey samples that allows the ABS to effectively manage overlap between different surveys, to prevent any household from being selected for two or more surveys, while also allowing survey samples to be located nearby to each other in order to reduce survey costs.

The MPS sample and the SSS samples comprise Base Frame Units taken from the private dwelling framework, special dwellings, and Indigenous communities (IC) from the ICF. Most household surveys conducted by the ABS use samples drawn from the Master Sample.

The MPS consists of monthly LFS, the Multipurpose Household Survey (MPHS), and also various supplementary surveys conducted in conjunction with the LFS. Dwellings selected in the LFS sample remain in sample for eight consecutive months. The program of SSSs consists of large-scale periodic surveys covering a wide variety of topics.

Most SSSs have similar (though slightly smaller) survey scope to the MPS, so the requirements and structure of the samples are also similar. In terms of the geographic scope of MPS and SSSs, a key

difference is that most SSSs exclude very remote areas. Most SSSs do not obtain sample from discrete Indigenous communities, or select persons in special dwellings.

To date, the SSS Base Frame Units do not include any Base Frame Units selected in the MPS sample, thereby preventing households selected for the MPS from also being selected for a SSS during the life of a specific sample design.

It has traditionally been the practice that the Master Sample is re-selected and redesigned every five years following the Census of Population and Housing. The move from Census-based master samples to Address Register-based designs enables more frequent updates, with the first Address Register-based sample expected to be in use for 3 years, from July 2018 to June 2021.

### **Sample selection**

From 2018, the ABS is using an Address Register in the sample selection process for all of its household surveys.

The Address Register, which is also now used to support the enumeration of the Census of Population and Housing, is a list of all physical addresses (both residential and non-residential) in Australia. The main input to the register is the Geocoded National Address File (G-NAF), with continuing supplementation from other available address sources and from field work undertaken by ABS officers.

The ABS has developed this register as the central source of addresses used in the collection of information in response to the need for more efficient and effective household survey designs, including:

- the creation of a dwelling frame for the mail out areas of the 2016 Census; and
- the creation of quarterly frames for ABS household surveys.

The Address Register Common Frame is a trusted and comprehensive data set of Australian address information. It contains current address text details, coordinate reference (or “geocode”), and address use information for addresses in Australia.

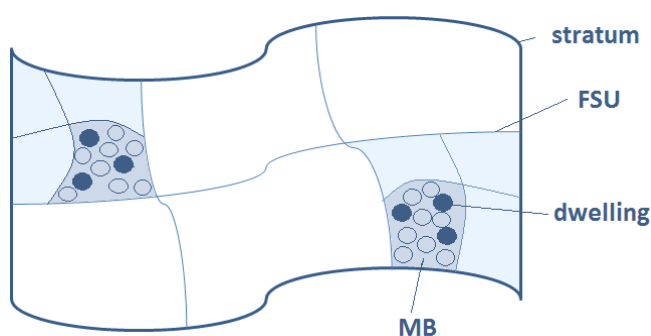
### **Stages of selection**

There are three stages of selection:

1. First Stage Units; then
2. Base Frame Units (consisting of aggregates of Mesh Blocks); then
3. Dwellings.

The Mesh Block is the finest ASGS 2016 geographical unit, typically containing 30-60 dwellings. First Stage Units are typically a set of contiguous Mesh Blocks. These stages of selection within a stratum are illustrated in Figure 17.1 below.

**Figure 17.1: Three stages of selection**



FSU – First Stage Unit

MB – Mesh Blocks

The degree of clustering in the selections is controlled by defining the number of dwellings that can be selected within each First Stage Unit in any month of the MPS or within a cycle of a SSS. This number is referred to as the cluster size. The cluster size should ideally balance cost and accuracy considerations, within each stratum of the sample.

Dwellings in a cluster will be ideally within a Base Frame Unit, and not dispersed beyond this.

## ESTIMATION METHODS

Household survey estimates are generally calculated using calibration estimation techniques.

## BENCHMARKS

Changes to the LFS population benchmarks impact primarily on the magnitude of the LFS estimates (i.e. employment and unemployment) that are directly related to the underlying size of the population.

Estimates of the population produced from household surveys are calculated in such a way as to add up to independently estimated counts (benchmarks) of the population. For the LFS, these benchmarks are based on Census of Population and Housing data, adjusted for under-enumeration and updated for births, deaths, interstate migration, and net permanent and long term migration. Benchmarks have been developed for state/territory of usual residence, part of state of usual residence (for example, capital city, rest of state), age and sex. Each cross-classification of these benchmark variables is known as a benchmark cell. Revisions are made to benchmarks after each Census of Population and Housing, and when the bases for estimating the population are reviewed.

Other household surveys use various combinations of benchmark variables to produce benchmark cells. Some surveys use supplementary information (such as LFS estimates), referred to in this context as pseudo-benchmarks, to supplement independent demographic benchmarks based on Census of Population and Housing data. Household surveys may use calibration methods to incorporate other auxiliary information on target populations into estimates - for instance, benchmarks for the Indigenous population or the population of private households.

## NON-RESPONSE

Non-response arises when no information is collected from one or more occupants of a selected dwelling.

Interviewers make a number of attempts to contact households at different times of the day and on different days during the week. For households and persons unable to be contacted by telephone, face-to-face visits are attempted. If the household still cannot be contacted within the survey period after repeated attempts (and if the dwelling has been verified as not vacant), it is listed as a non-contact. Non-contact is the most common form of non-response.

The response rate commonly quoted for ABS household surveys refers to the number of fully responding dwellings expressed as a percentage of the total number of selected dwellings excluding sample loss. Examples of sample loss for the LFS include:

- households where all persons are out of scope and/or coverage;
- vacant dwellings;
- dwellings under construction;
- dwellings converted to non-dwellings;
- derelict dwellings; and
- demolished dwellings.

For most household surveys, a non-response adjustment is performed implicitly by the estimation system, which effectively imputes for each non-responding person on the basis of all responding persons in the same post-stratum. This adjustment accounts for both full non-response and non-response for individual questions.

## **RESPONSE RATES**

The response rate usually quoted for ABS household surveys is defined as the number of fully responding households, divided by the total number of selected households excluding sample loss. Examples of sample loss for household surveys include: households where all persons are out of scope and/or coverage; vacant dwellings; dwellings under construction; dwellings converted to non-dwellings; derelict dwellings; and demolished dwellings.

Averaged over the three years from January 2015 to January 2018, the LFS response rate was 93%, which is high by international standards.

## **FOOTNOTES**

1. Institutions are defined as: hospitals and homes (including general homes, other hospitals, convalescent homes, homes for the aged, retirement homes, homes for the handicapped and orphanages), and prisons. Institutionalised persons are defined as all persons selected in institutions, apart from live-in staff that do not usually live in a private dwelling.
2. Boarding school pupils are defined as all pupils selected in boarding schools.

## CHAPTER 18: THE CENSUS AND THE LABOUR FORCE SURVEY

### INTRODUCTION

The Census of Population and Housing is conducted every five years to measure the number of people in Australia on Census night, their key characteristics and the households and dwellings in which they live. By collecting lots of information in a standardised way, from the country as a whole, the Census provides a rich and detailed snapshot of Australia. Australia's seventeenth (and most recent) national Census was conducted on 9 August 2016.

The Census and the Labour Force Survey (LFS) both measure information about the labour market activity of persons aged 15 years and over. While both collections measure the same concepts surrounding the labour force in Australia, there are a number of differences between the two that should be considered when comparing the data, as statistics produced from these collections are not the same.

Labour-related topics on the 2016 Census include: labour force status, status in employment, employment type, occupation, industry of employment, hours worked, place of work and method of travel to work. For unemployed persons, information is collected on whether looking for full-time or part-time work.

See Chapter 19: Labour Force Survey for more detailed information on the LFS.

### PURPOSE OF CENSUS AND THE LABOUR FORCE SURVEY

The Census provides a rich snapshot of all people living in the country on Census night. It is the leading source of information for small population groups and areas, and allows for the analysis of labour market activities and industry and occupation data at a more detailed level. The Census also collects information about a range of characteristics of people, including, but not limited to, their labour force status, enabling analyses across a broader range of socioeconomic dimensions.

However, the Labour Force Survey produces the most authoritative and recent estimates of labour market information, including employment and unemployment. Labour force statistics are published monthly by the ABS in *Labour Force, Australia* (cat no. 6202.0). The Labour Force Survey is designed specifically to measure changes over time in the Australian labour force, and to provide a high quality measure for use in international comparisons. It provides a highly accurate estimate of key labour force statistics of the Australian economy, including employment, unemployment and underemployment, as well as a range of more detailed labour market-specific data. The Labour Force Survey is the leading source of data for monitoring Australia's labour market conditions.

### UNDERSTANDING DIFFERENCES

#### Differences in scope and coverage

The Census includes everyone who is in Australia on Census night, regardless of age, with the exception of foreign diplomats and their families. Visitors to Australia are counted regardless of how long they have been in the country, or how long they plan to stay. Persons present in Australian offshore territories (Jarvis Bay, Christmas Island and Cocos Keeling Islands and Norfolk Island) are included in the Census. Thus, babies and children under the age of 15, Australian defence force members, tourists, students, working holiday makers and other temporary residents are counted in the Census. However, the Census excludes Australian residents who are out of the country on Census night.



In contrast, the scope of the LFS is limited to all persons aged 15 years and over, excluding members of the permanent defence forces, certain diplomatic personnel of overseas governments, overseas residents in Australia, short term visitors, short term students and members of non-Australian defence forces (and their dependants) stationed in Australia. However, the LFS includes resident who are temporarily overseas for less than 6 weeks.

### Collection methodology differences

The greatest difference in collection methodology between the Census and the Labour Force Survey is the questionnaires that are used. The Census questionnaire covers a broad range of topics across a range of social and economic domains, while the Labour Force Survey is specifically designed to produce labour statistics.

In addition to having a greater multi-topic focus to its design, the Census must also necessarily use as few questions as possible for each individual topic, to a much greater extent than is the case with the Labour Force Survey and other household surveys. For example, the data item 'Labour Force Status' is derived in the Census based on only four questions, while the Labour Force Survey questionnaire includes an extensive range of questions to measure Labour Force Status with a much greater level of precision. In particular, the Census count of unemployed people is higher than the corresponding Labour Force estimate, given it is not possible to measure the distinction between someone who is unemployed and not in the labour force with the same level of precision.

Lastly, the Census, by necessity, given its size, involves all households self-completing online or paper questionnaires. In contrast, the Labour Force Survey is able to offer a mixture of modes to respondents, including interviews by highly trained interviewers (either over the telephone or face-to-face) or self-completion online questionnaires, according to their preference, to elicit the most precise responses to the detailed questions that are asked.

### Differences in the treatment of non-response

To account for unreturned Census forms, demographic characteristics of persons in non-responding households are either imputed or included in the 'not stated' category. However, Labour Force Status is not imputed and data are not adjusted for non-responding households.

Issues with response or coverage in the Census are identified through the Post Enumeration Survey, which is conducted a few weeks after the Census to estimate the number and characteristics of people either not counted or counted multiple times on Census night.

In contrast, only fully responding households contribute to Labour Force Survey estimates. Non-responding households are treated as 'not stated' and excluded and adjusted for through the weighting process. As a sample survey, it is then weighted to an independent population benchmark based on the Estimated Resident Population (ERP), which ensures estimates add up to an independently estimated distribution of the usual resident civilian population aged 15 years and over, regardless of any sample lost due to non-response.

## FURTHER INFORMATION

Information on the history of the Census is contained in *How Australia Takes a Census, 2011* (cat. no. 2903.0).

Further information relating to the Census and the Labour Force Survey can be found in 'The 2016 Census and the Labour Force Survey', *Census of Population and Housing: Understanding the Census and Census Data, Australia, 2016* (cat. no. 2900.0).



Detailed information about the 2016 Census and its outputs are contained in *Census of Population and Housing: Nature and Content, Australian 2016* (cat. no. 2008.0) and in *Information Paper: Census of Population and Housing - Products and Services, 2016* (cat. no. 2011.0.55.001).

For information on topics included in each Census held from 1911 to 2016, see 'Census Topics 1911-2016' in the Downloads tab of *Census of Population and Housing: Nature and Content, Australia, 2016* (cat. no. 2008.0).

## CHAPTER 19: LABOUR FORCE SURVEY

### INTRODUCTION

The ABS has conducted the Labour Force Survey (LFS) since 1960. In February 1978, the frequency of the survey was changed from quarterly to monthly. The content of the survey has remained broadly the same since its introduction, but is periodically updated to ensure that it is the most appropriate for the provision of accurate labour force statistics.

The purpose of the LFS is to provide timely information on the labour market activity of the usually resident civilian population of Australia aged 15 years and over. The statistics of most interest are the unemployment rate, underemployment rate, labour force participation rate, employment to population ratio, and estimates of the number of employed, unemployed and underemployed persons. The rate of change in the number of persons employed is a key indicator of economic growth. The unemployment rate (the percentage of the labour force that is unemployed) and the underemployment rate (the percentage of the labour force that is underemployed) are the main measures of underutilised labour, and the participation rate (the percentage of the population in the labour force) reflects changes in total labour availability.

### SURVEY SCOPE

The LFS includes all usual residents of Australia aged 15 years and over except:

- members of the permanent defence forces;
- certain diplomatic personnel of overseas governments, customarily excluded from census and estimated population counts;
- overseas residents in Australia; and
- members of non-Australian defence forces (and their dependants) stationed in Australia.

The “other territories” of Australia, namely Jervis Bay, Christmas Island, Cocos (Keeling) Island, and Norfolk Island after the 2016 Census, are included in the estimated resident population of Australia, but excluded from household survey collection procedures and population benchmarks.

The “external territories” of Australia, namely Territory of Ashmore and Cartier Islands, Coral Sea Islands Territory, Australian Antarctic Territory, and Territory of Heard and McDonald Islands, are not included in the estimated resident population, household survey collection procedures or the population benchmarks.

Coverage rules are applied to ensure that each person is associated with only one household, and hence has only one chance of selection. The chance of a person being enumerated at two separate households in the one survey is considered to be negligible. Persons who are away from their usual residence for six weeks or less at the time of interview are enumerated at their usual residence (relevant information may be obtained from other usual residents present at the time of the survey).

### SURVEY METHODOLOGY

The majority of LFS information is obtained by specially trained interviewers, using face-to-face and telephone interview collection methods, from the occupants of selected households. Interviews are generally conducted during the two weeks beginning on the Sunday between the 5th and the 11th of each month. Most information obtained relates to the week before the interview (referred to as the reference week). Selected households remain in the survey for eight consecutive months. Information about each household member in scope of the LFS is collected from one adult using the 'Any Responsible Adult' methodology (described in Chapter 16).

Prior to August 1996, all interviews were conducted face-to-face at selected households. Over the period August 1996 to February 1997, the ABS introduced telephone interviewing. The first interview is generally conducted in person (face-to-face), whilst subsequent interviews are conducted by telephone if this is acceptable to the respondent. Telephone interviewing has been shown to provide data of a quality comparable to that obtained from personal interviews, but requires less interviewer travel time, and hence lowers the costs of the survey.

From October 2003 to August 2004, computer assisted interviewing was progressively introduced for the LFS. Under computer assisted interviewing, interviewers record responses directly onto an electronic questionnaire in a notebook computer, rather than using the traditional 'pen and paper' method.

Online self-completion of the LFS was introduced in December 2012, with one survey group initially being offered the option of self-completing the survey online in place of a face-to-face or telephone interview. The online self-completion offer was expanded to 50% of private households in each new incoming survey group from May 2013 to August 2013. Between September 2013 and April 2014, the ABS expanded the offer of online self-completion from 50% to 100% of private households in each incoming survey group. Interviewer collection (both face-to-face and via telephone) continues to be available for those respondents where online self-completion is inappropriate for operational, technological or personal reasons. Online self-completion has been shown to provide data of a quality comparable to that obtained from interviewer-administered modes, and is the most cost-effective mode of enumeration.

Other collection methods are used in special circumstances. A paper self-enumeration form may be used where it is not possible for a computer assisted interview to take place - for instance, where contact cannot be made with the occupants of selected households or when a respondent refuses to be interviewed but will complete a form. A customised form is also used in very remote Indigenous communities.

Interviewer workloads are completed and returned for processing according to a strict timetable. Interviewers are required to make a number of attempts to contact a household before recording a non-contact (non-response).

## **SURVEY QUESTIONNAIRE**

The current LFS questionnaire, implemented in July 2014, is available from Appendix 2 or *Information Paper: Questionnaires Used in the Labour Force Survey, July 2014* (cat. no. 6232.0), as a PDF file on the Downloads tab.

## **SAMPLE DESIGN**

A multi-stage probability sample design is used. The sample is drawn from the Monthly Population Survey (MPS) Master Sample and has three components: a sample of private households, a sample of discrete Aboriginal and Torres Strait Islander communities, and a sample of non-private dwellings (i.e. hotels, motels, hospitals, retirement villages, etc.). The final stage selection unit is the household.

## **SIZE AND ALLOCATION**

The LFS is designed to provide reliable estimates of the key labour force statistics for both the whole of Australia and each state and territory. The design also yields estimates for a number of broad regions within states.

Between February 1964 and February 1972, all households in Australia had the same probability of selection in the LFS (1 in 100), regardless of state or territory. From May 1972, different sampling fractions applied for each state and territory. The table below shows the sampling fractions for the LFS from the 1971 post-Census design through to the 1911 design.

**Table 19.1: LFS Sample – Sampling Fractions**

	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory
1971 redesign	1 in 200	1 in 200	1 in 140	1 in 100	1 in 90	1 in 60	1 in 100	1 in 200
1976 redesign	1 in 200	1 in 200	1 in 140	1 in 100	1 in 90	1 in 60	1 in 100	1 in 100
1981 redesign	1 in 200	1 in 200	1 in 140	1 in 100	1 in 100	1 in 60	1 in 100	1 in 100
1986 redesign	1 in 230	1 in 230	1 in 160	1 in 115	1 in 115	1 in 70	1 in 115	1 in 115
1991 redesign	1 in 277	1 in 242	1 in 195	1 in 139	1 in 146	1 in 75	1 in 75	1 in 75
1996 redesign	1 in 300	1 in 257	1 in 222	1 in 147	1 in 160	1 in 83	1 in 85	1 in 85
2001 redesign	1 in 321	1 in 270	1 in 239	1 in 149	1 in 165	1 in 90	1 in 98	1 in 86
2006 redesign	1 in 380	1 in 336	1 in 315	1 in 184	1 in 246	1 in 103	1 in 54	1 in 117
2008 sample reduction	1 in 499	1 in 441	1 in 415	1 in 241	1 in 324	1 in 135	1 in 68	1 in 154
2009 sample reinstatement	1 in 380	1 in 336	1 in 315	1 in 184	1 in 246	1 in 103	1 in 54	1 in 117
2011 redesign	1 in 419	1 in 390	1 in 369	1 in 209	1 in 295	1 in 99	1 in 52	1 in 149

From 2018, the LFS sample is selected using information from the Address Register. The new sample has been designed with the aim of achieving similar levels of sampling error as the target levels established for the 2011 sample design.

Under the current sample design, the sampling fractions yield a sample size of approximately 26,000 households each month. This results in approximately 50,000 persons responding to the survey, covering about 1 in 312 (or 0.32%) of the civilian population aged 15 years and over. For further information, refer to *Information Paper: Labour Force Survey Sample Design, May 2013* (cat. no. 6269.0).

There was a 24% reduction in the LFS sample size for the period July 2008 to August 2009, relative to the June 2008 sample size. The sample reduction was reinstated progressively between September and December 2009, with December 2009 estimates being the first produced under the fully reinstated sample. Extra care should be taken when using estimates from this period due to increased sampling error.

## SAMPLE ROTATION

Since the monthly LFS commenced in 1978, one-eighth of the sample has been replaced each month. The sample can be thought of as comprising eight sub-samples (or rotation groups), with each sub-sample remaining in the survey for eight months. A new rotation group is introduced each month to replace an outgoing rotation group. This replacement sample generally comes from the same geographic area as the outgoing one.

**Figure 19.1: Sample rotation**

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Rotation Group 1	█											
Rotation Group 2	█	█										
Rotation Group 3	█	█	█									
Rotation Group 4	█	█	█	█								
Rotation Group 5	█	█	█	█	█							
Rotation Group 6	█	█	█	█	█	█						
Rotation Group 7	█	█	█	█	█	█	█					
Rotation Group 8	█	█	█	█	█	█	█	█				
Rotation Group 1												
Rotation Group 2												
Rotation Group 3												
Rotation Group 4												
Rotation Group 5												
Rotation Group 6												
Rotation Group 7												
Rotation Group 8												

Sample rotation enables reliable measures of monthly change in labour force statistics to be compiled, as seven-eighths of the sample from any month is retained for the following survey. At the same time, the sample rotation procedure ensures that no household is retained in the sample for more than eight months, and that the sample reflects changes over time in the household population (such as construction of new households).

The component of the sample that is common from one month to the next makes it possible to match the characteristics of most of the persons in those households: this group is referred to as the 'matched sample'. The availability of this matched sample permits the production of estimates of 'gross flows' - the number of persons who change labour force status between successive months.

### SAMPLE RESELECTION

Until 2018, the LFS sample was selected every five years after each Census of Population and Housing to ensure that the survey continued to accurately reflect the socio-demographic distribution of the Australian population. From 2018, the sample frame using the Address Register will be updated every three years.

### ESTIMATION

The estimation method used in the LFS is composite estimation, which was introduced in May 2007, with data revised back to April 2001. In January 2014, composite estimation was applied to all estimates from July 1991 as part of the historical revision to labour force data to reflect revised population benchmarks based on the 2011 Census. Composite estimation combines data collected in the previous six months with current month's data to produce the current month's estimates, thereby exploiting the high correlation between overlapping samples across months in the LFS. The composite estimation process combines the seven months of data by applying different factors according to length of time in the survey. These factors sum to unity for the current month, and once they are applied, the data are weighted to align with current month population benchmarks. For more information on composite estimation, see *Information Paper: Forthcoming Changes to Labour Force Statistics, 2007* (cat. no. 6292.0).

Prior to the introduction of composite estimation, the estimation method used in the LFS was generalised regression, which only used the current month's data.

## BENCHMARKS

Estimates of the number of persons employed, unemployed and not in the labour force are calculated in such a way as to add up to independent estimates of the civilian population aged 15 years and over (population benchmarks) for age groups, sex and regions. There are two sets of benchmarks used in the LFS. The first set of benchmarks is classified by state or territory of usual residence, part of state of usual residence (capital city, rest of state), age and sex. The second set is classified by statistical region of usual residence and sex (known as 'regional benchmarks'). The use of regional benchmarks improves the quality of estimates for LFS regions, with negligible impact on estimates at national, state and territory levels.

Since the most recently released Estimated Resident Population (ERP) estimates lag the current time period for LFS estimates by 6-8 months, the population benchmarks are initially derived as short-term projections of the most recent ERP estimates. These projections are based on Census of Population and Housing data, adjusted for under-enumeration and updated for births, deaths, interstate migration, and net permanent and long-term migration. The short-term projections are based on the historical pattern of each population component - births, deaths, interstate migration and net overseas migration.

Prior to July 2010, the LFS population benchmarks were only revised every five years following the release of the final population estimates from the Census of Population and Housing. Benchmark revisions that incorporated Net Overseas Migration revisions to ERP were released in July 2010 (for the period July 2006 to June 2010) and November 2012 (for the period July 2008 to October 2012). For more information, refer to the article 'Rebenchmarking of Labour Force Series' in the November 2012 issue of *Labour Force, Australia* (cat. no. 6202.0).

From August 2015, the LFS population benchmarks have been revised quarterly (in February, May, August and November), with estimates revised for the previous 22 months to ensure that labour force series maintain coherence with the latest ERP estimates. This process ensures that the labour force population benchmarks are updated with the most recent ERP information available. For more information, refer to the article 'Rebenchmarking Labour Force Estimates' in the February 2015 issues of *Labour Force, Australia* (cat. no. 6202.0).

In addition, ERP rebasing is undertaken every five years to incorporate additional information from the latest available Census data. From December 2017, labour force estimates have been compiled using population benchmarks based 2016 Census-based population estimates.

## TIME SERIES ESTIMATES

Both seasonally adjusted and trend estimates are produced for key series from this survey.

### Seasonal adjustment

Many monthly series have been seasonally adjusted from February 1978, and are available in a range of products. Quarterly historical series (from August 1966) are available in *Labour Force Historical Timeseries* (cat. no. 6204.0.55.001). Concurrent seasonal adjustment was introduced from the December 2003 survey, replacing the annual forward factor method. At the same time, other improvements were made to the seasonal adjustment methodology to better handle the moving January interview start date, and the proximity of Easter to the April survey period.

Concurrent seasonal adjustment uses original data up to and including the current month (or quarter for quarterly series) to estimate seasonal factors for the current and all previous months (or quarters). Seasonally adjusted estimates from this method are usually closer on average to their final values, as any change in seasonality is observed sooner. The seasonal factors are further reviewed

annually, to take account of each additional year's original data. Revisions under this method are more frequent (every month for a monthly series), although the degree of revision is generally smaller than with the forward factor method of adjustment (where revisions are only made annually). For more information on concurrent seasonal adjustment, see *Information Paper: Forthcoming Changes to Labour Force Statistics, 2003* (cat. no. 6292.0). For information on seasonally adjusted series, see *Labour Force Survey Standard Products and Data Item Guide* (cat. no. 6103.0) or Appendix 3.

### Trend estimates

Trend estimates are available for many series dating back to February 1978. Trend estimates are produced using a centred 13-term Henderson moving average of the seasonally adjusted series for monthly estimates, and a centred 7-term Henderson moving average for quarterly estimates (e.g. employment by industry). Centred symmetric moving averages cannot be used to directly estimate smoothed series values all the way to the end of the series, since there are insufficient observations available for the moving average calculations. The ABS uses non-symmetric moving averages to determine estimates of trend at the current end of the series. Revisions of trend estimates occur as data become available for later periods - these revisions are mainly because of the non-symmetric moving averages at the end of the series, but also because of concurrent seasonal adjustment. For further information, refer to *Information Paper: A Guide to Interpreting Time Series - Monitoring Trends, 2003* (cat. no. 1349.0) and *Labour Force Survey Standard Products and Data Item Guide* (cat. no. 6103.0).

Trend estimates are derived by removing irregular influences from the seasonally adjusted estimates. As they do not include systematic, calendar related influences or irregular influences, trend estimates are the best measure of the underlying behaviour of the series, and the labour market.

## ESTIMATES OF GROSS FLOWS

As a high proportion of the private households selected each month remain in the sample for the following month, it is possible to match the characteristics of most of the persons in those households from one month to the next. This makes it possible to record any changes in the labour force status of these persons, and hence to produce estimates of 'gross flows'. Gross flows provide information on the transition of individuals between the different labour force status classifications in successive months.

Prior to the July 2015 issue of *Labour Force, Australia* (cat. no. 6202.0), gross flow estimates related only to those persons in private households for whom information was obtained in two successive surveys. The procedures used to select persons in non-private households preclude the possibility of matching such persons who may be included in successive surveys. Also, the mobility of the population and non-response in either or both surveys means that a proportion of persons in private households who are included in the sample in successive months cannot be matched.

Overall, those who can be matched (in the private household sample) from one month to the previous month represent about 80% of all persons in the survey. About two-thirds of the remaining (unmatched) 20% are likely to have characteristics similar to those in the matched group, but the characteristics of the other third are likely to be somewhat different. The expansion factors (weights) used in calculating the estimates are those applying to the second of each pair of months. The estimates are not adjusted to account for the unmatched sample component.

From the July 2015 issue of *Labour Force, Australia* (cat. no. 6202.0), gross flow estimates have been expanded to include the 'unmatched' part of the sample for completeness (i.e. those who do not



have a labour force status for the previous month, or those who do not have a labour force status for the current month). Weights for both the first and second months of each pair were also introduced. Gross flow estimates are available monthly in a data cube in *Labour Force, Australia* (cat. no. 6202.0) - see GM1 - Labour Force Statistics and Gross Changes (flows) by Sex, State and Age. For more information on the contribution of sample changes to gross flows, refer to the monthly summary 'Insights from the Original Data' in *Labour Force, Australia* (cat. no. 6202.0).

While every effort is made to reduce non-sampling errors to a minimum, any such errors affecting labour force status will tend to accumulate in the gross flow statistics. The estimates are also subject to sampling variability.

For more information on gross flows, see *Labour Force Survey Standard Products and Data Item Guide* (cat. no. 6103.0) or Appendix 3.

## RELIABILITY OF THE ESTIMATES

Estimates from the survey are subject to both sampling and non-sampling error.

Sampling error occurs because a sample, rather than the entire population, is surveyed. The most commonly used measure of the likely difference resulting from not including all households in the survey is given by the standard error. Tables of standard errors of survey estimates are published each month in *Labour Force, Australia* (cat. no. 6202.0). The standard errors in these tables are mathematically modelled after each sample redesign, using many different estimates from several months of survey responses. Standard errors for other estimates and other movements may be calculated by using the spreadsheet contained in Appendix 3 or *Labour Force Survey Standard Errors, Data Cube* (cat. no. 6298.0.55.001). Further information about sampling error is available in Chapter 16.

Non-sampling error arises from inaccuracies in collecting, recording and processing the data. Every effort is made to minimise reporting error by the careful design of questionnaires, intensive training and supervision of interviewers, and efficient data processing procedures. Non-sampling error also arises because information cannot be obtained from all persons selected in the survey. The LFS receives a high level of co-operation from individuals in selected households, with response rates averaging around 93%. Further information about non-sampling error is available in Chapter 16.

## SURVEY OUTPUT

Data are compiled according to concepts and definitions outlined in Chapters 2 to 8. Estimates are published monthly in *Labour Force, Australia* (cat. no. 6202.0). More detailed data are published one week later in *Labour Force, Australia, Detailed - Electronic Delivery* (cat. no. 6291.0.55.001) and in the quarterly release *Labour Force, Australia, Detailed, Quarterly* (cat. no. 6291.0.55.003). Other detailed estimates may be available on request.

An expanded Confidentialised Unit Record File (CURF) for the years 2008 to 2010 is available via the Remote Access Data Laboratory (RADL). This Longitudinal CURF is created from the monthly Labour Force Surveys along with data collected from labour supplementary surveys and multipurpose household surveys conducted between January 2008 and December 2010. It includes a range of data to enable users to better understand the dynamics of the labour market and transitions between employment, unemployment and not in the labour force. For more information on CURF, see *Microdata: Longitudinal Labour Force, Australia, 2008-10* (cat. no. 6602.0).

Historical estimates can be found in *Labour Force Historical Timeseries, Australia* (cat. no. 6204.0.55.001). Family estimates are currently published in *Labour Force Status and Other*



*Characteristics of Families* (cat. no. 6224.0.55.001). Estimates on Aboriginal and Torres Strait Islander Australians are currently published in *National Aboriginal and Torres Strait Islander Social Survey, 2014-15* (cat. no. 4714.0)

The LFS survey output includes:

### **Socio-demographic information**

Sex; age; social marital status; relationship in household; family type; participation in school and tertiary education; highest year of school completed; level of highest educational attainment; birthplace and year of arrival in Australia; state or territory of usual residence; and region of usual residence.

### **Persons in the labour force**

Labour force status; unemployment rate; labour underutilisation rate; labour force participation rate; gross flows (changes) in labour force status; volume measures of underutilisation\*; and retrenchments in the previous quarter\*.

### **Persons employed**

Status in employment of main job; full-time or part-time status; hours actually worked in all jobs; hours actually worked in main job; hours usually worked in all jobs; hours usually worked in main job; monthly hours worked in all jobs; expectations of future employment; number of months with current employer or in own business; underemployment; reason for working fewer hours than usual in the reference week; occupation of main job\*; industry of main job\*; and sector (public/private) of main job\*.

### **Persons unemployed**

Whether looked for full-time and/or part-time work; reason for ceasing last job\*; industry and occupation of last job\*; duration of job search; and whether active steps taken to find work.

### **Persons not in the labour force**

Reason not in the labour force; whether looking for work; and retrenchments in the previous quarter\*.

Seasonally adjusted and trend (i.e. smoothed seasonally adjusted) data are available for selected series including labour force status; unemployment; labour force participation rate; industry of employment; and long term unemployed. Seasonally adjusted data are not available for the Northern Territory or the Australian Capital Territory. See Chapter 16 for further explanation of these terms.

\* These data are released for the months of February, May, August and November only.

## CHAPTER 19.1: LABOUR FORCE COMPARABILITY OVER TIME

### COMPARABILITY OVER TIME

Frequency of collection, collection and sampling methods, concepts, data item definitions, classifications and time series analysis techniques are all subject to change or development. Some survey features are reviewed regularly, while others are changed as the need arises. Despite the overriding need for long-term comparability, sound survey practice requires careful and continuing maintenance and development to ensure the integrity of the data and the efficiency of the collection.

While Labour Force Survey (LFS) publications in various forms exist for a period of over 50 years and provide documentation of changes in survey practice over that time, individual historical publications are not necessarily the best source for extraction of comparable historical data series. Apart from the regular revision of seasonally adjusted and trend series, and the five yearly population benchmark revisions, from time to time other revisions are made to maintain comparability after changes to questions and definitions.

The primary sources for labour force series adjusted to the most current comparable basis are:

- *Labour Force Historical Timeseries, Australia, 1966 to 1984* (cat. no. 6204.0.55.001);
- *Labour Force Australia, Historical Summary 1966-1984* (cat. no. 6204.0) (for quarterly series from August 1966 to November 1977);
- *The Labour Force 1964 to 1968 Historical Supplement* (Reference no. 6.22, - only available in hardcopy) (February 1964 to May 1966 data, original); and
- *The Labour Force 1977* (cat. no. 6204.0), for the last release of seasonally adjusted series for February 1964 to May 1966.

The major events and changes to the LFS are outlined below.

#### Nov 1960

- Quarterly survey commenced. State Capital Cities only, including persons aged 14 years and over, but excluding the Aboriginal and Torres Strait Islander population.
- Sample of 1% of households Australia wide, with 1/8 rotation in private households and 1/4 rotation in other households.

#### Nov 1963

- First release of State Capital City series, November 1960 – November 1963. *Employment and Unemployment, October 1963* (Ref. no. 6.4 – only available in hardcopy) issued February 1964.
- Estimates and population benchmarks based on 1961 Census of Population and Housing data.
- Labour force definitions based on the International Conference of Labour Statisticians (ICLS) 1954.

#### Feb 1964

- Quarterly national survey commenced. Capital city series continued in absence of release of national series.
- Capital city estimates and population benchmarks based on 1961 Census data.

### Aug 1966

- Scope of survey population reduced to persons aged 15 years and over, due to changes in the school leaving age and to conform to definitions used in the 1966 Census.
- Indigenous population was included.
- Additional questions were introduced on steps taken to find a job.
- The grouping of hours worked changed to reflect recommendations from ICLS 1961. Occupation classified according to Classification and Classified List of Occupations (CCLO) 1966 Census edition.
- Industry classified according to Classification and Classified List of Industries (CCLI) 1966 Census edition and 1966 Group Employer Place of Work index.

### Aug 1967

- Additional questions introduced to better identify employees of incorporated enterprises (some of whom had previously been incorrectly classified as employers or self-employed).

### Feb 1969

- *The Labour Force, Preliminary Estimates, August 1966 – February 1969*, (Ref. no. 6.20 – only available in hardcopy). Later publications titled *The Labour Force* (Ref. no. 6.20 - only available in hardcopy) were released.

### May 1970

- First release of national seasonally adjusted series.

### Jul 1970

- Annual issue of *The Labour Force, Historical Supplement 1964 – 1968* (Ref. no. 6.22) commenced, and subsequent publications titled *The Labour Force* (Ref. no. 6.22 – only available in hardcopy).

### Aug 1971

- Classification of trainee teachers changed from 'employed' to 'not in the labour force', to conform to 1971 Census practice and international recommendations regarding activity principles.
- For the period August 1971 to August 1972, industry responses coded to both CCLI and Australian Standard Industrial Classification (ASIC), leading to full adoption of industry classified according to 1971 Census ASIC (August 1969 Preliminary edition) and 1971 Census Industry/Destination zone employer index from November 1972, and conversion of August 1966-May 1971 industry series to ASIC.

### Nov 1971

- Occupation classified according to CCLO 1971 edition, replacing CCLO 1966 version.

### Feb 1972

- Questions on country of birth and year of arrival in Australia added.
- February 1972 data published as supplementary survey results and then quarterly in *The Labour Force* (Ref. no. 6.20 - only available in hardcopy) from May 1972 onwards.

### May 1972

- Sample redesign based on 1971 Census, phased in from May 1972 to November 1972.
- Introduction of different sampling fractions across states and territories, with overall fraction reduced from 1% to 0.67%.

### Nov 1972

- First release of the preliminary labour force estimates in the quarterly publication, *The Labour Force (Preliminary)* (Ref. no. 6.32 – only available in hardcopy), was issued in May 1973.

### Nov 1973

- The seasonal adjustment of estimates for unemployed males, females and persons by separate adjustment of unemployed series by sex (males, females) by age (15-19 years, 20 years and over) was undertaken. Previously, estimates were obtained by a (single) direct adjustment to the total estimate. Seasonally adjusted unemployment estimates for February 1964 to August 1973 were revised.
- For final publication of the February 1964 to May 1966 seasonally adjusted series (using 1966 as the base year and excluding Indigenous population) see *The Labour Force, 1977* (cat. no. 6204.0).

### Nov 1974

- First collection of relationship in household data. Relationship in household (i.e. families) estimates excluded persons and institutions.
- 'Family status' imputed for persons in private households where any member was out of scope, absent for six weeks or more at survey, or who were a visitor. Families estimates based on proxy (household head) weight.
- *Labour Force Status and Other Characteristics of Families* (cat. no. 6224.0) first published as an irregular. See also *Labour Force, Australia* (cat. no. 6203.0) as various issues were released between May 1977 and July 1980.
- The first release of preliminary unemployment estimates in the quarterly publication *Unemployment, Preliminary Estimates* (Ref. no. 6.31), was issued in December 1974.

### Feb 1975

- Estimates excluded Darwin (due to effects of cyclone Tracy).
- Respondents asked if they looked for work in the last four weeks (previously looked for work last week).
- Availability question added.
- Unemployment series and definition continued on old basis, with separate publication of new question results until February 1976.
- Unemployment definition and series based on new questions adopted from May 1976.

### May 1975

- Estimates and population benchmarks based on 1971 Census benchmarks. Revisions to August 1966 - November 1972 principal series, and from February 1973 onwards, full revision of all estimates and series (including annual seasonal factor re-analysis).

### May 1976

- Following February 1975 question changes, definition of unemployment revised to incorporate active job search in the last four weeks (previously in the last week), and availability to start work in the reference week (with separate provision for temporary illness and future starters). Series revised from February 1975.

### Aug 1977

- Catalogue numbers replaced reference numbers - cat. no. 6202.0 replaced Ref. no. 6.32 (only available in hardcopy), and cat. no. 6203.0 replaced Ref. no. 6.20 (only available in hardcopy).

### Nov 1977

- In preparation for the start of monthly surveys in February 1978 (with a new questionnaire, revised 1976 Census based sample and 1976 based population benchmarks), two surveys were conducted simultaneously in November 1977. Of these two surveys, one provided the published November 1977 results, based on the old questionnaire, the old 1971-based sample design (reduced to 0.5%), and the 1971-based population benchmarks. The other survey, based on the new questionnaire and the new, 1976-based sample, was used to prepare adjustment factors and revisions to historical estimates, so that comparable historical series could be published with the first release of February 1978 survey results.
- Occupation classified according to CLO 1976 edition, replacing CLO 1971 version.
- Industry classified according to the ASIC 1969 edition and Integrated Business Register employer index.
- Catalogue numbers replaced reference numbers - cat. no. 6201.0 replaced Ref. no. 6.35.

### Feb 1978

- Monthly national survey commenced.
- The LFS adopted as the official national measure of unemployment.
- Interviews conducted over 2 one-week periods, previously 4 one-week periods.
- Estimates and benchmarks based on 1976 Census data, with series from August 1971 onwards revised to 1976-based benchmarks.
- Complex mix of reweighting unit record files, and/or key series adjustment: not all files, nor all series, were revised (see Appendix 1 of *Labour Force Australia, Historical Summary 1966-1984* (cat. no. 6204.0)).
- With the full implementation of the 1976 Census based sample design, 1/8 monthly sample rotation was introduced for non-private dwellings: whole sample now subject to 1/8 rotation.
- New questionnaire introduced with substantial redesign of question wording, structure and sequence to improve data quality. Changes included: separate questions on looking for full-time/looking for part-time job; active search more clearly identified; and availability and future starters better identified. Some impact on employed, main impact on unemployed seeking part-time work.
- New definitions of employment and unemployment adopted. Definition of unemployed persons looking for first job was revised to "unemployed persons who had never worked full-time for two weeks or more". Prior to November 1977, the definition was "unemployed persons who had never had a job". August 1966 to November 1977 series revised to comparable basis, as a result of new questionnaire introduction.
- Seasonally adjusted series continued on a quarterly basis, pending accumulation of sufficient results to permit adjustment of monthly series.

### Jul 1979

- Annual issue of *Labour Force Status and Other Characteristics of Families* (cat. no. 6224.0) commenced (July each year except 1981 (June), then June each year from 1986).

### Nov 1979

- Industry classified according to ASIC 1978 edition, replacing ASIC 1969 edition.

### Aug 1981

- Occupation classified according to CLO November 1980 edition, replacing CLO 1976 version.

### Nov 1981

- Minor rewording and re-ordering of categories of steps taken to look for work. No impact on data or definitions.

### Feb 1982

- Seasonally adjusted series introduced for monthly estimates series from February 1978 onwards. Annual seasonal factor re-analysis and series revision carried out at February each year from this survey.

### Oct 1982

- Full sample changed to sample redesign based on 1981 Census, including modifications to enable production of regional estimates within states, and estimates by State of usual residence.
- Additional questions to identify usual residence and family relationship, with marital status questions reworded and de facto relationships coded as married.
- Additional identification of persons usually working less than 35 hours per week.
- 1981 Australian Standard Geographic Classification (ASGC) adopted, based Labour Force Statistical Regions classification.

### Dec 1982

- Monthly publication *Unemployment, Preliminary* (cat. no. 6101.0) discontinued, final release issued in January 1983.

### Jul 1983

- Scope for 'Family status' (and hence families estimates) restricted to usual residents of private dwellings, where all usual residents were within the survey scope and in on coverage at survey date. 'Family status' and families estimates thus exclude all persons in non-private dwellings, persons visiting private dwellings, or households where any member was out of scope or absent for six weeks or more at survey.

### Feb 1984

- Estimates and population benchmarks based on 1981 Census data. Estimates for the period October 1982 were revised to full state of usual residence basis on 1981 Census benchmarks. Estimates from February 1978 to September 1982 revised to 1981 benchmarks, but remain on the previous state of enumeration/place of usual residence basis.

### Sept 1984

- Monthly publication of *Relationship in household and Families estimates in Labour Force, Australia* (cat. no. 6203.0) commenced. Scope and estimation as per annual collection.

### Nov 1984

- Industry classified according to ASIC 1983 edition, replacing ASIC 1978 edition.

### Apr 1986

- Definition of employed persons altered, to include persons working 1 to 14 hours without pay in a family business or farm, in line with ILO definitions (ICLS 1982). Minor question wording and sequence changes as a consequence. Significant break in series for employed, employed part-time, unemployed and related unemployment rates.
- Dependants definition, and the Family status item 'full-time student', includes full-time students aged 15-24 (previously aged 15-20).
- Weighting of families estimates changed, from proxy (household head) weight to harmonic mean of weights of all responding members of the family.

### **Aug 1986**

- Australian Standard Classification of Occupations (ASCO) introduced for classification of occupation of persons, replacing CCLO 1981.

### **Sept 1987 to Dec 1987**

- Sample redesign based on the 1986 Census. New sample phased in. Overall sample fraction is 0.6%.
- A new 1986 ASGC based Labour Force Statistical Regions classification was used.

### **Nov 1988**

- Additional unemployment variable introduced: reason for ceasing last job (job losers/job leavers). No change in definition or break in series.

### **Feb 1989**

- Estimates and population benchmarks based on 1986 Census data. All estimates for the period January 1984 onwards revised.

### **Jun 1989**

- 'Family type' class 'Other families' split into 'One parent families' and 'Other families'.

### **Nov 1989**

- Optical Mark Recognition questionnaire design and data capture method introduced.

### **Sep 1992 to Dec 1992**

- Sample redesign based on the 1991 Census. New sample phased in. Overall fraction is 0.5%.
- The updated 1991 ASGC based Labour Force Statistical Regions classification.

### **Feb 1993**

- Introduction of seasonally adjusted and trend series for Employed persons by Industry of main job (at Industry Division level).

### **Jul 1993**

- Jervis Bay Territory excluded from the scope of the survey. Previously, it was included in estimates for the Australian Capital Territory.

### **Feb 1994**

- Estimates and population benchmarks based on 1991 Census data. All estimates for the period January 1989 on revised.
- Status in employment class titles amended to reflect the International Conference of Labour Statisticians (ICLS) and International Conference of Status in Employment (ICSE) 1993.

### **Mar 1994**

- 'Relationship in household' and 'Family type' classifications aligned with ABS standards, resulting in some breaks in comparability with previous Family status and Family type classifications.

### **Aug 1994**

- Australian and New Zealand Standard Industrial Classification (ANZSIC) introduced in place of ASIC 1983 edition. Revised historical estimates of employment published by ANZSIC group from August 1984 onwards.

### Aug 1995

- Seasonally adjusted and trend estimates of long-term unemployment published for the first time.

### Aug 1996 to Feb 1997

- Telephone interviewing implemented progressively. Initial impact on data dissipated by end of implementation period.

### Aug 1996

- Occupation coded using Australian Standard Classification of Occupations (ASCO) Second Edition, replacing the first edition of ASCO.

### Sep 1997 to Apr 1998

- Sample redesign phased in based on the 1996 Census. Overall fraction is 0.5%.
- The new 1996 ASGC based Labour Force Statistical Regions classification.

### Feb 1999

- Estimates and population benchmarks based on 1996 Census data. All estimates for the period January 1995 onwards were revised.

### Feb 2000

- Computer assisted coding introduced for industry and occupation in place of manual coding and reference to the ABS Business Register.
- Derivation of status in employment changed to remove reference to the ABS Business Register for limited liability information.
- Breaks in series for Status in employment, Industry and Occupation series.

### Mar 2000 to Jul 2000

- One rotation group each month enumerated by new questionnaire for evaluation purposes.
- Data converted to existing definitions at estimation stage.

### Sep 2000

- New South Wales enumeration one week early to allow for Olympic Games.

### Apr 2001

- New questionnaire implemented. For information on the changes made to the questionnaire, see *Information Paper: Questionnaires Used in the Labour Force Survey, 2001* (cat. no. 6232.0).
- New or extended data on: job tenure; underemployment; hours worked; duration of unemployment; and marginal attachment to the labour force.
- Minor definitional changes to employment and unemployment relating to: short term absences; unavailability due to illness; and contributing family workers (ICLS 1982, ICSE-93, ICLS 1998). The core labour force series were revised back to April 1986 to account for these definitional changes.

### Aug 2001

- Enumeration one week later than usual to avoid overlap with Census.

### Nov 2002

- Sample redesign phased in from November 2002 to June 2003 based on the 2001 Census. Overall fraction is 0.45%.



- 2001 ASGC based Labour Force Statistical Regions classification introduced for the new design, replacing the 1996 ASGC based Labour Force Statistical Regions classification.
- Sample selection stage in less populated areas based on the ASGC Remoteness structure instead of population density.
- In hotels and motels, only those units occupied by usual residents enumerated.
- A sample frame for Indigenous communities was introduced as an aid to enumeration in the LFS and household surveys generally.
- For more information on the sample redesign, see *Information Paper: Labour Force Survey Sample Design, November 2002* (cat. no. 6269.0).

### Feb 2003

- Monthly publication *Labour Force, Australia* (cat. no. 6203.0) discontinued, final release issued in March 2003.
- Additional question on underemployed workers and their availability to work extra hours within four weeks of the survey date included.
- For more information on the changes to the questionnaire, see *Information Paper: Questionnaires Used in the Labour Force Survey, 2004* (cat. no. 6232.0).

### Apr 2003

- Monthly publication *Labour Force, Australia, Preliminary* (cat. no. 6202.0) renamed *Labour Force, Australia* (cat. no. 6202.0).

### Oct 2003 to Aug 2004

- Computer assisted interviewing progressively implemented in place of pen and paper questionnaire.

### Dec 2003

- Concurrent monthly and quarterly analysis of seasonal adjustment factors introduced in place of annual forward factor analysis and revision. For more information on concurrent seasonal adjustment, see *Information Paper: Forthcoming Changes to Labour Force Statistics, 2003* (cat. no. 6292.0).

### Feb 2004

- Estimates and population benchmarks based on 2001 Census data. All estimates for the period January 1999 to January 2004 revised.
- The definition of unemployed persons was changed to include 'future starters' (persons who had not actively looked for work because they were waiting to start a new job within four weeks from the end of the survey reference week, and could have started in the reference week if the job had been available then). These persons had previously been classified as not in the labour force.
- Historical series from April 2001 were revised to the new basis as part of the benchmark revision. Unit record data revised for the period September 1997 to March 2001, to account for the definitional changes introduced in April 2001.
- Industry and occupation series revised back to August 2000 to include 'not further defined' categories, in cases where there is not enough detail provided to allow the ABS to code persons to the lowest level of these classifications. From the introduction of computer assisted coding in 2000 until November 2003, these responses were proportionally distributed to the most detailed level of the classification.
- For more information on the changes introduced in February 2004, see *Information Paper: Forthcoming Changes to Labour Force Statistics, 2003* (cat. no. 6292.0).

### May 2005

- Auto coding (AC) introduced for the coding of industry and occupation data. Industry and occupation codes are applied automatically by a computer matching the survey responses to an industry or occupation index. Where the AC system is unable to allocate a valid code to a record, the record is then passed on to the Computer Assisted Coding (CAC) system for coding. Comparisons of the estimates of employed persons at the industry Division and occupation Major Group level from each of the two methods showed that application of adjustment factors was not warranted.

### Aug 2006

- Industry coded using both the new classification Australian and New Zealand Standard Industrial Classification (ANZSIC) 2006, and the previous classification Australian and New Zealand Standard Industrial Classification (ANZSIC) 1993.
- Occupation coded using both the new classification Australian and New Zealand Standard Classification of Occupations (ANZSCO), and the previous classification Australian Standard Classification of Occupations (ASCO) Second Edition.
- Dual-coding continued until November 2008.

### May 2007

- Composite estimation introduced, replacing the previous estimation method. Historical series from April 2001 to April 2007 were revised to the new basis as part of the implementation of composite estimation. Unit record data was also revised for this period.
- For more information on composite estimation, see *Information Paper: Forthcoming Changes to Labour Force Statistics, 2007* (cat. no. 6292.0).

### Nov 2007

- Sample redesign phased in from November 2007 to June 2008, based on the 2006 Census of Population and Housing. Overall fraction is 0.32%. Sampling efficiencies related to the introduction of composite estimates enabled an 11% reduction in the sample, with only minor reductions in data quality relative to the previous design.
- For more information on the sample redesign, see *Information Paper: Labour Force Survey Sample Design, November 2007* (cat. no. 6269.0).

### Jul 2008

- The sample was reduced by 24% in July 2008 as one of a range of ABS savings initiatives for the 2008-09 financial year, with coverage representing approximately 0.24% of the population aged 15 years and over.
- For information about the sample reduction, refer to *Information Paper: Labour Force Survey Sample Design, November 2007, Second edition* (cat. no. 6269.0).

### Sep 2008

- Interviewing procedures changed to commence on a Sunday between the 5th and the 11th of the month, and the reference week changed to be the prior Sunday to Saturday – interviews previously commenced on the Monday between the 6th and 12th of each month (with exception at the end and beginning of each calendar year). The new procedures were introduced to increase the likelihood of contact with households, thereby increasing the efficiency and accuracy of the LFS estimates.
- An improved method for calculating families estimates was introduced. Detailed information on the improved method is provided in *Information Paper: Improvements to Family Estimates from the Labour Force Survey* (cat. no. 6224.0.55.002).

### Feb 2009

- The ANZSIC 2006 classification system replaced ANZSIC 1993 for industry employment estimates.
- The ANZSCO classification system replaces the classification, Australian Standard Classification of Occupations (ASCO) Second Edition for occupation employment estimates.
- The time series spreadsheets previously published in *Labour Force, Australia, Spreadsheets* (cat. no. 6202.0.55.001) are now included in *Labour Force, Australia* (cat. no. 6202.0).
- Estimates compiled using population benchmarks based on results from the 2006 Census, with data for the period June 2001 to January 2009 revised to reflect the latest population estimates.
- Regional estimates are classified to the Labour Force Statistical Regions based on the 2006 Australian Standard Geographical Classification. Previous estimates were based on the 2001 Australian Standard Geographical Classification.

### Apr 2009

- Gross flows estimates released from the LFS and included in data cube GM1 - Labour Force Statistics and Gross Changes (flows) by Sex, State and Age in *Labour Force, Australia* (cat. no. 6202.0).

### Sept 2009

- The July 2008 sample reduction was reinstated progressively from September to December 2009.
- Detailed information about the sample reinstatement is available in *Information Paper Labour: Force Survey Sample Design, Nov 2007 (Third edition)* (cat. no. 6269.0).

### Jul 2010

- Labour force estimates compiled using updated population benchmarks that incorporate revisions made to Net Overseas Migration estimates, with data for the period July 2006 to June 2010 revised to reflect the latest population estimates.

### Oct 2010

- The derivation of the forecasted net overseas migration component of LFS population benchmarks updated to use assumptions that take into account a range of available supplementary data sources and relevant information to forecast population changes in the short-term. These were previously based on the assumption that the previous year's net overseas migration (for the required quarter) movements were representative of the current year's movement.

### Jul 2011

- Looking on the internet was added to looking in newspapers as a passive job search step, and references to Centrelink touch screens were removed from job search steps. Job search step 'check factory noticeboards' was changed to 'checked noticeboards.'

### Feb 2012

- Revisions to employment by industry estimates for the period November 1984 to May 1994 were made to reflect improvements made to the concordance between the formerly used Australian Standard Industrial Classification (ASIC 1983) and the current Australian and New Zealand Industry Classification (ANZSIC 2006).
- Revisions were also made to the time series spreadsheets for the period April 1986 to August 1997, to incorporate more accurate estimates from the source data and improve coherence between labour force products.

- A break in series was also introduced for duration of unemployment estimates to separate the synthetic estimates produced for the period April 1986 to March 2001 from the estimates directly measured from April 2001 onwards.

#### Nov 2012

- Labour force estimates from July 2008 to October 2012 revised to align the labour force population benchmarks with the latest available information on population growth.

#### Dec 2012

- Online self-completion of the LFS progressively introduced, with one survey group initially being offered the option of self-completing the survey on-line in place of a face-to-face or telephone interview.

#### Feb 2013

- *Information paper: Outcomes of the Labour Household Surveys Content Review, 2012* (cat. no. 6107.0) released, outlining planned changes for the core monthly and quarterly LFS, the labour supplementary surveys, and the labour Multipurpose Household Survey (MPHS) topics.

#### May 2013

- Expanded the offer of online self-completion to 50% of each new incoming survey group.
- Sample redesign phased in from May to August 2013 based on the 2011 Census of Population and Housing. For the key LFS estimates, the 2011 sample design generally maintains standard errors at levels targeted under the 2006 sample design. Generally the previous design achieved lower levels of sampling error than the sample was designed for, allowing for a reduction in the 2011 sample size to match the 2006 targets.
- For more information on the sample redesign, see *Information Paper: Labour Force Survey Sample Design, May 2013* (cat. no. 6269.0).

#### Sept 2013

- Online self-completion was offered to 100% of private dwellings in each incoming survey group.

#### Jan 2014

- Estimates compiled using population benchmarks aligned with ERP based on the 2011 Census. Data for the period June 1991 to December 2013 were revised to reflect the rebased population estimates. For more information, refer to the article 'Rebenchmarking Labour Force Estimates to the 2011 Census of Population and Housing'.
- Regional estimates produced at the Statistical Area Level 4 (SA4) level of the Australian Statistical Geography Standard (ASGS), with data released on a consistent ASGS basis back to October 1998. Previous estimates were based on the 2006 Australian Standard Geographical Classification (ASGC). For more information on regional estimates, see *Information Paper: Regional Labour Force Statistics, 2014* (cat. no. 6262.0).
- Composite estimation was applied to all estimates from July 1991 (previously only back April 2001).

#### Feb 2014

- Refined procedures for respondent follow-up introduced, resulting in expected response rates ranging between 93 to 95% each month (previously 95 to 97% each month). These procedures were introduced as part of a broader program of ABS work to enhance the cost effectiveness of its response follow-up strategies, while maintaining the high quality of its statistics.

### April 2014

- 100% of private dwellings were offered online self-completion.

### Jul 2014

- New questionnaire implemented. Minor definitional changes made to active job search steps and duration of unemployment.
- For information on the changes made to the questionnaire, see *Information Paper: Forthcoming Changes to Labour Force Statistics, Jun 2014* (cat. no. 6292.0).

### Oct 2014

- Changes made to the labour force seasonal adjustment methodology to account for the change in seasonal effects resulting from changes to the supplementary survey program, which were observed during the July-September 2014 period. These changes were applied to the period from December 2013. See articles in *Labour Force, Australia, Oct 2014* and *Labour Force, Australia, Nov 2014* (cat. no. 6202.0).

### Feb 2015

- Labour force data for the period July 2011 to January 2015 were revised to reflect updated population benchmarks.

### Mar 2015

- Further refinement to the changes to the labour force seasonal adjustment methodology to account for the change in seasonal effects resulting from changes to the supplementary survey program. These changes were applied to the historical period prior to December 2013.

### Aug 2015

- Commencement of quarterly population benchmark revisions, coinciding with the availability of updated benchmarks immediately prior to each quarter month (i.e. February, May, August and November).
- For more information on the rebenchmarking methodology, see the February 2015 issue of *Labour Force, Australia* (cat. no. 6202.0).

### Jul 2015

- Gross flow estimates were expanded to include the 'unmatched' components of the sample, for completeness.

### Dec 2015

- Minor wording change to one question relating to the job search activity undertaken during the reference week. The question wording was updated to remove reference to the defunct 'Job Services Australia' program. The wording of "Job Services Australia provider or any other employment agency" was changed to "employment agency". Analysis confirmed there was no statistical impact from this change.

### Jan 2016

- Introduction of 'Insights from the original data' commentary and accompanying spreadsheet; an enhanced approach to presenting sample decomposition for month-to-month movements.

### July 2016

- Introduction of 12 month rolling averages for regional labour force estimates, and accompanying advice.

## Dec 2017

- Rebenchmarked labour force estimates for 2011-2017 released, based on preliminary 2016 Census-based population estimates.

## CHAPTER 20: LABOUR FORCE STATUS AND OTHER CHARACTERISTICS OF FAMILIES

### INTRODUCTION

The Labour Force Status and Other Characteristics of Families publication presents information about the labour force status and other characteristics of families, which is collected as part of the monthly Labour Force Survey (LFS) in June of each year. Information is also provided on the number and age of children in the family. Family type is derived from questions which establish the relationships between members of the households selected in the survey.

Relationship in household and families data are collected each month in the LFS, and published in *Labour Force Australia, Detailed - Electronic Delivery* (cat. no. 6291.0.55.001) as estimates that relate to the number of persons. In contrast, estimates provided in the Labour Force Status and Other Characteristics of Families publication relate to the number of families, rather than the number of persons. Children are normally outside of the scope of the labour force survey, but are included in this publication because of the focus on the labour force status of families.

The Labour Force Status and Other Characteristics of Families publication presents information on family dynamics including the total number of families, the number of families with dependants and children, types of families (couple families, one parent families and other families), and the age and number of children and dependants in the household.

### SURVEY OUTPUT

Data from the LFS at the family level are published in *Labour Force, Australia: Labour Force Status and Other Characteristics of Families* (cat. no. 6224.0.55.001). More detailed data may be available on request.

Estimates are produced on an original basis only (i.e. not seasonally adjusted), and are detailed below.

#### Socio-demographic information

State or territory of usual residence of family; area of usual residence of family; family type; sex, age, country of birth and year of arrival of husband/partner and wife/partner.

#### Family information

Couple/one parent/other family; whether couple, family, opposite or same sex; sex of lone parent; whether the family includes children or dependants, non-dependent children, or has no children; age of youngest dependent child; number of family members; number of children or dependants.

#### Employment information

Employment status; full-time or part-time status, labour force status and duration of job search for husband/partner and wife/partner; hours worked by husband/partner and wife/partner; number of employed, unemployed, not in the labour force persons in the family.

### SCOPE

The scope is restricted to persons aged 15 years and over who were residents of private dwellings, and whose family status could be derived. While labour force status is only determined for persons aged 15 years and over, children under 15 years are included for the purpose of determining their relationship to any adult family members in the household.

An improved method for calculating families estimates was introduced in September 2008, to include information on the following groups:

- households containing permanent members of the Australian defence forces;
- households containing usual residents of private dwellings who fail to meet LFS selection rules (for example, because they are away from their usual residence for more than six weeks); and
- households which did not fully respond to the survey (as long as all demographic and family type variables are available).

In June 2009, data were revised to reflect population benchmarks based on 2006 Census of Population and Housing data, adjusted for under-enumeration and updated for births, deaths, interstate migration and net overseas migration.

## **DATA INTERPRETABILITY**

The data contained in some tables contains cells with estimates with an RSE of greater than 50 percent, considered to be unreliable for general use, and estimates with an RSE of between 25 percent and 50 percent which should be used with caution. The data used to compile families statistics contain complex family relationships, which can add to the complexity of the aggregated estimates. The data in these tables are as reported by any responsible adult aged 15 years and over, who were usual residents of private dwellings and were selected in the LFS.

## **RELATED ABS DATA**

Additional family data not provided in the standard publication, or from other ABS collections, are available on request. Family data are available from a range of social surveys, including the General Social Survey, the National Health Survey, and the Survey of Income and Housing.

The Census collects information on labour force status and other characteristics for families. See the ABS publications *Census of Population and Housing: Nature and Content, Australia, 2016* (cat. no. 2008.0) and *Census of Population and Housing: Census Dictionary, 2016* (cat. no. 2901.0) for more information.

The ABS releases long-term household and family projections, looking 25 years into the future, in *Household and Family Projections, Australia* (cat. no. 3236.0). While highest level data from this source are consistent with those from Labour Force Status and Other Characteristics of Families, other estimates may differ due to the difference between projections and weighted estimates based on a sample survey.

## **DATA COMPARABILITY OVER TIME**

Care should be taken when comparing the estimates of previous years with the current year, as data may not have been recompiled using latest population estimates, at a given point in time.

RSEs for Families estimates have been calculated using the Jack knife method of variance estimation. This process involves the calculation of 30 'replicate' estimates, based on 30 different sub-samples of the original sample. The variability of estimates obtained from these sub-samples is used to estimate the sample variability surrounding the main estimate.

In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and analysis methods are



made as infrequently as possible. Changes affecting the LFS may also affect Families estimates. Such changes are outlined in Chapter 19.

#### 2004

- Data first released as part of *Labour Force, Australia, Detailed* (cat. no. 6291.0.55.001), including an annual time series from June 1994 and five data cubes in Summary Record Database (SRD) format.

#### 2004-2008

- From August 2004 to December 2008, the Families data were released on a monthly basis.

#### 2005

- Release format changed to a separate product, *Labour Force Status and Other Characteristics of Families* (cat. no. 6224.0.55.001).

#### 2009

- Summary tables in Excel format introduced, with a time series from 2005.

#### 2015

- Expanded series of 10 data cubes replaced the previous SRD files. Each one was released as a separate Excel file, with Relative Standard Errors (RSEs) provided.

## CHAPTER 21: LABOUR FORCE SUPPLEMENTARY SURVEYS

### INTRODUCTION

A supplementary topic was included with the Labour Force Survey (LFS) for the first time in November 1961, and this concept was gradually extended so that the majority of months in each year included supplementary questions on one or more topics. As a result of the *Information Paper: Outcomes of the Labour Household Surveys Content Review, 2012* (cat. no. 6107.0), there now exists a consolidated Labour Supplementary Survey program with surveys being enumerated in February and August each year.

Each Labour Force Supplementary Survey (LFSS) comprises a series of additional questions asked at the end of each LFS interview. The survey methodology does not differ greatly among the supplementary surveys, and in many aspects is the same as the LFS methodology (outlined in Chapter 19). This chapter describes the broad survey methodology of the supplementary surveys. They should be used in conjunction with Chapters 21.1 to 21.5, which outline elements of the methodology which are unique to each supplementary survey.

### CHANGES TO SUPPLEMENTARY SURVEYS

From July 2014, the ABS improved the content of the LFS and labour supplementary surveys. See 'Forthcoming changes to ABS Labour Force and Supplementary Surveys' (Appendix) in *Employee Earnings, Benefits and Trade Union Membership, Australia* (cat. no. 6310.0) for more information.

These improvements were previously outlined in July 2012 in the *Information Paper: Outcomes of the Labour Household Surveys Content Review* (cat. no. 6107.0).

The Characteristics of Employment Survey (COE) combines the key elements from the previous separate *Employee Earnings, Benefits and Trade Union Membership Survey* (EETUM) (cat. no. 6310.0), *Forms of Employment Survey* (FOES) (cat. no. 6359.0) and *Working Time Arrangements Survey* (WTA) (cat. no. 6342.0), to provide a comprehensive and coherent dataset on characteristics of persons' employment. See Chapter 21.1 Characteristics of Employment for more information.

The Participation, Job Search and Mobility (PJSM) Survey combines the key elements from the previous separate *Persons Not in the Labour Force Survey* (PNILF) (cat. no. 6220.0), *Underemployed Workers Survey* (UEW) (cat. no. 6265.0), *Job Search Experience Survey* (JSE) (cat. no. 6222.0) and *Labour Mobility Survey* (LM) (cat. no. 6209.0), to provide a comprehensive and coherent dataset on persons' experiences relating to job search, job change and increasing participation. See Chapter 21.2 for more information.

### OBJECTIVES OF THE LABOUR FORCE SUPPLEMENTARY SURVEYS

The LFSSs form an important component of the ABS's household surveys program, which aims:

- to provide a range of statistics required to monitor the social and economic wellbeing of Australians, with particular reference to important sub-groups of the population; and
- to support the development, implementation and evaluation of policies and programs of key Commonwealth and State government agencies.

The information requirements of ABS household surveys are determined on the basis of submissions from users on their needs for and uses of household survey data. They also reflect ABS deliberations on what is required of a national statistics program in the various subject fields, based on user contact and consultation.

In the field of labour statistics, supplementary surveys provide detailed information on a range of labour topics and interest groups such as:

- labour force - labour force experience,
- employment - underemployment; multiple job holding; forms of employment,
- employees - earnings; trade union membership; benefits; and working arrangements,
- unemployment - job search experience; successful and unsuccessful job search,
- persons not in the labour force - discouraged job seekers; other persons with marginal attachment to the labour force, and
- persons retrenched or made redundant from work.

## **SURVEY OUTPUT**

A number of data cubes (spreadsheets) are produced from each publication, and are available from the ABS website. The data cubes present tables of estimates and their corresponding Relative Standard Errors (RSEs).

For users who wish to undertake a more detailed analysis of the data, the survey microdata are released through the Table Builder product. For more information, see *Table Builder, User Guide* (cat. no. 1406.0.55.005).

Special tabulations may be available on request. Subject to confidentiality and sampling variability constraints, tabulations can be produced from the survey incorporating data items, populations and geographic area selections to meet individual requirements. These can be provided in printed or electronic form. All enquiries should be made to the National Information and Referral Service.

## **SCOPE**

In addition to those already excluded from the LFS, the following persons are excluded from supplementary surveys (see Chapter 17: Methods Used in ABS Household Surveys for further information):

- Persons living in Aboriginal and Torres Strait Islander communities in very remote parts of Australia; and
- Students at boarding schools, patients in hospitals, residents of homes (e.g. retirement homes, homes for people with disabilities), and inmates of prisons.

Depending on the topic or population of interest for which information is being collected, there may be further exclusions from scope.

## **COLLECTION METHODOLOGY**

From December 2012 to April 2013, the ABS conducted a trial of online electronic data collection. Respondents in one survey rotation group (i.e. one-eighth of the survey sample) were offered the option of self-completing their LFS questionnaire online instead of via a face-to-face or telephone interview.

From May 2013, the ABS expanded the offer of online electronic collection to 50% of each new incoming rotation group. From September 2013, online electronic collection has been offered to 100% of private dwellings in each incoming rotation group. From April 2014, 100% of private dwellings are being offered online electronic collection. For further information about online electronic collection, see 'Online Collection in the Labour Force Survey' in *Labour Force, Australia, Feb 2016* (cat. no. 6202.0)

The collection methodology for the supplementary surveys is generally the same as for the LFS. Interviews are conducted at the same time as interviews for the LFS. Most interviews (about 55%) are conducted by telephone, with about 20% conducted by online electronic collection and the rest conducted face-to-face.

Information about each household member in scope of the supplementary survey is generally collected from one adult using the 'Any Responsible Adult' (ARA) methodology. See Chapter 17 for more information on the ARA methodology.

Response rates for the supplementary surveys are generally slightly lower than for the LFS.

## **SAMPLE DESIGN**

The supplementary surveys use the same sample design as the LFS, and the sample used in the supplementary surveys is a subset of the LFS sample. Persons in the outgoing rotation group in the LFS are excluded from all supplementary surveys.

The sample size for the supplementary surveys varies due to the scope exclusions listed above, as well as specific restrictions for particular supplementary survey topics.

## **ESTIMATION METHODS**

Post-stratification estimation techniques are generally used, with adjustment to account for persons enumerated outside their State of usual residence.

The post-stratification variables generally used are:

- State/territory of usual residence;
- Area of usual residence (capital city, balance of State);
- Labour force status;
- Sex;
- Full-time or part-time status; and
- Age (age groupings generally correspond with those used in post-stratification for the LFS).

## **POPULATION BENCHMARKS**

Changes to the LFS population benchmarks impact primarily on the magnitude of the LFS estimates (i.e. employment and unemployment) that are directly related to the underlying size of the population. For more details on population benchmarks, see the Explanatory Notes in *Labour Force, Australia* (cat. no. 6202.0), and for details about the revisions made, see the article in the January 2014 issue of *Labour Force, Australia* (cat. no. 6202.0) and the article in the November 2012 issue of *Labour Force, Australia* (cat. no. 6202.0).

Supplementary survey weights use labour force estimates, referred to in this context as pseudo-benchmarks, to supplement independent demographic benchmarks (see Chapter 17 for further information on population benchmarks used in household surveys). As of 2018, the ABS is currently exploring the potential for improving the benchmarking of supplementary surveys, including introducing rebenchmarking.

## **TIME SERIES ESTIMATES**

Seasonally adjusted and trend estimates are not produced for supplementary surveys.

## **RELIABILITY OF THE ESTIMATES**

Estimates from supplementary surveys are subject to both sampling and non-sampling error (see Chapter 16: Overview of Survey Methods for more detail). The relative standard errors of survey estimates are published in each supplementary survey publication.

## **DATA COMPARABILITY OVER TIME**

Estimates from successive supplementary surveys on a given topic may not be strictly comparable over time, due to changes in survey scope and concepts measured. In addition, changes affecting the LFS sample and estimation processes will affect supplementary survey estimates. For further discussion of changes to a particular LFSS, see its corresponding Chapter.

## SURVEY AVAILABILITY

Publication	Catalogue Number	Frequency	Data Availability
Characteristics of Employment, Australia	6333.0	Annual	This product replaces the publications: Employee Earnings, Benefits and Trade Union Membership, Australia; Forms of Employment, Australia; Working Time Arrangements; and Locations of Work.
Characteristics of Recent Migrants, Australia	6250.0	Irregular	This product replaces the publication Labour Force Status and Other Characteristics of Migrants, Australia.
Child Employment, Australia	6211.0	Irregular	Current
Education and Work, Australia	6227.0	Annual	Current
Employee Earnings, Benefits and Trade Union Membership, Australia	6310.0	Annual	This product has been replaced by Characteristics of Employment
Forms of Employment, Australia	6359.0	Annual	This product has been replaced by Characteristics of Employment
Job Search Experience, Australia	6222.0	Annual	This product has been replaced by Participation, Job Search and Mobility, Australia
Labour Force Experience, Australia	6206.0	Biennial	Discontinued
Labour Mobility, Australia	6209.0	Biennial	This product has been replaced by Participation, Job Search and Mobility, Australia
Locations of Work, Australia	6275.0	Irregular	This product has been replaced by Characteristics of Employment
Multiple Jobholding, Australia	6216.0	Irregular	Latest data available on request July 2001
Participation, Job Search and Mobility, Australia	6226.0	Annual	This product replaces Persons Not in the Labour Force; Underemployed Workers and Job Search Experience, Australia; and Labour Mobility, Australia
Persons Not in the Labour Force, Australia	6220.0	Annual	This product has been replaced by Participation, Job Search and Mobility, Australia
Persons Not in the Labour Force, Underemployed Workers and Job Search Experience, Australia	6226.0.55.001	One-off (Bridge)	This product has been replaced by Participation, Job Search and Mobility, Australia. Originally, this product replaced the publications: Persons Not in the Labour Force, Australia; Underemployed Workers, Australia; and Job Search Experience, Australia
Pregnancy and Employment Transitions, Australia	4913.0	Irregular	Current
Underemployed Workers, Australia	6265.0	Annual	This product has been replaced by Participation, Job Search and Mobility, Australia
Working Time Arrangements, Australia	6342.0	Irregular	This product has been replaced by Characteristics of Employment

## CHAPTER 21.1: CHARACTERISTICS OF EMPLOYMENT

### INTRODUCTION

The Characteristics of Employment Survey (COE) combines the key elements from the previous separate *Employee Earnings, Benefits and Trade Union Membership Survey* (EEBTUM) (cat. no. 6310.0), *Forms of Employment Survey* (FOES) (cat. no. 6359.0) and *Working Time Arrangements Survey* (WTA) (cat. no. 6342.0), to provide a comprehensive and coherent dataset on characteristics of persons' employment.

The survey presents information on all employed persons according to their status in employment.

The status in employment category groups are:

- Employees
- Owner managers of incorporated enterprises (OMIEs)
  - With employees
  - Without employees
- Owner managers of unincorporated enterprises (OMUEs)
  - With employees
  - Without employees

Employees are then further classified according to whether they had paid leave entitlements, which is whether they had paid sick and/or paid holiday leave.

Information is also presented on independent contractors, who may be in the Employees, OMIEs or OMUEs groups. They are identified through a series of questions about their work and remuneration arrangements.

The collection of a range of socio-demographic and labour force characteristics makes the survey extremely valuable for comparing and analysing the distribution of weekly earnings across employees. Data are used in the development and review of wages and labour market policies, and in wage negotiation processes. The survey is the only frequent source of data on the distribution of trade union members by socio-demographic and labour force characteristics.

This section describes only those aspects of the methodology that are unique to this survey, and should therefore be read in conjunction with the overview part of this chapter, which outlines the survey methodology used in supplementary surveys.

### SURVEY QUESTIONNAIRE

The current Characteristics of Employment questionnaire is available from Appendix 2 or *Characteristics of Employment, Australia* (cat. no. 6333.0), as a PDF file on the Downloads tab.

### SURVEY OUTPUT

Data from the survey, including time series data on earnings and trade union membership, are published on the ABS website in *Characteristics of Employment, Australia* (cat. no. 6333.0). More detailed data may be available on request.

Data are presented on the weekly earnings of employees and OMIEs, trade union membership, independent contractors, persons who found their job through a labour hire firm/employment agency, and working arrangements. This information can be cross classified by a range of personal

characteristics, educational attainment, characteristics of employment such as full-time or part-time status, industry and occupation of main job, and demographic characteristics.

The main population of interest is employed persons. Persons who were contributing family workers in their main job are excluded from the survey. Estimates are produced on an original basis only (i.e. not seasonally adjusted), and include:

### **Socio-demographic information**

Sex; age; social marital status; relationship in household; state or territory of usual residence; and country of birth and elapsed years since arrival in Australia.

### **Employment characteristics**

Occupation; industry; hours worked; full-time or part-time status; sector; duration with current employer/business; whether employment had a set completion date/event; length of set employment completion date/event from the date of interview; whether worked on a fixed-term contract; whether expected contract to be renewed; and whether considered job to be casual.

### **Employee earnings**

Weekly earnings distributions; mean and median weekly earnings (in main, second and all jobs) (excluding OMIEs who did not draw a wage or salary and employees who only received payment in kind); and frequency of pay.

### **Leave entitlements**

Paid sick leave; paid holiday leave; and paid maternity/paternity leave.

### **Trade Union Membership**

Trade union membership in main job; trade union member not necessarily in connection with main job; length of current trade union membership; whether previously a trade union member.

### **Independent Contractors**

Whether usually able to work on more than one active contract; whether had more than one contract for work in reference week; whether able to (sub) contract own work; main reason unable to (sub) contract own work; and whether had authority over own working procedures.

### **Working patterns and arrangements**

Whether usually work the same number of hours each week; whether guaranteed a minimum number of hours or work; whether pay varies from one period the next; whether usually works paid or unpaid extra hours or overtime; whether required to be on-call or standby; whether usually worked shift work and type of shift usually worked; whether usually worked from home and reasons for doing so; whether had an agreement with employer to work flexible hours; whether preferred to work fewer hours; days of the week usually worked; number of days of the week usually worked; and whether usually worked on weekdays, weekends or both.

### **Persons who found their job through a labour hire firm/employment agency**

Whether currently registered or had registered in the last 12 months; whether found a job; and whether paid by a labour hire firm/employment agency.



## POPULATION GROUPS

### Employed persons

Persons aged 15 years and over who, during the reference week:

- worked for one hour or more for pay, profit, commission or payment in kind, in a job or business or on a farm (comprising employees, employers and own account workers); or
- worked for one hour or more without pay in a family business or on a farm (i.e. contributing family workers); or
- were employees who had a job but were not at work and were:
  - away from work for less than four weeks up to the end of the reference week;
  - away from work for more than four weeks up to the end of the reference week and received pay for some or all of the four week period to the end of the reference week;
  - away from work as a standard work or shift arrangement;
  - on strike or locked out;
  - on workers' compensation and expected to return to their job; or
- were employers or own account workers who had a job, business or farm, but were not at work.

Contributing family workers in their main job are excluded from the COE survey.

### Employees

Employees are employed persons who:

- worked for a public or private employer; and
- received remuneration in wages or salary; or are paid a retainer fee by their employer and worked on a commission basis, for tips, piece-rates or payment in kind.

### Owner Managers of Incorporated Enterprises (OMIEs)

Persons who work in their own incorporated enterprise, that is, a business entity which is registered as a separate legal entity to its members or owners (may also be known as a limited liability company). An owner manager of an incorporated enterprise may or may not hire one or more employees in addition to themselves and/or other owners of that business.

### Owner Managers of Unincorporated Enterprises (OMUEs)

A person who operates his or her own unincorporated enterprise or engages independently in a profession or trade. An owner manager of an unincorporated enterprise may or may not hire one or more employees in addition to themselves and/or other owners of that business.

### Independent Contractors

Independent contractors are persons who operate their own business and who contract to perform services for others without having the legal status of an employee, i.e. persons who are engaged by a client, rather than an employer. Independent contractors are engaged under a contract for services (a commercial contract), whereas employees are engaged under a contract of service (an employment contract). Independent contractors' employment may take a variety of forms, for example, they may have a direct relationship with a client or work through an intermediary. Independent contractors may have employees; however they spend most of their time directly engaged with clients or on client tasks, rather than managing their staff.

## SCOPE

In addition to those already excluded from the LFS, the following persons are excluded from COE (see Chapter 17: Methods Used in ABS Household Surveys for further information):

- Persons living in Aboriginal and Torres Strait Islander communities in very remote parts of Australia;
- Students at boarding schools, patients in hospitals, residents of homes (e.g. retirement homes, homes for people with disabilities), and inmates of prisons; and
- Contributing family workers, persons not in the labour force, and unemployed persons.

## COLLECTION METHODOLOGY

See Chapter 21: Labour Force Supplementary Surveys - Collection Methodology for more information.

## NOTES ON ESTIMATES

To minimise the risk of identifying individuals in aggregate statistics, perturbation is used to randomly adjust estimates. Perturbation involves small random adjustment of the statistics, and is considered the most satisfactory technique for avoiding the release of information that could identify individual survey respondents while maximising the range of information that can be released. These adjustments have a negligible impact on the underlying pattern of the statistics. After perturbation, a published estimate will be consistent across all tables. However, adding up estimates to derive a total will not necessarily give the same result as published totals.

RSEs for COE estimates are calculated using the Jack-knife method of variance estimation. This process involves the calculation of 30 'replicate' estimates based on 30 different sub-samples of the original sample. The variability of estimates obtained from these sub-samples is used to estimate the sample variability surrounding the main estimate.

Where information relating to earnings in both main job and/or second job is not provided by the respondent, values are imputed. Where this is the only information missing from the respondent record, the value is imputed based on answers provided from another respondent with similar characteristics (referred to as the "donor"). Donor records are selected for imputation of earnings in main job by matching information on sex, age, state or territory of usual residence, and selected labour force characteristics (full-time or part-time in main job, industry, occupation, hours worked in main job, owner manager status) of the person with missing information.

Donor records are selected for imputation of earnings in second job by matching information on age, state or territory of usual residence, area of usual residence, owner manager status, hours worked in second job, and frequency of pay in second job. Depending on which values are imputed, donors are chosen from the pool of individual records with complete information for the block of questions where the information is missing.

## DATA COMPARABILITY OVER TIME

Changes to the LFS population benchmarks impact primarily on the magnitude of the LFS estimates (i.e. employment and unemployment) that are directly related to the underlying size of the population. For more details on population benchmarks, see the Explanatory Notes in *Labour Force, Australia* (cat. no. 6202.0), and for details about the revisions made, see the article in the January 2014 issue of *Labour Force, Australia* (cat. no. 6202.0) and the article in the November 2012 issue of *Labour Force, Australia* (cat. no. 6202.0).

From January 2014, labour force estimates (including those produced from supplementary surveys) have been compiled using population benchmarks based on the 2011 Census of Population and Housing.

Prior to 2014, information about trade union membership was collected only of employees and OMIEs. From 2014 onwards, information on trade union membership is collected from all employed persons. See the article 'Appendix: Status of employment and population concordance' in the August 2014 issue of *Characteristics of Employment, Australia* (cat. no. 6333.0) for more information.

From August 2014, collection of earnings in second job was changed to match the collection of earnings in main job. Previously, earnings in second job were collected from respondents who were employees in their second job, who actually worked some hours in their second job in the reference week. Earnings were reported for those hours actually worked in that job. From 2014, earnings in second job are collected from employees in their second job, regardless of whether they worked in that job in the reference week. Earnings data and frequency of pay in that second job are subsequently collected. This change resulted in a break in series of earnings in all jobs and earnings in second job.

From August 2014, information on trade union membership is collected from all employed persons. In previous years, information on trade union membership was only collected from employees and OMIEs. See the article 'Appendix: Status of employment and population concordance' in the August 2014 issue of *Characteristics of Employment, Australia* (cat. no. 6333.0) for more information.

Caution should be exercised when comparing the estimates from COE with previous supplementary surveys, as some data items changed and population groups are conceptually different. For comparability with previous surveys, see Explanatory Notes in *Characteristics of Employment, Australia* (cat. no. 6333.0).

Caution should be exercised when comparing results for 'Employees' from COE to previous FOES and EEBTUM surveys, as the population 'Employees' in COE is not directly comparable to the 'Employees' population in both FOES and EEBTUM.

### Imputation

Prior to 2004, imputation was not used. Employees whose weekly earnings could not be determined were excluded from estimates of mean or median weekly earnings. Care should be taken when comparing earnings data from 2004 onwards with earnings data prior to 2004. To compare the change in methodology from 2003 to 2004, see paragraph 28 of the Explanatory Notes in the August 2004 issue of *Employee Earnings, Benefits and Trade Union Membership* (cat. no. 6310.0).

From August 2009, additional information relating to the number of hours that a respondent's last pay period covered in their main job was added to the imputation process for main job earnings.

The current imputation method has been used since the 2005 survey. A similar method of imputation was used for the 2004 survey. The differences between the 2004 and the current imputation method are that donors are matched, where possible, at a finer level of detail; and second job earnings are imputed, whereas in 2004 they were not.

From August 2014, additional information relating to the number of hours usually worked, and the frequency of pay in a respondent's second job, was added to the imputation process for second job earnings.

### **Salary sacrifice**

From August 2007, as a result of a change in the concept of earnings being measured, employees and OMIEs are asked to include salary sacrifice when estimating their earnings. In previous years, there was no explicit reference to the treatment of salary sacrifice. It is probable that some employees were already including amounts of salary sacrifice in their estimates of earnings, depending upon how their pay was reported. This change has resulted in a break in series. Users need to exercise care when comparing the earnings of employees and OMIEs prior to and after 2007.

### **COMPARABILITY WITH MONTHLY LFS STATISTICS**

Due to differences in the scope and sample size of COE and that of the monthly LFS, the estimation procedure may lead to some small variations between labour force estimates from COE and those from the LFS.

## CHAPTER 21.2: PARTICIPATION, JOB SEARCH AND MOBILITY

### INTRODUCTION

The Participation, Job Search and Mobility Survey (PJSM) combines the key elements from the previous separate *Person Not in the Labour Force* (PNILF) (cat. no. 6220.0), *Underemployed Workers* (UEW) (cat. no. 6265.0), *Job Search Experience* (JSE) (cat. no. 6222.0) and *Labour Mobility* (LM) (cat. no. 6209.0) surveys to provide a comprehensive and coherent dataset on persons' experiences relating to job search, job change and increasing participation.

This survey informs on the following broad labour market issues: job mobility; job search; participation and increasing participation; underemployment; and marginal attachment. This enables analysis of persons' experiences relating to job search, job change and increasing participation, all of which can be cross classified by other employment characteristics such as hours worked, industry, occupation and sector of job, as well as personal characteristics.

This section describes only those aspects of the methodology that are unique to this survey and should therefore be read in conjunction with the overview part of this chapter, which outlines the survey methodology used in supplementary surveys.

### SURVEY QUESTIONNAIRE

The current Participation, Job Search and Mobility survey questionnaire is available from *Participation, Job Search and Mobility, Australia* (cat. no. 6226.0), as a PDF file on the Downloads tab

### SURVEY OUTPUT

Data from the survey are published in *Participation, Job Search and Mobility, Australia, February 2015* (cat. no. 6226.0). More detailed data may be available on request.

The move to create a consolidated supplementary survey involved a change in collection month for a number of the existing supplementary survey topics, namely JSE, UEW and PNILF moved from the July or September months, to February.

In order to better understand the impacts that the change in timing had, all three surveys (JSE, PNILF and UEW) were conducted in February 2014, in a format that was similar to their current format. This meant that PNILF and UEW were conducted in September 2013, and then again in February 2014 in *Persons Not In the Labour Force, Underemployed Workers and Job Search Experience, Australia, February 2014* (cat. no. 6226.0.55.001)

Estimates are produced on an original basis only (i.e. not seasonally adjusted) and include:

#### Socio-demographic information

Sex; age; social marital status; relationship in household; state or territory of usual residence; number of dependents; age of youngest child; and country of birth and elapsed years since arrival in Australia.

#### Employed persons

Status in employment; hours actually worked; hours usually worked; full-time or part-time status; whether worked and reason worked less hours than usual; whether available to start work; continuous duration with current employer/business; sector; occupation; industry; whether entitled to paid leave; whether retrenched; whether available and/or looking for work;

whether promoted and/or transferred; previous occupation; and whether changed industry or occupation.

### **Unemployed persons**

Duration of job search; whether looked for full-time or part-time work; whether checked or registered with a Job Services Australia/jobactive provider; number of employment offers; whether turned down job offers; reasons for turning down job offers; and whether move interstate or intrastate.

### **Underemployed persons**

Underemployment status; whether available and/or looking for work; duration of current period of insufficient work; whether prefer to change employer to work more hours; whether would prefer to change occupation to work more hours; and whether move interstate or intrastate.

### **Ceased a job**

Continuous duration of last job; occupation of last job; industry of last job; status in employment; hours usually work each week in last job; reason for ceasing last job; when began last job; whether entitled to paid leave; and whether changed industry or occupation.

### **Persons not in the labour force**

Main activity when not in the labour force; time since last job; whether had a job in the last 10 or 20 years; reasons not actively looking for work; whether available to start work; whether preferred full-time or part-time work; intention to enter the labour force; whether wanted to work; whether move interstate or intrastate; continuous duration of last job; occupation of last job; industry of last job; and whether entitled to paid leave.

## **POPULATION GROUPS**

### **Employed persons**

Persons aged 15 years and over who, during the reference week:

- worked for one hour or more for pay, profit, commission or payment in kind, in a job or business or on a farm (comprising employees, employers and own account workers); or
- worked for one hour or more without pay in a family business or on a farm (i.e. contributing family workers); or
- were employees who had a job but were not at work and were:
  - away from work for less than four weeks up to the end of the reference week;
  - away from work for more than four weeks up to the end of the reference week and received pay for some or all of the four week period to the end of the reference week;
  - away from work as a standard work or shift arrangement;
  - on strike or locked out;
  - on workers' compensation and expected to return to their job; or
- were employers or own account workers who had a job, business or farm, but were not at work.

### **Persons not in the labour force**

Persons not in the labour force can be divided into those who are marginally attached to the labour force, and those who are not. Persons who are marginally attached to the labour force satisfy some, but not all, of the criteria required to be classified as unemployed.

Persons not in the labour force are considered to be marginally attached to the labour force if they:

- wanted to work and were actively looking for work (but, unlike unemployed persons, were not available to start work in the reference week); or
- wanted to work and were not actively looking for work, but were available to start work within four weeks.

Persons not in the labour force are not marginally attached to the labour force if they:

- did not want to work; or
- wanted to work, but were not actively looking for work and were not available to start work within four weeks.

### **Underemployed workers**

Underemployed workers are employed persons who would prefer, and are available for, more hours of work than they currently have. They comprise:

- part-time workers who would prefer to work more hours and were available to start work with more hours, either in the reference week or in the four weeks subsequent to the survey; and
- full-time workers who worked part-time hours in the reference week for economic reasons (such as being stood down or insufficient work being available). It is assumed that these persons would prefer to work full-time in the reference week and would have been available to do so.

### **Unemployed**

Persons aged 15 years and over who were not employed during the reference week, and:

- had actively looked for full-time or part-time work at any time in the four weeks up to the end of the reference week and were available for work in the reference week; or
- were waiting to start a new job within four weeks from the end of the reference week, and could have started in the reference week if the job had been available then.

### **SCOPE**

In addition to those already excluded from the LFS, the following persons are excluded from supplementary surveys (see Chapter 17: Methods Used on ABS Household Surveys for further information):

- Persons living in Aboriginal and Torres Strait Islander communities in very remote parts of Australia; and
- Students at boarding schools, patients in hospitals, residents of homes (e.g. retirement homes, homes for people with disabilities), and inmates of prisons.

### **COLLECTION METHODOLOGY**

See Chapter 21: Labour Force Supplementary Surveys – Collection Methodology for more information.

## NOTES ON ESTIMATES

To minimise the risk of identifying individuals in aggregate statistics, a technique is used to randomly adjust cell values. This technique is called perturbation. Perturbation involves small random adjustment of the statistics, and is considered the most satisfactory technique for avoiding the release of information that could identify individual survey respondents while maximising the range of information that can be released. These adjustments have a negligible impact on the underlying pattern of the statistics. After perturbation, a given published cell value will be consistent across all tables. However, adding up cell values to derive a total will not necessarily give the same result as published totals.

RSEs for PJSM estimates are calculated using the Jack-knife method of variance estimation. This process involves the calculation of 30 'replicate' estimates based on 30 different sub-samples of the original sample. The variability of estimates obtained from these sub-samples is used to estimate the sample variability surrounding the main estimate.

## DATA COMPARABILITY OVER TIME

Changes to the LFS population benchmarks impact primarily on the magnitude of the LFS estimates (i.e. employment and unemployment) that are directly related to the underlying size of the population. For more details on population benchmarks, see the Explanatory Notes in *Labour Force, Australia* (cat. no. 6202.0), and for details about the revisions made, see the article in the January 2014 issue of *Labour Force, Australia* (cat. no. 6202.0) and the article in the November 2012 issue of *Labour Force, Australia* (cat. no. 6202.0).

From January 2014, labour force estimates (including those produced from supplementary surveys) have been compiled using population benchmarks based on the 2011 Census of Population and Housing.

## COMPARABILITY WITH PREVIOUS SURVEYS

Care should be taken when comparing the estimates from PJSM with estimates from PNILF, UEW and JSE in previous years, as PNILF and UEW were previously collected in September, and JSE was previously collected in July.

For comparability with previous surveys, see Explanatory Notes in *Participation, Job Search and Mobility, Australia* (cat. no. 6226.0).

## COMPARABILITY WITH MONTHLY LFS STATISTICS

Due to differences in the scope and sample size of PJSM and that of the monthly LFS, the estimation procedure may lead to some small variations between labour force estimates from PJSM and those from the LFS.

PJSM provides data on the main reason for leaving or losing a person's last job in the previous 12 months, such as retrenchment. PJSM provides detailed analysis of retrenchment dynamics for the labour force, while the LFS provides more regular information on the number of persons retrenched in *Labour Force, Australia, Detailed, Quarterly* (cat. no. 6291.0.55.003).



## CHAPTER 21.3: SURVEY OF EDUCATION AND WORK

### INTRODUCTION

The Survey of Education and Work (SEW) provides annual information on a range of key indicators of educational participation and attainment of persons aged 15-74 years, along with data on people's transition between education and work. The annual time series allows for ongoing monitoring of the level of education of Australia's population, including participation in current and previous study; type of educational institution attended or attending; highest year of school completed; level and field of highest non-school qualification; characteristics of people's transition between education and work; and selected characteristics of apprentices and trainees.

The SEW provides selected information on participation in education, highest educational attainment, transition from education to work, and current labour force and demographic characteristics for the civilian population aged 15-74 years.

Information on unsuccessful enrolment, and deferment of study, is included for persons not studying in the survey year. Data on apprenticeships are also provided.

This section describes only those aspects of the methodology that are unique to this survey and should therefore be read in conjunction with the overview part of this chapter, which outlines the survey methodology used in supplementary surveys.

### SURVEY OUTPUT

Data from the survey are published in *Education and Work, Australia* (cat. no. 6227.0). More detailed data may be available on request.

Estimates are produced on an original basis only (i.e. not seasonally adjusted), and include:

#### Socio-demographic information

Sex; age; marital status; relationship in household; state or territory of usual residence; country of birth and year of arrival in Australia; index of relative socio-economic disadvantage - SA1/SA2; index of relative socio-economic advantage/disadvantage - SA1/SA2; Index of Economic Resources - SA1/SA2; Index of education and occupation - SA1/SA2; section of state; SA4; remoteness areas, citizenship status; and visa type.

#### Labour force

Labour force status; underemployed workers; status in employment; occupation; industry; duration of job search; whether business incorporated or unincorporated; hours usually worked; and tenure of employment.

#### Education – current year

Type of institution or organisation enrolled; full-time or part-time enrolment; level of education; main field of study; type of school; Vocational Education Training (VET); engagement in employment or study; and whether studying towards a non-school qualification.

#### Education – highest attainment

Highest non-school qualification completed in Australia; year completed; level of highest educational attainment; level of highest non-school qualification; highest year of school completed; main field of study; Year 12 or Certificate II or above; Year 12 or Certificate III or above.

### **Education – previous year**

Detailed type of institution or organisation and enrolment; full-time or part-time enrolment; level of education of study; main field of study; main field of non-school qualification; and status of non-school qualification enrolled.

### **Education – time left study**

Age when left; year when left; time of leaving full-time study in previous or current year; main reason left; type of school last enrolled at; month and year; VET.

### **Apprenticeship/traineeship – current**

Commencement; industry sector; field of trade; and main field of study.

### **Apprenticeship/traineeship – unmet demand**

Main reason unsuccessful; first choice; applied for; applied and enrolled for.

## **SCOPE**

The scope of the SEW is restricted to persons aged 15-74 years who were usual residents of private dwellings and non-institutionalised special dwellings, excluding:

- members of the permanent defence forces;
- certain diplomatic personnel of overseas governments, customarily excluded from the Census of Population and Housing and estimated resident populations;
- overseas residents in Australia;
- members of non-Australian defence forces (and their dependants);
- institutionalised persons (e.g. patients in hospitals, residents of retirement homes, residents of homes for persons with disabilities, inmates of prisons);
- Indigenous communities; and
- boarding school pupils.

Boarding school pupils have been excluded from the scope of the SEW since 2005, but were included in earlier collections.

In 2013, the scope of SEW was extended to include all persons aged 65-74 years for the first time. From 2009 to 2012, persons aged 65-74 years who were in the labour force, or were marginally attached to the labour force, were included. Persons were determined to be marginally attached to the labour force if they were not in the labour force in the reference week, wanted to work, and:

- were actively looking for work but did not meet the availability criteria to be classified as unemployed; or
- were not actively looking for work but were available to start work within four weeks or could start work within four weeks.

Prior to 2009 all persons aged 65-74 years were excluded from the scope of SEW.

Persons who are permanently unable to work were included in the scope of SEW for the first time in 2013.

## **COLLECTION METHODOLOGY**

Information is collected from respondents over a two week period in May. The data are collected through interviews, conducted either face-to-face or over the telephone. From May 2013, respondents were able to provide their information over the internet via a self-completed form.

The May 2013 SEW was the first supplementary survey to incorporate this online data collection method, where the option was offered to just over one-quarter of the SEW sample. The May 2014 SEW was the first time this option was offered to all respondents.

All information, either from interview or online self-completion, is obtained from any responsible adult in the household who is asked to respond on behalf of all persons in the household in scope of the survey.

## DATA COMPARABILITY

### Comparability with other ABS surveys

Estimates from the SEW may differ from the estimated produces from other ABS collections due to differences in sampling error, scope and/or coverage, and different collection methodologies. For more information see the 'Explanatory Notes' in *Education and Work, Australia* (cat.no. 6227.0)

As the SEW is conducted as a supplement to the LFS, data items collected in the LFS are also available in SEW. However, there are some important differences between the two surveys. The SEW sample is a subset of the LFS sample, and has a response rate which is slightly lower than the LFS response rate for the same period. Also, the scope of the SEW differs slightly to the scope of the LFS. Due to these differences between the samples, the SEW data are weighted as a separate process to the weighting of LFS data.

Differences may therefore be found in the estimates collected in the LFS and published as part of the SEW, when compared with estimates published in the May issue of *Labour Force, Australia* (cat. no. 6202.0). From September 2016, the ABS has published education data from the LFS as part of the publication *Labour Force, Australia, Detailed, Quarterly* (cat. no. 6291.0.55.003). For more information on the differences between SEW and LFS in relation to education data items, see 'Fact Sheet: Expanded Education Data' in the August 2016 issue of *Labour Force, Australia, Detailed, Quarterly* (cat. no. 6291.0.55.003).

### Comparability of time series

#### 2005

- Since 2005, boarding school pupils have been excluded from the scope of the SEW, but were included in earlier collections.

#### 2007

- Since 2007, industry data in the SEW have been classified according to the Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 (Revision 1.0) (cat. no. 1292.0). Prior to this, data were classified according to the Australian and New Zealand Standard Industrial Classification (ANZSIC), 1993 (cat. no. 1292.0). As a result, industry data from SEW prior to 2007 are not directly comparable to data for 2007 and subsequent years.
- Since 2007, occupation data in the SEW have been classified according to the Australian and New Zealand Standard Classifications of Occupations, First Edition, Revision 1 (cat. no. 1220.0). Prior to this, data were classified according to the Australia Standard Classifications of Occupations, Second Edition, 1997 (cat. no. 1220.0). Occupation data are not directly comparable between these two editions of the classification. As a result, occupation data from SEW prior to 2007 are not directly comparable to 2007 and subsequent years.

## 2008

- Prior to 2008, only persons aged 15-54 years were included in the apprenticeship/traineeship survey questions. In 2008, the age scope was extended to include persons aged 55-64 years and in 2009, the scope was further extended to include persons aged 65-74 years for these questions. In 2008, the definition for apprentices and trainees changed from those employed as apprentices/trainees to include only those with a formal contract under the Australian Apprenticeship Scheme. Therefore, data on apprentices from previous years are not directly comparable to 2008 and subsequent data. Note that Australian School-based Apprenticeships continue to be excluded from the apprentice/trainee data. However, some questions on school-based apprenticeships were asked of current school students aged 15-19 years for the first time in 2014.

## 2013

- Revisions were made to the in-scope population in 2013. All respondents aged 65-74 years were included for the first time, rather than just those in the labour force or marginally attached to the labour force. Persons who were permanently unable to work were also included.

## 2014

- Since 2014, persons who are identified in the Labour Force Survey (LFS) as currently studying a school level qualification are asked in SEW whether they are currently studying for any non-school qualifications. If the respondent was still attending school, their level of study was recorded as their current year of schooling, not their non-school qualification.

After each Census, population estimates are normally revised back five years to the previous Census year.

## CHAPTER 21.4: PREGNANCY AND EMPLOYMENT TRANSITIONS SURVEY

### INTRODUCTION

The Pregnancy and Employment Transitions Survey (PaETS) presents employment transitions information on birth mothers of a child less than 2 years of age living with them at the time of interview.

In situations where women had more than one child under the age of 2, data was collected in respect of the employment transitions of women around the most recent birth (i.e. the youngest child).

Data are collected about women's jobs during pregnancy; the first job started or returned to after the birth; current job details; partners job while the woman was pregnant; partners first job started or returned to after the birth; and partners current job details are cross-classified by characteristics such as income, industry and occupation and demographic characteristics.

This section describes only those aspects of the methodology that are unique to this survey, and should therefore be read in conjunction with the overview part of this chapter, which outlines the survey methodology used in supplementary surveys.

### SURVEY QUESTIONNAIRE

The current Pregnancy and Employment Transitions survey questionnaire is available from *Pregnancy and Employment Transitions, Australia* (cat. no. 4913.0), as a PDF file on the Downloads tab.

### SURVEY OUTPUT

Data from the survey are published in *Pregnancy and Employment Transitions, Australia* (cat. no. 4913.0). More detailed data may be available on request.

Data are collected about women's jobs during pregnancy; the first job started or returned to after the birth; current job details; partners job while the woman was pregnant; partners first job started or returned to after the birth; and partners current job details are cross-classified by characteristics such as income, industry and occupation and demographic characteristics.

Subgroups of interest in understanding pregnancy/birth related employment transitions for birth mothers living in private dwellings with a child under two years of age include:

- Employment transitions before the birth of their child:
  - women who had a current partner, and whether that partner was the same partner during pregnancy;
  - women who had a job while pregnant and whether they worked in that job; and
  - women who left the job that they had while pregnant.
- Employment transitions after the birth of their child:
  - women who started or returned to work after the birth;
  - age of child when women started or returned to work; and
  - employment status of women.

The main population of interest is women with child under 2 years. Estimates are produced on an original basis only (i.e. not seasonally adjusted) and include:

## **Socio-demographic information**

Sex; age; social marital status; relationship in household; state or territory of usual residence; and country of birth and period of arrival in Australia.

## **Household details**

Number of persons; number of children under 15; household composition, household type; and family composition.

## **Income details**

Main source of income; total current household income per week; equivalised gross household income; all sources of household income; weekly household income; total household income; and weekly income.

## **Women's and partners job**

Labour force status in main job; status in employment in main job; employment type in main job; multiple jobholder status; hours worked in main job/all jobs; full-time or part-time status in main job/all jobs; industry; occupation; continuous duration in main job; whether had and entitled to paid leave entitlements; sector in employment; and types of and whether used flexible work arrangements in main job.

## **Women's and partners job while women pregnant**

Whether had a job, status in employment; employment type; hours worked; whether changed usual hours; full-time or part-time status; paid leave entitlements; discrimination; paid parent leave; number of weeks leave (full pay or half pay/type of leave); whether took maternity leave; reasons permanently left last main job; and industry/ occupation of partner.

## **Women's first job started or returned to after birth of child**

Whether started or returned; reasons not started or returned; age of child; whether returned to same employer/business; whether job changed; status in employment; employment type; hours usually worked; full-time or part-time status; industry/occupation; sector; leave entitlements; type and whether used flexible working arrangements; and childcare.

## **Women whose partner started or returned to work after birth of child**

Whether partner started or returned; status in employment; employment type; hours usually worked; full-time or part-time status; industry/occupation; sector; whether usual hours of work with same employer/business; whether worked part-time after birth of child to assist with care; and types and whether used flexible arrangements in first main job since birth to assist with the care.

## **SCOPE**

The scope of the Labour Force Survey (LFS) is restricted to persons aged 15 years and over and excludes the following persons:

- members of the permanent defence forces;
- certain diplomatic personnel of overseas governments, customarily excluded from the Census and estimated populations;
- overseas residents in Australia; and
- members of non-Australian defence forces (and their dependants).

Students at boarding schools, patients in hospitals, residents of homes (e.g. retirement homes, homes for persons with disabilities), and inmates of prisons are excluded from all supplementary surveys.

PaETS is conducted in both urban and rural areas in all states and territories, but excludes persons living in Indigenous communities in very remote parts of Australia.

Women aged 15 years and over who had given birth to a child less than 2 years ago and were living with that child were included in the survey. The survey excluded:

- women who were members of the Australian permanent defence forces;
- women living in non-private dwellings;
- visitors to private dwellings; and
- all males.

In addition, for those women whose partner at the time of interview was not in scope of the survey (e.g. the partner was in the permanent defence forces), the details of the partner's job at the time of the interview was not collected. For these partners, job details were classified as could not be determined.

## NOTES ON ESTIMATES

Paid Parental Leave (PPL), Newborn upfront payment and Newborn supplement are only asked of women who either worked in a job or business while pregnant, or who had a job or business they were away from during their pregnancy and did not leave that job before the birth of their child.

Dad and Partner pay questions are asked to partners who either worked in a job or business, or who had a job or business they were away from during the time of the interview.

Women who were employees (excluding owner managers of incorporated enterprises (OMIEs)) are classified as 'With paid leave entitlements' if they were entitled to paid sick leave and/or paid holiday leave. In all other cases, employees are classified 'Without paid leave entitlements'.

Full-time or part-time status in job while pregnant after change in hours are calculated on the hours reported by women immediately before stopping work for the birth of child.

Other paid leave comprises of paid sick leave and any other type of paid leave, and other unpaid leave comprises of parental leave and any other type of unpaid leave.

Information about taking types of paid leave (paid maternity, paid holiday or long service leave) is collected for women who were employees (excluding OMIEs) in the job while they were pregnant, who were entitled to a type of paid leave. If women were not entitled to any sort of paid leave, information about unpaid leave for the birth of their child is collected.

Information is collected on any other paid leave taken for the birth of the child for women who were entitled to some sort of paid leave (paid maternity, paid holiday, long service leave or paid sick leave).

For all data items relating to personal income of women, partners and other household members, where women either did not know or refused to report:

- their income - data are classified as 'Refusal' for estimates of income, but are included in sources of income;
- partner's income - data are classified as 'Refusal' for estimates of income, but are included in sources of income;

- other household members income - data are classified as 'Refusal' for estimates of income, but are included in sources of income.

For data items relating to combined income, for example 'Weekly income of women and partner' or 'Weekly household income', where women did not know or refused to report an individual case of income, then data for that item is classified as 'Refusal'.

Additionally, for estimates relating to income, equivalised income and quintiles, responses that included a refusal or a loss of income, are excluded from these estimates.

## OTHER ISSUES FOR ANALYSIS AND INTERPRETATION

In analysing and interpreting the PaETS data, users should be aware that women may have difficulty in recalling the circumstances surrounding their employment over the course of a pregnancy (i.e. up to two years prior to interview). As the focus of the survey is women with at least one child less than two years old, some of the information, such as the age of the child when the woman began working after the birth, does not take account of the return to work circumstances of women, whose youngest child was born close to the time of interview, as they may not have returned to work.

## DATA COMPARABILITY OVER TIME

### 2005

- Initial survey conducted (November).
- The PaETS was designed primarily to provide estimates at the Australia level. Some broad estimates by state and territory are provided for: the numbers of women who worked while pregnant; women who took maternity leave; and whether they returned to employment with the same employer that they left due to their pregnancy. This survey also included information by state and territory about the length of time (associated with the birth of their child) that women were out of the workforce, the age of the child when they commenced employment after the birth, and the leave arrangements of their partner for the pregnancy/birth.

### 2011

- Survey conducted (November).
- The survey was redeveloped to better capture information on:
  - job details and types of leave taken while women were pregnant;
  - job details about women's first job started or returned to since the birth of the child;
  - women with a child under 2 years, job at time of survey;
  - partners job details and types of leave taken while women were pregnant;
  - job details about partners first job started or returned to since the birth of the child; and
  - partners job details at time of survey.

This survey collected additional information on women's employment transitions during pregnancy; on starting or returning to work; and job details at November 2011. The survey also collected information on leave arrangements of women and partners for the birth of the child; discrimination in the workplace during pregnancy; work arrangements on return to work; whether women had a partner during pregnancy; and the work transitions of these partners.

### 2017

- Survey conducted (November).
- Survey questions amended to reflect changes to the baby bonus payment.



## CHAPTER 21.5: CHARACTERISTICS OF RECENT MIGRANTS

### INTRODUCTION

The Characteristics of Recent Migrants survey (CORMS) collects data on the labour force status and other characteristics of persons who recently migrated to Australia. The survey also collects information on temporary residents who planned to stay in Australia for 12 months or more. The information collected enables an assessment of the labour market experience of recent migrants. The survey was conducted on an irregular basis between 1984 and 2004, and is currently conducted every 3 years on a sample of recent permanent migrants and temporary residents. In 2010 the name of the survey changed from 'Labour Force Status and Other Characteristics of Recent Migrants' to 'Characteristics of Recent Migrants'.

This section describes only those aspects of the methodology that are unique to this survey, and should be used in conjunction with Chapter 21 which outlines the survey methodology used in the supplementary surveys.

### SURVEY OUTPUT

Data from the survey are published in *Characteristics of Recent Migrants, Australia* (cat. no. 6250.0). More detailed data may be available on request.

The main populations of interest are persons who migrated to Australia in the last ten years who had obtained permanent Australian resident status, as well as temporary residents of Australia for 12 months or more. Estimates are produced on an original basis only (i.e. are not seasonally adjusted) and include:

#### Socio-demographic information

Sex; age group on arrival; marital status; family relationship in household; size of household; state or territory of usual residence (including whether in a capital city); whether born in Australia; whether born in an English speaking country; country of birth (broad geographic area); and labour force status.

#### Migrants and temporary residents

Year of arrival; main language spoken on arrival; proficiency in spoken English on arrival; main language currently spoken at home; current proficiency in spoken English; whether an Australian citizen; type of visa on arrival to live in Australia; type of visa at survey date; initial residency status; current (at survey date) residency status; whether left a paid job when came to live in Australia; whether has had a paid job since arriving in Australia to live; whether main applicant on initial visa application; and whether main applicant on current visa application.

#### ...with a non-school qualification obtained before arrival or since arrival

Level of highest non-school qualification obtained before arrival; main field of highest non-school qualification obtained before arrival; whether has applied for highest non-school qualification to be assessed for recognition in Australia; whether highest non-school qualification has been recognised in Australia; level of highest non-school qualification obtained since arrival; and main field of highest non-school qualification obtained since arrival.

#### ...who had a job before arrival or have worked since arrival

Occupation in main job just before arrival; whether occupation in main job just before arrival is same as current occupation in main job; number of jobs held since arriving in Australia; occupation in first job held in Australia; whether worked full-time or part-time in first job held in Australia; whether used highest pre-migration non-school qualification obtained before arrival

in first job held in Australia; whether tried to find work more suited to highest pre-migration non-school qualification when working in first job held in Australia; whether experienced difficulty finding first job held in Australia; all difficulties (and main difficulty) experienced finding first job held in Australia; whether received help finding first job held in Australia; all sources of help in finding first job held in Australia; whether would have preferred to work more hours in first job held in Australia; and sources of household income (main and all).

**...who are currently employed**

Occupation in current job; industry of current job; status in employment; full-time or part-time status; whether multiple job holder; hours worked in current job; whether prefers more hours in current job; whether used highest pre-migration non-school qualification obtained before arrival in current job; whether tried to find work more suited to highest pre-migration non-school qualification since commencing current job; and whether experienced difficulty finding current job held in Australia.

**...with a permanent visa**

Whether temporary resident before becoming a permanent resident.

**...who are currently not in the Labour Force or without a non-school qualification**

Whether looked for work since arriving in Australia; main reason for not actively looking for work; and whether studying full-time.

Data collected in the survey are compiled according to concepts and definitions outlined in Chapter 2: Institutional Units and the Economically Active Population, Chapter 4: Employment and Chapter 15: Classifications used in labour statistics.

## SCOPE

This survey is restricted to persons who migrated to Australia within the last 10 years, were aged 15 years or over on arrival, were not an Australian or New Zealand citizen on arrival, and have permanent Australian resident status. Data were also collected for temporary residents of Australia for 12 months or more. The standard scope restrictions for supplementary surveys outlined in Chapter 21: Labour Force Supplementary Surveys also apply to this survey.

## DATA COMPARABILITY OVER TIME

In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and analysis methods are made as infrequently as possible. Over the time the survey has been conducted, there have been some changes to the scope and sample size. These changes mean that the standard errors for the survey differ over time. The effect on estimates of the change in scope is considered to have been small. Changes affecting the Labour Force Survey (LFS) may also affect this survey.

### 1984

- Initial survey conducted (March) – preliminary data published in *Characteristics of Migrants Aged 18 Years and Over at Time of Arrival and Who Arrived After 1960, Australia, Preliminary* (cat. no. 6249.0) (footnote 1) and final data in *Characteristics of Migrants Aged 18 Years and Over at Time of Arrival and Who Arrived After 1960, Australia* (cat. no. 6250.0).
- Scope restricted to adult migrants who arrived after 1960.

## 1990

- Survey conducted (September) – data published in *Labour Force Status and Other Characteristics of Migrants, Australia* (cat. no. 6250.0).
- Scope revised – adult migrants aged 18 years and over on arrival who arrived in Australia after 1970.

## 1991

- The *Australian Standard Classification of Countries for Social Statistics* (cat. no. 1269.0) was adopted to aggregate birthplace information. Historical estimates were revised to enable comparison.

## 1993

- Survey conducted (September) - data published in *Labour Force Status and Other Characteristics of Migrants, Australia* (cat. no. 6250.0).
- *Information Paper, Australian Bureau of Statistics Classification of Qualifications* (cat. no. 1263.0) was adopted.
- Level of attainment and field of study were collected separately.

## 1996

- The month of collection was fixed as November for this and subsequent collections. Data published in *Labour Force Status and Other Characteristics of Migrants, Australia* (cat. no. 6250.0).
- From August, occupation data are classified according to the second edition of the Australian Standard Classification of Occupations. See *Information Paper: ASCO – Australian Standard Classification of Occupations* (cat. no. 1221.0).
- Data item 'Field of qualification obtained before migration' no longer available.
- Sample restricted to seven-eighths of the LFS sample.

## 1999

- Survey conducted (November) – data published in *Labour Force Status and Other Characteristics of Migrants, Australia* (cat. no. 6250.0).
- Scope revised - adult migrants who arrived in Australia after 1980 and were aged 18 years and over on arrival, excluding persons living in remote and sparsely settled areas.

## 2004

- Survey conducted (November) – data published in *Labour Force Status and Other Characteristics of Migrants, Australia* (cat. no. 6250.0).
- Scope revised - migrants who arrived in Australia after 1984 and were aged 15 years or over on arrival.
- New population added – Migrants and temporary residents (who planned to stay in Australia for 12 months or more).
- New data items relating to the residency status (including visa types) of the respondent added.
- Data items related to whether the migrant had family or friends in Australia before migration and 'migration category' no longer available.
- Computer assisted interviewing (CAI) implementation.
- *Australian Standard Classification of Countries for Social Statistics* (cat. no. 1269.0) was renamed to *Standard Australian Classification of Countries* (cat. no. 1269.0)

## 2007

- Survey conducted (November) – data published in *Labour Force Status and Other Characteristics of Migrants, Australia* (cat. no. 6250.0).
- Scope revised – included only migrants who arrived in Australia in the last 10 years (i.e. after 1997); were aged 15 years and over on arrival; who had obtained permanent Australian resident status, as well as persons who were temporary residents of Australia for 12 months or more, and excluded those born in New Zealand, those holding New Zealand citizenship and those who held Australian citizenship prior to their arrival in Australia.
- Data items relating to the country of last residence were not collected.
- Several new data items were collected including: whether had a job since arrival; the length of time before finding a job after arriving in Australia; selected details of the first job held in Australia; whether the highest non-school qualification obtained before arrival was used in the first job held in Australia; whether difficulties were experienced finding work in Australia; and whether help was received finding work in Australia.

## 2010

- Survey conducted (November) – data published in *Characteristics of Migrants, Australia* (cat. no. 6250.0).
- Scope updated - those who arrived in Australia after 2000; included migrants who currently reside in remote areas; and excluded those who held New Zealand citizenship on arrival (regardless of place of birth), but included persons born in New Zealand who did not hold New Zealand citizenship.
- Several data items were added, including: whether would have preferred to have worked longer hours in first job in Australia; main reason not actively looking for work; and main language spoken on arrival. Other data items were removed, including data items related to the last visa held before becoming an Australian Citizen; the length of time spent overseas since most recent arrival; the highest year of school completed; and whether working full-time or part-time just before arrival.
- The 2007 data item "Type of visa on most recent arrival to live in Australia" was re-labelled to "Type of visa on arrival to live in Australia" (the data-item has remained the same as 2007).

## 2013

- Survey conducted (November) – data published in *Characteristics of Migrants, Australia* (cat. no. 6250.0).
- Socio-economic Indexes for Areas have been added to the November 2013 survey.
- Data items related to main difficulty finding first job in Australia and main difficulty finding job held as at the survey date were not collected in November 2013.

## 2016

- Survey conducted (November) – data published in *Characteristics of Migrants, Australia* (cat. no. 6250.0).
- In 2016 the weighting methodology was modified to include ERP Migration statistics as part of the benchmark process.

## FOOTNOTE

1. The online ABS Historical Publication Index provides a catalogue of publications released by the Australian Bureau of Statistics, and its predecessor the Commonwealth Bureau of Census and Statistics from 1907 – 1993. Titles not digitised are available in print or microfiche format from the National Library of Australia, State libraries and many Australian university libraries.

## CHAPTER 22: MULTIPURPOSE HOUSEHOLD SURVEY

### INTRODUCTION

The Multipurpose Household Survey (MPHS) was introduced in 2004–05. The MPHS is conducted each financial year throughout Australia as a supplement to the ABS' monthly Labour Force Survey (LFS). The MPHS topic questions are asked each month from July to June in a personal interview. The MPHS is designed to provide statistics annually for a number of small, self-contained topics.

The MPHS collects detailed information on a number of labour market issues, including:

- Barriers and Incentives to Labour Force Participation (conducted every two years, commencing with 2004–05);
- Retirement and Retirement Intentions (conducted every two years, commencing with 2004–05);
- Work Related Injuries (conducted every four years, commencing with 2005–06); and
- Qualifications and employment outcomes (previously known as Learning and work, and is conducted every five years, commencing with 2014–15).

In addition to the labour-related topics mentioned above, the MPHS program also includes other social topics not related to labour statistics, such as:

- Crime victimisation;
- Participation in sport and physical activity;
- Environmental views and behaviours;
- Patient experiences in Australia; and
- Household use of information technology.

For all MPHS topics, general demographic information such as age, sex, labour force characteristics, education and income are also available.

This chapter describes the broad survey methodology of the MPHS. For information on the four labour related MPHS topics that have been conducted to date, see Chapter 22.1: Barriers and Incentives to Labour Force Participation, Chapter 22.2: Retirement and Retirement Intentions, Chapter 22.3: Work-Related Injuries, and Chapter 22.4: Qualifications and Work.

### OBJECTIVES OF THE MULTIPURPOSE HOUSEHOLD SURVEY

The MPHS topics are an important part of the ABS household surveys program, which aims to:

- provide a range of statistics needed to monitor the social and economic wellbeing of Australians, with particular reference to important sub-groups of the population; and
- support the development, implementation and evaluation of policies and programs of key Commonwealth and State government agencies.

The information requirements of MPHS topics are determined on the basis of submissions from users on their needs for, and uses of, household survey data. They also reflect ABS deliberations on what is required of a national statistics program in the various subject fields, based on user contact and consultation.

The MPHS is a flexible multi-topic survey vehicle, which is used to collect and output data in a timely fashion. The MPHS includes a number of topics that require personal interview (rather than using

the any responsible adult (ARA) method), and are therefore unsuited to the monthly supplementary survey program. The MPHS has a shorter development and output time than the special social surveys to achieve flexibility in responding to user demands as they arise, and to allow the ABS to respond to emerging demand and contemporary priorities in a timely way (publications are usually available within six months of the completion of data collection).

## **SURVEY OUTPUT**

Estimates from each MPHS topic are released in separate publications. Table Builder outputs or expanded Confidentialised Unit Record Files (CURFs) are made available from each MPHS via the Remote Access Data Laboratory (RADL) or the ABS DataLab. Information on microdata access can be found on the ABS website.

## **SCOPE**

As with the LFS the scope of the MPHS is restricted to persons aged 15 years and over, and excludes:

- members of the permanent defence forces;
- certain diplomatic personnel of overseas governments, customarily excluded from census and estimated population counts;
- overseas residents in Australia; and
- members of non-Australian defence forces (and their dependants) stationed in Australia.

In addition, the following persons are excluded from most MPHS topics (see Chapter 17: Methods Used in ABS Household Surveys for further information):

- persons living in Aboriginal and Torres Strait Islander communities in very remote parts of Australia; and
- persons living in non-private dwellings such as hotels, university residences, students at boarding schools, patients in hospitals, residents of homes (e.g. retirement homes, homes for persons with disabilities), and inmates of prisons.

As indicated above, the scope of the MPHS excludes persons living in very remote parts of Australia. The exclusion of these persons is unlikely to impact on state and territory estimates, except in the Northern Territory where they account for a larger proportion of the total population.

Depending on the topic, there may be further exclusions from scope. For example, some MPHS topics collect information only from a certain population or interest group (e.g. information on retirement is collected from persons aged 45 years or over).

## **COLLECTION METHODOLOGY**

The MPHS is conducted as a supplement to the monthly LFS. Each month one eighth of the households in the LFS sample are rotated out of the survey. Generally, around 80% of these rotating-out households are then selected for the MPHS each month. In these households, after the LFS has been fully completed for each person in scope and coverage, a person aged 15 years and over is selected at random (based on a computer algorithm) and asked the additional MPHS topic questions in a personal interview. In cases where the MPHS topic is age sensitive, permission is sought from a parent or guardian before conducting the personal interview with a person aged 15 – 17. If permission is not given, the parent or guardian may be asked on behalf of the 15 – 17 year old, but are not asked questions relating to opinions/perceptions.

Unlike LFS which collects information from all members of the household from any responsible adult, the MPHS uses a randomly selected member of the household to answer questions about themselves.

Data are collected using Computer Assisted Interviewing (CAI), whereby responses are recorded directly onto an electronic questionnaire in a notebook during a telephone, face-to-face personal interview or online self-completion.

Data for MPHS topics are collected each month over a financial year. This reduces the impact of any seasonal effects on the data.

## **SAMPLE DESIGN**

The MPHS uses the same sample design as the LFS, where a multi-stage probability sample design is used. The sample used in the MPHS is a subset of the LFS sample. Each month a sample of approximately 1,250 households is selected.

The size of the annual MPHS sample selected is approximately 23,000, but the response rates for the MPHS are slightly lower than for the LFS. The number of fully responding households is therefore usually around 17,000. This number may be further reduced taking into account scope, coverage and sub-sampling inclusions for the selected topic. The size of the MPHS sample can be increased with user funding.

## **ESTIMATION METHODS**

The estimation technique used for household surveys is the generalised regression estimator.

The survey is benchmarked to the estimated civilian population aged 15 years and over living in private dwellings in each state and territory in non-sparsely settled areas. The process of weighting ensures that the survey estimates conform to person benchmarks by state, part of state, sex, age and household composition.

## **RELIABILITY OF THE ESTIMATES**

Estimates from the MPHS are subject to both sampling and non-sampling error (see Chapter 16: Overview of Survey Methods for more detail). The relative standard errors (RSEs) for each of the survey estimates are published in shadow tables. For further information on calculating RSEs from the MPHS, see the technical notes of each publication.

A 'group jack-knife' variance estimator is used to calculate estimates of variance (see Chapter 16 for more detail).



## CHAPTER 22.1: BARRIERS AND INCENTIVES TO LABOUR FORCE PARTICIPATION

### INTRODUCTION

The Barriers and Incentives to Labour Force Participation topic was first conducted in 2004-05 as part of the Multipurpose Household Survey (MPHS), which is a supplement to the monthly Labour Force Survey (LFS). This topic is included in the MPHS every two years.

The survey topic collects information about persons aged 18 years and over who are either not employed or who usually work less than 35 hours a week. The survey provides information on characteristics of persons who are not participating, or not participating fully, in the labour force and the factors that influence persons to join or leave the labour force.

This section describes only those aspects of the methodology that were unique to this survey topic and should therefore be read in conjunction with the overview part of this chapter (Chapter 22: Multipurpose Household Survey), which outlines the survey methodology used in the MPHS.

### SURVEY QUESTIONNAIRE

The Barriers and Incentive to Labour Force Participation survey questionnaire is available from Appendix 2 or *Barriers and Incentive to Labour Force Participation, Australia* (cat. no. 6239.0), as a PDF file on the Downloads tab.

### SURVEY OUTPUT

Data from the survey are published in *Barriers and Incentives to Labour Force Participation, Australia* (cat. no. 6239.0). Microdata are available in a Confidentialised Unit Record File (CURF) or Table Builder - see *Technical Manual: Multipurpose Household Survey, Expanded CURF, Australia* (cat. no. 4100.0). Other estimates may be available on request.

Data from the survey relate to persons aged 18 years and over. The main populations of interest are persons who are not employed (i.e. either unemployed or not in the labour force), and persons who usually work less than 35 hours a week in all jobs. Estimates are produced on an original basis only (i.e. not seasonally adjusted), and the core content, which is collected each cycle, includes:

#### Socio-demographic information

Sex; age; marital status; relationship in household; age of youngest child; whether household has children aged under 15 years; state or territory of usual residence; country of birth and period of arrival in Australia; level of highest educational attainment; weekly gross income; sources of income; partner's weekly gross income; household income; and partner's labour force status.

#### Persons who usually work 0–34 hours per week in all jobs

Hours usually worked in all jobs; status in employment; hours usually worked in main job; satisfaction of hours worked; satisfaction of current work arrangements; occupation; industry; duration of current main job; details of last job; reason for ceasing last full-time job; unpaid activities when not working; whether prefers to work more hours than usually works; preferred number of hours; all reasons for not wanting to work more hours; main childcare reason for not wanting more hours; whether looking for more hours; whether looking for part-time or full-time work; all reasons for not looking for more hours; main reason for not looking for more hours; main reason not available for more hours; and difficulties finding more hours.

## Unemployed persons

Duration of current period of unemployment; unpaid activities; difficulties finding work; whether has ever had a full-time job; whether previous work was full-time or part-time; time since last job; employment type of last job; occupation and industry of last job; and reason for ceasing last job.

## Persons who aren't in the labour force

Whether would like a paid job; whether would prefer to work full-time or part-time; preferred length/tenure of job; whether would accept a short-term/temporary job; whether available to start work in the reference week; time until available to start work; main reason not available to start work; main child care reason not available to start work; main child care reason not looking for work; main childcare reason for not wanting work; all/main reasons for not wanting to work; whether looking for work; and difficulties finding work.

Additional detail was included in the 2008–09 and 2012–13 survey. The additional data collected included:

- incentives to join or increase participation in the labour force (work related, skill related, financial, childcare related, caring related and other incentives);
- lowest gross wage per hour respondents would work for;
- whether respondents would return to work if important conditions were available; and
- self-assessed health status.

All data collected are compiled according to concepts and definitions outlined in Chapter 3: The Labour Force Framework, Chapter 6: Unemployment, Chapter 7: Underutilised Labour, Chapter 8: Not in the Labour Force and Chapter 15: Classifications Used in Labour Statistics.

## SCOPE

The scope of this survey topic is restricted to persons aged 18 years and over. The scope of this survey was increased in 2012–13 to include unemployed persons and persons employed less than 35 hours a week in all jobs (an increase from less than 16 hours). The standard scope restrictions for the MPHS outlined in the overview part of Chapter 22 also apply to this survey topic.

## RELATED SURVEYS

The ABS conducts several surveys to collect information on persons who are not participating, or are not participating fully, in the workforce. The Participation, Job Search and Mobility (PJSM) Survey is conducted throughout Australia in every February, as a supplement to the monthly LFS, to provide information on these persons. The Barriers and Incentives to Labour Force Participation topic is designed to consider and compare various aspects of factors which influence participation.

Data from the supplementary surveys are not directly comparable with data from Barriers and Incentives to Labour Force Participation as there are differences in scope, collection methodology and sample design (including sample size). For example, PJSM is conducted in a particular month each year, whereas Barriers and Incentives to Labour Force Participation data are usually collected over the 12 months of a financial year. Information for the supplementary surveys is collected using the Any Responsible Adult methodology, whereas the Barriers and Incentives topic uses personal interviewing. See Chapter 21: Labour Force Supplementary Surveys and Chapter 22: Multipurpose Household Survey for more information.

## DATA COMPARABILITY OVER TIME

In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and analysis methods are made as infrequently as possible. Changes affecting the LFS may also affect this survey. Such changes are outlined in Chapter 19.1: Labour Force Comparability Over Time and are not repeated here.

### 2004–05

- Initial survey conducted (August 2004 to June 2005).
- The scope of the survey includes persons working less than 16 hours.
- Availability was not determined for those persons who usually worked 0 to 15 hours per week and preferred to work more hours, but had not done anything in the four weeks prior to the reference week to obtain more hours of work. Availability for this group was imputed, based on information collected in the quarter months of the LFS, rather than being directly collected.

### 2006–07

- Data on availability was collected in all months for persons who usually worked 0–15 hours per week, and preferred to work more hours but had not done anything in the four weeks prior to the reference week to obtain more hours of work. This data was imputed for the 2004-05 survey.
- For the data items 'all/main reason for not wanting work/more hours', the response category 'caring for children/pregnancy/home duties' was split.
- For the data items 'all/main reasons for not wanting work/more hours' the category 'no need/retired from full-time work (for now)' was expanded to 'no need/satisfied with current arrangements/retired from full-time work (for now)'.
- For the items 'all reasons/main reason not looking for work/more hours', the category 'no need/satisfied with current arrangements/retired from full-time work (for now)' was added, based on detail collected about 'other' type responses.
- Questions about 'last worked full-time' were changed to 'last worked in a job of 35 hours or more'.
- For the data item 'preferred number of hours', the actual number of hours was collected for persons not in the labour force who said they would prefer 'full-time hours'.
- The following data items were added: Main reason not wanting work/more hours; Main childcare reason not looking for work/more hours; Age of youngest child; Partner's labour force status; and Partner's full-time or part-time status in employment.

### 2008–09

- The following new incentives to join/increase participation in the labour force data items were added: work related incentives; financial incentives; childcare related incentives; caring incentives; other incentives; lowest gross wage per hour that respondent would work for; whether respondent would return to work if important conditions were available. The purpose of these items was to inform on the types of incentives to encourage persons to increase their participation.
- The data items 'self-assessed health status' and 'all reasons not available to start work/more hours' were also added.

### 2010–11

- Questions on incentives to join or increase participation in the labour force and self-assessed health that were included in the 2008–09 survey, were excluded for this cycle.

### 2012–13

- The scope of the survey was expanded to include all employed persons who were working less than 35 hours. For previous surveys, only employed persons who worked less than 16 hours were included in the survey.
- Incentives to join/increase participation in the labour force was included in 2012–13 survey. This module was last collected in the 2008–09 survey.
- Unemployed persons were asked incentives questions for the first time.
- Self-assessed health status, whether had private health insurance cover and housing tenure items were included in the 2012–13 survey. These items were last collected in the 2008-09 survey.
- The following new items were added: satisfaction of hours worked; satisfaction of current work arrangements; main childcare reason for not wanting work/more hours; and long term health conditions. Microdata were not released for the 2012–13 survey.

### 2014–15

- Questions regarding previous full-time job details and main source of current person income were excluded from 2014–15 survey.
- Enhancements were made to the previous job payment arrangements question, adding the response category of 'Unpaid trainee/work placement'.
- Questions on why not looking for work or more hours, trouble finding work or more hours and wanting more hours were also enhanced. The response categories of 'No need/satisfied with current arrangements/retired (for now)' and 'Visa requirements' were added to these questions.
- Questions on incentives to join or increase participation were included. The incentives module used to be collected every second cycle, but is now part of the core content and included in each iteration of the survey.

### 2016–17

- Release of data using Table Builder for the first time.

## CHAPTER 22.2: RETIREMENT AND RETIREMENT INTENTIONS

### INTRODUCTION

The Retirement and Retirement Intentions topic is included in the Multipurpose Household Survey (MPHS) every two years, beginning with the 2004–05 reference period. Data on retirement and retirement intentions were previously collected on an irregular basis between 1980 and 1997 in a survey conducted as a supplement to the Labour Force Survey (LFS).

Data from the survey topic are used to examine changes in retirement trends over time, factors which influence retirement, and the income arrangements made by retirees and potential retirees for their retirement.

This section describes only those aspects of the methodology that were unique to this survey topic and should therefore be read in conjunction with the overview part of this chapter (Chapter 22: Multipurpose Household Survey), which outlines the survey methodology used in the MPHS.

### SURVEY QUESTIONNAIRE

The Retirement and Retirement Intentions survey questionnaire is available from *Retirement and Retirement Intentions, Australia* (cat. no. 6238.0), as a PDF file on the Downloads tab.

### SURVEY OUTPUT

Data from the survey topic are published in *Retirement and Retirement Intentions, Australia* (cat. no. 6238.0). Microdata are available in a Confidentialised Unit Record File (CURF) or Table Builder - see *Technical Manual: Multipurpose Household Survey, Expanded CURF, Australia* (cat. no. 4100.0). Other estimates may be available on request.

The survey topic collects information about the retirement status and retirement intentions of persons aged 45 years and over who have, at some time, worked for two weeks or more. Estimates are available on an original basis only (i.e. not seasonally adjusted), and include:

#### Socio-demographic information

Sex; age; marital status; relationship in household; age of youngest child in household; number of children aged less than 15 years; state or territory of usual residence; remoteness areas and area of usual residence, country of birth and period of arrival in Australia; and educational attainment.

#### Persons who have retired from the labour force

Details of last job (e.g. full-time or part-time status; status in employment; occupation; industry; reason for ceasing last job); age at retirement from the labour force; time since retirement; sources of income at retirement; details about superannuation (e.g. whether contributed to a superannuation scheme; time contributing; methods of disbursement of lump sum payment); whether self-funded at retirement; and whether currently self-funded in retirement.

#### Persons who intend to retire from the labour force

Details of current job (e.g. full-time or part-time status; status in employment; occupation; industry); age intends to retire; expected time until retirement; factors influencing decision about when to retire from the labour force; all and main expected sources of income at retirement; previous retirement status (whether had previously retired from work or not); reasons for returning to work (for those who had previously retired); details about superannuation (e.g. whether contributed to a superannuation scheme; time contributing);

satisfaction with current hours worked and current work arrangements; transition to retirement plans; and whether expects to be self-funded in retirement.

Additional detail was included in the 2008–09 and 2012–13 surveys. The additional data collected included:

- self-assessed health status;
- whether had private health insurance; and
- housing tenure.

Changes were also made to include the further age ranges of '65–69', '70–74', '75–79' and '80 and over' for questions on transitioning to retirement for the 2014–15 survey.

All data collected are compiled according to concepts and definitions outlined in Chapter 2: Institutional Units and Economically Active Population), Chapter 3: Labour Force Framework and Chapter 15: Classification Used in Labour Statistics.

## SCOPE

The scope of this survey topic is restricted to persons aged 45 years and over. The standard scope restrictions for the MPHS outlined in the overview part of Chapter 22 also apply to this survey topic.

## RELATED SURVEYS

Data on retirement and retirement intentions were previously collected in a survey conducted as a supplement to the LFS. The Retirement and Retirement Intentions supplementary survey was conducted on an irregular basis between 1980 and 1997. Data from the supplementary survey and the MPHS topic are not directly comparable, as there are differences in the concepts measured, scope, collection methodology and sample design (including sample size). For example, the November 1997 supplementary survey definition of 'retired from the labour force' comprised 'persons who had retired from work or were looking for work of more than 10 hours per week, and did not intend to work in the future' and 'persons that have never worked more than 10 hours per week', whereas the MPHS definition is 'persons who had previously worked for two weeks or more and had retired from work or looking for work, and did not intend to look for, or take up, work at any time in the future'. See Chapter 21 and Chapter 22 for more information.

Data on retirement and retirement intentions was also collected as a component of the 2007 Survey of Employment Arrangements, Retirement and Superannuation (SEARS), which was also conducted in 2000 as the Survey of Employment Arrangements and Superannuation (SEAS). While SEARS had a similar focus to SEAS, and collected a similar range of data, changes in the survey scope and methodology, and in the collection and presentation of information, mean that estimates for the surveys may not be strictly comparable.

## DATA COMPARABILITY OVER TIME

In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and analysis methods are made as infrequently as possible. Changes affecting the LFS may also affect this survey. Such changes are outlined in Chapter 19.1 and are not repeated here.

### 2004–05

- Survey conducted (August 2004 to June 2005) on MPHS for the first time. Data published in *Retirement and Retirement Intentions*, Australia (cat. no. 6238.0).

## 2006–07

- The data item 'intentions to retire from full-time or part-time work' and the population 'intends to retire from the labour force' were determined from responses to a question on 'age intends to permanently give up work'. In 2004–05, persons who answered 'don't know' were included in the 'intends to retire' population. For the 2006–07 survey the 'don't know' category was replaced with the categories 'don't know age will retire' and 'don't know whether will retire'. Persons who reported 'don't know age will retire' were included with the 'intends to retire' population, whereas persons who reported 'did not know whether will retire' were excluded from this population. This change had the effect of slightly decreasing the number of persons who intend to retire, and should be kept in mind when making comparisons to 2004–05 data.
- An additional category of 'partner's income' was included in the following data items: 'all/main source of income at retirement', and 'all/main expected source of income at retirement'. In 2004–05, persons relying on their partner's income would have been included in the 'other' or 'no income' categories.

## 2008–09

- In cases where persons could not report an exact age they 'intend to permanently give up work', they were given the option of responding with an age range. These range responses were included in 'average age intends to retire' by substituting the low-point of the range into the calculation.
- New content was added to the 2008–09 survey including transition to retirement plans, sources of funds for meeting living costs, intentions for a healthy/active retirement, housing tenure, and self-assessed health.
- High reporting of non-personal income money sources to personal income questions in previous cycles of this survey led to the inclusion of 'all/main sources of funds for meeting living costs' data items in 2008–09 to improve this information. As a result, care should be taken when comparing with data from previous years.

## 2010–11

- Questions on intentions for a healthy/active retirement, housing tenure, whether had private health insurance, and self-assessed health that were included in the 2008–09 survey were not included in 2010–11. Questions on transition to retirement plans were retained as a core component of the survey.

## 2012–13

- The following new items were collected: satisfaction with current hours worked, satisfaction with current work arrangements, whether self-funded at retirement, whether is currently self-funded in retirement, whether expects to be self-funded in retirement, and transition to retirement plans.
- Questions were also included on self-assessed health status, housing tenure and whether had private health insurance, which were last collected in the 2008–09 survey.
- Microdata were not released for the 2012–13 survey.

## 2014–15

- For the 2012–13 survey, questions were included on housing tenure, previous full-time job details and main source of current personal income. These were excluded from the 2014–15 survey.
- Changes were also made to include the further age ranges of '65–69', '70–74', '75–79' and '80 and over' for questions on transitioning to retirement for the 2014–15 survey.

## 2016-17

- Release of data using Table Builder for the first time.



## CHAPTER 22.3: WORK-RELATED INJURIES

### INTRODUCTION

The work-related injuries topic is included in the Multipurpose Household Survey (MPHS) every four years, and was first collected in 2005–06. Data on work-related injuries were previously collected in September 2000 as part of the supplementary survey program (see Chapter 22: Multipurpose Household Survey for further details).

The survey topic collects information about persons who worked at some time in the last 12 months, and experienced a work-related injury or illness in that period. The purpose of the survey topic is to provide information on the extent of work-related injuries and the characteristics of workers who experience them. Data collected in the survey topic assists in monitoring programs and formulating policies in relation to workers' compensation and occupational health and safety.

This section describes only those aspects of the methodology that were unique to this survey topic and should therefore be read in conjunction with the overview part of this chapter (Chapter 22: Multipurpose Household Survey), which outlines the survey methodology used in the MPHS.

### SURVEY OUTPUT

Data from the survey topic are published in *Work-Related Injuries, Australia* (cat. no. 6324.0). Microdata are available in a Confidentialised Unit Record File (CURF) or Table Builder - see *Technical Manual: Multipurpose Household Survey, Expanded CURF, Australia* (cat. no. 4100.0). Other estimates may be available on request.

The survey topic collects information about persons aged 15 years and over who worked at some time in the last 12 months, and who experienced a work-related injury or illness in that period. For those who experienced multiple work related injuries or illnesses in the 12 month period, the most recent work related injury or illness is reported. Estimates are produced on an original basis only (i.e. not seasonally adjusted), and include:

#### Socio-demographic information

Sex; age; marital status; relationship in household; state or territory of usual residence, area and region of usual residence; remoteness area; birthplace and year of arrival in Australia, educational attainment; whether attending educational institution (15–24 year olds); and current labour force status.

#### Income

Current weekly gross personal income from all sources; all sources of income; main source of income; all types of government pension / allowance received; and total gross weekly household income from all sources.

#### Employment characteristics (including current main job, and job in which most recent work-related injury or illness occurred)

Labour force status; employment type; hours usually worked (also in all jobs); duration of job; full-time or part-time status; status in employment; occupation; industry; whether worked shift work; expected future duration in job; and whether worked on a contract.

#### Most recent work-related injury or illness information

Length of absence from work; whether received financial assistance for medical expenses or income loss; all sources of financial assistance for medical expenses or income loss; whether applied for and whether received workers compensation; main reason did not apply for

workers' compensation; whether occurred within the first 6 months of starting job; type of illness/injury sustained; how illness/injury occurred; location where occurred; main reason for ceasing job; whether returned to work at any time after; whether received any formal training in OH&S risks in workplace at any time prior; whether received formal training in OH&S risks in the workplace in current or most recent job; and type of training undertaken.

Data collected in the survey topic are compiled according to concepts and definitions outlined in Chapter 2: Institutional Units and Economically Active Population, Chapter 3: Labour Force Framework and Chapter 15: Classification Used in Labour Statistics.

Work-related injuries or illnesses have been classified according to the Type of Occurrence Classifications System (TOOCS), which was developed by Safe Work Australia for coding workers' compensation claims. The classification used in the work-related injuries survey topic is based on the TOOCS nature of injury codes (type of injury or illness) and the TOOCS mechanism of injury codes (how the injury or illness occurred).

## SCOPE

The scope of this survey topic is restricted to persons aged 15 years and over. The publication *Labour Force, Australia* (cat. no. 6202.0) contains information about survey design, scope, coverage and population benchmarks relevant to the monthly LFS, which also applies to the MPHS. It also contains definitions of demographic and labour force characteristics, and information about interviewing relevant to both the monthly LFS and MPHS.

## SAMPLE SIZE

The size of the sample for the work-related injuries topic in 2005–06 and 2009–10 was increased through user funding to improve the reliability of the estimate. The increase in sample size was achieved by selecting an additional one-third of households in the outgoing rotation group, resulting in approximately double the standard MPHS sample. The initial total sample was approximately 37,700 private dwellings in 2005–06 and 38,600 private dwellings in 2009–10, which reduced to 32,270 and 32,760 respectively after sample loss. For MPHS 2013–14, the initial sample was approximately 42,100 private dwellings, and the number of completed interviews obtained (after taking into account the scope, coverage and sub-sampling exclusions) was 27,300.

## RELATED SURVEYS

Data on work-related injuries were previously collected in September 2000 as part of the supplementary survey program. Data from the supplementary survey and the MPHS topic are not directly comparable as there are differences in the concepts measured, scope, collection methodology and sample design (including sample size). The following is a summary of the methodological differences between the September 2000 supplementary survey and the MPHS survey topic:

- The MPHS topic collects data through a personal interview with one randomly selected household member. In contrast, the September 2000 supplementary survey collected data for all household members in scope from one adult member of the household (any responsible adult methodology).
- In the MPHS topic, survey respondents are specifically asked to include any injuries or illnesses that occurred at work, travelling to and from work, or while on any work breaks. In the September 2000 supplementary survey, respondents were not specifically asked to include injuries or illnesses that occurred during these periods.

- In the MPHS topic, recurring injuries or illnesses were only included if the first occurrence was in the last 12 months. In the September 2000 supplementary survey, aggravation of an existing injury or illness was included if the aggravation was experienced while at work in the last 12 months.
- The MPHS topic includes any injury or illness suffered by an employee resulting from disciplinary action taken against the employee or failure by the employee to obtain a promotion, transfer or benefit in connection with his or her employment. These were excluded in the September 2000 supplementary survey.
- For the MPHS topic, the estimates are based on data collected over the 12 months of the financial year, while the September 2000 supplementary survey collected data in one month.

See Chapter 21: Labour Force Supplementary Surveys and Chapter 22: Multipurpose Household Survey for more information on the survey methodologies.

## DATA COMPARABILITY OVER TIME

In order to provide a degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and analysis methods are made as infrequently as possible. Changes affecting the LFS may also affect this survey. Such changes are outlined in Chapter 19.1 and are not repeated here.

### 2005–06

- Survey conducted (July 2005 to June 2006) on MPHS for the first time. Data published in *Work-Related Injuries, Australia* (cat. no. 6324.0).

### 2009–10

- The following new data items were included: remoteness area; number of days of the week/shifts usually worked in job where most recent work-related injury or illness occurred; whether received formal training in Occupational Health and Safety (OH&S) risks in the workplace in current or most recent job; and the type of OH&S training undertaken.
- The data item 'whether received any formal training in OH&S risks in workplace at any time prior to work-related injury or illness' was determined from responses to questions about whether particular types of training were received. In 2005–06 this item was determined by asking a question only about whether any training had been received, not particular types.

### 2013-14

The following new data items were available on the work-related injuries topic:

- Whether reported most recent work-related injury or illness to someone in the work place;
- Did report most recent work-related injury or illness to someone in the work place;
- Sector of current main job;
- Sector of job where most recent work-related injury or illness occurred;
- Self-assessed health status; and
- Long term health conditions.

## CHAPTER 22.4: QUALIFICATIONS AND WORK

### INTRODUCTION

The Qualifications and Work (Q&W) survey collects information about the educational history of persons and the relevance of each qualification to their working lives. Data collected includes the level and field of each qualification, year of completion, and whether the qualification was attained in Australia. Further information is collected on incomplete qualifications, cultural background and citizenship status. This information, cross referenced with the Multipurpose Household Survey (MPHS) core modules of demographic characteristics, labour force participation and income, provides an in-depth understanding of the impact of non-school qualifications on working life.

The Q&W is a MPHS survey. The MPHS is conducted each month throughout Australia as a supplement to the monthly Labour Force Survey (LFS). This section describes only those aspects of the methodology that were unique to this survey topic and should therefore be read in conjunction with the overview part of this chapter (Chapter 22: Multipurpose Household Survey), which outlines the survey methodology used in the MPHS.

### SURVEY OUTPUT

The sample is accumulated over a 12 month period.

Data from the survey are published in *Qualifications and Work, Australia* (cat. no. 4235.0). More detailed data may be available on request. In addition to the data available in the Excel spreadsheets, other tables are able to be produced using Table Builder. Table Builder is an online tool for creating tables and graphs from survey data. For further information on Table Builder, see *Microdata: Qualifications and Work* (cat. no 4235.0.55.001).

The populations of interest are all persons who: are aged 15 years and over; are currently employed or unemployed; speak a language other than English at home; receive a government pension or allowance; completed a non-school qualification; were not born in Australia and who have completed a non-school qualification; completed a non-school qualification and are currently employed; completed a non-school qualification and are currently employed and not working in main field of study; completed a non-school qualification and are currently employed and not working in main field of study, and main field of study is not relevant. Estimates are produced on an original basis only (i.e. are not seasonally adjusted), and include:

#### Socio-demographic information

Sex; age; marital status; state or territory of usual residence (including whether in a capital city); family relationship; household composition; whether born in Australia; country of birth (broad geographic area); year of arrival in Australia; Index of Relative Socio-Economic Advantage/Disadvantage; and remoteness areas.

#### Labour force

Labour force status; status in employment; full-time or part-time status; occupation; industry; hours usually worked; looked for full-time or part-time work; and duration of unemployment in weeks.

#### Cultural background

Whether an Australian citizen; language first spoken; all languages spoken at home; main language spoken at home; proficiency in spoken English; born overseas and arrived aged 15 years and over; and time since arrival in Australia.

## Income

Equivalent weekly household income; total gross weekly household income from all sources; weekly personal income from all sources; all sources of personal income; main source of personal income; and personal types of government pensions/allowances received.

## Education

Year started non-school qualification; year completed non-school qualification; highest year of school completed; age and whether attending an educational institution; number of qualifications; whether completed qualification in Australia; level and main field of highest educational attainment; level of non-school qualification; field of non-school qualification; level and main field of highest non-school qualification; level of second highest non-school qualification; main field of second highest non-school qualification; level of third highest non-school qualification; main field of third highest non-school qualification; level of most recent non-school qualification; level of first non-school qualification; level and main field of highest non-school qualification gained before arrival in Australia; and level and main field of highest non-school qualification gained after arrival in Australia.

## Relevance

Level and main field of qualification most relevant to current job; whether currently working in the same field as main field of study; whether main field of study is relevant to current job if not working in field; and all reasons why main field of study is not relevant to current job.

## Impact

Impact and main impact of qualification on work life in the first 6 months after completing qualification.

## Qualification flags

Highest qualification flag; most recent qualification flag; first qualification flag; and highest qualification flag for migrants before and after arrival.

The main points of interest are qualifications and the labour market; impact of qualification; relevance of qualification; and migrants.

## SCOPE

The scope of the LFS is restricted to persons aged 15 years and over and excludes the following population groups:

- members of the permanent defence forces;
- certain diplomatic personnel of overseas governments, customarily excluded from census and estimated resident populations;
- overseas residents in Australia; and
- members of non-Australian defence forces (and their dependants).

In addition, the MPHS excludes the following from its scope:

- persons living in Aboriginal and Torres Strait Islander communities; and
- persons living in non-private dwellings such as hotels, university residences, students at boarding schools, patients in hospitals, residents of homes, (e.g. retirement homes, homes for persons with disabilities, women's shelters), and inmates of prisons.

## COMPARABILITY TO OTHER EDUCATION SURVEYS

The Survey of Education and Work (SEW) has similarities with Q&W. Conducted annually, SEW provides a range of indicators about educational participation and attainment, and data on a person's transition between education and work. SEW is based on a household interview with any responsible adult who responds on behalf of all persons aged 15–74 years in the household, whereas Q&W is conducted as a personal interview with one randomly selected person, aged 15 years or over, in the household. As such, the Q&W survey has a smaller sample size of around 27, 000 completed interviews, whereas SEW has close to 40, 000 completed interviews.

## DATA COMPARABILITY OVER TIME

In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and analysis methods are made as infrequently as possible. Over the time the survey has been conducted, there have been some changes to the scope and sample size. These changes mean that the standard errors for the survey differ over time. The effect on estimates of the change in scope is considered to have been small. Changes affecting the LFS may also affect this survey.

### 2010-11

- Initial survey conducted as Learning and Work.
- Other MPHS topics were crime victimisation; learning and work history; cultural participation; household use of information technology; patient experience; barriers and incentives to labour force participation; and retirement and retirement intentions.
- The MPHS was conducted each month throughout Australia from July to June.

### 2015

- For 2015, Q&W was enumerated from January to December 2015, and spanned both the 2014-15 and 2015-16 MPHS cycles.
- The title was changed from Learning and Work to Qualification and Work for this iteration to better reflect the information collected. The collection focused on study of 'Qualifications', whereas 'Learning' is an umbrella term that includes formal, (study towards a qualification), non-formal (structured study that does not result in a qualification) and informal (non-structured, self-paced) study.
- The survey was run on the full MPHS sample, resulting in approximately twice the sample from 2010-11. In general, increasing the sample size will reduce the sample error, allowing for more detailed data analysis.
- In 2011-12, persons who live in very remote areas that are not part of the Indigenous communities were interviewed for the first time for MPHS. As such, these people are included in 2015 Q&W estimates but excluded from the 2010-11 estimates. Approximately 0.4% of persons in scope for Q&W in 2015 lived in very remote areas that are not part of an Indigenous community. The inclusion of this population had minimal impact on Australia or state and territory estimates - including Northern Territory, where it is estimated that most people living in very remote areas live in Indigenous communities, and were therefore out of scope in both 2010-11 and 2015.

## CHAPTER 23: METHODS USED IN ABS BUSINESS SURVEYS

### INTRODUCTION

This chapter provides an overview of the survey methodology used in ABS labour-related business surveys. It should be used in conjunction with Chapter 16 which provides a broad overview of ABS survey methodology, and Chapters 24-31 which provide more detail on aspects of survey design relevant to each specific labour-related business survey.

### SCOPE AND COVERAGE

The scope of ABS labour-related surveys varies across collections. Most ABS labour-related business surveys draw upon the ABS Business Register (ABSBR), which is sourced from the Australian Taxation Office's Australian Business Register (ABR). The scope of surveys which use the business register is restricted by the scope and coverage of the register itself (as outlined in the next section). Surveys with broader or different scope are required to either supplement the business register, or use a sample that has been composed independently of the register by using relevant alternative data sources.

The following groups are generally excluded from labour-related business surveys:

- Employing businesses in the Agriculture, Forestry and Fishing industry (Australian and New Zealand Standard Industrial Classification (ANZSIC) Division A), in line with the International Labour Organisation (ILO) Resolution from the Twelfth International Conference of Labour Statisticians 1973. Given that "hired labour constitutes only a minor part of total labour input" in this industry, it would be disproportionately costly to survey a sufficient number of these businesses to obtain a sample of employees to adequately represent this industry.
- Private households employing staff (ANZSIC subdivision 96). Not all private households employing staff are required to register with the Australian Taxation Office (ATO), and as a result of this there is incomplete coverage on the business register and these units are excluded.
- Foreign government representation in Australia (ANZSIC class 7552). Practical collection difficulties and the low numbers of Australian employees involved have resulted in the exclusion of this industry group from the labour-related business surveys.
- Members of Australian permanent defence forces.
- Employing organisations located outside Australia.

### ABS BUSINESS REGISTER

The ABSBR is a list of businesses and organisations operating in Australia, and is based on the ABR. Organisations are included on the ABR when they register for an Australian Business Number (ABN). The ABSBR is used to create frames for the various business surveys run by the ABS and consists of two populations; the profiled population, and the non-profiled population. Organisations which are considered sufficiently complex and significant are included in the profiled population. They are structured according to the ABS Economic Units Model (ABSEUM), using information provided by the organisations. Organisations in the non-profiled population have less complex structures, and are based largely on ABR information.

### STATISTICAL UNITS

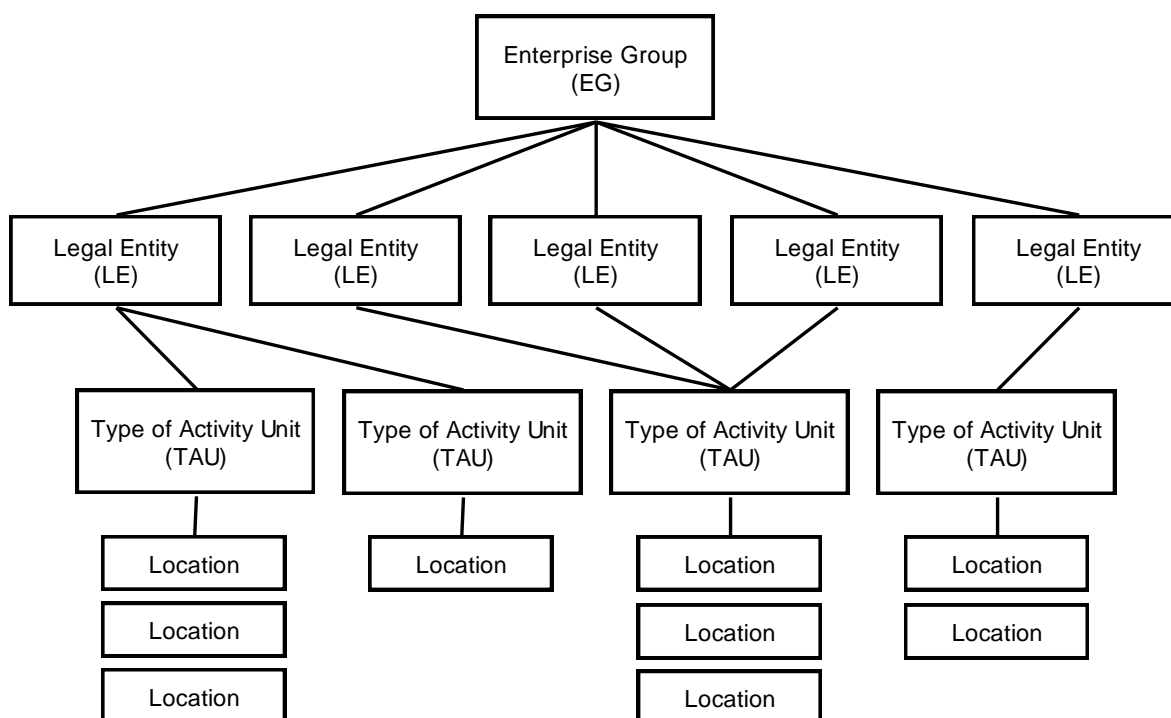
Statistical units are used to represent one member of the population being surveyed. Statistical units on the ABSBR are based on the ABSEUM. The ABSEUM (see Figure 23.1) has four statistical unit levels that are commonly applied in collections: the Enterprise Group; the Legal Entities that belong



to that group; the Type of Activity Units that these legal entities carry out; and the location where these economic activities take place.

- **Enterprise Group (EG):** Covers all the operations within Australia's economic territory of legal entities under common control.
- **Legal Entity (LE):** Covers all the operations in Australia of an entity which possesses some or all of the rights and obligations of individual persons or corporations, or which behaves as such in respect of those matters of concern for economic statistics. Examples of legal entities include companies, partnerships, trusts, sole (business) proprietorships, government departments and statutory authorities. In most cases the LE is equivalent to a single ABR registration.
- **Type of Activity Unit (TAU):** Comprises one or more legal entities, sub-entities or branches of a legal entity that can report productive and employment activities. TAUs are created if accounts sufficient to approximate Industry Value Added (IVA) are available at the ANZSIC subdivision level.
- **Location:** A single, unbroken physical area from which an organisation is engaged in productive activity on a relatively permanent basis, or at which the organisation is undertaking capital expenditure with the intention of commencing productive activity on a relatively permanent basis at some time in the future.

**Figure 23.1: ABS Economic Units Model**



## SAMPLE DESIGN AND SELECTION

Business surveys undertaken by the ABS fall under two categories: probability sample surveys (information is collected from a random sample of units on the frame), and censuses (information is collected from all units on the frame). With the exception of the Industrial Disputes collection, all labour-related business surveys are probability sample surveys which construct their frame from the ABSBR. The Industrial Disputes collection aims to be a census of all stoppages, and businesses involved in these stoppages are identified through media monitoring and observation of disputes from multiple sources (see Chapter 26 for more details).



When a sample is selected for an ABS business survey, a survey frame must first be drawn from the ABSBR. From that point, the survey frame is then divided (stratified) into groups with similar characteristics, known as strata. The stratification variables typically used in the labour-related business surveys include: state, industry and employment size. The sector (public/private) stratification variable may also be used in some collections. After this, a small number of strata containing large or highly variable units are completely enumerated (CE). For each of the remaining strata, a simple random sample of units is selected. Some strata with a small population are also CE.

The Survey of Employee Earnings and Hours (EEH) uses an additional step in its sample selection that involves asking businesses to select a random sample of employees from their payrolls using instructions provided by the ABS (see Chapter 29 for more details).

There are various constraints placed on sample selection. For most labour-related business surveys, sample selection is constrained by ensuring that a portion of the sample that is not CE is rotated, and that small businesses will be in the sample for no more than 12 successive quarters. Some surveys are further constrained by ensuring that there is either minimal or maximal overlap with other surveys.

Sample sizes vary across ABS labour-related business surveys. In determining the required sample size for each survey, factors such as required accuracy level, expected level of non-response and total cost are taken into consideration.

## COLLECTION METHODS

Most ABS labour-related business surveys use an electronic collection methodology, using internet based survey forms. Data from some surveys are collected through the mail-out/mail-back or the telephone interview collection methodology.

In the event of non-response, intensive follow-up procedures that involve reminder letters and telephone contact are undertaken. 'Priority' intensive follow-up is used for a number of surveys; this involves targeting the following types of non-responding units:

- Units that contribute significantly to estimates;
- Newly selected units (e.g. in ongoing surveys); and
- Units that did not respond in the previous survey cycle.

## ESTIMATION

The estimation procedure is the application of weights to individual survey records so that the whole target population is represented (see Chapter 16 for more information). For ABS business surveys, the values of these weights are determined by one or more of the following factors:

- Probability weighting: the probability of selection for each survey unit.
- Ratio estimation: adjustments to agree with population benchmarks to correct for imbalances in the characteristics of the selected sampled units.
- New business provisions: adjustments to account for deficiencies with the survey frame, such as missing units.
- Adjustment for non-response: to correct for further imbalances in the characteristics of responding sample units.

Number-raised estimation and ratio estimation are the two main techniques used in surveys constructing their frame from the ABSBR. The labour-related business surveys use stratum-by-stratum ratio estimation in strata where the population benchmark is known, and sampling

efficiencies achievable are greater than with number-raised estimation. For strata where benchmark information is not available, number-raised estimation is used. See Chapter 16 for more information.

New business provisions are used in the estimation process to allow for births of businesses that have occurred up to the end of the survey reference period, but are not reflected on the survey frame. The calculation of the contribution of a new business is based on the average contribution of estimates of like units already on the frame. In the case of labour-related business surveys, the annual Survey of Employment and Earnings (Public Sector) does not allow for new business provisions, as data is collected from public sector units only. The Industrial Disputes collection is a census collection, and does not use weighting.

## **EDITING AND NON-RESPONSE ADJUSTMENT**

Editing is used in ABS business surveys to correct a number of non-sampling errors such as misunderstanding of questions or instructions, miscoding, non-availability of data, incorrect transcription, non-response and non-contact. Editing and further investigation is performed on estimates where anomalies have been detected. Significance editing is used by some labour-related business surveys, and reduces the overall editing load for the survey while maximising the effectiveness of editing on survey estimates. Significance editing involves assessing each survey value that requires editing against how greatly the survey estimate will be affected by using the unedited value. Only those values which will significantly affect the survey estimate are then edited.

Adjustments for non-response are made in the estimation process for all business surveys. There are two categories of non-response for ABS business surveys: partial non-response, and complete non-response. The extent to which values are imputed depends upon the amount and the quality of data already provided.

Imputed values can be derived for business surveys from three sources. The first source is data provided by the particular unit to be imputed for, which may be in the form of data previously provided or current data with partial response. The second source is similar to the first and involves the use of auxiliary information known about the unit, such as tax data from the frame. The third source is data provided by other units believed to have similar responses to the missing data. For complete non-responses and refusals in completely enumerated strata, all data items for the unit are imputed, preferably from previously provided data. Alternatively, where no useful information exists to use in imputation, the weights may be adjusted to account for non-response.

Two main methods for the treatment of outliers are used in ABS business surveys: Surprise Outliering and Winsorisation. For more information, see Chapter 16: Overview of Survey Methods.

## CHAPTER 24: ANNUAL ECONOMIC ACTIVITY SURVEY AND QUARTERLY BUSINESS INDICATORS SURVEY

### INTRODUCTION

The Economic Activity Survey (EAS) collection was first conducted as a pilot test in 1989–90, with estimates first being published in 1991–92 in *Business Operations and Industry Performance Australia* (cat. no. 8140.0) with two years of data. The EAS collects information about the operation and financial performance of all businesses in the public trading and private employing sectors of the Australian economy. As part of this suite of information, the survey collects data on employment, income, expenses (including labour costs), profit, inventories, capital expenditure and disposals of assets from businesses. The core outputs provide key measures of the health and performance of nearly all Australian industries, and are used by analysts in both the private and public sectors. The EAS is an annual survey. The collection period covered, in general, is the 12 months to 30 June. The survey is based on a sample of approximately 20,000 businesses from a total population of approximately 1,300,000 businesses which are in scope of the survey. EAS data is one of the main components in the calculation of the annual Gross Domestic Product (GDP) figures.

The Quarterly Business Indicators Survey (QBIS) collects data from private sector businesses and produces estimates of sales of goods and services, wages and salaries, company profits, and the book values of inventories from selected industries in Australia. The survey is based on a sample of approximately 15,500 businesses from a total population of approximately 1,000,000 businesses which are in scope of the survey. QBIS data is one of the main components in the calculation of the quarterly Gross Domestic Product (GDP) figures.

### SURVEY OUTPUT

EAS estimates of the economic and financial performance of Australian industry are published annually in *Australian Industry* (cat. no. 8155.0). The annual estimates are produced using a combination of directly collected data from the annual EAS, conducted by the Australian Bureau of Statistics (ABS), and Business Activity Statement (BAS) data provided by businesses to the Australian Taxation Office (ATO). Prior to 2001–02, estimates were published annually in *Business Operations and Industry Performance, Australia* (cat. no. 8140.0).

The main series compiled in *Australian Industry* include:

- key data by industry division - this includes employment, wages and salaries, sales and service income, total income, total expenses, operating profit before tax, and earnings before interest, tax, depreciation and amortisation;
- labour costs by industry division; and
- industry value added by industry division.

EAS estimates are cross classified by industry sub-division, business size and state/territory.

QBIS data are published quarterly in *Business Indicators, Australia* (cat. no. 5676.0), which was fully implemented in the March quarter 2001. QBIS estimates exclude micro non-employing businesses.

The main series published in *Business Indicators, Australia* (cat. no. 5676.0) include quarterly estimates of inventories, sales of goods and services, company profits before income tax, company gross operating profits, wages and salaries, and selected operating ratios.

These data are classified by:

- industry division, in accordance with the *Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 (Revision 2.0)* (cat. no. 1292.0);
- original, seasonally adjusted and trend estimates for Australia in current price terms;
- volume measures for sales and inventories; and
- state/territory data for sales and wages in current price terms.

Employment is defined in the EAS as the number of persons working for businesses during the last pay period ending in June of the financial year. Employment includes working proprietors and partners, employees absent on paid or prepaid leave, employees on workers' compensation who continue to be paid through the payroll, and contract workers paid through the payroll. Excluded are persons paid by commission only, non-salaried directors and volunteers. Self-employed persons such as consultants and contractors are excluded from selected businesses to avoid double counting, as they have their own chance of selection on the survey frame. See Chapter 4 for further information on the concept of employment, and on definitions of employment used in ABS household and business surveys.

Employment is not published in *Business Indicators, Australia* (cat. no. 5676.0).

## SCOPE

The businesses that contribute to the EAS are classified:

- by institutional sector, in accordance with the *Standard Institutional Sector Classification of Australia (SISCA)*, which is detailed in *Standard Economic Sector Classifications of Australia (SESCA), 2008* (cat. no. 1218.0);
- by industry, in accordance with the *Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 (Revision 2.0)* (cat. no. 1292.0);
- by state and territory; and
- by business size.

The scope of the EAS includes all employing businesses in the Australian economy except for:

- Finance (ANZSIC 06 Subdivision 62);
- Insurance and Superannuation Funds (ANZSIC 06 Subdivision 63);
- Public Administration (ANZSIC 06 Subdivision 75);
- Defence (ANZSIC 06 Subdivision 76);
- Private Households Employing Staff (ANZSIC 06 Subdivision 96); and
- General government (SISCA 3000), except those businesses classified to Water Supply, Sewerage and Drainage Services (ANZSIC 06 Subdivision 28).

Government owned or controlled Public Non-Financial Corporations are included.

The businesses that contribute to the QBIS are classified to:

- industry division, in accordance with the *Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 (Revision 2.0)* (cat. no. 1292.0);
- original, seasonally adjusted and trend estimates for Australia in current price terms;
- volume measures for sales and inventories; and
- state/territory data for sales and wages, in current price terms.

## **SURVEY METHODOLOGY**

Data for the EAS are collected directly by online electronic collection on an annual basis. It is based on a random sample of approximately 20,000 units which is stratified by industry and business size. Non-response is kept to a minimum by the use of intensive follow-up. Businesses that do not respond by the due date are initially sent reminder letters and then followed up by telephone.

The EAS reference period is the year ending 30 June. Although financial data estimates relate to the full twelve months, employment estimates relate to the last pay period ending in June of the given year. As a result, estimates of wages and salaries per person employed may be affected by any fluctuations in employment during the reference period. EAS respondents are asked to provide data on the same basis as their income statement and balance sheet.

The QBIS is collected directly by online electronic collection on a quarterly basis. It is based on a random sample of approximately 15,500 units which is stratified by industry, state/territory and number of employees.

QBIS respondents are asked to provide data on the same basis as their own management accounts. Where a selected unit does not respond in a given survey period, a value is estimated. If data are subsequently provided, the estimated value is replaced with the reported data.

## **SAMPLE DESIGN**

In order to minimise the load placed on providers, the strategy for the EAS is to use, as much as possible, information sourced from the ATO, thus reducing the size sample for direct collection. The frame (from which the direct collection sample is selected) is stratified using information held on the ABS Business Register. Businesses eligible for selection in the direct collect sample are then selected from the frame using stratified random sampling techniques.

Businesses are selected to participate in the EAS (the direct collection sample) only if they meet two criteria: their turnover exceeds a threshold level, or the business is identified as being an employing business (based on ATO information) during the reference period. Turnover thresholds are set for each ANZSIC class so that the contribution of surveyed businesses accounts for 97.5% of total industry class turnover, as determined by ATO Business Activity Statement (BAS) data. Businesses which meet neither of these criteria are referred to as 'micro non-employing businesses'. These businesses are not eligible for selection in the sample. For these units, data are modelled based on BAS data sourced from the ATO, then added to the directly collected estimates to produce industry statistics.

QBIS frames and samples are revised each quarter to ensure that they remain representative of the survey population. The timing for creating each quarter's survey frame is consistent with that of other ABS business surveys, providing for greater consistency when comparing data across surveys.

Additionally, with these revisions to the QBIS sample, some of the units from the sampled sector are rotated out of the survey and are replaced by others, to spread the reporting workload equitably. Micro non-employing businesses are excluded from the QBIS.

## **ESTIMATION**

Generalised regression estimation has been used since the 2006–07 EAS. This estimation method enables maximum use of observed linear relationships between data directly collected from businesses in the survey and auxiliary information. When the auxiliary information is strongly correlated with data items collected in a survey, the generalised regression estimation methodology

will improve the accuracy of the estimates. The auxiliary variables used in the EAS are turnover and wages sourced from the BAS data.

Where possible, historical data are used for imputing non-responding units. Where units have not provided data previously or had not been selected in previous surveys, data is imputed based on BAS data sourced from the ATO or Live Respondent Mean is used. Clerical imputation is used where only partial responses are received.

Survey outliers are treated using the 'surprise outlier' or 'winsorised outlier' technique.

The estimation procedure includes new business provisions, which adjust estimates to allow for the time lag between businesses commencing operation and their inclusion on the ABS Business Register.

For further information on estimation methods used in ABS business surveys, refer to Chapter 23: Methods Used in ABS Business Surveys.

QBIS data are published as original, seasonally adjusted and trend estimates. For further information on estimation methods used in QBIS, refer to the Explanatory Notes in *Business Indicators, Australia* (ABS cat. no. 5676.0).

## RELIABILITY OF THE ESTIMATES

Estimates from the EAS are subject to both sampling and non-sampling error. The relative standard errors of EAS estimates are published in *Australian Industry* (cat. no. 8155.0).

Estimates from the QBIS are subject to both sampling and non-sampling error. The relative standard errors of QBIS estimates are published in *Business Indicators, Australia* (cat. no. 5676.0).

For further information on variance estimation techniques, or on sampling and non-sampling error, refer to Chapter 16: Overview of Survey Methods.

## DATA COMPARABILITY OVER TIME: EAS

In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and time series analysis methods are made as infrequently as possible. Significant changes to the EAS have included:

### 1989-90

- The EAS collection was first conducted as a pilot test, using a sample of about 600 units.

### 1990-91

- The survey was expanded to a full dress rehearsal, with a sample of around 8,000 units. Estimates for 1990-91 were considered for publication, but were held over until 1991-92 estimates were also available. Results published in *Business Operations and Industry Performance, Australia* (cat. no. 8140.0).

### 1993-94

- Industry classification changed from Australian Standard Industrial Classification (ASIC) to ANZSIC.

### 1994–95

- Expansion of the survey form to collect data for the compilation of Input-Output and Supply-Use tables. The expansion involved modifying some existing questions to provide a finer level of detail, and including additional questions.

### 1995–96

- Questions about waste management and selected expenses (Input-Output) were expanded into two separate supplementary surveys that accompanied the main EAS survey form.
- A new, shorter version of the main EAS survey form was also trialled on 400 respondents.

### 1996–97

- The main EAS survey form (the "core form") was produced in a simplified format, with all questions appearing at the front and Include/Excludes, Notes and other explanatory material at the back.
- New questions were included on the core form, including whether the organisation was a not for profit organisation. An additional question regarding sponsorship was included on the expenses (Input-Output) form.
- Selected experimental estimates derived by incorporating business income tax (BIT) data were published for the first time.

### 1997–98

- Tourism Satellite Accounts forms were collected.

### 1998–99

- Selected experimental detailed industry estimates derived by incorporating business income tax data were published for the first time.

### 2000–01

- Data of Donations by business to community projects, and Sponsorship, were collected from a subsample of EAS businesses, as a supplementary survey.
- Data relating to ANZSIC Division A (Agriculture, Forestry and Fishing) are not available from either ABS sources or ABARE.

### 2001–02

- With the introduction of The New Tax System (TNTS), 2001–02 saw a major change, with the EAS collection adopting new statistical infrastructure and a new statistical units model based on the ABN for businesses with simple structures and the TAU for businesses with complex structures. This resulted in a new data series commencing from the 2001–02 reference period. To help bridge the series, key data were presented for 2000–01 on the bases of the old and the new infrastructure.
- Results published in *Australian Industry* (cat. no. 8155.0).

### 2002–03

- Additional sample and questions included for the (biennial) Information and Communications Technology Industry Surveys.
- ANZSIC Division A restored to outputs.

### 2003–04

- Additional sample and questions included to enable compilation of the Tourism Satellite Accounts.
- Collection of most assets and liabilities data discontinued indefinitely.

#### 2004–05

- Additional sample and questions included for the (biennial) Information and Communications Technology Industry Surveys.
- Employment data included in outputs as experimental estimates.

#### 2005–06

- Additional sample included to enable estimates produced on the 1993 edition of ANZSIC to be bridged to those for 2006.

#### 2006–07

- ANZSIC06 was introduced together with generalised regression as the new estimation method for sampled units, and supplemented with ATO business activity statement (BAS) for micro non-employing businesses.

#### 2007–08

- Additional questions included to provide more detailed breakdown of sales and service income, purchases and inventories.
- Data for the private sector of Division O (Public Administration and Safety) now included.

#### 2008–09

- Sample size increased by about one-third (from approximately 15,000 to 20,000) to improve reliability of estimates.

#### 2011–12

- Sample size increased by 200 units to improve reliability of Division B (Mining) estimates.

#### 2012–13

- Online electronic collection used for the first time.



## CHAPTER 25: JOB VACANCIES SURVEY

### INTRODUCTION

The Job Vacancies Survey (JVS) was first conducted in 1974 and has been conducted on a quarterly basis since 1979, with the exception of a suspension for five quarters between August 2008 and August 2009. The survey produces estimates of the number of job vacancies in Australia, which are used as a leading indicator of employment growth in monitoring of the Australian labour market and economy, and for formulating economic policy.

### SURVEY OUTPUT

Estimates are published quarterly in *Job Vacancies, Australia* (cat. no. 6354.0).

The population of interest is civilian employee job vacancies, available for immediate filling on the survey reference date, excluding vacancies for jobs based outside Australia. Data compiled from the job vacancies survey are available by:

- state and territory;
- sector (private/public); and
- industry.

Data published for the job vacancies series by sector are available on an original, seasonally adjusted, and trend basis. Industry and state data are only published on an original basis. As a result of JVS being suspended in 2008 and 2009, there is a gap in all series: original, seasonally adjusted and trend, for five quarters between August 2008 and August 2009 inclusive.

Estimates are compiled according to the concepts and definitions outlined in Chapter 4: Employment and Chapter 10: Job vacancies.

### SCOPE

The scope of the survey is restricted to employing businesses. In addition, the standard scope exclusions for ABS labour-related business surveys (outlined in Chapter 23: Methods Used in ABS Business Surveys) apply to this survey.

### SURVEY METHODOLOGY

Details of the total number of job vacancies available for immediate filling on the survey reference date are obtained on a quarterly basis from selected businesses. Data are collected via online electronic collection, and/or telephone interviews.

The survey reference date for job vacancies is the third Friday in the middle month of the quarter.

Follow-up procedures are in place to obtain information from respondents who don't lodge a completed form by the due date. A minimum response of 95% is generally achieved for the survey as a whole, and for each state and/or industry.

### SAMPLE DESIGN

A probability sample of statistical units (employing businesses) is drawn from the ABS Business Register using the process outlined in Chapter 23. Variables used to stratify the survey frame are:

- state/territory; and

- employment size – the ranges used vary between states/territories and industries.

Statistical units with benchmark employment greater than a set cut off (this cut off will vary for different states/territories) are completely enumerated. Strata with a very small number of statistical units may also be completely enumerated, but such strata may become sampled strata if the number of units increases sufficiently.

In addition to constraints outlined in Chapter 23, sample selection is constrained by ensuring that there is minimum overlap with other labour-related business surveys.

## **SAMPLE SIZE AND ALLOCATION**

Approximately 5,200 statistical units are selected in the sample to yield a live sample of approximately 4,850 units.

The sample is allocated optimally across the strata using a technique designed to minimise the variance of job vacancies estimates at both the national and state/territory level.

## **SAMPLE ROTATION**

The sample is updated each quarter to reflect changes in the ABS Business Register. Approximately 8% of the sample for the non-completely enumerated strata is replaced each quarter. The JVS population is updated quarterly to take account of:

- new businesses;
- businesses who have ceased employing;
- changes in employment levels;
- changes in industry;
- takeovers and mergers; and
- other general business changes.

Sample rotation is implemented for the majority of strata, but is not implemented where the population of a stratum is so small that units rotating out of the sample would be rotated back in after only a short interval.

## **ESTIMATION**

Number raised estimation is used in all strata.

For non-responding units in the sampled strata, the Live Respondent Mean method of imputation is used.

For non-responding units in the completely enumerated (CE) strata, an imputed growth rate is applied to the previous quarter's reported value for that unit. Growth rates are estimated for each industry division, based on data provided by CE units in the current and previous quarter. Where data for non-responding CE units have not been reported in the previous quarter, ratio imputation is used. The ratio of job vacancies to benchmark employment is calculated at industry division level for responding units from the current quarter. This ratio is then applied to the benchmark employment for the non-responding unit to arrive at the imputed value for job vacancies.

Prior to November 2017, survey outliers were handled by using the 'surprise outlier' technique. From November 2017, the winsorisation methodology was introduced as the primary method to treat

outliers in JVS. Winsorisation moderates the impact of an outlier business without the harsh impact of the surprise outliering approach. For more information, refer to Chapter 16.

Survey estimates include an adjustment called Business Provisions, to allow for births and resurrections of businesses that have occurred up to the end of the survey reference period but which are not reflected on the survey frame.

For further information on estimation methods used in ABS business surveys, refer to Chapter 23.

## RELIABILITY OF THE ESTIMATES

Estimates from the survey are subject to both sampling and non-sampling error. The standard errors of survey estimates are published in *Job Vacancies, Australia* (cat. no. 6354.0). For further information on sampling and non-sampling error, refer to Chapter 16.

The Bootstrap technique is used to calculate estimates of variance for this survey. The Bootstrap is a variance estimation method which relies on the use of replicate samples, essentially sampling from within the main sample. Each of these replicate samples is then used to calculate a replicate estimate and the variation in these replicate estimates is used to calculate the variance of a particular estimate.

## DATA COMPARABILITY OVER TIME

The JVS was suspended following the May 2008 survey and was reinstated for the November 2009 survey. As a result of JVS being suspended, there is a gap in all series: original, seasonally adjusted and trend, for five quarters between August 2008 and August 2009 inclusive. The ABS cannot produce reliable estimates by collecting this missing data retrospectively, and has not been able to fill the gap using other data sources. For further information, see the *Information Paper: Reinstatement of Job Vacancies Survey* (cat. no. 6354.0.55.001).

In order to provide a high degree of consistency and comparability over time, changes to survey methods, concepts, data item definitions, and frequency of collection are made as infrequently as possible. Significant changes have included:

### 1974

- Annual Job Vacancies Survey via mail-out commenced (largely to investigate practicality of a JVS).

### 1977

- Introduction of a smaller scale quarterly telephone-based survey.
- Sample based on lists of private and public employers.

### 1978

- Annual and quarterly surveys discontinued.

### 1979

- Quarterly survey reintroduced.
- Treatment of Australian Public Service vacancies changed to exclude "vacancies" only available to public service employees.

### 1980

- First collection of job vacancies registered with the Commonwealth Employment Service (CES) (continued on annual basis).

## 1982

- Collection of vacancies classified by sex discontinued.

## 1985

- Job vacancies data published by sector for the first time.

## 1988

- ABS publication of job vacancies registered with the CES discontinued. This data was available via special data service in 1988.

## 1989

- Seasonally adjusted series produced for the first time (November).
- Collection of job vacancies registered with CES discontinued.
- *Job Vacancies, Australia* (cat. no. 6231.0) and *Overtime, Australia* (cat. no. 6330.0) merged into *Job Vacancies and Overtime, Australia* publication (cat. no. 6354.0).

## 1993

- Trend estimates published for the first time.

## 1994

- Survey redesigned on an ANZSIC (1993) industry basis. The historical Industry series data was back cast on an ANZSIC 1993 basis.
- Sample rotation increased from approximately 5% to approximately 8% in rotating strata.

## 1998

- Treatment of Australian Public Service vacancies changed (from being excluded to being included) after vacancies were made available to all Australian citizens.

## 1999

- Introduction of Live Respondent Mean imputation for the sampled sector, and the Business Provisions adjustment for the private sector.
- Overtime component discontinued.
- Significant improvement in procedures, particularly coverage of vacancies within statistical units.

## 2002

- Changes to the ABS Business Register and the ABS statistical units model arising from the New Tax System. Changes did not affect the continuity of the key statistical series.

## 2003

- Collection of number of employees discontinued.
- Publication of job vacancy rate discontinued.

## 2006

- Concurrent seasonal adjustment method introduced, replacing the forward factor adjustment method previously used.

## 2008

- Survey suspended for five quarters from August 2008 to August 2009 inclusive.

## 2009

- Survey reinstated for the November 2009 reference period, with a new sample based on ANZSIC 2006 industry basis.
- Survey sample and outputs redesigned on ANZSIC 2006 industry basis from November 2009, but historical ANZSIC 1993 series up to May 2008 were not back cast.

## 2010

- Estimates from reinstated survey first published for the February 2010 reference period.
- Trend estimates for November 2009 onwards reintroduced from the August 2010 issue.

## 2014

- Online electronic collection introduced from February 2014 reference period.

## 2017

- From the November 2017 issue, winsorisation methodology was introduced as the primary method to treat outliers in JVS replacing 'surprise outliering ' as the primary methodology. For more information, refer to Chapter 16.

## CHAPTER 26: INDUSTRIAL DISPUTES COLLECTION

### INTRODUCTION

The ABS has been collecting information about industrial disputes since 1913. The current industrial disputes collection produces quarterly estimates of the number of disputes (where ten or more working days are lost), employees involved, and working days lost. The data are used to support the analysis and monitoring of industrial disputation in Australia.

### SURVEY OUTPUT

Estimates from the industrial disputes collection are released quarterly in *Industrial Disputes, Australia* (cat. no. 6321.0.55.001), with statistics available back to March quarter 2004. Releases between October 1970 and December 2003 were monthly (cat. no. 6321.0).

Historical data are available via past releases of *Labour Statistics, Australia* (1979-1997), *Labour Statistics* (1975-1978), *Labour Report* (1922-1973) and *Labour and Industrial Branch Report* (1913-1921) (cat. no. 6101.0). More information on the types of historical ABS data that are available relating to industrial relations issues is available from the *Directory of Industrial Relations Statistics, July 1996* (cat. no. 1134.0).

A number of series are produced from the industrial disputes collection. For disputes which occurred during the period, these include:

- number of industrial disputes;
- number of employees involved;
- number of working days lost; and
- number of working days lost per 1000 employees.

Disputes which ended during the period are further classified according to the:

- cause of dispute;
- working days lost per employee involved; and
- reason work resumed.

Estimates are also available by state or territory and industry.

### SCOPE

Industrial disputes are included within scope of the collection if the work stoppages amount to 10 or more working days lost within a month. Ten working days is equivalent to the amount of ordinary time which would have been worked: for example, during a stoppage of work by 10 employees for one day, or by 40 workers attending a 2 hour stop work meeting (assuming they worked an 8 hour day). Disputes which involve the equivalent of less than 10 working days lost are excluded.

Measures of industrial disputes are based on concepts and definitions outlined in international guidelines adopted by the 1993 International Conference of Labour Statisticians. Refer to Chapter 12 for more information.

The following types of industrial disputes are within the scope of the Industrial Disputes collection:

- unauthorised stop work meetings;
- general strikes;

- sympathetic strikes (e.g. strikes in support of a group of workers already on strike);
- political or protest strikes;
- rotating or revolving strikes (e.g. strikes which occur when workers at different locations take turns to stop work);
- unofficial strikes; and
- work stoppages initiated by employers (e.g. lockouts).

This concept of an industrial dispute differs from the concept of industrial action within the Fair Work Act. For example, a work stoppage based on a reasonable concern of the employee about an imminent risk to his or her health or safety is typically not considered industrial action under the Fair Work Act. However, it may be in scope of the industrial disputes collection if the employer believes that there is no imminent risk to the employees involved.

Excluded from the scope of the collection are other types of industrial action, such as work-to-rules, go-slows and bans (e.g. overtime bans). Also excluded are effects of disputes on locations other than where the stoppages occurred, such as stand-downs because of lack of materials, disruption of transport services and power cuts.

In addition, if all of the employees involved in an industrial dispute resign, that dispute is deemed to have ended and it is excluded from the scope of the collection from the date of the employment termination.

## **COLLECTION METHODOLOGY**

A list of organisations whose employees were involved in industrial disputes is compiled monthly. Statistics on industrial disputes are based on all disputes identified which occurred during the period. Disputes are identified through a range of sources, including media reports, listings obtained from the Fair Work Commission (FWC) website, state industrial relations commissions, contact with government organisations, businesses, employer associations and trade unions. Although every attempt is made to identify all disputes that occurred in a period, some small disputes may not be identified through the sources available.

Once all disputes for a month are identified, additional information on the nature and extent of each dispute is obtained through a questionnaire, usually sent to employers, on the nature and extent of the dispute. Employers who do not submit their questionnaire within a reasonable period of time after the survey reference period are followed up by mail and then phone if necessary.

## **ESTIMATION METHODS**

Estimates are compiled according to the concepts and definitions outlined in Chapter 12: Workplace Relations. As the collection is a complete enumeration (census), no weighting is required.

If partial responses are received, some data items may be imputed e.g. working days lost in a particular strike. Due to the imputation procedures and the limitations on identification of disputes, the statistics should not be regarded as an exact measure of the extent of industrial dispute.

When there is a return to work between stoppages over the same issue, and the return to work is for less than two complete months, the stoppages are counted as a single dispute. When the return to work is for two or more months, the dispute is considered to have ended at the time of the return to work. Should a subsequent stoppage occur, it is counted as a new dispute. Due to the 'two month rule', data relating to disputes which ended in the quarter cannot be finalised until two months have elapsed without further industrial action. Consequently, the publication of data for disputes which ended during the quarter has been lagged by one quarter.

Revisions may be made to quarterly data as a result of disputes being identified after release of data for that quarter, or as a result of correcting errors in previously reported data.

The basis for the calculation of working days lost per thousand employees was changed in the January 1995 publication to use estimates of employees taken from the ABS Labour Force Survey. As part of the labour force quarterly rebenchmarking process, Industrial Disputes working days lost per thousand employees series are also subject to revision.

## **RELIABILITY OF ESTIMATES**

Estimates from the industrial disputes collection are subject to non-sampling error (see Chapter 16: Overview of Survey Methods for more information).

## **DATA COMPARABILITY OVER TIME**

In order to provide a high degree of consistency and comparability over time, changes to collection methods, concepts, data item definitions and frequency are made as infrequently as possible.

Significant changes have included:

### **1913**

- Industrial Disputes collection commenced. Quarterly and annual statistics published.

### **1950**

- Cause of dispute and method of settlement classifications revised.
- Ceased publishing the results of strikes and lockouts. These results had been defined as: in favour of the workpeople; in favour of the employer; compromise; and indefinite.

### **1952**

- Ceased publishing details of the number of establishments involved by State/Territory and industry.

### **1960**

- Number of disputes, number of employees involved and number of working days lost classified for the first time according to the size (in terms of the number of employees involved or the number of working days lost) of the dispute.

### **1967**

- Working days lost per thousand employees first published.

### **1968**

- Australian Standard Industrial Classification (ASIC) introduced; revised in 1973, 1978 and 1983.

### **1970**

- Introduction of monthly statistics (in addition to the quarterly and annual statistics).
- Cause of dispute classification revised.

### **1979**

- Disputes and the number of employees involved categorised as either new (commenced during the reporting period) or continuing (continued from the previous reporting period, or the gap from the previous stoppage was less than 2 complete months).

### **1982**

- Ceased publishing quarterly statistics.



- Estimates of loss of wages discontinued.

### 1991

- From September 1991 a single dispute affecting more than one industry and/or state is counted once in each affected industry and/or state, but only once in the broader industry or Australia total. Previously, disputes affecting more than one industry and/or state were counted as separate disputes at the industry and state level and in the industry and Australia totals.

### 1992

- The basis for the calculation of the number of disputes was changed and the series revised back to September 1991.

### 1995

- *Labour Force Survey* (cat. no. 6203.0) estimates used as the basis for the calculation of working days lost per thousand employees. Previously, estimates from the *Survey of Employment and Earnings* (cat. no. 6248.0) were used, sometimes augmented by Labour Force Survey estimates.
- Industry classified according to the *Australian and New Zealand Standard Industrial Classification (ANZSIC), 1993* (cat no. 1292.0), replacing the Australian Standard Industrial Classification (ASIC). All data released electronically classified using ANZSIC from 1984.

### 2004

- Data released on a quarterly basis, no longer monthly.
- Quarterly data collected under 6321.0.55.001. Prior to 2004, data were collected under 6321.0.
- New classifications for 'Cause of dispute' and 'Reason work resumed' (formerly 'Method of settlement') were introduced. Statistics based on the new classifications are available from March quarter 2003 onwards.
- 'Duration of dispute' classification was renamed 'Working days lost per employee involved'.

### 2009

- From the March quarter industry statistics are based on *Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006* edition. Data on this basis are available for periods from March quarter 2008 onwards. Data on the old ANZSIC 1993 basis are available up to the December quarter 2008.

### 2016

- Working days lost per thousand employees series revised due to the labour force quarterly rebenchmarking process.

Details of definitions used in the industrial disputes collection are included in Chapter 12.

## CHAPTER 27: SURVEY OF MAJOR LABOUR COSTS

### INTRODUCTION

The Survey of Major Labour Costs (MLC) has been conducted on an irregular basis since 1985–86, and was most recently conducted in respect of 2015–16. The survey produces statistics on the main costs incurred by businesses as a consequence of employing labour. Data from the survey are used by a wide range of users for labour market analysis. In particular, they are used by governments for employment, prices and income policy development, for monitoring changes in the cost of labour, and for wage determination purposes. In addition, the estimates are used within the ABS to benchmark major Australian National Accounts series.

### SURVEY OUTPUT

Estimates are published in *Labour Costs, Australia* (cat. no. 6348.0). More detailed estimates may be available on request.

The population of interest is civilian employee jobs based in Australia, for which payments in relation to certain labour costs were made during the survey reference period (the financial year ending 30 June). The reference period for fringe benefits tax is for the 12 months ending 31 March. A number of key items are compiled from the survey based on various components of employer labour costs:

- employee earnings;
- superannuation;
- payroll tax;
- workers' compensation; and
- fringe benefits tax.

Costs are measured on a cash accounting basis, net of any reimbursements, subsidies or rebates.

Data can be classified by state or territory, sector (public/private), level of government, public institutional sector and employer size. Data are available as either total costs or costs per employee.

Data from the survey are available on an original basis only.

Data collected in the survey are compiled according to concepts and definitions outlined in Chapter 11: Employee Remuneration. All labour costs reflect actual payments made in the survey reference period. As such, they do not reflect costs incurred in the reference period for which payments are made in a later period, but they include payments made in the survey reference period for costs incurred in a prior period.

Earnings estimates from the survey are broader than, and are not directly comparable with, earnings estimates from the Survey of Average Weekly Earnings (AWE). For more details on the earnings definition in MLC, see Chapter 11.

A number of other labour costs are not covered by this survey. These include training costs, costs associated with employee welfare services, and recruitment costs. With the exception of training costs, these items are not considered to make a significant contribution to total labour costs. Training costs were collected in the Training Expenditure and Practices Survey, conducted for the financial year 2001–02, and in the earlier Training Expenditure Survey conducted for September quarters of 1989, 1990, 1993 and 1996. Costs covered in these former surveys are specifically for

structured training provided by employers. For further information see *Employer Training Expenditure and Practices, Australia* (cat. no. 6362.0).

## SCOPE

The scope of the survey is restricted to employing organisations in Australia. Public sector organisations operating in the Agriculture, Forestry and Fishing industry (Australian and New Zealand Standard Industrial Classification (ANZSIC) Division A) are included in the scope of this survey. Otherwise, the standard scope exclusions for ABS labour-related business surveys (outlined in Chapter 23: Methods Used in ABS Business Surveys) apply to this survey.

## SURVEY METHODOLOGY

Detailed information is obtained about labour costs from selected employers using an online electronic collection methodology.

Respondents who do not submit their completed questionnaire within a reasonable period of time after the survey reference date are followed up by mail and then telephoned if necessary.

## SAMPLE DESIGN

A sample of employing businesses is drawn from the ABS Business Register using the process outlined in Chapter 23. Employing units are stratified by:

- state or territory;
- sector – the public and private sectors are stratified separately;
- industry – industry stratification is based on ANZSIC division; and
- employment size – the ranges used vary between states and territories, sectors and industries.

Strata on the survey frame that are completely enumerated include those containing selection units with benchmark employment greater than a set cut off (this cut off will vary for different states/territories), and strata with a very small number of selection units in the population.

In addition to constraints outlined in Chapter 23, sample selection is constrained by ensuring there is minimal overlap with other labour-related business surveys.

## SAMPLE RESELECTION

The ABS reselects the sample for the MLC each time it is conducted. At the same time the overall design of the sample is examined to ensure that it remains efficient and cost-effective. For 2015-16 a sample of approximately 7,000 business units were selected.

## ESTIMATION

Ratio estimation is used to generate population estimates from survey responses. Ratio imputation is used for non-responding units in both the completely enumerated and sampled strata.

Partial clerical imputation is carried out for units that can only provide part data. The missing item(s) is imputed using the relationship between that item and a relevant provided item as per responding units of similar type. Where relevant and available, employment and earnings data obtained from the Survey of Employment and Earnings (SEE) or AWE are used to assist clerical imputation.

Adjustments are made to survey estimates to account for births and deaths of private sector businesses that have occurred up to the end of the survey reference period, but which are not reflected on the survey frame.

For further information on estimation methods used in ABS business surveys, refer to Chapter 23.

## RELIABILITY OF THE ESTIMATES

Estimates from the survey are subject to both sampling and non-sampling error. The relative standard errors of survey estimates are available in the publication.

The Bootstrap approach is used to calculate estimates of variance for this survey. The Bootstrap is a variance estimation method which relies on the use of replicate samples, essentially sampling from within the main sample. Each of these replicate samples is then used to calculate a replicate estimate and the variation in these replicate estimates is used to calculate the variance of a particular estimate.

## DATA COMPARABILITY OVER TIME

In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, and frequency of collection, are made as infrequently as possible. However, care should be taken in using data from this survey as a time series. The survey is designed to give an accurate 'snapshot' of data, rather than an ongoing series of observations over time. Key changes to the survey over time include:

### 1985-86

- Annual survey commenced for this reference year.

### 1991-92

- Last year the survey was conducted on an annual basis.

### 1993-94

- Survey output reclassified on an ANZSIC industry basis.
- Collection methodology for superannuation coverage and collection of fringe benefits/fringe benefits tax commenced.

### 1996-97

- Introduction of Live Respondent Mean imputation for the sampled sector.
- Change in reporting arrangements for superannuation by Commonwealth general government organisations.
- Introduction of Aggregate Ratio imputation for all units.

### 2002-03

- Estimates published in 6348.0.55.001 for the first time.
- Employer superannuation costs excluded superannuation contributions made under an employee's salary sacrifice arrangement for the first time.
- Earnings estimates included, for the first time, the value of salary sacrificed.
- The derivation of earnings included the un-grossed value of fringe benefits, whereas the grossed up value of fringe benefits was used in 1996-97.

### 2010-11

- Estimates published in 6348.0.
- Output classified on ANZSIC 2006 industry basis.

### 2015-16

- Estimates published in 6348.0.

## CHAPTER 28: SURVEY OF AVERAGE WEEKLY EARNINGS

### INTRODUCTION

The Survey of Average Weekly Earnings (AWE) is a survey of business units which has been conducted since 1981. Prior to August 1981, the AWE series was based principally on information from payroll tax returns. The survey is currently conducted biannually, and was conducted on a quarterly basis until May 2012.

The purpose of the survey is to measure the level of average gross weekly earnings associated with employees in Australia. Estimates of AWE, and changes in AWE, are produced each cycle. Estimates are used in commercial contracts, more broadly by the private sector for economic and labour market analysis, and in Commonwealth, state and territory legislation for adjusting a variety of government payments, for supporting minimum wage claims, monitoring wage equity, and as an indicator of change in underlying wage rates for economic or taxation policy analysis.

While the survey provides the headline series for levels of earnings, the Wage Price Index (WPI) is a more relevant indicator for changes in the rates of pay for many purposes, as it is unaffected by changes in the composition of the labour force or changes in the characteristics of employees. For further information on the WPI, please refer to the Explanatory Notes of *Wage Price Index, Australia* (cat. no. 6345.0) and *Wage Price Index: Concepts, Sources and Methods* (cat. no. 6351.0.55.001).

### SURVEY OUTPUT

Data are collected and published biannually (relating to the May and November reference periods) in *Average Weekly Earnings, Australia* (cat. no. 6302.0), released approximately three months after the reference period. Prior to May 2012, the series was released quarterly. Up until the November reference period 2000, preliminary results were released three weeks earlier in *Average Weekly Earnings, Australia, Preliminary* (cat. no. 6301.0).

The population of interest is civilian employees, who received pay for the survey reference period, excluding employees based outside Australia. Three main series are published:

- Average weekly ordinary time earnings (commonly referred to as AWOTE) for full-time adult employees (refer to Chapter 11 for further information on ordinary time, overtime and other components of earnings);
- Average weekly total earnings for full-time adult employees (comprising weekly ordinary time earnings plus weekly overtime earnings); and
- Average weekly total earnings for all employees.

Earnings in AWE are broadly defined as current and regular payments in cash to employees for work done. Earnings series from the AWE survey have historically excluded amounts salary sacrificed, as these were considered payments in kind. Under the conceptual framework for measures of employee remuneration, as revised in 2006 in *Information Paper: Changes to ABS Measures of Employee Remuneration* (cat. no. 6313.0), amounts salary sacrificed are now considered conceptually to be wages and salaries in cash, with information collected on this basis from August 2007. Time series inclusive of salary sacrifice were first published in the May 2011 issue of *Average Weekly Earnings, Australia* (cat. no. 6302.0), with the time series available back to May 2010. This is an additional (not replacement) series, and the ABS continues to publish the AWE series on the former basis (i.e. exclusive of amounts salary sacrificed) to maintain long term comparability of the time series.

Estimates of the annual percentage change for average earnings are published for each key series. Estimates from the survey are cross-classified by sector, state or territory, and by industry at the Australian level for males, females and persons.

Estimates are published on the following bases: original; seasonally adjusted; and trend (see Chapter 16 for further explanation of original, seasonally adjusted and trend estimates). Seasonally adjusted and trend estimates are available by Australia and State/Territory for each of the three main series listed above. Series which have no identifiable seasonal component are not seasonally adjusted.

Data collected in the survey are compiled according to concepts and definitions outlined in Chapter 4: Employment and Chapter 11: Employee Remuneration.

## SCOPE

The scope of the survey is restricted to employing businesses. The standard scope exclusions for ABS labour-related business surveys (outlined in Chapter 23) apply to this survey.

The following persons are not regarded as employees of the sampled business for the purposes of this survey, and are excluded:

- casual employees who did not receive pay during the reference period;
- employees on leave without pay who did not receive pay during the reference period;
- employees on strike, or stood down, who did not receive pay during the reference period;
- directors who are not paid a salary;
- proprietors/partners of unincorporated businesses;
- self-employed persons such as subcontractors, owner/drivers, consultants (however these persons are separately enumerated as part of their own business if in sample);
- persons paid solely by commission without a retainer;
- employees on parental leave who are receiving payments solely under the Australian Government's Paid Parental Leave Scheme; and
- employees on workers' compensation who are not paid through the payroll.

## SURVEY METHODOLOGY

Details of numbers of employees (full-time adults and other employees), total gross weekly earnings (for full-time adults and other employees), and weekly overtime earnings of full-time adults are obtained on a biannual basis from a sample survey of employer units, using an online electronic collection methodology. Businesses which do not submit their questionnaire within a reasonable period of time after the survey reference period are followed up by mail and then phone if necessary. The target minimum response rate is 93% for the survey as a whole, and 90% for each state, sector and industry.

The survey reference period is the week ending the third Friday of the month in May and November. Due to the wide variety of pay arrangements and systems which exist, most employers are not able to report for this exact period. Therefore, employers are requested to report for the last pay period ending on or before this date, and where a pay period is greater than one week (e.g. fortnightly or monthly) the employer is requested to report only one week's proportion.

Although the historical estimates of earnings from the AWE survey (as well as current information provided on the same basis) should exclude amounts salary sacrificed, in practice there is evidence that some amounts salary sacrificed are sometimes inadvertently included. The ABS works closely

with data providers to identify any instances of misreporting, and to amend their reporting practices where necessary.

## **SAMPLE DESIGN**

A probability sample of employing business units is drawn from the ABS Business Register using the process outlined in Chapter 23. Variables used to stratify the survey frame each period are:

- state or territory;
- sector - the public and private sectors are stratified separately;
- industry - within the private sector, industry stratification is based on Australian and New Zealand Standard Industrial Classification (ANZSIC) division; within the public sector ANZSIC divisions are aggregated to form four broad industry groupings; and
- employment size - the ranges used vary between states and territories, sectors and industries.

Strata on the survey frame that are completely enumerated include those containing business units with benchmark employment greater than a set cut off (this cut off will vary for different states/territories) and strata with a very small number of employing business units. Strata which are completely enumerated because they contain a low number of business units may become sampled strata if the number of such units in those strata increases sufficiently.

In addition to constraints outlined in Chapter 23, sample selection is constrained by the need to ensure that there is minimum overlap with other labour-related business surveys, and with non-labour related business surveys.

## **SAMPLE SIZE AND ALLOCATION**

Approximately 5,700 business units are selected in the sample, to yield a live sample of approximately 96% for the survey as a whole and 90% for each state, sector and industry.

The sample is allocated optimally across sampled strata using a technique designed to minimise the variance of AWE estimates at both the national and state/territory level.

## **SAMPLE ROTATION**

The sample is updated each period to reflect changes in the ABS Business Register. Approximately 16% of the sample selected from the non-completely enumerated strata is replaced each period. Refer to Chapter 23 for further information.

Sample rotation is implemented for the majority of sampled strata, but is not implemented where the population of a stratum is so small that units rotating out of the sample would be rotated back in after only a short interval.

## **ESTIMATION**

Estimates of total weekly earnings and number of employees are computed for various combinations of state or territory, sector and industry. AWE measures are the quotient of the respective earnings and employment measures. Ratio estimation is used in all sampled strata, except in small sized strata, in which case number raised estimation is used.

In both completely enumerated and sampled strata an automatic imputation procedure is used for units not responding, by applying imputed growth rates to the most recently reported employment and earnings data for these units, provided that data have been reported in a previous period. This is



referred to as Beta imputation. Otherwise, the Live Respondent Mean method is used to impute for missing data items.

Significance editing was introduced in September 1992. This technique means that editing is only performed on those survey values which will significantly impact on the survey estimate if left unaltered.

Prior to May 2014, survey outliers were handled by using the 'surprise outlier' technique. From May 2014, the winsorisation methodology was introduced as the primary method to treat outliers in AWE. Winsorisation moderates the impact of an outlier business without the harsh impact of the surprise outliering approach. For more information, refer to Chapter 16.

## **TIME SERIES ESTIMATES**

Both seasonally adjusted and trend estimates are produced for key series from this survey.

### **Seasonal adjustment**

Seasonally adjusted estimates were introduced from September 1983. The change in frequency in 2012 resulted in a new seasonally adjusted series from May 2012. While seasonal factors remain present in AWE and can be calculated on a biannual basis, calculating seasonally adjusted estimates using only two points of measurement each year, rather than the four points available in a quarterly survey, resulted in a change in the level of the series. For more information, refer to *Information Paper: Changes to Average Weekly Earnings, Australia, April 2012* (cat. no. 6302.0.55.002).

### **Trend estimates**

Trend estimates were introduced from August 1993. As a result of the change in frequency in 2012, a new trend series was produced, commencing in May 2012. For more information, refer to *Information Paper: Changes to Average Weekly Earnings, Australia, April 2012* (cat. no. 6302.0.55.002).

## **RELIABILITY OF THE ESTIMATES**

Estimates from the survey are subject to both sampling and non-sampling error (see Chapter 16 for further information). The relative standard errors of survey estimates are published in *Average Weekly Earnings, Australia* (cat. no. 6302.0).

The Bootstrap approach is used to calculate estimates of variance for this survey. The Bootstrap is a variance estimation method which relies on the use of replicate samples, essentially sampling from within the main sample. Each of these replicate samples is then used to calculate a replicate estimate and the variation in these replicate estimates is used to calculate the variance of a particular estimate.

## **COMPARABILITY WITH OTHER SURVEYS**

The ABS produces earnings statistics from a number of different sources, including both household and employer surveys. The three main employer based surveys that provide earnings statistics are the AWE, the Survey of Employee Earnings and Hours (EEH), and the Survey of Employment and Earnings (SEE). The main household based surveys providing earnings statistics are the Characteristics of Employment Survey (COE) and the Survey of Income and Housing (SIH).

The AWE survey collects payroll information from employers who provide details of their employees' total gross earnings and their total number of employees. The EEH survey provides statistics on the composition and distribution of employee earnings, hours paid for and methods used to set employees' pay in Australia. The SEE is designed to measure the number of wage and salary earners



and their gross earnings for the public sector. In contrast, COE compiles data from a household based survey, where respondents are either the employed person or another adult member of their household who responds on their behalf. Where earnings are not known exactly, an estimate is reported. The SIH provides detailed estimates of household income and wealth collected from individual households. In the SIH, the largest component of household income is employee income.

Caution should be exercised when comparing estimates of earnings between different employer based labour surveys, different household based labour surveys, or between employer based and household based surveys. There are important differences in the scope, coverage and methodology for each of these surveys, which can result in different estimates of earnings from each survey. For example, AWE and EEH exclude employees in the Agriculture, Forestry and Fishing industry, and also exclude employees of private households, whereas these employees are included in the COE survey.

For further information on a number of earnings series available from ABS sources, please refer to the feature article 'Understanding Earnings in Australia Using ABS Statistics' published in *Australian Labour Market Statistics, July 2014* (cat. no. 6105.0).

## **AVERAGE WEEKLY EARNINGS AND WAGE PRICE INDEX**

The six monthly AWE and quarterly Wage Price Index (WPI) collections both measure the wages and salaries of employees, although they aim to measure different, albeit related, concepts. For more information on the purpose and key uses of AWE and WPI, see the feature article 'Average Weekly Earnings and Wage Price Index - What do they measure?' in *Average Weekly Earnings, Australia, May 2014* (cat. no. 6302.0).

### **Average Weekly Earnings and Employee Earnings and Hours**

The AWE survey provides estimates of the level of average earnings at a point in time. The six-monthly estimates are used to provide a level benchmark against which a specific amount can be compared, e.g. what an individual earns compared to the average. Average earnings estimates are available by state/territory, sex, industry and sector.

Compared with the EEH survey, the AWE survey provides more frequent but less detailed information on the composition and distribution of employee earnings. Unlike EEH, AWE data are collected at the business level: the AWE survey collects total/aggregate payroll data, while the EEH survey collects detailed information about a sample of employees within the business. Collecting data at the aggregate level requires fewer resources than data at the employee level, but provides less flexibility and detail in the data it provides. Data obtained on the total earnings and the total number of employees in the selected businesses are used to derive the mean, or average, earnings. As information on hours paid are not collected, AWE cannot provide hourly rates of pay. It can also only provide data for the limited number of groupings of employees (male / female, full-time adult and all employees) that are collected from businesses in the survey.

Although there are differences in concepts, survey design and methodology between the surveys, there is sufficient overlap such that EEH survey data can be considered a complement to AWE survey estimates (AWE is released earlier). When comparing EEH data with AWE data, ensure the Average Weekly Cash Earnings series is used as these series are most closely aligned.

For more information on understanding EEH statistics, see the feature article in 'A Guide to Understanding Employee Earning and Hours Statistics' in *Employee Earnings and Hours, Australia, May 2016* (cat. no. 6306.0).

## DATA COMPARABILITY OVER TIME

In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection, and methods of time series analysis, are made as infrequently as possible. However, there have been some significant changes which are outlined below:

### 1941

- AWE collection commenced, based principally on information from payroll tax returns.

### 1981

- Survey of businesses conducted quarterly from ABS Business Register.

### 1983

- Interim survey from 1981 replaced; sample increased, selected from upgraded ABS Business Register.
- Number of employees redefined to those receiving pay in the reference period, rather than those that are on the payroll.
- Overtime redefined as overtime hours paid for in reference period, rather than overtime hours worked during the reference period.
- Seasonally adjusted estimates introduced.

### 1986

- Sample reallocated based on sample data previously received.

### 1992

- First data collected electronically from selected survey respondents, including Commonwealth Government departments.
- AWE survey data (up to 1990) linked with data from previous sources and back cast to 1941 (*Average Weekly Earnings, Australia, 1941–1990*, cat. no. 6350.0, available online).

### 1993

- Trend estimates introduced.
- Industry estimates by Australian Standard Industrial Classification (ASIC) introduced.

### 1994

- Survey redesigned on an ANZSIC 1993 industry basis.

### 2001

- Publication of preliminary estimates (cat. no. 6301.0) discontinued.

### 2007

- Separate collection of salary sacrificed amounts from August 2007.
- Trend break applied to private sector and public sector estimates between November 2006 and February 2007, due to privatisation of Telstra Corporation. For more information, please see *Information Paper: Future Treatment of Telstra in ABS Statistics, 2007* (cat. no. 8102.0).

### 2009

- Survey sample redesigned on an ANZSIC 2006 industry basis. Additional details about the implementation of ANZSIC 2006 in AWE can be found in the *Information Paper: Changes to Average Weekly Earnings, Australia, Aug 2009* (cat. no. 6302.0.55.002).
- Sample redesign and improvements to the business survey frame implemented, historical series back cast on the new basis back to August 1994.

## 2011

- The average weekly cash earnings series inclusive of salary sacrifice is introduced, with the time series available back to May 2010. For further information relating to the average weekly cash earnings series, refer to *Information Paper: Release of Average Weekly Cash Earnings Series* (cat. no. 6302.0.55.003).

## 2012

- Frequency changed from quarterly to biannual (May and November reference periods). For full details on the change in frequency, refer to *Information Paper: Changes to Average Weekly Earnings, Australia, April 2012* (cat. no. 6302.0.55.002).

## 2014

- From the May 2014 issue, winsorisation methodology was introduced as the primary method to treat outliers in AWE replacing 'surprise outliering' as the primary methodology. For more information, refer to Chapter 16.

## 2015

- All time series identifiers used in the AWE spreadsheets changed from May 2015, as highlighted in the *Information Paper: Average Weekly Earnings, Australia: Upcoming Changes to Time Series Spreadsheets* (cat. no. 6302.0.55.004).

## 2017

- A latest sample redesign was undertaken in November 2017.

## CHAPTER 29: SURVEY OF EMPLOYEE EARNINGS AND HOURS

### INTRODUCTION

The Survey of Employee Earnings and Hours (EEH) has been conducted since 1974. It is currently conducted biennially. The survey produces estimates of average weekly earnings, and the distribution of hours paid for and weekly earnings of employees. It also produces estimates of the proportion, and average weekly total cash earnings, of employees whose pay is set by award only, by collective agreement and by registered or unregistered individual arrangement. Estimates from the survey are used by Commonwealth and State government departments, employer associations, trade unions and academic researchers. They are used in developing and reviewing wages and labour market policies, in the wage negotiation process, and in research into various aspects of the labour market. For more information on understanding EEH statistics see the feature article in 'A Guide to Understanding Employee Earning and Hours Statistics' in *Employee Earnings and Hours, Australian, May 2016* (cat. no. 6306.0).

### SURVEY OUTPUT

Estimates are published in *Employee Earnings and Hours, Australia* (cat. no. 6306.0). More detailed estimates may also be available on request. Until 2008, preliminary estimates were published in *Employee Earnings and Hours, Australia, Preliminary* (cat. no. 6305.0 and cat. no. 6305.0.55.001).

A number of series are compiled from the survey based on the distribution and composition of earnings and hours paid for, and the methods by which pay is set. These include:

Earnings of employees:

- average weekly total cash earnings, and average weekly ordinary time cash earnings; and
- for non-managerial employees: average hourly total cash earnings, and average hourly ordinary time cash earnings.

Hours paid for:

- average weekly total hours paid for, average weekly ordinary time hours paid for, and average weekly overtime hours paid for.

How employees' pay is set (collected for the first time in 2000):

- the number and cash earnings of employees paid by – award only, collective agreement (registered or unregistered), individual arrangement (registered or unregistered), and owner managers of incorporated enterprises.

Data can also be cross-classified by: state/territory; sector (public, private); rate of pay (adult, junior, apprentice/trainee or disability); full-time/part-time status; sex; managerial/non-managerial status; type of employee (permanent or fixed-term, or casual); occupation; industry; and employer size.

Data are compiled according to the concepts and definitions outlined in Chapter 4: Employment, Chapter 11: Employee Remuneration and Chapter 12: Workplace Relations.

### SCOPE

For the first-stage sample of employing organisations, the standard scope exclusions for ABS labour-related business surveys (outlined in Chapter 23) apply to this survey.

The scope of the second-stage sample is restricted to civilian employees based in Australia, who received payments for the survey reference period. Self-employed persons (such as proprietors/partners of unincorporated businesses), employees who did not receive pay for the reference period (such as persons on unpaid leave), employees based outside Australia, and members of the Australian permanent defence forces are not in scope of the survey.

## **SURVEY METHODOLOGY**

Detailed information is obtained about a sample of employees from each selected business, using online electronic collection. Prior to the May 2012 survey, information was obtained using a mail-out/mail-back collection methodology.

The survey reference period is the last pay period ending on or before the third Friday in May of the survey year.

Businesses that do not submit their data within a reasonable period of time after the survey reference date are followed up by mail and/or phone.

## **SAMPLE DESIGN**

The survey uses a two-stage sample selection approach. The first stage involves selecting a probability sample of employer units from the ABS Business Register. The statistical unit for the first stage comprises all activities of an employer in a particular state or territory, based on the Australian Business Number (ABN) unit or Type of Activity Unit (TAU). Each statistical unit is classified to an industry which reflects the predominant activity of the business. The collection and reporting units used in the survey usually correspond to the statistical unit. However, where the ABN/TAU unit is unable to provide information required for the survey, it may be split into a number of 'reporting units'. For further information on statistical units used in ABS business surveys, refer to Chapter 23.

In the second stage, businesses selected in the first stage are asked to select a random sample of employees from their payrolls using instructions provided by the ABS.

### **First stage sample selection**

A probability sample of employing businesses (ABN/TAU units) is drawn from the ABS Business Register using the process outlined in Chapter 23. Variables used to stratify the survey frame at stage one of the sample selection are:

- state or territory;
- sector – the public and private sectors are stratified separately;
- industry – industry stratification is based on Australian and New Zealand Standard Industrial Classification (ANZSIC) division, within the public sector ANZSIC divisions are aggregated to form four broad industry groupings; and
- employment size – the ranges used vary between states and territories, sectors and industries.

Strata on the survey frame that are completely enumerated include those containing selection units with benchmark employment greater than a set cut off (this cut off will vary for different states/territories), and strata with a very small number of selection units in the population.

In addition to constraints outlined in Chapter 23, sample selection is constrained by the need to minimise overlap with the quarterly Survey of Average Weekly Earnings (AWE), for businesses with less than 20 employees.

### **Second stage sample selection**

Second-stage sampling units (employees) are selected using systematic sampling within selected first-stage units. A random start and a skip are provided to each selected business for use in selecting the second-stage sample from its payroll(s). Businesses are not required to order their payroll in any particular way when selecting the sample.

### **Sample size and allocation**

For the first-stage sample, approximately 8,200 employer (selection) units are selected to yield a live sample of approximately 7,500 units.

For the second-stage sample, approximately 53,000 employees contribute to the estimates. The maximum number of employees for any reporting unit is 40.

### **Sample reselection**

The ABS reselects the sample for the EEH each time it is conducted. At the same time, the overall design of the sample is examined to ensure that it remains efficient.

## **ESTIMATION**

The estimation process occurs in two stages. In the first stage, number raised estimation is used to estimate the number of employees in each business. In the second stage, number raised estimation is again used to estimate the total number of businesses, and therefore employees, in the target population.

In the sampled strata, the Live Respondent Mean method is used to impute for non-responding businesses. In the completely enumerated strata, a ratio imputation model is used.

Survey outliers are handled using the 'surprise outlier' technique.

Business Provisions were introduced in the 2000 survey, whereby adjustments are made to survey estimates to allow for births and deaths of businesses that have occurred up to the end of the survey reference period, but which are not reflected on the survey frame.

For further information on estimation methods used in ABS business surveys, refer to Chapter 23.

## **TIME SERIES ESTIMATES**

Seasonally adjusted and trend estimates are not produced for this survey.

## **RELIABILITY OF THE ESTIMATES**

Estimates from the survey are subject to both sampling and non-sampling errors. The standard errors of survey estimates are published in *Employee Earnings and Hours, Australia* (cat. no. 6306.0).

The Bootstrap method is used to calculate estimates of variance for this survey. The Bootstrap is a variance estimation method which relies on the use of replicate samples, essentially sampling from within the main sample. Each of these replicate samples is then used to calculate a replicate estimate and the variation in these replicate estimates is used to calculate the variance of a particular estimate.

## **COMPARABILITY WITH OTHER SURVEYS**

The ABS produces earnings statistics from a number of different sources, including both household and employer surveys. The three main employer-based surveys that provide earnings statistics are

the EEH survey, the AWE survey and Survey of Employment and Earnings (SEE). The main household-based surveys providing earnings statistics are the Characteristics of Employment Survey (COE) and the Survey of Income and Housing (SIH).

Caution should be exercised when comparing estimates of earnings in the EEH release with estimates of earnings included in the biannual *Average Weekly Earnings, Australia* (cat. no. 6302.0) and the annual *Characteristics of Employment* (cat. no. 6333.0) publications. There are important differences in the scope, coverage and methodology of these surveys, which can result in different estimates of earnings from each survey.

The EEH survey collects payroll information about weekly earnings and hours paid for, and the individual characteristics of a sample of employees within each selected employer unit. The AWE survey collects payroll information from employers who provide details of their employees' total gross earnings and their total number of employees. In contrast, COE compiles data from a household-based survey where respondents are either the employed person or another adult member of their household who responds on their behalf. Where earnings are not known exactly, an estimate is reported.

In the EEH, salary sacrificed amounts have been included in the estimates of mean and median weekly earnings from 2006 onwards, whereas the earnings series from AWE historically excluded amounts salary sacrificed. However, since the May 2011 AWE publication the Average Weekly Cash Earnings (AWCE) series has also been released. This series is inclusive of salary sacrificed amounts. The key earnings series from AWE have continued to be published on the old conceptual basis (i.e. exclusive of amounts salary sacrificed) to maintain long term comparability of the key series. From 2007, COE (and its predecessor) have included amounts salary sacrificed in the estimates of mean and median weekly earnings.

There are also scope differences between both household and employer surveys. For example, AWE and EEH exclude employees in the Agriculture, Forestry and Fishing industry, and also employees of private households, whereas these employees are included in the COE survey.

For further information on a number of earnings series available from ABS sources, and the differences between source surveys, please refer to the feature article 'Understanding Earnings in Australia Using ABS Statistics' published in *Australian Labour Market Statistics, July 2014* (cat. no. 6105.0).

### **Employee Earnings and Hours and Average Weekly Earnings**

The AWE survey provides estimates of the level of average earnings at a point in time. The six-monthly estimates are used to provide a level benchmark against which a specific amount can be compared, e.g. what an individual earns compared to the average. Average earnings estimates are available by state/territory, sex, industry and sector.

Compared with the EEH survey, the AWE survey provides more frequent but less detailed information on the composition and distribution of employee earnings. Unlike EEH, AWE data are collected at the business level: the AWE survey collects total/aggregate payroll data, while the EEH survey collects detailed information about a sample of employees within the business.

Although there are differences in concepts, survey design and methodology between the surveys, there is sufficient overlap such that EEH survey data can be considered a complement to AWE survey estimates (AWE is released earlier). When comparing EEH data with AWE data, ensure the Average Weekly Cash Earnings series is used as these series are most closely aligned.

For more information on understanding EEH statistics, see the feature article in 'A Guide to Understanding Employee Earning and Hours Statistics' in *Employee Earnings and Hours, Australia, May 2016* (cat. no. 6306.0).

## DATA COMPARABILITY OVER TIME

Caution should be exercised when comparing data between different years as EEH is not designed as a time series. Changes to survey methods, survey concepts, data item definitions, frequency of collection, and methods of time series analysis, are made as infrequently as possible. Key changes have included:

### 1974

- Annual survey commenced; first-stage sample frame comprised lists of employers subject to payroll tax and lists of government departments and hospitals.

### 1981

- Survey frequency changed to biennial.

### 1983

- First-stage sample frame changed to ABS Business Register.

### 1986

- Survey frequency changed to annual.

### 1993

- Payments from workplace and enterprise agreements included in 'Base pay' rather than 'Over award and over agreement pay'.

### 1995

- Sample redesign on an ANZSIC basis.

### 1996

- Survey frequency changed to biennial.

### 2000

- Questions introduced on how employees' pay is set.
- Live Respondent Mean imputation method introduced for the sampled strata, and ratio imputation method introduced for the completely enumerated strata.
- Business Provision adjustments introduced.
- Second-stage sample reduced significantly.
- 'Over award and over agreement pay' not collected separately but included in 'Base pay'.
- Ceased collection of 'Apprentice/trainee' in status of employee.

### 2002

- How employees' pay is set questions redeveloped.
- Changes made to employee type question (replaced 'temporary' with 'fixed-term').
- Question introduced on amounts salary sacrificed.
- Sample re-designed to minimise overlap with the AWE survey for businesses with less than 20 employees.
- Ceased collection of 'Supervisor' in status of employee.

### 2004

- Introduction of new statistical units model.



- Changes made to employee type question (combined 'permanent' and 'fixed-term').
- Base pay, taxable allowances and payment by measured result no longer collected separately.
- Introduction of grouped Jack-knife method for calculation of variance estimates.
- Working proprietors of incorporated businesses separated from other employees with individual arrangements in method of setting pay classification.

## 2006

- Preliminary publication *Employee Earnings and Hours, Australia, Preliminary* (cat. no. 6305.0.55.001) was not released for 2006.
- Estimates of cash earnings now include amounts salary sacrificed (see *Information Paper: Changes to ABS Measures of Employee Remuneration* (cat. no. 6313.0)). Estimates of cash earnings from May 2002 and May 2004 surveys reproduced on the new conceptual basis.
- Changes made to employee type question ('permanent' and 'fixed-term' separately collected).
- Occupation data are now classified according to *Australian and New Zealand Standard Classification of Occupations (ANZSCO), First Edition* (cat. no. 1220.0). Data classified to *Australian Standard Classification of Occupations (ASCO), Second Edition* (cat. no. 1220.0) are available on request.
- Confidentialised Unit Record File (CURF) produced (cat. no. 6306.0.55.001).

## 2008

- Industry data classified according to *Australian and New Zealand Standard Industrial Classification, 2006* (cat. no. 1292.0). Data classified to *Australian and New Zealand Standard Industrial Classification, 1993* (cat. no. 1292.0) available on request.
- Data on methods of setting pay presented on new jurisdictional basis to reflect the new workplace relations environment.
- Survey run in August, and the reference period for the survey is August 2008.
- Preliminary estimates published in *Employee Earnings and Hours, Preliminary, August 2008* (cat. no. 6305.0.55.001).

## 2010

- 'Working proprietor of an incorporated business' sub-category of the methods of setting pay data item changed to 'Owner manager of incorporated enterprise'.
- Survey run in May, and the reference period for the survey is May 2010.
- Confidentialised Unit Record File (CURF) (cat. no. 6306.0.55.001) produced.
- Release of additional data cubes.
- Information about the proportions of employees covered by national and state jurisdictions for pay setting are no longer published, but may be available in the Confidentialised Unit Record File (CURF).
- From 2010, additional estimates of numbers of employees published.

## 2012

- Introduction of online electronic collection as an option to the mail-out/mail-back (paper) questionnaire.

## 2014

- The item 'Adult/Junior employee' was modified, and further categories included.
- The actual age of employees was collected for the first time. Previously the information on age was collected only as 'under 18 years', '18 years and under 21 years' and '21 years and over'.

- Hours paid for data were requested for all employees, including Upper level managers and Owner manager of incorporated enterprises. Previously hours paid for data was collected only for non-managerial employees. Hours paid for could not be provided for Managerial employees where there was no relationship between earnings and hours. As a result, estimates of hours paid for and hourly cash earnings have only been produced for employees with a link between earnings and hours.
- 'Rate of pay' was collected in four categories: Adult; Junior; Apprentice or trainee; and Disability. The disability rate of pay category does not measure all employees with a disability, only those paid at a specified disability rate. The disability rate of pay is based on the definition in the Fair Work Commission's National Minimum Wage Order.
- In prior EEH surveys, separate data were produced for Adult and Junior employees. Adult employees were defined as employees who are 21 years of age or over, and employees under 21 years old who are paid at the full adult rate for their occupation. Adult employees included employees aged 21 years of age or over on Apprentice or trainee and Disability rates of pay.
- The category 'employees paid at the adult rate of pay' only includes those employees paid the full adult rate of pay, regardless of age. All other rates of pay are excluded.
- Results for May 2014 have been produced on a new conceptual basis: full-time non-managerial employees paid at the adult rate of pay has been used instead of full-time non-managerial adult employees.

## 2016

- Method of setting pay categories 'Award' and 'Collective Agreement' were combined for all employees.
- Age category was modified for select publication outputs only.
- Overtime earnings and hours paid for data were no longer included in publication outputs.
- Standard errors were included for percentile tables in data cubes 3 and 8.

## CHAPTER 30: SURVEY OF EMPLOYMENT AND EARNINGS

### INTRODUCTION

The Survey of Employment and Earnings (SEE) is conducted on an annual basis. From September quarter 1983 to June quarter 2007, SEE was conducted on a quarterly basis, with the annual SEE commencing in respect of the 2007–08 reference year.

The purpose of the survey is to provide estimates of (payroll) employees and cash wages and salaries for the public sector. Data contribute to the Australian National Accounts estimates of compensation of employees and labour productivity. Prior to the March quarter 2002, the survey collected data for both the public and private sector.

### SURVEY OUTPUT

Estimates from the annual survey are published in *Employment and Earnings, Public Sector, Australia* (cat. no. 6248.0.55.002). Estimates from the quarterly survey were published in *Wage and Salary Earners, Public Sector, Australia* (cat. no. 6248.0.55.001).

The population of interest is public sector civilian employee jobs, for which wage and salary payments were made in the survey reference period, excluding employee jobs based outside of Australia. Two main series are published for the annual SEE:

- public sector payroll employees (employee jobs) as at 30 June; and
- cash wages and salaries for public sector employees.

Cash wages and salaries comprises regular and irregular payments for work done, including salary sacrificed amounts and paid leave, before tax and other items (e.g. employee contributions to superannuation) are deducted.

Data are compiled according to the concepts and definitions outlined in Chapter 11: Employee Remuneration. Estimates of cash wages and salaries produced from the annual SEE are based on the Australian conceptual framework for measures of employee remuneration. See *Information Paper: Changes to ABS Measures of Employee Remuneration, 2006* (cat. no. 6313.0).

Data are available for: state and territory; level of government; industry; and public institutional sector.

Data on earnings for the private sector are collected in the Quarterly Business Indicators Survey and published in *Business Indicators, Australia* (cat. no. 5676.0).

### SCOPE AND COVERAGE

Public sector employing organisations operating in the Agriculture, Forestry and Fishing industry (Australian and New Zealand Standard Industrial Classification (ANZSIC) Division A) are included in the scope of this survey. Otherwise, the standard scope exclusions for ABS labour-related business surveys (outlined in Chapter 23) apply to this survey. Further information is available in the Explanatory Notes for *Employment and Earnings, Public Sector, Australia* (cat. no. 6248.0.55.002).

For the purposes of the SEE, public sector organisations include Commonwealth and state/territory government organisations, local government authorities, public corporations, universities, non-profit institutions controlled by the government, government marketing boards, legislative courts, municipal authorities, and other statutory authorities. Organisations are classified to Level of

Government in the output by determining the institutional unit (i.e. Commonwealth, state or local government) deemed to exercise control. The estimates produced by SEE may differ from other available information, due to differences in coverage and/or the classification of organisations.

## **SURVEY METHODOLOGY**

The SEE collects information using online electronic collection from a sample of public sector employer units.

Employers who do not submit their completed questionnaire within a reasonable period of time after the reference period are followed up by mail and then phone if necessary.

## **SAMPLE DESIGN**

A sample of units is selected from the ABS Business Register using the process outlined in Chapter 23: Methods Used in ABS Business Surveys. Employing units are stratified by:

- state or territory;
- industry division based on the ANZSIC 2006 edition; and
- employment size (the ranges used vary between states and territories, and industries).

Strata on the survey frame that are completely enumerated include those containing statistical units with benchmark employment greater than a set cut off (this cut off will vary for different states/territories and industries), and strata with a very small number of sampling units.

In addition to constraints outlined in Chapter 23, sample selection is constrained by the need to ensure that there is minimum overlap with other labour-related business surveys.

## **SAMPLE SIZE AND ALLOCATION**

Approximately 2,000 public sector employer units are selected in the sample to yield a live sample of approximately 1,900 employer units. The sample size decreased from the 2008–09 survey onwards, from around 2,500 to 2,000 employing units. This resulted in increased standard errors, in particular by level of government.

The sample is allocated optimally across sampled strata using a technique designed to minimise the variance of employment and cash wages and salaries at both the national and state/territory level.

The sample is updated each year to reflect changes in the ABS Business Register. Approximately one third of the sample from non-completely enumerated strata is replaced each year. Sample rotation is implemented for the majority of sampled strata comprising organisations with 50 employees or less.

## **ESTIMATION**

Ratio estimation is used in all strata. Ratio imputation is used for non-responding units in both the completely enumerated and sampled strata.

Survey outliers are dealt with using the 'surprise outlier' technique. For further information on outliers and the surprise outlier technique, refer to Chapter 16: Overview of Survey Methods.

A sample redesign and small domain adjustment methodology were implemented for the 2013-14 cycle. The small domain estimation methodology involves adjusting the estimation weights to ensure that benchmark totals in each State by Level of Government cell within a stratum are met.

For further information on estimation methods used in ABS Business Surveys, refer to Chapter 23.

## RELIABILITY OF THE ESTIMATES

Estimates from the survey are subject to both sampling and non-sampling error. The standard errors of survey estimates are available in the publication.

The Bootstrap replication method is used to calculate estimates of variance for this survey. The Bootstrap is a variance estimation method which relies on the use of replicate samples, essentially sampling from within the main sample. Each of these replicate samples is then used to calculate a replicate estimate and the variation in these replicate estimates is used to calculate the variance of a particular estimate.

## COMPARABILITY WITH OTHER SURVEYS

The ABS produces earning statistics from a number of different sources, including both household and employer surveys. The three main employer based surveys that provide earnings statistics are the SEE, the Average Weekly Earnings Survey (AWE) and Survey of Employee Earnings and Hours (EEH). The main household based surveys providing earnings statistics are the Characteristics of Employment Survey (COE) and the Survey of Income and Housing (SIH).

Caution should be exercised when comparing estimates of earnings in the SEE release with estimates of earnings included in other ABS earnings publications. There are important differences in the scope, coverage and methodology of these surveys, which can result in different estimates of earnings from each survey.

For further information on a number of earnings series available from ABS sources, and the differences between source surveys, please refer to the feature article 'Understanding Earnings in Australia Using ABS Statistics' published in *Australian Labour Market Statistics, July 2014* (cat. no. 6105.0).

## DATA COMPARABILITY OVER TIME

In order to provide a high degree of consistency and comparability over time, changes to survey methods, survey concepts, data item definitions, frequency of collection and methods of time series analysis are made as infrequently as possible. However, there have been some significant changes to the SEE: for example, there are significant series breaks for public sector data over time due to the privatisation of a number of public sector enterprises. Other significant changes have included:

### 1961

- Survey commenced.

### 1983

- Quarterly survey commenced; based on the existing ABS Business Register, replacing civilian employees series based on payroll tax, which was discontinued in April 1980.
- Public sector completely enumerated.

### 1988

- Size of private sector sample reduced.
- Sampling introduced for public sector.

### 1989

- Seasonally adjusted estimates introduced.

## 1991

- First data collected electronically.

## 1993

- Trend estimates introduced.

## 1995

- Publication suspended after March quarter, but collection continued.

## 1996

- Male and female employment last collected separately in May 1996.

## 1997

- Publication resumed with March quarter, data published back to June quarter 1995.
- Extensive revisions made to previously published data, due to past deficiencies in the coverage of small businesses on the ABS Business Register.
- New business provisions adjustment introduced and back cast to beginning of the series.
- Survey redesigned on ANZSIC 1993 basis, previously published Australian Standard Industrial Classification (ASIC) estimates recompiled on equivalent ANZSIC 1993 basis back to September quarter 1983.
- Public sector sample size reduced, except for some industries, with small populations in Northern Territory and the Australian Capital Territory becoming fully enumerated.

## 2002

- Collection of private sector data discontinued from March quarter 2002.
- Monthly employment and the full-time/part-time split of employment in the middle month of the quarter discontinued.

## 2003

- Estimates published in 6248.0.55.001, replacing 6248.0.

## 2007–08

- Quarterly SEE ceased after June quarter 2007.
- Annual SEE commenced for 2007–08.
- Survey undertaken on an ANZSIC 2006 industry basis, as well as the 1993 edition.
- Employee remuneration data based on new conceptual framework for measures of employee remuneration (see *Information Paper: Changes to ABS Measures of Employee Remuneration, 2006* (cat.no. 6313.0)).
- Salary sacrificed earnings collected.
- Severance, termination and redundancy payments still collected, but not included in the annual cash earnings series.
- Telstra privatised, and no longer included in estimates.

## 2008–09

- Sample redesign undertaken for 2008–09 survey, based only on the 2006 edition of ANZSIC.
- Sample size decreased from about 2,500 units (2007–08) to about 2,000 (2008–09), resulting in increases of standard errors.

## 2010–11

- Stand-alone survey not conducted for this period. Estimates produced from the Major Labour Costs Survey (MLC). For further information on MLC, refer to Chapter 27.

#### 2013-14

- Sample redesign and small domain estimation methodology implemented.

#### 2015-16

- Stand-alone survey not conducted for this period. Estimates produced from the MLC. For further information on MLC, refer to Chapter 27.

## CHAPTER 31: WAGE PRICE INDEX

### INTRODUCTION

The Wage Price Index (WPI) has the dual purpose of monitoring wages and salaries inflation in the economy and supporting the compilation of the Australian System of National Accounts (ASNA). It is a key economic indicator that is used by a wide range of organisations and individuals in developing wages policy, and undertaking economic analysis. WPI is one of the preferred information sources when assessing monetary policy.

The WPI measures changes in the wages and salaries paid by employers for a unit of labour where the quality and quantity of labour are held constant. To achieve this, the WPI uses a Laspeyres index methodology (where the price in a particular period is compared to that in a previous fixed period) designed to produce a measure of pure price change in wages and salaries independent of compositional factors.

Wages and salaries account for the majority of expenditure on labour costs by employers. The 'headline' measure of the wage price index is the total hourly rates of pay excluding bonuses index. Wage price indexes are released for state and territory; sector (private/public) and broad industry groups.

For further information on the WPI, see *Wage Price Index, Australia* (cat. no. 6345.0).

### WHAT THE WAGE PRICE INDEX MEASURES

The WPI measures changes in the price employers pay for labour that arise from market factors. Specifically, the WPI measures changes in the price of wages and salaries.

Wages and salaries reflect payments in cash or kind that are made at regular intervals (e.g. weekly, monthly) and include: piecework payments; enhanced or special allowances for working overtime or unsocial hours (e.g. nights, weekends); regular supplementary allowances (e.g. housing allowances, allowances to cover the cost of travel to and from work); payments for employees away from work for short periods (e.g. holidays) but not including absences for sickness or injury; and bonus and incentive payments. A full definition of wages and salaries is provided in paragraphs 11.7– 11.14 of the *Australian System of National Accounts: Concepts, Sources and Methods* (cat. no. 5216.0).

### CONCEPT OF A PRICE INDEX

An index number on its own has little meaning. The value of a price index stems from the fact that index numbers or any two periods can be used to directly calculate price change between those periods. Price indexes such as the WPI enable prices for a common item or group of items to be compared at different points in time. In order to compare the sets of prices, it is necessary to designate one set the 'reference' set and the other the 'comparison' set. By convention, the reference price set is used as the base (or first) period for constructing the index, and is given an index value of 100.0.

The most common comparison is between sets of prices at two points in time (temporal indexes). The points in time can be adjacent (this quarter and the previous quarter) or many periods apart (this year and ten years earlier). Typically the method is to nominate one set of prices as the reference period, and to revalue the quantities of items purchased in the base period by prices in the second (or comparison) period. The ratio of the revalued comparison period to the value of the reference period provides a measure of the price change between the two periods.



## INDEX FORMULAS

In presenting index number formulas, a simple starting point is to compare two sets of prices. Consider price movements between two time periods, where the first period is denoted as period 0 and the second period as period t (period 0 occurs before period t). In order to calculate the price index, the quantities need to be held fixed at some point in time. The initial question is what period should be used to determine the quantities.

All price indexes in the ABS use the Laspeyres price index formula. The WPI utilises the Laspeyres index methodology since it is not practical to calculate current weights every period, as is required by other methods.

Detailed information on the major index formulas used in the WPI is contained in Chapter 4 – Price Index Theory in the ABS publication *Wage Price Index: Concepts, Sources and Methods, 2012* (cat. no. 6351.0.00.001).

A more comprehensive exploration of price index theory can be found in corresponding chapters of *Consumer Price Index: Concepts, Sources and Methods, 2011* (cat. no. 6461.0).

## SCOPE AND COVERAGE

The target population for the WPI is all employing organisations in Australia (private and public sectors) excluding:

- Enterprises primarily engaged in Agriculture, Forestry or Fishing;
- Private households employing staff; and
- Foreign embassies, consulates, etc.

Enterprises primarily engaged in agriculture, forestry and fishing activities are excluded because a very high proportion of agricultural enterprises have no employees. It would be disproportionately costly to survey a sufficient number of these enterprises to obtain a sample of jobs that is large enough to adequately represent this industry. In addition, the highly seasonal nature of activities in this industry would make it difficult to track jobs over time.

Private households employing staff and foreign embassies, consulates, etc. cannot be included, because they are out of scope of the ABS Business Register from which the WPI sample of businesses is selected.

A change to WPI coverage in the December quarter 2009 resulted in businesses with 5 or less employees (referred to as micro-businesses) being excluded from the collection. An internal ABS review determined that the size and frequency of pay changes in micro-businesses were similar to businesses with five employees or more. Effectively, micro-businesses could be excluded from the survey without adversely affecting measures of price change. These businesses are still considered within scope of the target population, and continue to be represented in WPI outputs via their inclusion in the expenditure weights.

### Statistical units

The ABS uses an economic statistics units model, based on the ABS Business Register, to describe the characteristics of businesses and the structural relationships between related businesses. The units model is also used to break groups of related businesses into relatively homogeneous components that can provide data to the ABS. See Chapter 23: Methods Used in ABS Business Surveys for more information about the ABS Business Register and the ABS statistical units model.

The units model allocates businesses to one of two sub-populations. The vast majority of businesses are in the Australian Tax Office (ATO) Maintained Population, while the remaining businesses are in the ABS Maintained Population. Together, these two sub-populations make up the ABS Business Register population.

All jobs in the target population of employers are in scope of the WPI, except the following:

- Australian permanent defence force jobs;
- Non-salaried directors;
- Proprietors/partners of unincorporated businesses;
- Persons paid by commission only;
- Working proprietors/owner managers of Pty Ltd companies;
- Employees on workers' compensation who are not paid through the payroll;
- 'Non-maintainable' jobs (i.e. jobs that are expected to be occupied for less than six months of a year); and
- Jobs for which wages and salaries are not determined by the Australian labour market (e.g. most employees of Community Development Programs, or jobs where the remuneration is set in a foreign country).

As such, full-time, part-time, permanent, casual, managerial and non-managerial jobs are in scope of the WPI. Costs incurred by businesses for work undertaken by self-employed persons, such as consultants and subcontractors, are out of scope of the WPI as they do not relate to employee jobs. Workers paid commission without a retainer are also excluded, as a large number of such workers operate in a similar fashion to self-employed persons.

Detailed information on WPI scope and coverage topics, see Chapter 5 - Coverage and classifications in the ABS publication *Wage Price Index: Concepts, Sources and Methods, 2012* (cat. no. 6351.0.00.001).

## **SAMPLING**

A two-stage sampling methodology is used to generate a sample of employee jobs for the WPI. The first stage selects a sample of businesses, whilst in the second stage a sample of employee jobs are selected from within these businesses.

In the first stage of sampling, approximately 3,000 private and public sector businesses are selected from the ABS Business Register. These businesses are selected by stratifying the target population of businesses by state/territory, sector (private/public), industry division and business size, and selecting a random sample from each stratum. For a number of complex organisations, further sampling is undertaken to simplify reporting arrangements.

In the second stage of sampling, businesses selected in the first stage are asked to select a sample of jobs from their payrolls using instructions provided by the ABS. The number of selections depends on the total number of jobs in the business, but is limited to a maximum of ten jobs per business. Approximately 18,000 jobs are selected.

The WPI uses probability sampling at both stages. Probability sampling means that each unit (i.e. business or job) has an equal chance of selection.

Sampling weights are calculated for each contributing job. Jobs in the WPI are assigned sample weights according to the number of similar units they represent within a stratum. The procedure for

assigning a sample weight to a job takes place at the business and job level. Total sample weight is determined by multiplying business and job weights together.

## WEIGHTS

Weighting practices vary at different levels of the WPI. WPI expenditure weights are a measure of the relative importance of each elementary aggregate (EA), based on employers' expenditure on wages and salaries. Below the EA level, sample weights applied to each job on the WPI survey questionnaire indicate the number of jobs in the Australian labour market a particular sampled job represents.

The Laspeyres index methodology requires that prices in each period are compared to those in a given base period. To ensure the index remains relevant, expenditure weights need to be updated to reflect changes in expenditure patterns. This process is referred to as reweighting. Expenditure weights for the WPI are reweighted every two years, following the release of data from the Survey of Employee Earnings and Hours (EEH). This update occurs in the December quarter.

Detailed information on calculating of sampling weights is contained in Chapter 7 – Weights and their Sources and Chapter 10– Wage Price Index Calculation in Practice in the ABS publication *Wage Price Index: Concepts, Sources and Methods, 2012* (cat. no. 6351.0.00.001).

## DATA COLLECTION PROCESSES

The WPI is compiled quarterly by the ABS. The survey reference date is the last pay period ending on or before the third Friday of the middle month of the March, June, September and December quarters each year. The data are typically released approximately seven weeks after the end of each quarter, in the publication *Wage Price Index, Australia* (cat. no. 6345.0).

Information for the WPI is collected using quarterly mail-out, mail-back questionnaires.

When a business is first selected in the survey, detailed pricing specifications are collected for each of the randomly selected jobs. These specifications (job position number, title, tasks, grade, location, etc.) enable the same jobs to be identified in subsequent quarters.

Employers providing data for the WPI have the option of reporting either the ordinary time hourly rate of pay or the annual salary for each selected job. Where an annual salary is reported, information about the usual or standard weekly hours for the job is used to convert it into an hourly rate of pay. Other information relating to the jobs is also collected, including:

- details about pay changes during the reference quarter;
- details about pay change mechanisms (e.g. Fair Work Australia or Modern award, collective agreement or salary review);
- details of overtime provisions;
- details of any bonuses, commissions or incentive payments paid during the reference quarter; and
- any additional information about jobs that have unusual pay or working arrangements.

Sometimes it is not possible to collect data for all of the selected jobs. Some jobs may be temporarily vacant, or the required information is simply not provided by the employer (although this is rare). There are a few options available to deal with temporarily missing observations. These include:

- repeating the previous period's price of the item;

- imputing a movement for the item, based on the price movement for all other items in the sample; and
- using the price movement from another price sample.

The procedure most commonly used in the WPI is to impute a movement for the missing job, based on the price movements of the other jobs in the sample.

## OUTPUTS

Four sets of wage price indexes are released:

- ordinary time hourly rates of pay excluding bonuses;
- ordinary time hourly rates of pay including bonuses;
- total hourly rates of pay excluding bonuses; and
- total hourly rates of pay including bonuses.

The "headline measure" of the wage price index is the index for total hourly rates of pay excluding bonuses. Separate indexes are released for each of the above series for various combinations of state/territory, sector (private/public) and industry divisions. Estimates are published quarterly, and more detailed data may be available on request. Seasonally adjusted and trend data are produced for the index of total hourly rates of pay excluding bonuses for Australia, for the private and public sectors.

## AVERAGE WEEKLY EARNINGS AND WAGE PRICE INDEX

The six monthly Average Weekly Earnings (AWE) and quarterly WPI collections both measure the wages and salaries of employees.

The AWE and WPI collections aim to measure different, albeit related, concepts. AWE is designed to measure earnings, which consist of payments-in-cash and payments-in-kind such as fringe benefits. The WPI is designed to measure inflationary pressures associated with the compensation of employees. Theoretically, WPI would include all elements of compensation of employees, but for practical reasons it focuses on wages and salaries payments in cash, as well as salary sacrifice payments.

The WPI measures changes in the wages and salaries paid by employers for a unit (i.e. hour) of labour where the quality and quantity of labour are held constant. It has the dual purpose of monitoring wages and salaries inflation in the economy and supporting the compilation of the Australian System of National Accounts.

In contrast, the AWE is designed to provide an accurate estimate of the current average value of wages and salaries paid to employees by an employer over a specified period. The emphasis placed on producing a contemporary measure of average wages and salaries mean that the AWE reflects structural changes that occur over time (such as changes in hours paid for and employment). For more information, see the feature article 'Average Weekly Earnings and Wage Price Index - What do they measure?' in *Average Weekly Earnings, Australia, May 2014* (cat. no. 6302.0).

## CHAPTER 32: OTHER LABOUR STATISTICAL PUBLICATIONS

### INTRODUCTION

The surveys outlined below examine subsets of entries to and/or exits from the labour force in detail.

### VOLUNTARY WORK

Information on voluntary work is obtained from the General Social Survey (GSS), conducted throughout Australia from August to November. The results are published in *Voluntary Work, Australia* (cat. no. 4441.0).

The major aim of the voluntary work module is to collect data on rates of participation in voluntary work, the characteristics of people who volunteered and the types of organisations for which they worked. Four similar national voluntary work surveys have been conducted by the ABS before: the first as part of the Monthly Population Survey in 1995, the second on the Population Survey Monitor conducted over four quarters in 2000 and the third and fourth as part of the 2002 and 2006 GSS.

### QUALIFICATIONS AND WORK

Qualifications and Work is a topic on the Multipurpose Household Survey (MPHS). Information on the educational history of Australians, and the relevance of each qualification to their working lives, is collected as a supplement to the LFS each month from January – December with the results published in *Qualification and Work, Australia* (cat. no. 4235.0). For more information on the content and methodology of this survey, refer to Chapter 22.4.

### DISABILITY AND LABOUR FORCE PARTICIPATION

This publication looks at the characteristics of working-age people with disability and their involvement in the labour force. The results are published in *Disability and Labour Force Participation* (cat. no. 4433.0.55.006).

For more information about collection of the data, please refer to the Explanatory Notes of the *Survey of Disability, Ageing and Carers Summary of Findings, 2012* (cat. no. 4430.0).

## CHAPTER 33: FUTURE DIRECTIONS OF LABOUR STATISTICS

### INTRODUCTION

This chapter discusses the future direction of labour statistics in the ABS. It provides a summary of the ABS' transformation objectives, as they relate to labour statistics, and highlights work being undertaken into the development of new integrated data sources.

### ABS TRANSFORMATION

The ABS is undertaking a major transformation of its statistical infrastructure, its systems, and its processes used to produce official statistics. This transformation is funded by a \$250 million Australian Government investment over five years.

As part of the transformation agenda, enhancements are proposed to improve the management and enumeration of household surveys, including labour household surveys.

The longer term transformation objective is to move away from stand-alone surveys, and towards an integrated and flexible household survey program which is continuously in the field. Due to the need to maintain consistency with existing statistics, this ambition is being approached in an iterative manner, rather than a sudden change.

The ABS is currently exploring how to effectively manage any future transformative change of the labour household surveys, including the Labour Force Survey, to ensure minimal disruption to the production of high quality statistics. Potential improvements, along with associated development and testing strategies, are currently being considered by the ABS in initial consultation with key users and experts.

### NEW INTEGRATED DATA

The ABS is undertaking research into the creation of integrated datasets, to deliver new statistical solutions and maximise the value of public data. Within labour statistics, this includes two key projects: the Australian Labour Account and the Linked Employer-Employee Database.

#### Australian Labour Account

The Australian Labour Account provides a conceptual framework through which existing labour market data from different sources can be confronted and integrated, with the aim of producing a coherent and consistent set of aggregate labour market statistics.

The Australian Labour Account is macroeconomic in scope, building on the International Labour Organisation fundamentals and expanding them to ensure consistency with the Australian System of National Accounts. It aims to extend the analytical capacity of national accounts data by providing a labour-specific lens.

The Australian Labour Account framework has been designed to conceptually align with the System of National Accounts production boundary (see Chapter 2: Institutional Units and the Economically Active Population). This ensures direct compatibility with National Accounts and productivity estimates, as well as providing a mechanism for bringing together conceptually related aggregate data from business, household and administrative sources.

The Australian Labour Account framework incorporates four distinct quadrants: Jobs, Persons, Labour Volume and Labour Payments. The framework covers all types of employment including employees, self-employed and contributing family workers.

### **Statistical Releases**

In 2017 the first experimental annual estimates produced from the Labour Account were published in *Labour Account Australia, Experimental Estimates, July 2017* (cat. no. 6150.0.55.001). The conceptual basis, data sources, and compilation methods were also published in *Australian Labour Account: Concepts, Sources and Methods, 2017* (cat. no. 6150.0).

### **Future directions**

Data from the Labour Account are currently available annually; however, the intention is in future to publish the data quarterly. Additional components are also proposed, including more detailed sub-division by industry.

### **Linked Employer-Employee Database (LEED)**

A comprehensive Linked Employer-Employee Database (LEED) would address a longstanding information gap in Australian labour statistics by being capable of answering complex and varied questions about employer-employee relationships, at both a point in time and longitudinally. The creation of a LEED would demonstrate that administrative and directly collected data can be integrated to provide a strong evidence base for research, policy development and evaluation.

### **LEED Foundation Projects**

Through several projects in 2015, the ABS assessed the feasibility of constructing a LEED by integrating unit record Personal Income Tax (PIT) data for the 2011-12 financial year with the unit record business data from the Business Longitudinal Analysis Data Environment (BLADE) (footnote 1) for the same period. These projects, known collectively as the LEED Foundation Projects, culminated in the creation of a Prototype LEED and the release of two statistical outputs.

### **Prototype LEED**

The Prototype LEED is a dataset generated using a combination of administrative data sourced from the Australian Taxation Office and data held by the ABS. It consists of data on employees, employing businesses (employers) and jobs held throughout the 2011-12 financial year. Comprised of three files and linked using a combination of Australian Business Numbers, Tax File Numbers and information collected by the ABS, the Prototype LEED contains over ten million employee records and over thirteen million job records, which are linked to the records of over six hundred and eighty thousand employing businesses.

### **Statistical releases**

There were two statistical releases from the Prototype LEED as part of the LEED Foundation Projects. The first was an information paper and aggregate data, published in *Information Paper: Construction of Experimental Statistics on Employee Earnings and Jobs from Administrative Data, Australia, 2011-12* (cat. no. 6311.0). The second was the release of a 10% microdata file and associated information, published in *Microdata: Employee Earnings and Jobs, Australia, 2011-12* (cat. no. 6311.0.55.001).

### **Government projects using the Prototype LEED**

The ABS has enabled access for particular projects to the full Prototype LEED for approved staff seconded to the ABS from other government agencies. These projects examined the utility of the Prototype LEED to address a range of policy questions, such as those relating to small-area labour markets and specific industries. The outcomes from these secondments will help to direct future LEED directions.

### **Future directions**

The lessons learned from the LEED Foundation Projects have provided valuable input to future development. The ABS intends to build on the work done through the LEED Foundation Projects, as well as leverage capabilities developed from the creation and analysis of the BLADE.

## FOOTNOTES

1. Then referred to as the Expanded Analytical Business Longitudinal Database.



## CHAPTER 34: LABOUR STATISTICS EXPLAINED FREQUENTLY ASKED QUESTIONS

### INTRODUCTION

This chapter provides simple answers to questions that are commonly asked by the public, by journalists and by analysts in relation to Australia's labour statistics. This chapter also provides links to find more information on a given topic.

### What are ABS labour force estimates?

Every month, the Australian Bureau of Statistics (ABS) publishes labour force estimates from data collected in the Labour Force Survey. The estimates in *Labour Force, Australia* (cat. no. 6202.0) provide a comprehensive picture of the labour market characteristics of the Australian population aged 15 years and over who are:

- employed, underemployed, unemployed and not in the labour force; and also
- other important information, such as their sex, the hours they work, and the state and territory they live in.

The monthly Labour Force release includes original, seasonally adjusted and trend estimates of important headline labour market indicators. The detailed release and the quarterly release include a range of products that assist in further understanding the state of the labour market, such as whether patterns of work are changing.

### How are the labour force estimates collected?

The Labour Force Survey is a large survey which around 26,000 households respond to each month; the equivalent of about 50,000 people – or around one in every 312 Australians aged 15 years and over. The target survey response rate of between 93%-95% is higher than that of all other OECD countries, which ensures that Australia has highly reliable information about its labour market.

Households selected in the Labour Force Survey traditionally responded through a telephone or face-to-face interview; however, since April 2014 all private dwellings have been provided the option of using online electronic collection. Online collection take up rates have remained consistent at around 20% since April 2014.

Households selected in the Labour Force Survey are sent a letter and brochure informing them that they have been selected to participate in the survey. Since February 2014, survey respondents have been asked to use the unique user name and password provided in the letter to register an email address and other contact details for the household, or to contact the ABS if they are unable to participate in the survey online. A notification is then sent to respondents who have registered their contact details electronically to advise that the survey questionnaire is available for completion online within a specified one week period. Respondents who are unable to participate in the survey online, along with respondents who register contact details for the household electronically but do not complete the survey questionnaire online within the specified one week period, are subsequently contacted by an ABS interviewer to complete the survey questionnaire either via telephone or face-to-face.

### What are 'rotation groups'?

The 26,000 households surveyed in the monthly Labour Force Survey are required to complete the survey for 8 months. Each month, 1/8 of the survey households are "rotated out" and replaced by a new group, generally drawn from the same geographic area. By having 7/8 of the households the

same from one month to the next, the ABS ensures the survey estimates best reflect of what is happening in the labour market, rather than reflecting change in the sample. The rotation process also limits the burden on households who will only be in the sample group for eight months.

While the outgoing and incoming groups will always have different characteristics, the design of the survey, including weighting and estimation processes, ensures that these differences are generally relatively minor and do not affect the representativeness of the survey and its estimates.

### **When is the Labour Force Survey conducted?**

The interviews are generally conducted during the two weeks beginning on the Sunday between the 5th and 11th of each month. The information obtained relates to the week before the interview, known as the reference week. Each year, to deal with the operational difficulties involved with collecting and processing the Labour Force Survey around the Christmas and New Year holiday period, interviews for December start four weeks after November interviews start (i.e. between the 3rd and 9th December), and January interviews start five weeks after December interviews start. As a result, January interviewing may commence as early as the 7th or as late as the 13th, depending on the year. Occasionally, circumstances that present significant operational difficulties for survey collection can result in a change to the normal pattern for the start of interviewing.

### **Who answers the questions in the Labour Force Survey?**

The Labour Force survey uses an Any Responsible Adult (ARA) methodology, where one person in the household completes the survey on behalf of other household members. In some group households the ABS may need to undertake separate interviews.

### **When are labour force figures published?**

Data from the monthly Labour Force Survey are released in two stages. The first release of estimates from the Labour Force Survey are usually published in *Labour Force, Australia* (cat. no. 6202.0) are released monthly - on the third Thursday in the month following collection.

The *Labour Force, Australia, Detailed Electronic Delivery* (cat. no. 6291.0.55.001) and *Labour Force, Australia, Detailed, Quarterly* (cat. no. 6291.0.55.003) are part of the second release, and include detailed data not contained in the *Labour Force, Australia* (cat. no. 6202.0) product set, which is released one week earlier.

The *Labour Force, Australia, Detailed - Electronic Delivery* (cat. no. 6291.0.55.001) is released monthly - on the fourth Thursday in the month following collection. *Labour Force, Australia, Detailed, Quarterly* (cat. no. 6291.0.55.003) includes data only collected in February, May, August and November (including industry and occupation).

### **Is there a list of all the publications that provide data on Australia's labour market?**

A full list of publications can be found in Chapter 35: Labour Statistical Outputs and Analytical Articles.

### **What is the scope of the Labour Force Survey?**

The scope of the LFS is restricted to persons aged 15 years and over and excludes the following persons:

- members of the permanent defence forces;
- certain diplomatic personnel of overseas governments, customarily excluded from the Census and estimated populations;

- short term overseas residents in Australia; and
- members of non-Australian defence forces (and their dependants).

## Which labour force series should I use - seasonally adjusted or trend estimates?

Each month the ABS publishes a range of seasonally adjusted and trend estimates in [Labour Force, Australia](#). The trend series smooths the more volatile seasonally adjusted estimates, and provide the best measure of the underlying behaviour of the labour market.

### Understanding trend data

Trend data provides the best measure of the labour market, as it specifically excludes seasonal factors (for example, employment always increasing in December) and irregular effects (a one-off event, like the Commonwealth games). It also smooths out month-to-month sampling variability. Trend data provides the best means of determining whether the labour market is strengthening or softening, and how the composition of the labour market is changing over time.

### Understanding seasonally adjusted data

Seasonally adjusted estimates have seasonal effects removed, but they still contain the irregular elements, including month-to-month sampling variability. This means that monthly seasonally adjusted estimates provide a less reliable indication of labour market trends.

For further information, see: [Time Series Analysis: The Basics](#).

## Do labour force data provide a measure of jobs?

Labour force data provides a measure the number of people who are employed. They are not a measure of the number of jobs.

The Labour Force Survey is designed to produce estimates of the number of people engaged in economic activity, and the definition used aligns closely with international standards and guidelines. The concept of employment used in the Labour Force survey (and other ABS household surveys) differs to the concept used in ABS business surveys, where estimates are based on the number of jobs involving paid employment. For example, a person holding multiple jobs with different employers would be counted in ABS household surveys as employed once, but in ABS business surveys would be counted once for each job that they held.

In 2017, the ABS released data from the experimental Australian Labour Account. The Australian Labour Account includes jobs as one of its four quadrants of labour, along with persons, volume, and payments, and sources data from a number of ABS household and business surveys.

## Why do ABS unemployment figures and Government job seeker income support figures differ?

Comparisons are often made between the official unemployment estimates published by the ABS and figures produced by the Department of Social Services on the number of people receiving government job seeker income support. These two sets of information actually tell us different but related things about people who aren't currently working.

The ABS measure, which is based on international labour standards, examines whether people are working and, if they aren't, what activities they are undertaking to find work, and whether they are available to start work right now. In contrast, the job seeker income support figures provide the number of people who aren't working who have sought, were eligible for and are receiving income support payments.

Not all people receiving income support are 'unemployed' as defined by the ABS, while those classified by the ABS as 'unemployed' may not necessarily be receiving income support (for instance, an unemployed person may not be eligible for income support payments due to income and assets tests, or they may not choose to seek income support payments). Conversely, a person receiving income support may not be classified by the ABS as unemployed if they did more than one hour of paid work in the survey week, or are not available to start work immediately.

No data from the Department of Social Services on the number of people receiving government job seeker income support is used in compiling the labour force figures. Analysis generally shows that changes in persons on unemployment benefits and changes in the unemployment rate track reasonably consistently over time.

For more information on how unemployment is defined, see: [How does the ABS measure unemployment.](#)

### **Where are Labour Force figures for my region?**

Regional labour force data are published according to the Australian Statistical Geography Standard (ASGS) at the Greater Capital City Statistical Area (GCCSA) and the Statistical Area Level 4 (SA4) on a monthly basis in *Labour Force, Australia, Detailed* (cat. no. 6291.0.55.001). Each SA4 is designed to reflect, as best as possible, a discrete labour market within a state or territory, subject to the population limits imposed by the size of the Labour Force Survey sample. An interactive mapping tool, which shows the boundaries for each SA4, is available at: <http://stat.abs.gov.au/itt/r.jsp?ABSMaps>

The Labour Force Survey is designed primarily to provide accurate national estimates, with the secondary design objective of producing state and territory estimates. Regional estimates are compiled from smaller sample sizes at a lower level of statistical quality compared to those produced at state and territory and national levels.

For this reason, especially in regions with small populations, the ABS recommends that analysis of regional labour force estimates should be based on annual averages (as presented in Table 16(b) of *Labour Force, Australia, Detailed* (cat. no. 6291.0.55.001)).

It is also important to note that estimates are based on the place of usual residence, while respondents may be employed in a different region to where they live. This is particularly relevant for regions around capital cities, with workers often travelling across regional boundaries to central business districts, and labour market outcomes are more likely to reflect activity in these areas.

For more information on understanding and reporting regional labour force data, see: [Advice on reporting regional labour force data.](#)

### **Why do some numbers change a lot from one period to the next?**

Generally with labour statistics figures, this is either a reflection that you are using data at a finer level than it is designed for, which is therefore subject to a high level of sampling variability, or that the figures relate to something that is highly variable.

By sampling variability, the ABS is referring to the level of sampling error in survey-based statistics. Sampling error occurs because a sample, rather than the entire population, is surveyed. All ABS survey statistics have information on survey sampling error.

As a rule, the smaller the sample that estimates are based on, the more likely it will be to see a higher level of sampling variability over time. There are a number of different approaches to reducing this variability over time, with a rolling annual average being the most commonly used. For an example of this approach, using regional labour force data, see: [Advice on reporting regional labour force data](#).

In addition, for key series, the ABS also produces trend figures, which provide the best measure of the underlying behaviour in the labour market. Commentary in ABS labour statistics releases tend to focus on these statistics, wherever possible.

### **How far back are the Labour Force Survey data available?**

The earliest labour force estimates available on the web site is from August 1966 in [The Labour Force, Preliminary Estimates, Feb 1969](#) (cat. no. 6203.0). In the first published preliminary data for August 1966, the participation rate was 59.4% of the 8.1 million people in the total civilian population aged over 15, and the unemployment rate was 1.4%.

The *Labour Force Historical Time Series, Australia, 1966 to 1984* (cat. no. 6204.0.55.001) presents spreadsheets of some of the commonly used data from the Labour Force Survey for the period from 1966 to 1984.

Data for 1966-2002 is also available in a hard copy for each publication in *Labour Force, Australia* (cat. no. 6203.0) and *The Labour Force, Australia, 1978-95* (cat. no. 6204.0). These publications present a time series of key data items in one table.

Current labour force information is available in the monthly *Labour Force, Australia* publication (cat. no. 6202.0), with data available from 1978.

### **Have there been any changes to Labour Force Survey?**

Refer to Chapter 19.1: Labour Force Compatibility Over Time.

### **Where can I find copies of the survey questions?**

Refer to Appendix 2: Survey Questionnaires.

### **I have been selected to complete an ABS survey, where do I find more information?**

On the ABS website, select "Complete your survey" to find more information about the surveys, and how to complete your survey online.

### **What is the definition of unemployed?**

Unemployed persons are defined as all persons aged 15 years and over who were not employed during the reference week, and:

- had actively looked for full-time or part-time work at any time in the four weeks up to the end of the reference week and were available for work in the reference week; or
- were waiting to start a new job within four weeks from the end of the reference week and could have started in the reference week if the job had been available then.

For more information, watch this video - [More Than Just Unemployed](#).

## What is the definition of employed?

Employed persons are defined as all persons aged 15 years and over who, during the reference week:

- worked for one hour or more for pay, profit, commission or payment in kind, in a job or business or on a farm (comprising employees and owner managers of incorporated or unincorporated enterprises);
- worked for one hour or more without pay in a family business or on a farm (i.e. contributing family workers);
- were employees who had a job but were not at work and were:
  - away from work for fewer than four weeks up to the end of the reference week;
  - away from work for more than four weeks up to the end of the reference week and received pay for some or all of the four week period to the end of the reference week;
  - away from work as a standard work or shift arrangement;
  - on strike or locked out;
  - on workers' compensation and expected to be returning to their job; or
- were employers or owner managers who had a job, business or farm, but were not at work.

For more information watch this video - [More Than Just Unemployed.](#)

## How employment is measured: The one hour rule

Less than 50 people in the sample of 50,000 reports they only work one hour. That works out to be 15,000 people out of around 12 million employed (or 0.1%), and movements in this number are not large enough to affect total employment.

The ABS defines people as 'employed' if they work one hour or more in the reference week. The vast majority of part-time employed people work more than 15 hours.

The 'one hour rule' is used internationally and allows employment figures to be compared with other countries. It has been used in Australia since the Labour Force Survey began, enabling comparisons to be made over a long period of time.

The ABS also has a range of other measures, such as underemployment, that help to understand how many people are fully employed, and how many would like to be working more.

## What are contributing family workers?

If family members contribute to the output of an unincorporated enterprise, they are assumed to receive an element of remuneration in kind, and thus they are treated as being in the economically active population. As such, Australian labour statistics include estimates for contributing family members, even though other unpaid work is excluded.

This concept was first introduced in April 1986, when the questionnaire was revised following the extension of the definition of employed persons to include persons who worked without pay between 1–14 hours per week in a family business or on a farm (i.e. contributing family workers). This definition aligned the Australian labour force concepts with the set of definitions adopted by the 13th International Conference of Labour Statisticians in October 1982. Previously, contributing family workers who worked 1–14 hours, or who had such a job but were not at work, were defined as either unemployed or not in the labour force, depending on whether they were actively looking for work.

## **I am a volunteer - would I be counted as employed?**

Volunteers are people who willingly give unpaid help, in the form of time, service or skills, to an organisation or group. Included in this category are the volunteer component of boards of management, fundraising committee members and auxiliary members. Unpaid work and volunteer services are generally in scope of the System of National Accounts production boundary, however they are generally not considered in scope of the Australian production boundary in the Australian System of National Accounts and labour household surveys.

## **I am waiting to start my new job, am I employed or unemployed?**

If you are waiting to start your new job we refer this as a 'future starter': that is, those persons who were not employed during the reference week, were waiting to start a job within four weeks from the end of the reference week, and could have started in the reference week if the job had been available then. Under International Labour Organisation (ILO) guidelines, future starters do not have to be actively looking for work in order to be classified as unemployed.

## **What is the difference between full-time and part-time employment?**

The ABS classifies people as employed full-time if they worked, or usually work, 35 or more hours in the survey reference week. This includes people who were employed in two or more part-time jobs and in total worked more than 35 hours.

Part-time workers are those who worked, and usually work, less than 35 hours in the survey reference week.

Changes in full-time and part-time employment reflects people starting and finishing jobs (with various hours of work), but also ongoing variation in the hours worked by employed people remaining in the same jobs. It is important to remember this when looking at the 'net' change.

The full-time/part-time status classification differs from the criteria for being casual – something that is often not understood. The classification of full-time and part-time employment is based on hours worked, whereas a person being classified as casual is unrelated to the hours they work. Instead, the concept of casual employment is determined by whether or not an employee has access to leave entitlements like paid sick leave or holiday leave. One way to help understand this is that someone can be a casual employee (i.e. not have paid sick or holiday leave) but work full-time.

## **Why does Australia only survey people over 15 years of age?**

The international standards and guidelines recognise the need to exclude persons below a certain age from the measures, without specifying a particular age limit. The responsibility for setting such limits lies with individual countries. Examples of factors influencing the age limit are:

- legislation governing the minimum school leaving age;
- labour laws setting the minimum age for entering paid employment;
- the extent of the contribution to economic activity by young people; and
- the cost and feasibility of accurately measuring this contribution in household surveys.

Australian labour and compulsory schooling legislation have resulted in low numbers of young people being involved in economic activity. While such legislation varies from state to state, the net result is that age 15 is the lowest practical limit at which it is feasible and cost-effective to measure the participation of young persons in economic activity with acceptable accuracy through household surveys. It should also be noted that this limit applies to all workers, including contributing family workers who perform unpaid work in a family business or farm.



Australia has adopted a minimum age limit of 15 years and over in the labour household surveys, while labour business surveys collect information irrespective of the age of the employee.

## How many households are surveyed in the Labour Force Survey in Australia and each State and Territory every month?

The sample design is specified in terms of selecting a proportion of dwellings within the state/territory. This is known as the sampling fraction. Traditionally the sampling fraction is not changed during the five-year life of the sample design, meaning that the sample size increases over time as the population size grows, resulting in a gradual increase in the number of persons enumerated during the life of each sample design.

**Table 34.1: Sampling Fractions**

	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory
1971 redesign	1 in 200	1 in 200	1 in 140	1 in 100	1 in 90	1 in 60	1 in 100	1 in 200
1976 redesign	1 in 200	1 in 200	1 in 140	1 in 100	1 in 90	1 in 60	1 in 100	1 in 100
1981 redesign	1 in 200	1 in 200	1 in 140	1 in 100	1 in 100	1 in 60	1 in 100	1 in 100
1986 redesign	1 in 230	1 in 230	1 in 160	1 in 115	1 in 115	1 in 70	1 in 115	1 in 115
1991 redesign	1 in 277	1 in 242	1 in 195	1 in 139	1 in 146	1 in 75	1 in 75	1 in 75
1996 redesign	1 in 300	1 in 257	1 in 222	1 in 147	1 in 160	1 in 83	1 in 85	1 in 85
2001 redesign	1 in 321	1 in 270	1 in 239	1 in 149	1 in 165	1 in 90	1 in 98	1 in 86
2006 redesign	1 in 380	1 in 336	1 in 315	1 in 184	1 in 246	1 in 103	1 in 54	1 in 117
2008 sample reduction	1 in 499	1 in 441	1 in 415	1 in 241	1 in 324	1 in 135	1 in 68	1 in 154
2009 sample reinstatement	1 in 380	1 in 336	1 in 315	1 in 184	1 in 246	1 in 103	1 in 54	1 in 117
2011 redesign	1 in 419	1 in 390	1 in 369	1 in 209	1 in 295	1 in 99	1 in 52	1 in 149

Below is the average number of dwellings (including non-private dwellings) responding to the Labour Force Survey each month.

**Table 34.2: Average number of responding dwellings and persons each month, 2016/17**

	New South Wales	Victoria	Qld	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory	Australia
Dwellings	6,000	5,200	4,600	3,000	2,800	2,000	1,100	1,000	26,000
Persons	12,000	10,000	9,000	5,700	5,600	3,700	2,200	1,900	51,000

For more information refer to [Information Paper: Labour Force Survey Sample Design, May 2013](#) (cat. no. 6269.0).

## What does the ABS mean by labour force “benchmarks” and “rebenchmarking”?

Labour force statistics measure key aspects of the Australian labour market, and provide some of the most important economic and social indicators. For this reason, it is important to ensure that labour force statistics are of the highest quality, and most effectively represent the labour market status of the population.

“Benchmarks” refer to the population estimates that Labour Force Survey (LFS) data are aligned to, so that they effectively represent the population. That is, how the large monthly sample of 50,000



people can effectively represent the 20 million usually resident civilian population aged 15 years and over.

There are two key inputs to the labour force estimates:

- A measure of the size and profile of the population potentially available to the labour force; and
- The labour force status of people in the population.

The first of these are population benchmarks, which are based on population estimates, while the second is based on the data that are collected in the LFS.

To produce labour force estimates, data from the LFS are "weighted up" to the total population benchmarks. Since only a sample of the population can be surveyed every month, this weighting process transforms the survey data into representative estimates, which provide a picture of the entire population.

"Rebenchmarking" is the process of updating the total population figures that the labour force estimates are weighted up to, as new Estimated Resident Population (ERP) figures become available in *Australian Demographic Statistics* (cat. no. 3101.0).

### Where do I find information on.....?

The Labour Force Survey Standard Products and Data Item Guide (cat. no. 6103.0) is a useful reference for users seeking different data variables from the Labour Force Survey. The guide is divided into two sections:

- Section 1: Labour Force Survey standard product data - The first section alphabetically lists and explains the data items in Labour Force Survey standard products and where to find them.
- Section 2: Detailed information on Labour Force Survey standard products - The second section lists the Labour Force Survey standard products, and specifies the data items contained within each spreadsheet and data cube.

Commonly sought data items are listed below:

- **Education data.** Level of highest educational attainment identifies the highest achievement a person has attained in any area of study. It is not a measurement of the relative importance of different fields of study, but a ranking of qualifications and other educational attainments regardless of the particular area of study or the type of institution in which the study was undertaken. For more information regarding how Level of highest educational attainment is derived, see Education Variables, June 2014 (cat. no. 1246.0). It is categorised according to the Australian Standard Classification of Education (ASCED), 2001 (cat. no. 1272.0) Level of education. Estimates can be found in Labour Force, Australia, Detailed, Quarterly (cat. no. 6291.0.55.003) - Tables 24a, 24b and Data cubes LQ1, LQ2.

Estimates of numbers enrolled at secondary or high school or enrolled as student at a Technical and Further Education (TAFE) college, university, or other educational institution in the reference week can be found in *Labour Force, Australia, Detailed, Quarterly* (cat. no. 6291.0.55.003) - Tables 25a, 25b and Data cube LQ2

- Industry data.** An industry is a group of businesses or organisations that undertake similar economic activities to produce both goods and services. The [Australian and New Zealand Standard Industrial Classification \(ANZSIC\), 2006 \(Revision 2.0\)](#) (cat. no. 1292.0) is used to classify industries in Australia and New Zealand. In the LFS, ANZSIC is used to describe the industry of an employed person's main job or business, or an unemployed person's last job or business. ANZSIC is a hierarchical classification that provides a broad overall picture of the economy at the division level (1 digit), and increasingly detailed dissections at the subdivision (2 digit), group (3 digit) and class (4 digit) levels. The class level of the ANZSIC classification is not collected or available from the LFS. Estimates can be found in [Labour Force, Australia, Detailed, Quarterly](#) (cat. no. 6291.0.55.003) - Tables 04, 05, 06, 11, 19 and 27. Industry of main job at the division, sub-division and group (the most detailed 3-digit ANZSIC available) can be found at Data cube EQ06.
- Occupation data.** An occupation is a collection of jobs that are sufficiently similar in their title and tasks, skill level and skill specialisation. The [Australian and New Zealand Standard Classification of Occupations \(ANZSCO\), 2013, Version 1.2](#) (cat. no. 1220.0) is a skill-based classification used to classify jobs in the Australian and New Zealand labour markets. In the Labour Force Survey (LFS), ANZSCO is used to describe the occupation of an employed person's current main job or an unemployed person's last job. Estimates can be found in [Labour Force, Australia, Detailed, Quarterly](#) (cat. no. 6291.0.55.003) - Tables 07, 12, 19, 28 and Data cubes EQ7b, EQ07, EQ13. RQ2, EQ08, UQ3a, UQ3b. Occupation of main job at the major, sub-major, minor and unit group (the most detailed ANZSCO available) can be found at Data cube EQ08.
- Trade union membership.** Trade union membership data are available from the *Characteristics of Employment Survey* (cat. no. 6333.0). Data are collected biennially since 2014. Previously, this information was collected in the *Employee Earnings, Benefits and Trade Union Membership Survey* (cat. no. 6310.0).
- Independent contractors.** Independent contractor data are available from the *Characteristics of Employment Survey* (cat. no. 6333.0). Data are collected annually since 2014. Previously, this information was collected annually in the *Forms of Employment Survey* (cat. no. 6359.0).
- Labour hire.** Labour hire data are available from the *Characteristics of Employment Survey* (cat. no. 6333.0). Data are collected biennially since 2014. Previously, this information was collected in the *Forms of Employment Survey* (cat. no. 6359.0).
- Labour Force regional data.** Regional labour force data are published each month for each Australian Statistical Geography Standard (ASGS) Statistical Area Level 4 (SA4) in table 16 of the *Labour Force, Australia, Detailed* (cat. no. 6291.0.55.001)).

The Labour Force Survey is designed primarily to provide accurate national estimates, with the secondary design objective of producing state and territory estimates. While the Labour Force Survey is not designed to produce regional estimates, these are compiled from smaller sample sizes at a lower level of statistical quality compared to those produced at state and territory and national levels.

In interpreting labour force regional time series data, it is important to consider both the strengths and the limitations of these types of data, including the relative standard error, before drawing conclusions based on the estimates. The regional estimates have, by design,

unavoidably larger relative sampling error compared to the national and state and territory estimates, owing to their smaller sample sizes. Original data such as the regional estimates also contain seasonal influences and irregular fluctuations, which can mask the underlying trend of the data.

It is for these reasons that the ABS recommends that analysis of regional labour force estimates should be based on annual averages (as presented in Table 16(b) of *Labour Force, Australia, Detailed* (cat. no. 6291.0.55.001)). A visualisation of the SA4 boundaries for each State and Territory can be found in Appendix 1: Statistical Geography and Maps.

- **Migrant workers / temporary workers.** Household surveys, including the Labour Force Survey, collect information about the usually resident population. To determine whether a person is usually resident, Australia has adopted a 12 month in 16 rule. This rule specifies that, to be considered a usual resident, a person must have been (or expect to be) residing in Australia for 12 months or more in a 16 month period. This 12 month period does not need to be continuous. Labour household surveys also include residents who are temporarily overseas for less than six weeks. All persons who are usually resident in Australia are considered part of the usually resident population, regardless of nationality, citizenship or legal status.

The Labour Force estimates provide information on country of birth. Estimates can be found in *Labour Force, Australia, Detailed - Electronic Delivery* (cat. no. 6291.0.55.001) in Data cubes LM4, LM5 and LM7. The labour force estimates also provide information on the number of years since a person first arrived in Australia, with the intention of staying for at least one year. These estimates can be found in *Labour Force, Australia, Detailed - Electronic Delivery* (cat. no. 6291.0.55.001) in Data cubes LM4 and LM7.

The labour force estimates do not collect information by visa type. *Characteristics of Recent Migrants, Australia* (cat no 6250.0) provides data about the labour force status and other characteristics of recent migrants and temporary residents. Along with general demographic and employment characteristics of recent migrants and temporary residents, information available from the survey includes the type of visa held by recent migrants and temporary residents on arrival in Australia, language spoken, education and employment before and after arriving in Australia, any difficulties experienced finding work since migration and proficiency in English.

The following articles may also be relevant:

- *Migrant Data in ABS Labour Statistics* (cat no 6105.0);
  - *Case Study: Migrants*; and
  - *Migrant Data Matrices* (cat no 3415.0)
- **Underemployment data.** Underemployed workers are employed people who would prefer, and are available for, more hours of work than they currently have. They comprise: part-time workers who would prefer to work more hours and were available to start work with more hours, either in the reference week or in the four weeks subsequent to the survey; and full-time workers who worked part-time hours in the reference week for economic reasons (such as being stood down or insufficient work being available). It is assumed that these people would prefer to work full time in the reference week and would have been available to do so.

The following products provide information on underemployment:

- August 2003-August 2013 (annual) data are in Table 2 of Australian Labour Market Statistics (cat. no. 6105.0);
- August 2014-May 2017 (quarterly) data are in Tables 23a and 23b of *Labour Force, Australia, Detailed, Quarterly* (cat. no. 6291.0.55.003);
- *Underemployed Workers* (6265.0) up to September 2013; and
- *Participation, Job Search and Mobility* (6226.0) from February 2014.

## CHAPTER 35: LABOUR STATISTICAL OUTPUTS AND ANALYTICAL ARTICLES

### OUTPUT

The ABS objectives in dissemination are to ensure widespread availability of information.

To meet the 'public good' obligations of the ABS, the main findings of statistical collections and statistical reports on matters of public interest are made available free of charge to the community via the media. ABS publications are made available free to the general public through the ABS website.

A number of international agencies, including the International Monetary Fund and the International Labour Organization (ILO), have put forward a range of proposals and guidelines for the dissemination of data including: the methodology of their collection and compilation, and evaluation as to their accuracy; relevance to the phenomena measured; and quality of the output. In particular, the ILO at its 1998 International Conference of Labour Statisticians (ICLS) endorsed a set of 20 guidelines concerning dissemination practices for labour statistics. The ICLS Guidelines can be found on the ILO website at the following address: <http://www.ilo.org/stat/lang--en/index.htm>

### DISSEMINATION CHANNELS

The ABS website ([www.abs.gov.au](http://www.abs.gov.au)) is the main channel for disseminating statistics, and provides public access to ABS data of broad interest free of charge. Publications are the prime release medium and are available for download in electronic format, namely PDF files and Excel spreadsheets. Some ABS labour publications are in HTML format only.

In addition to publications, a range of other dissemination media is used in the release of labour statistics. The ABS produces, free of charge, a quick reference information service for basic statistical information, including information on labour statistics. The service operates in response to telephone calls, email, correspondence and personal visits. The ABS also offers information consultancy services on a fee for service basis, for clients requesting more complex information.

Confidentialised Unit Record Files are available for some labour collections. These files contain the responses received for each unit in the survey, with any identifying information removed or modified to ensure that no respondents can be identified from the dataset.

Table Builder, an online tool for creating tables, graphs and maps using ABS microdata, is available for some labour collections. Table Builder is available for users who wish to undertake a more detailed analysis of the data.

### LABOUR STATISTICAL OUTPUTS

A list of labour statistical outputs is detailed in Table 35.1 below.

**Table 35.1: Labour Statistical Outputs**

Publication Title	Cat. No.	Frequency	Availability
<b>Business Surveys</b>			
Australian Industry	8155.0	Annual	Current
Average Weekly Earnings, Australia	6302.0	Biannual	Current
Business Indicators, Australia	5676.0	Quarterly	Current

Employee Earnings and Hours, Australia	6306.0	Biennial	Current
Employment and Earnings, Public Sector, Australia	6248.0.55.002	Annual	Current
Industrial Disputes, Australia	6321.0.55.001	Quarterly	Current
Job Vacancies, Australia	6354.0	Quarterly	Current
Labour Costs, Australia	6348.0	Irregular	Current
Wage Price Index, Australia	6348.0	Quarterly	Current
<b>General Social Surveys</b>			
Census of Population and Housing	2011.0	Five-yearly	Current
Disability and Labour Force Participation	4433.0.55.006	Irregular	Current
Voluntary Work, Australia	4441.0	Irregular	Current
<b>Labour Force Surveys</b>			
Labour Force, Australia	6202.0	Monthly	Current
Labour Force, Australia, Detailed - Electronic Delivery	6291.0.55.001	Monthly	Current
Labour Force, Australia, Detailed, Quarterly	6291.0.55.003	Quarterly	Current
Labour Force, Australia: Labour Force Status and Other Characteristics of Families	6224.0.55.001	Annual	Current
<b>Monthly Population Supplementary Surveys (Labour Force Supplementary Surveys)</b>			
Characteristics of Employment, Australia	6333.0	Annual	Current This product replaces the publications: Employee Earnings, Benefits and Trade Union Membership, Australia, Forms of Employment, Australia, Working Time Arrangements and Locations of Work
Characteristics of Recent Migrants, Australia	6250.0	Irregular	Current This product replaces the publication Labour Force Status and Other Characteristics of Migrants, Australia
Child Employment, Australia	6211.0	Irregular	Current
Education and Work, Australia	6227.0	Annual	Current
Employee Earnings, Benefits and Trade Union Membership, Australia	6310.0	Annual	Ceased This product replaced by Characteristics of Employment, Australia
Forms of Employment, Australia	6359.0	Annual	Ceased This product replaced by Characteristics of Employment, Australia

Job Search Experience, Australia	6222.0	Annual	This product replaced by Participation, Job Search and Mobility, Australia
Labour Force Experience, Australia	6206.0	Biennial	This product replaced by Participation, Job Search and Mobility, Australia
Labour Mobility, Australia	6209.0	Biennial	This product replaced by Participation, Job Search and Mobility, Australia
Locations of Work, Australia	6275.0	Irregular	Current
Multiple Jobholding, Australia	6216.0	Irregular	Current
Participation, Job Search and Mobility	6226.0	Annual	Current This product replaces Persons Not in the Labour Force, Underemployed Workers and Job Search Experience, Australia and Labour Mobility, Australia
Persons Not in the Labour Force	6220.0	Annual	This product replaced by Participation, Job Search and Mobility, Australia.
Persons Not in the Labour Force, Underemployed Workers and Job Search Experience, Australia	6226.0.55.001	One-off (Bridge)	This product replaced by Participation, Job Search and Mobility, Australia. Originally, this product replaced the publications: Persons Not in the Labour Force, Australia, Underemployed Workers, Australia and Job Search Experience, Australia
Pregnancy and Employment Transitions, Australia	4913.0	Irregular	Current
Underemployed Workers, Australia	6265.0	Annual	This product replaced by Persons Not in the Labour Force, Underemployed Workers and Job Search Experience, Australia
Working Time Arrangements, Australia	6324.0	Irregular	This product replaced by Characteristics of Employment. This product replaces the publication Working Arrangements, Australia
<b>Multipurpose Household Surveys</b>			
Barriers and Incentives to Labour Force Participation, Australia	6239.0	Biennial	Current
Qualification and Works	4235.0	Irregular	Current
Retirement and Retirement Intentions, Australia	6238.0	Biennial	Current
Work-Related Injuries, Australia	6324.0	Irregular	Current

## **ANALYTICAL ARTICLES**

An archive of articles and analysis promoting the effective use of labour force statistics is published in *Labour Force, Australia* (cat. no. 6202.0), and is reproduced in Table 35.2 below.

**Table 35.2:**



Online Collection in the Labour Force Survey	Apr-17
Annual Seasonal Reanalysis	Mar-17
Changes to Filter Lengths used in Labour Statistics	Feb-17
Fact Sheet: Expanded Education data from the Labour Force Survey	Aug-16
Spotlight on Underemployment	Nov-16
Online Collection In The Labour Force Survey	Aug-16
Revisions to monthly hours worked in all jobs	Jul-16
Annual Seasonal Reanalysis	Mar-16
Online Collection In The Labour Force Survey	Feb-16
Update on Recommendation 7 from the Independent Technical Review	Nov-15
Measures of Underemployment and Underutilisation	Nov-15
Measures of leave entitlements	Nov-15
Measures of current duration of employment	Nov-15
Volume measures of underutilisation	Nov-15
Measures of retrenchment	Nov-15
Measures of sector of main job	Nov-15
Online Collection in the Labour Force Survey	Aug-15
Progress with recommendations from the Independent Technical Review	Jul-15
Assessing Volatility in the Labour Force Series	Jun-15
Update on Recommendations 10 and 11 from the Independent Technical Review	Jun-15
Update on Recommendation 7 from the Independent Technical Review	May-15
Annual Seasonal Reanalysis	Mar-15
Update on Recommendations from the Independent Technical Review	Mar-15
Online Collection in the Labour Force Survey	Feb-15
Rebenchmarking Labour Force Estimates	Feb-15
Independent Technical Review into the Labour Force Survey and ABS Response	Nov-14
Removing the effect of Supplementary Surveys from seasonally adjusted estimates	Oct-14
Changes in this and upcoming labour force issues	Sep-14
Changes in this and upcoming labour force issues	Aug-14
How does the ABS measure unemployment	Jul-14
Retrenchments	Jul-14
The unemployed and recipients of government unemployment benefits - differences explained	Jul-14
Understanding earnings in Australia using ABS statistics	Jul-14
Fly-in Fly-out (FIFO) Workers	Feb-14
Migrant Data in ABS Labour Statistics	Feb-14
Part-time and Casual Employment	Feb-14
Rebenchmarking Labour Force Estimates to the 2011 Census of Population and Housing	Jan-14
Understanding the Australian Labour Force using ABS statistics	Dec-13
Understanding full-time/part-time status in the Labour Force Survey	Sep-13
Employment measures	Jul-13
A comparison of the Census and the Labour Force Survey	Jul-13
Extended labour force underutilisation rate	Jul-13
Fact sheet did you know - Underemployment	Jun-13

Annual Seasonal Reanalysis	May-13
New Labour Force Sample Design	May-13
Transition to online collection of the Labour Force Survey	Apr-13
Estimating Jobs in the Australian Labour Market	Feb-13
Forthcoming improvements to the content of the Labour Force and Labour Supplementary Surveys	Jan-13
Understanding the Australian Labour Force using ABS statistics	Jan-13
Rebenchmarking of Labour Force Series	Nov-12
Upcoming changes to the Labour Force Survey	Jul-12
Volume Measures of Labour Force Underutilisation	Jul-12
Labour Household Surveys content review and the Labour Force Survey	Jun-12
Employment and mining in Queensland, New South Wales and Western Australia	May-12
ABS Response to recent concerns expressed about employment estimates	Apr-12
Population Benchmarks and Labour Force Survey	Apr-12
Underemployment patterns and the Global Financial Crisis (GFC)	Apr-12
Annual Seasonal Reanalysis	Mar-12
Exploring Labour Force Data on joblessness	Feb-12
Understanding the Australian Labour Force using ABS statistics	Feb-12
Exploring Labour Force Data on joblessness	Feb-12
Employment level estimates versus employment to population explained	Jan-12
Understanding the Australian Labour Force using ABS statistics	Nov-11
Fifty Years of Labour Force: Now and Then	Oct-11
Fact Sheet: Employment or jobs - what does the Labour Force Survey measure?	Oct-11
Fact Sheet: Employment Classifications	Jul-11
Trends in employee methods of setting pay and jurisdictional coverage	Jul-11
Aggregate monthly hours worked: States and Territories	Apr-11
Historical Revisions	Feb-11
Impact of the floods on the Labour Force Survey	Jan-11
Labour force characteristics during recent economic downturns	Jan-11
Labour underutilisation: more than unemployment	Jan-11
Trends in hours worked	Oct-10
Shift workers	Oct-10
Aggregate monthly hours worked	Jul-10
Trade union membership	Jul-10
Working time arrangements	Jul-10
Duration of underutilisation	Apr-10
Retrenched unemployed people	Apr-10
Labour hire workers	Jan-10
Methods of setting pay	Oct-09
Volume measures of labour underutilisation	Oct-09
Independent Contractors	Jul-09
Jurisdictional coverage of pay-setting arrangements	Jul-09
Extended labour force underutilisation rate	Jul-09
Historical labour underutilisation	Jul-09
Underutilisation in the economic downturn	Jul-09
Work and family balance	Apr-09
Job flexibility of casual employees	Apr-09
Labour underutilisation	Apr-09
Jobless Families	Jan-09

Retirement Intentions	Jan-09
Spotlight on underutilisation	Jan-09
Comparing unemployment and the claimant count	Jan-09
Measures of casual employment	Oct-08
Interstate commuters: An analysis of 2006 Census data	Oct-08
Employment type	Jul-08
Maternity leave	Jul-08
Underenumeration in the Labour Force Survey: Findings of a Census data enhancement study	Jul-08
Underemployed workers	Jul-08
Quarterly labour force underutilisation rate	Jul-08
Volume measures of labour underutilisation	Jul-08
First job starters	Jan-08
Jurisdictional coverage of pay-setting arrangements	Jan-08
Census and the Labour Force Survey	Oct-07
Available labour of the unemployed	Oct-07
Employment type	Jul-07
Methods of setting pay	Apr-07
Updated volume measures of labour underutilisation	Apr-07
Changes to ABS measures of employee remuneration	Jan-07
Employment in information and communication technology	Oct-06
Changes in where people work over time	Oct-06
Employment type	Jul-06
Labour force transitions	Jul-06
Job search experience of unemployed people	Jul-06
Updated volume measures of labour underutilisation	Apr-06
The relationship between GDP and employment	Jan-06
Labour outcomes of migrants	Jan-06
Long-term unemployment	Jan-06
Comparison of ABS measures of employee remuneration	Oct-05
Employment type	Oct-05
Job starters	Oct-05
Proposals from the review of ABS working arrangements statistics	Oct-05
Standard error models for the Labour Force Survey	Oct-05
Population, participation and productivity: contributions to Australia's economic growth	Jul-05
Full-time and part-time participation in Australia: a cohort analysis	Jul-05
Changes to coding processes for industry and occupation in the Labour Force Survey	Jul-05
Employee share schemes	Jul-05
Health, disability, age and labour force participation	Apr-05
People who worked few hours	Apr-05
Methods of setting pay	Apr-05
Annual measures of labour underutilisation	Apr-05
Experimental estimates of the average age at withdrawal from the labour force	Jan-05
Labour Price Index	Jan-05
Employment in information and communication technology	Jan-05
Labour force participation in Australia	Jan-05
Implementation of computer assisted interviewing in the Labour Force Survey	Jan-05
Mature age people and the labour force	Oct-04
Changes in types of employment	Oct-04

Children living without an employed parent	Jul-04
Industrial Disputes	Jul-04
Labour Force Survey regions	Jul-04
Labour underutilisation	Jul-04
Parental leave	Apr-04
Multiple job holders	Apr-04
Spotlight on Occupation	Apr-04
Methods of setting pay	Apr-04
Trade union membership	Apr-04
Job search experience: methods and barriers in finding jobs	Apr-04
Improvements to Labour Force estimates	Apr-04
Population, participation and productivity: contributions to Australia's economic growth	Jan-04
Employment in information and communication technology	Jan-04
Labour force participation: international comparison	Jan-04
Changes to Labour Force Survey seasonal adjustment processes	Jan-04
Country of birth	Oct-03
New Labour Force Survey sample selections: analysis of the effort on estimates	Oct-03
Labour market transitions of teenagers	Oct-03
Measures of weekly hours worked	Jul-03
Experimental volume measures of labour underutilisation	Jul-03
Unemployment and participation rates in Australia: a cohort analysis	Jul-03
Do job vacancies provide a leading indicator of employment growth?	Apr-03
Labour Force Survey sample redesign	Apr-03
Characteristics of underemployed workers	Apr-03

An archive of articles and analysis on related labour topics is published in *Australian Labour Market Statistics* (cat. no. 6105.0). The 'Articles and Analysis' link is found in the Summary tab of this publication.

### Most Recent Articles

How does the ABS measure unemployment	Jul-14
Retrenchments	Jul-14
The unemployed and recipients of government unemployment benefits – Differences explained.	Jul-14
Understanding earnings in Australia using ABS statistics	Jul-14
Fly-in Fly-out (FIFO) Workers	Jul-13
Migrant Data in ABS Labour Statistics	Jul-13
Part-time and Casual Employment	Jul-13

### Ageing

Experimental estimates of the average age at withdrawal from the labour force	Jan-05
Health, disability, age and labour force participation	Apr-05
Mature age people and the labour force	Oct-04

### Contractors

Independent Contractors	Jul-09
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### Economic Growth

Do job vacancies provide a leading indicator of employment growth?	Apr-03
Population, participation and productivity: contributions to Australia's economic growth	Jul-05
Population, participation and productivity: contributions to Australia's economic growth	Jan-04

### Employee Remuneration

Changes to ABS measures of employee remuneration	Jan-07
Comparison of ABS measures of employee remuneration	Oct-05
Labour Price Index	Jan-05
Understanding earnings in Australia using ABS statistics	Jul-14

### Employment in Information and Communication Technology

Employment in information and communication technology	Oct-06
Employment in information and communication technology	Jan-05
Employment in information and communication technology	Jan-04

### Employment Type

Changes in types of employment	Oct-04
Employment measures	Jul-13
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Fact Sheet: Employment Classifications	Jul-11

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Aggregate monthly hours worked: States and Territories	Apr-11
Labour force characteristics during recent economic downturns	Jan-11
People who worked few hours	Apr-05
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### Industrial Disputes

Industrial Disputes	Jul-04
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### Job Starters

First job starters	Jan-08
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### Labour Force Participation

Full-time and part-time participation in Australia: a cohort analysis	Jul-05
Labour force characteristics during recent economic downturns	Jan-11
Labour force participation in Australia	Jan-05
Labour force participation: international comparison	Jan-04
The relationship between GDP and employment	Jan-06

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Understanding the Australian Labour Force using ABS statistics	Feb-12
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Exploring Labour Force Data on joblessness	Feb-12

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Country of birth	Oct-03
Labour outcomes of migrants	Jan-06
Migrant Data in ABS Labour Statistics	Jul-13

### Multiple Job Holders

Multiple job holders	Apr-04
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### Non-Standard Employment

Job flexibility of casual employees	Apr-09
Labour hire workers	Jan-10
Measures of casual employment	Oct-08

### Occupation

Spotlight on Occupation	Apr-04
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### Pay Setting

Jurisdictional coverage of pay-setting arrangements	Jul-09
Jurisdictional coverage of pay-setting arrangements	Jan-08
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Methods of setting pay	Apr-04
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## Trade Union

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Shift workers	Oct-10
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## Youth

Labour market transitions of teenagers	Oct-03
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## GLOSSARY

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<b>Active steps taken to find work</b>	<p>Active steps taken by unemployed persons in their search for work during the current period of unemployment include:</p> <ul style="list-style-type: none"><li>• wrote, phoned or applied in person to an employer for work;</li><li>• answered an advertisement for a job in a newspaper;</li><li>• answered an advertisement for a job on the Internet;</li><li>• answered an advertisement for a job on noticeboards;</li><li>• had an interview;</li><li>• contacted friends or relatives;</li><li>• advertised or tendered for work;</li><li>• registered with a Job Services Australia provider; or</li><li>• registered with any other employment agency.</li></ul>
<b>Actively looked for work</b>	<p>Actively looked for work includes:</p> <ul style="list-style-type: none"><li>▪ written, telephoned or applied to an employer for work;</li><li>▪ had an interview with an employer for work;</li><li>▪ answered an advertisement for a job;</li><li>▪ checked or registered with an employment agency;</li><li>▪ taken steps to purchase or start your own business;</li><li>▪ advertised or tendered for work; and</li><li>▪ contacted friends or relatives in order to obtain work.</li></ul>
<b>Actual hours of work</b>	<p>Actual hours of work refers to a specified reference period (e.g. a week) and includes:</p> <ul style="list-style-type: none"><li>• hours actually worked during normal periods of work;</li><li>• time spent in addition to hours worked during normal periods of work (including overtime);</li><li>• time spent at the place of work on activities such as the preparation of the workplace, repairs and maintenance, preparation and cleaning of tools, and the preparation of receipts, time sheets and reports;</li><li>• time spent at the place of work waiting or standing by due to machinery or process breakdown, accident, lack of supplies, power or internet access, etc.;</li><li>• time corresponding to short rest periods (resting time) including tea and coffee breaks or prayer breaks;</li><li>• travel time connected to work (excluding commuting time); and</li><li>• training and skills enhancement related to the job or employer.</li></ul> <p>Excluded are:</p> <ul style="list-style-type: none"><li>• hours paid for but not worked, such as paid annual leave, public holidays or paid sick leave;</li><li>• meal breaks (e.g. lunch breaks);</li><li>• paid and unpaid time 'on call';</li><li>• time spent on travel to and from work when no productive activity for the job is performed (e.g. commuting time); and</li></ul>

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- time off during working hours to attend outside educational activities, even if it is authorised, e.g. those not connected to the job or employer.

For multiple job holders the LFS collects a separate measure of actual hours worked in main job and in all jobs.

<b>Adult employees</b>	Adult employees are those employees 21 years of age or over and those employees who, although under 21 years of age, are paid at the full adult rate for their occupation.
<b>Adult rate</b>	Payment at the full rate stipulated in an award, agreement or the minimum wage order in the relevant jurisdiction.
<b>Age of youngest child</b>	Age of the youngest child, 12 years and under, in the household.
<b>Agreement to work flexible hours</b>	An agreement that is either in writing or otherwise. A written agreement can be in the form of, but not limited to, an individual written agreement between an employer and employee, or a Collective Agreement or Certified Agreement (CA) made directly between an employer and a group of employees.
<b>All jobs</b>	Employed persons may have more than one job. All jobs data items are about all the work that an employed person undertook during the reference week, not only the work that they undertook in their main job. A person's main job is the job in which they usually work the most number of hours.
<b>Applied for workers' compensation</b>	To have formally applied for workers' compensation by completing an application for compensation.
<b>Apprentice</b>	An apprentice is a person who has entered into a legal contract (called a training agreement or contract of training) with an employer, to serve a period of training for the purpose of attaining tradesperson status in a recognised trade. Apprentices and trainees are identified by their answer to a question specifically pertaining to the Australian Apprenticeship Scheme.
<b>Apprentice or trainee rate</b>	Payment at a rate stipulated for apprentices or trainees in an award, agreement or the minimum wage order in the relevant jurisdiction.
<b>Attending full-time education</b>	Persons aged 15-24 years enrolled at secondary or high school or enrolled as a full-time student at a Technical and Further Education (TAFE) college, university, or other educational institution in the reference week.
<b>Attending school</b>	Persons aged 15-19 years enrolled at secondary or high school in the reference week.
<b>Attending tertiary educational institution full-time</b>	Persons aged 15-24 years enrolled full-time at a TAFE college, university, or other educational institution in the reference week, except those persons aged 15-19 years who were still attending school.
<b>Australian citizen</b>	Being an Australian citizen formalises a person's membership of the Australian community. It entitles a person to live permanently in Australia, hold an Australian passport and do such things as vote to elect Australia's governments, stand for parliament, work in the Public Service and serve in the armed forces. A person may acquire Australian citizenship in a number of ways, for example, by birth, adoption, descent, resumption or granting of Australian citizenship (naturalisation). Migrants no longer require a visa once citizenship is granted.
<b>Available to start work</b>	Refers to employed or unemployed people who were available to start work with more hours either in the reference week, or in the four weeks subsequent to the interview.
<b>Available to start work with more hours</b>	Employed people who usually worked 0–34 hours per week in all jobs and were available to start work with more hours in the reference week or

	within four weeks.
<b>Available to start work within four weeks</b>	People who were available to start work within four weeks or, for people with children aged 12 years and under, could start work within four weeks if suitable child care was available.
<b>Average (mean) earnings</b>	The amount obtained by dividing the total earnings of a group (e.g. full-time employees) by the number of employees in that group.
<b>Average weekly cash earnings</b>	Average weekly cash earnings represents average gross (before tax) earnings of employees, inclusive of salary sacrifice. Average weekly cash earnings differ from average weekly earnings by the average weekly amount salary sacrificed.
<b>Average weekly earnings</b>	Average weekly earnings statistics represent average gross (before tax) earnings of employees and do not relate to average award rates or to the earnings of the 'average person'. Estimates of average weekly earnings are derived by dividing estimates of weekly total earnings by estimates of number of employees.
<b>Award only</b>	<p>Awards are legally enforceable determinations made by federal or state industrial tribunals that set the terms of employment (pay and/or conditions), usually in a particular industry or occupation.</p> <p>An award may be the sole mechanism used to set the pay and/or conditions for an employee or group of employees, or may be used in conjunction with an individual or collective agreement. Employees are classified to the Award only category if they are paid at the rate of pay specified in the award, and are not paid more than that rate of pay.</p>
<b>Bachelor Degree or higher</b>	Includes Bachelor Degree, Graduate Diploma, Graduate Certificate and Postgraduate Degree.
<b>Balance of state/territory</b>	Comprises the balance of each state/territory not included in Capital City. See <i>Australian Statistical Geography Standard (ASGS): Volume 1 - Main Structure and Greater Capital City Statistical Areas, July 2011</i> (cat. no. 1270.0.55.001).
<b>Bonuses</b>	Payments made to a job occupant that are in addition to regular wages and salaries and which generally relate to the job occupant's, or the organisations', performance. In the WPI, the term 'bonuses' refers to bonuses and commissions.
<b>Born in Australia</b>	Includes persons born in Australia, Norfolk Island and Australian External Territories.
<b>Capital city</b>	Refers to Greater Capital City Statistical Areas (GCCSA) as defined by the ASGS. The GCCSAs represent the socio-economic extent of each of the eight State and Territory capital cities. The whole of the ACT is included in the GCCSA. See <i>Australian Statistical Geography Standard (ASGS): Volume 1 - Main Structure and Greater Capital City Statistical Areas, July 2011</i> (cat. no. 1270.0.55.001).
<b>Cash earnings</b>	Remuneration paid to employees on a regular and frequent basis (quarterly or more frequently) for time worked or work done, and for time not worked such as recreation and other types of leave. Cash earnings (inclusive of amounts salary sacrificed) are gross amounts, that is, before tax and other items (e.g. superannuation) are deducted.
<b>Cash wages and salaries</b>	Remuneration for time worked or work done and for time not worked, such as recreation and other types of paid leave. Comprises regular and irregular payments, including salary sacrificed amounts. Wages and salaries in cash are gross amounts, that is, before tax and other items (e.g. superannuation)

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	are deducted.
<b>Casual employees</b>	Casual employees usually receive a higher rate of pay to compensate for lack of permanency and leave entitlements.
<b>Cause of Dispute</b>	<p>Cause of dispute statistics relate to the reported main cause of stoppage of work and not necessarily all causes that may have been responsible for the stoppage of work. For these reasons, the statistics do not reflect the relative importance of all causes of disputes as perceived by both employers and employees. The causes are classified from information supplied by employers and according to standards determined by the International Labour Organisation.</p> <p>Disputes are initially classified according to whether a dispute occurred during a process of workplace/enterprise bargaining. A process of workplace/enterprise bargaining refers to the negotiations that take place between an employer and their employees (or their representatives), in reaching an agreement over pay and employment conditions.</p> <p>Disputes not related to a process of workplace/enterprise bargaining include:</p> <ul style="list-style-type: none"> <li>• disputes relating to award negotiations; and</li> <li>• disputes relating to the content or application of an existing agreement (and do not seek to amend or terminate the agreement).</li> </ul> <p>Disputes are then further classified according to the main cause of the dispute, as follows:</p> <p><b>Enterprise Bargaining (EB) related:</b></p> <ul style="list-style-type: none"> <li>• Remuneration: Disputes relating to wages and other forms of remuneration, e.g. increase/decrease in wages, allowances, entitlements and superannuation.</li> <li>• Employment conditions: Disputes relating to hours of work, leave, non-remuneration related benefits, and other general employment conditions, e.g. increase/decrease in hours, distribution of hours and holiday and leave provisions.</li> <li>• Other EB related: Causes other than Remuneration or Employment conditions, including job security and other causes relating to a process of workplace/enterprise bargaining, e.g. pattern bargaining strikes, and disputes where employees refuse to enter into enterprise bargaining negotiations.</li> </ul> <p><b>Non-EB related:</b></p> <ul style="list-style-type: none"> <li>• Remuneration: As above.</li> <li>• Employment conditions: As above.</li> <li>• Health and safety: Disputes concerning physical working conditions, safety issues and workers' compensation provisions, e.g. accidents, protective clothing and equipment, first aid services, uncomfortable working conditions, employee amenities, shortage or poor distribution of equipment or material, condition of equipment, and</li> </ul>

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arduous physical tasks.

- Job security: Disputes concerning issues relating to job security, e.g. retrenchment of employees, downsizing, restructuring, use of contractors, outsourcing, re-classification of the workforce, and market conditions within the relevant industry.
- Managerial policy: Disputes relating to the decisions and policies of line managers, e.g. disciplinary matters, suspensions, personal disagreement, discrimination, decisions that impact upon work and family issues, docking of pay, fines, production limits or quotas, principles of promotion or filling positions, and work practices.
- Union issues: Disputes concerning the alleged anti-union attitude of the employer, inter-union and intra-union disputes (e.g. demarcation disputes), sympathy stoppages in support of employees in another industry, and recognition of union activities.
- Other non-EB related: Disputes that cannot be ascribed to any other category, e.g. political protests.

**Certificate** Includes Certificate I/II/III/IV and Certificate not further defined.

**Certificate n.f.d. (Certificate not further defined)** Survey responses are coded to Certificate not further defined (n.f.d.) when there is not enough information to code them to Certificate I, II, III or IV in the Australian Standard Classification of Education, 2001 (cat. no. 1272.0), Level of education classification.

**Change in work** Employees were considered to have had some change in work if they had been with their current employer for one year or more at the previous survey date and reported that, in the 12 months to current survey date, they had:

- been promoted;
- transferred to a different position;
- changed usual hours worked; or
- changed occupation.

**Child** A person of any age who is a natural, adopted, step, or foster son or daughter of a couple or lone parent, usually resident in the same household. A child is also any individual under 15 years, usually resident in the household, who forms a parent-child relationship with another member of the household. This includes otherwise related children under 15 years and unrelated children under 15 years.

In order to be classified as a child, the person can have no partner or child of his or her own usually resident in the household.

There are three types of child identified in the 'Relationship in household' classification:

- Child under 15 years
- Dependent student
- Non-dependent child

The differentiation of children into these three types is based upon the dependency criterion and is designed to identify families with different

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	structures and needs. Dependency as used in these standards refers to economic dependency and is applied only to the population of people who could be described as 'children'. It is thus not intended to measure an aged or disabled person's dependency.
<b>Children who work for themselves</b>	A child who operates his or her own unincorporated economic enterprise or engages independently in a profession or trade. Informal work for relatives or neighbours for payment where the child has solicited the employment is included.
<b>Civilian population aged 15 years and over</b>	All usual residents of Australia aged 15 years and over except members of the permanent defence forces, certain diplomatic personnel of overseas governments customarily excluded from census and estimated population counts, overseas residents in Australia, and members of non-Australian defence forces (and their dependants) stationed in Australia.
<b>Collective agreement</b>	<p>An agreement between an employer (or group of employers) and a group of employees (or one or more unions or employee associations representing the employees). A collective agreement sets the terms of employment (pay and/or conditions) for a group of employees, and is usually registered with a Federal or State industrial tribunal or authority.</p> <p>Employees are classified to the Collective agreement category if they had the main part of their pay set by a collective agreement (registered or unregistered) or enterprise award.</p>
<b>Commonwealth government</b>	All public sector units controlled by the Australian Government are classified to the Commonwealth Level of Government. This includes government units controlled by the Australian Government, public financial corporations controlled by the Australian Government and Public non-financial corporations controlled by the Australian Government. Those bodies run jointly by the Commonwealth government and State governments are classified to Commonwealth.
<b>Completed</b>	'Completed' a qualification means having successfully passed all of the requirements for the qualification.
<b>Composite Estimation</b>	The estimation methodology used in the Labour Force Survey. Composite Estimation uses sample responses from nearby months as well as from the reference month to derive estimates for the reference month. This approach achieves gains in efficiency by exploiting the high similarity between the responses provided by the same respondent in previous months. For details see <i>Information Paper: Forthcoming Changes to Labour Force Statistics, 2007</i> (cat. no. 6292.0).
<b>Considered job to be casual</b>	Employees who considered their job to be casual, regardless of any entitlements that they may receive.
<b>Continuous duration with current employer/business</b>	The length of the current period of employment people had with their employer or in their own business. The length of time includes periods of paid leave, unpaid leave or strike.
<b>Contributing family workers</b>	Persons who work without pay in an economic enterprise operated by a relative.
<b>Country of birth</b>	Country of birth is classified according to the <i>Standard Australian Classification of Countries (SACC), Second Edition</i> (cat. no. 1269.0).
<b>Couple relationship</b>	A couple relationship is defined as two people usually residing in the same household who share a social, economic and emotional bond usually associated with marriage and who consider their relationship to be a marriage or marriage-like union. This relationship is identified by the

	presence of a registered marriage or de facto marriage.
	A 'couple relationship' includes same-sex couples.
<b>Current job</b>	A job that a person was working in during the reference week which had lasted or was likely to last for a period of two weeks or more.
<b>Current main job</b>	The job that a person was working in during the reference week in which most hours were usually worked.
<b>Current other job</b>	Refers to a current job other than the current main job.
<b>Currently economically active</b>	<p>A person is considered to be economically active if that person contributes or is available and seeking to contribute to the production of goods and services that fall within the System of National Accounts production boundary. The currently economically active population is equivalent to the total labour force, and consists of the total number of persons defined as employed and unemployed. The currently economically active population is measured during a specified short period of time, and in Australia is based on the concept of usual residency of the civilian population aged 15 years and over.</p> <p>The currently economically active population excludes:</p> <ul style="list-style-type: none"> <li>• persons under the age of 15 years;</li> <li>• permanent members of the defence forces;</li> <li>• short term visitors to Australia; and</li> <li>• persons not in the labour force.</li> </ul>
<b>Currently enrolled in study</b>	Enrolled in a course of formal study for a trade certificate, diploma, degree or any other educational qualification.
<b>Data type</b>	Job vacancy estimates are a stock data type, as the number of job vacancies is measured at a point in time.
<b>Days or shifts absent from work</b>	Includes all work hours spent on medical consultation, hospitalisation and rest due to the injury or illness. The days or shifts absent do not have to be consecutive.
<b>Dependant</b>	<p>A dependant is a family member who is either:</p> <ul style="list-style-type: none"> <li>• under 15 years of age; or</li> <li>• aged 15–19 years and attending school or aged 15–24 years and attending a tertiary education institution full-time (i.e. dependent students).</li> </ul> <p>In order to be classified as a dependant, the person must have no partner or child of his/her own usually resident in the household. A separate family in the household is formed in this instance.</p>
<b>Dependent child</b>	Persons aged less than 15 years who have a parent/guardian in the household.
<b>Dependent student</b>	A full-time student aged 15-24 years, living in the same usual residence as his or her natural, step, foster or adoptive parent.
<b>Did not draw a wage or salary</b>	Consists of persons who worked in their own incorporated enterprise only, i.e. Owner managers of incorporated enterprises (OMIEs).
<b>Did not prefer to work more hours</b>	People who said 'no' or 'don't know' when asked 'would you prefer to work more hours than you usually work?'
<b>Did not want a paid</b>	People who were not classified as employed or unemployed who answered

<b>job</b>	'no' or 'don't know' when asked if they would like a paid job.
<b>Did not want to work</b>	People who were not classified as employed or unemployed who answered 'no' when asked if they would like a job.
<b>Disability rate</b>	<p>Payment stipulated in Schedule A to the National Minimum Wage Order (or an award or agreement with a specific schedule) for employees with a disability who:</p> <ul style="list-style-type: none"> <li>• are unable to perform the range of duties to the competence level required of an employee within the class of work for which the employee is engaged because of the effects of disability on their productive capacity; and</li> <li>• who meet the impairment criteria for receipt of a Disability Support Pension.</li> </ul>
<b>Discouraged job seekers</b>	<p>People with marginal attachment to the labour force who wanted to work and were available to start work within the next four weeks but whose main reason for not actively looking for work was that they believed they would not find a job for any of the following reasons:</p> <ul style="list-style-type: none"> <li>• considered to be too young by employers;</li> <li>• considered to be too old by employers;</li> <li>• believes ill health or disability discourages employers;</li> <li>• lacked necessary schooling, training, skills or experience;</li> <li>• difficulties because of language or ethnic background;</li> <li>• no jobs in their locality or line of work;</li> <li>• no jobs in suitable hours; and</li> <li>• no jobs at all.</li> </ul>
<b>Disputes</b>	An industrial dispute is defined as a state of disagreement over an issue or group of issues between an employer and its employees, which results in employees ceasing work. Industrial disputes comprise strikes, which are a withdrawal from work by a group of employees; and lockouts, which are a refusal by an employer or group of employers to permit some or all of their employees to work.
<b>Disputes which ended during the reference period</b>	Disputes which ended during the period encompasses those disputes which: started in a previous period and ended in the reference period; and began and ended in the reference period.
<b>Disputes which occurred during the reference period</b>	<p>Disputes which occurred during the period encompasses those disputes which:</p> <ul style="list-style-type: none"> <li>• started in a previous period and ended in the reference period;</li> <li>• began and ended in the reference period;</li> <li>• began in the reference period and continued into the next period; and</li> <li>• started prior to the reference period and continued past the reference period.</li> </ul>
<b>Duration of current main job</b>	Length of time worked in current main job.
<b>Duration of current main job/last job</b>	Length of time worked in current main job/last job.
<b>Duration of current period of insufficient work</b>	For full-time workers who worked fewer than 35 hours in the reference week due to economic reasons, refers to the number of weeks they have been working fewer than 35 hours a week.



	<p>For part-time workers who would prefer to work more hours, refers to the number of weeks they have wanted to work more hours.</p> <p>As periods of insufficient work are recorded in full weeks and rounded down, this results in a slight understatement of duration.</p>
<b>Duration of current period of unemployment</b>	The period of time from when an unemployed person began looking for work until the end of the reference week; or the period of time since an unemployed person last worked in any job for two weeks or more until the end of the reference week; whichever was the shorter period. Brief periods of work (of less than two weeks) since the person began looking for work are disregarded.
<b>Duration of employment in job where most recent work-related injury or illness occurred</b>	Length of time worked in job where most recent work-related injury or illness occurred.
<b>Duration of job search</b>	The current and continuing period of unemployment for persons who are unemployed in the reference week. Duration of job search measures the elapsed number of weeks to the end of the reference week since an unemployed person began looking for work, or since that person last worked, whichever is the shorter. For persons who began looking for work while still employed, it is the period from the time the person last worked to the end of the reference week.
<b>Duration of looking for work before current job</b>	The number of weeks or years that employed persons were looking for work before being offered their current job or starting their own business. For employed persons who had worked before, it includes any time they were looking for work before leaving their previous employer.
<b>Earnings</b>	<p>Total employee remuneration during the reference year, regardless of the form of remuneration. This comprises:</p> <ul style="list-style-type: none"> <li>• gross wages and salaries; the value of salary sacrificed (excluding fringe benefits tax);</li> <li>• the un-grossed value of fringe benefits provided by employers through arrangements other than salary sacrifice; and</li> <li>• severance, termination and redundancy payments.</li> </ul> <p>Gross wages and salaries are net of amounts reimbursed for employees on government employment programs. Workers' compensation payments paid through the payroll and fringe benefits tax paid by employers are excluded from earnings.</p>
<b>Economic reasons</b>	<p>Economic reasons for full-time workers having worked fewer than 35 hours in the reference week are:</p> <ul style="list-style-type: none"> <li>• there was no work or not enough work available, e.g. due to material shortages;</li> <li>• they were stood down; or</li> <li>• they were on short time.</li> </ul>
<b>Educational attainment</b>	Level of highest educational attainment identifies the highest achievement a person has attained in any area of study. It is defined as the highest educational attainment a person has achieved, and is not a measurement of

	relative importance of different fields of study. For further information please see paragraphs 38 to 41 of the chapter on ' <i>Level of highest educational attainment</i> ', Education Variables, 2002 (cat. no. 1246.0).
<b>Educational attendance</b>	Enrolled at secondary or high school or enrolled as a full-time student at a Technical and Further Education (TAFE) college, university, or other educational institution in the reference week.
<b>Educational institution</b>	Any institution whose primary role is education. Included are schools, higher education establishments, colleges of technical and further education and public and private colleges.
<b>Elapsed years since arrival</b>	The number of years since a person first arrived in Australia with the intention of staying for at least one year.  Applies to persons born overseas only.
<b>Elementary aggregates</b>	The finest aggregations of jobs, in terms of state/territory, sector and industry group, for which expenditure weights are available.
<b>Employed</b>	All persons aged 15 years and over who met one of the following criteria during the reference week: <ul style="list-style-type: none"> <li>▪ Worked for one hour or more for pay, profit, commission or payment in kind, in a job or business or on a farm (employees and owner managers of incorporated or unincorporated enterprises).</li> <li>▪ Worked for one hour or more without pay in a family business or on a farm (contributing family workers).</li> <li>▪ Were employees who had a job but were not at work and were: <ul style="list-style-type: none"> <li>• away from work for less than four weeks up to the end of the reference week; or</li> <li>• away from work for more than four weeks up to the end of the reference week and received pay for some or all of the four week period to the end of the reference week; or</li> <li>• away from work as a standard work or shift arrangement; or</li> <li>• on strike or locked out; or</li> <li>• on workers' compensation and expected to return to their job.</li> </ul> </li> <li>▪ Were owner managers who had a job, business or farm, but were not at work.</li> </ul>
<b>Employed full-time</b>	Includes employed persons who usually worked 35 hours or more a week (in all jobs) and those who, although usually working less than 35 hours a week, worked 35 hours or more during the reference week.
<b>Employed part-time</b>	Includes employed persons who usually worked less than 35 hours a week (in all jobs) and either did so during the reference week, or were not at work in the reference week.
<b>Employee job</b>	A job for which the occupant receives remuneration in wages, salary, payment in kind, or piece rates.
<b>Employees</b>	Employees are persons who: <ul style="list-style-type: none"> <li>• worked for a public or private employer; and</li> <li>• received remuneration in wages or salary; or</li> <li>• are paid a retainer fee by their employer and worked on a</li> </ul>

	commission basis, for tips, piece-rates or payment in kind.
	In some instances, employees also include Owner Managers of Incorporated Enterprises.
<b>Employees with paid leave entitlements</b>	Employees who were entitled to either paid sick leave or paid holiday leave (or both).
<b>Employees without paid leave entitlements</b>	Employees who were not entitled to, or did not know whether they were entitled to, paid sick and paid holiday leave.
<b>Employer</b>	Organisation with one or more employees.
<b>Employer size</b>	A measure of the size of the business in terms of the number of employees within that business. The employer size reflects the size of the business in a particular state or territory and not necessarily the size of the business Australia-wide.
<b>Employment agency</b>	An employment agency is an organisation which is engaged in personnel search, or selection and placement of people for an employing organisation. The agency or firm may also be engaged in supply of their own employees to other employers, usually on a short-term basis. (See also labour hire firm).
<b>Employment to population ratio</b>	For any group, the number of employed persons expressed as a percentage of the civilian population in the same group.
<b>Engaged in employment and/or study</b>	<p>Persons fully engaged in employment and/or study include:</p> <ul style="list-style-type: none"> <li>• persons participating in full-time formal study (including school); and/or</li> <li>• persons in full-time employment; and/or</li> <li>• persons participating in part-time formal study (including school) and in part-time employment.</li> </ul> <p>Persons partially engaged in employment and/or study are participating in part-time formal study or in part-time employment only.</p> <p>The engagement rate is derived as the proportion of those either fully or partially engaged in employment and/or study as a proportion of the population aged 15 years and over.</p>
<b>Enrolled</b>	Refers to persons registered for a course of formal study in the particular reference period (e.g. survey month, or previous calendar year).
<b>Estimated resident population (ERP)</b>	Estimated resident population (ERP) is Australia's official measure of the population of Australia and is based on the concept of usual residence. It refers to all people, regardless of nationality, citizenship or legal status, who usually live in Australia, with the exception of foreign diplomatic personnel and their families. It includes usual residents who are overseas for fewer than 12 months. It excludes overseas visitors who are in Australia for fewer than 12 months. Refer to <i>Australian Demographic Statistics</i> (cat. no. 3101.0).
<b>Expectations of future employment with current employer or business</b>	<p>Whether or not an employed person expects to be working for their current employer or in their current business in 12 months' time. Reasons are provided for those who do not expect to be with their current employer or business in 12 months.</p> <p>Applicable to employed persons only.</p>

<b>Expenditure weights</b>	A measure of the relative importance of each elementary aggregate, based on employers' total expenditure on wages and salaries. Expenditure weights are used to combine elementary aggregate indexes into broader level indexes.
<b>Family</b>	Two or more people, one of whom is at least 15 years of age, who are related by blood, marriage (registered or de facto), adoption, step or fostering; and who are usually resident in the same household. The basis of a family is formed by identifying the presence of a couple relationship, lone parent-child relationship or other blood relationship. Some households will, therefore, contain more than one family.
<b>Family business or farm</b>	An economic enterprise (e.g. company, partnership or individual) operated solely by a relative of the child.
<b>Family reasons for not actively looking for work</b>	Includes ill health of someone other than themselves, caring for children and other family considerations.
<b>Father</b>	The male parent with dependants and/or children. The relationship between a father and a child/dependant can be formed via a natural, adoptive, step, foster or child dependency relationship.
<b>Field not determined</b>	Field not determined includes inadequately described responses or where no responses were given.
<b>Field of trade</b>	Refers to the occupation of an apprentice or trainee and is classified according to the Australian and New Zealand Standard Classification of Occupations (ANZSCO), First Edition, Revision 1 (cat. no. 1220.0) Unit Group.
<b>Financial assistance</b>	Monetary assistance received from any party to cover medical expenses or income loss, incurred due to their work-related injury or illness.
<b>First job ever held lasting two weeks or more</b>	Refers to employees (excluding OMIEs) who had never worked for two weeks or more before starting their current job.
<b>Fixed-term contract</b>	A contract of employment which specifies that the employment will be terminated on a particular date/event.
<b>Flow estimates</b>	Flow estimates are a measure of activity over a given period. For example, monthly hours worked in all jobs is a measure of the total number of hours worked in a calendar month.
<b>Formal study</b>	Any study being undertaken that will lead to a recognised qualification, issued by a relevant approved body, in recognition that a person has achieved learning outcomes or competencies relevant to identified individual, professional, industry or community needs. This includes study for a school qualification. If the respondent was still attending school, their level of study was recorded as their current year of schooling. If the respondent had left school and was enrolled in formal study, they were asked the level of the qualification.
<b>Former worker</b>	Unemployed persons who have not worked in the last 2 years are categorised as those who have never worked before (looking for first job) or those who last worked 2 or more years ago (former worker).
<b>Fringe benefits</b>	Non-cash benefits, such as goods and services, provided to employees in respect of employment. Examples include use of a work car, a cheap loan, or health insurance costs. These benefits may be provided through salary sacrifice or other arrangements. Fringe benefits tax is payable (by the employer) in respect of most fringe benefits. Employer contributions to superannuation in respect of an employee (including through a salary sacrifice arrangement), when paid to a complying superannuation fund, are

	not considered to be fringe benefits.
<b>Fringe benefits tax</b>	A tax paid by employers on fringe benefits they provide to their employees, including their employees' family. Exemptions apply to some categories of employers (e.g. certain not-for-profit organisations) and certain benefits (e.g. laptop computers). Estimates of the un-grossed value of fringe benefits (a component of earnings) and fringe benefits tax both relate to the year ended 31 March.
<b>Full-time employees</b>	Full-time employees are permanent, temporary and casual employees who normally work the agreed or award hours for a full-time employee in their occupation and received pay for any part of the reference period. If agreed or award hours do not apply, employees are regarded as full-time if they ordinarily work 35 hours or more per week.
<b>Full-time or part-time status of last job</b>	The perception of people of whether they worked full-time or part-time in their last job.
<b>Full-time preference</b>	People who preferred to work 35 hours or more a week. Full-time preference is derived by applying data collected on respondents' preferred number of hours to those who intended to or might enter the labour force in the next 12 months.
<b>Full-time workers</b>	Employed persons who usually worked 35 hours or more a week (in all jobs) and others who, although usually working fewer than 35 hours a week, worked 35 hours or more during the reference week.
<b>Full-time workers (usual)</b>	Employed people who usually work 35 hours or more a week (in all jobs).
<b>Full-time workers in main job</b>	<p>People who were employees in their main job and were:</p> <ul style="list-style-type: none"> <li>• Single job holders who usually work 35 hours or more a week, or usually work fewer than 35 hours but worked 35 hours or more during the reference week; or</li> <li>• Multiple job holders who usually work 35 hours or more in their main job and those who, although usually working fewer than 35 hours in their main job, worked 35 hours or more during the reference week.</li> </ul>
<b>Fully self-funded</b>	Funded entirely from superannuation or any other income source, excluding any form of a government pension and/or allowance.
<b>Future starters</b>	People waiting to start, within four weeks of the end of the reference week, a new job that they have already obtained (and could have started in the reference week if the job had been available then). Under International Labour Organisation (ILO) guidelines, these persons do not have to be actively looking for work to be classified as unemployed.
<b>Government pension/allowance</b>	Income support payments from government to people under social security and related government programs. Included are pensions and allowances received by aged, disabled, unemployed and sick people, families and children, veterans and their survivors, and study allowances for students. Payments made by overseas governments as well as the Australian government are included.
<b>Gross flows</b>	The matching of respondents who report in consecutive months enables analysis of the transition of individuals between the different labour force status classifications, referred to as the matched sample. The transition counts between the different labour force status classifications from one point in time to the next are commonly referred to as gross flows.

The figures presented in gross flows are presented in original terms only and do not align with published labour force estimates. The gross flows figures are derived from the matched sample between consecutive months, which after taking account of the sample rotation and varying non-response in each month is approximately 80 percent of the sample.

Caution should be exercised when analysing these gross flows data due to: the figures presented sum to approximately 80 percent of the population values as the gross flows data are based on the matched sample only; there is no adjustment applied to account for changes due to seasonal patterns (referred to commonly as seasonal adjustment); and the estimates of relative sizes of each transition class are subject to bias due to the matched sample being a non-representative sample.

**Gross wages and salaries**

Payments to employees before tax and other items (such as employee contributions to superannuation) are deducted, and comprise:

- payments for time worked;
- payments for time not worked (such as annual, sick and other leave, and public holidays); and
- leave loading payments.

Included are amounts paid from interstate or overseas; ordinary time and overtime earnings; over award payments; penalty payments, shift and other remunerative allowances; retainers and commissions paid to employees who received a salary; bonuses and similar payments; payments under incentive, piecework or profit sharing schemes; advance and retrospective payments; and salaries and fees paid to company directors and members of boards who received a salary.

Excluded are reimbursements of expenses, e.g. travel, entertainment, meals etc. and drawings from profits by directors or office holders. Also excluded are salary sacrifice amounts, wages and salaries reimbursed under government employment programs, and workers' compensation payments paid through the payroll.

**Had a job since arrival** Includes persons who currently have a job or who had a job at some time since their arrival.

**Had a job to go to** People who were waiting to start a job, but would not be starting within four weeks. Also includes people who had a job but, up to the end of the reference week, had been away from work without pay for four weeks or longer and had not been actively looking for work.

**Had ever worked for two weeks or more** People who are not in the labour force or are unemployed and have previously worked for two weeks or more.

**Had previously worked** People who are not in the labour force or are unemployed, who have previously worked for two weeks or more, less than 20 years ago.

**Had worked before** Refers to employees (excluding OMIEs) who had worked before and were either out of work or changed their employer before starting their current job.

**Has never worked** Unemployed persons who have not worked in the last 2 years are categorised as those who have never worked before (looking for first job) or those who last worked 2 or more years ago (former worker).

**Higher education** An Australian institution providing higher education courses, e.g.

<b>institution or organisation</b>	universities; colleges of advanced education; institutes of advanced education; institutes of higher education; institutes of tertiary education; agricultural colleges; and some institutes of technology, and the equivalent institutions overseas.
<b>Holiday leave</b>	The entitlement of an employee to paid holiday, paid vacation or paid recreation leave in their main job.
<b>Hours paid for in main job</b>	The number of hours for which employees and OMIEs were paid in their main job in their last pay, not necessarily the number of hours actually worked during the reference week (e.g. a person on paid leave for the week was asked to report the number of hours for which they were paid).
<b>Hours paid for in main job in last pay</b>	The number of hours for which employees were paid in their main job in their last pay, not necessarily the number of hours actually worked during the reference week (e.g. an employee on paid leave for the week was asked to report the number of hours for which they were paid).
<b>Hours usually worked</b>	The number of hours usually worked in a week.
<b>Hours worked</b>	The number of hours actually worked during the reference week.
<b>Household</b>	One or more persons usually resident in the same private dwelling.
<b>Husband/ Partner</b>	A person in a couple relationship with another person usually resident in the same household. The couple relationship may be in either a registered or de facto marriage and includes same-sex couples.
<b>Incoming rotation group</b>	The LFS sample is made up of eight rotation groups of approximately equal size and characteristics. Each rotation group is in the survey for a period of eight months. Each month a new rotation group enters the sample to replace the rotation group that completed its eighth survey the month before. The new rotation group is called the incoming rotation group.
<b>Incorporated enterprise</b>	An enterprise which is registered as a separate legal entity to its members or owners (also known as a limited liability company).
<b>Independent contractors</b>	Independent contractors are persons who operate their own business and who are contracted to perform services for others without having the legal status of an employee, i.e. persons who are engaged by a client, rather than an employer to undertake the work. Independent contractors are engaged under a contract for services (a commercial contract), whereas employees are engaged under a contract of service (an employment contract).  Independent contractors' employment may take a variety of forms: for example, they may have a direct relationship with a client or work through an intermediary. Independent contractors may have employees, however they spend most of their time directly engaged with clients or on client tasks, rather than managing their staff.
<b>Index number</b>	Measures the ratio of the price of labour between the commencement of the index series and a later period.
<b>Index reference period</b>	The period for which an index series is given the value of 100.0.
<b>Individual arrangement</b>	An arrangement between an employer and an individual employee on the terms of employment (pay and/or conditions) for the employee. Common types of individual arrangements are individual contracts, letters of offer and common law contracts. Employees are classified to the Individual arrangement category if they have their pay set by an individual contract, individual agreement registered with a Federal or State industrial tribunal or authority (e.g. Australian Workplace Agreement), common law contract (including for award or agreement free employees), or if they receive over-

	<p>award payments by individual agreement.</p> <p>However, the Fair Work Act 2009 does not allow the making of new individual employee agreements. Collective enterprise agreements contain a provision which allows flexibility in the workplace to be achieved by agreement between an employer and individual employee. Agreements which existed under the Workplace Relations Act will continue in existence under the Fair Work Act 2009 as 'agreement-based transitional instruments'. These are defined by the Fair Work (Transitional and Consequential Amendments) Act 2009 (TA Act).</p>
<b>Industry</b>	An industry is a group of businesses or organisations that undertake similar economic activities to produce goods and/or services.
<b>Institutionalised persons</b>	Residents of selected institutions or special dwellings excluding live-in staff who do not usually live in a private dwelling. Institutions include hospitals, homes and prisons.
<b>Intends to retire from the labour force</b>	Those people who indicated that they intend to give up all labour force activity: working or looking for work.
<b>Intention to enter the labour force in the next 12 months</b>	The intention of people to work or look for work in the 12 months following the interview.
<b>Interstate</b>	Refers to whether persons were prepared to move to another state or territory if offered a suitable job.
<b>Intrastate</b>	Refers to whether persons were prepared to move to another part of their state or territory if offered a suitable job.
<b>Job</b>	Any paid employment, full-time or part-time, lasting two weeks or more.
<b>Jobless family</b>	<p>A jobless family is a family where no persons in the family aged 15 years or over are employed. This includes dependants.</p> <p>In a jobless family, all of the family members are either unemployed and/or not in the labour force.</p> <p>Families that have no employed members but do have members that are classified as undetermined in the scope of the labour force survey, such as members of the permanent Australian defence force, are not included in the number of jobless families.</p>
<b>Job starters</b>	Employed persons who started their current job in the previous 12 months.
<b>Job vacancy</b>	<p>A job vacancy is a job available for immediate filling on the survey reference date and for which recruitment action has been taken. Recruitment action includes efforts to fill vacancies by advertising, by on site or online notices, by notifying employment agencies or trade unions and by contacting, interviewing or selecting applicants already registered with the enterprise or organisation.</p> <p>Estimates of job vacancies exclude:</p> <ul style="list-style-type: none"> <li>• jobs not available for immediate filling on the survey reference date;</li> <li>• jobs for which no recruitment action has been taken;</li> <li>• jobs which became vacant on the survey date and were filled on the same day;</li> <li>• jobs of less than one day's duration;</li> <li>• jobs only available to be filled by internal applicants within an</li> </ul>



	<ul style="list-style-type: none"> <li>organisation;</li> <li>jobs to be filled by employees returning from paid or unpaid leave or after industrial disputes;</li> <li>vacancies for work to be carried out by contractors; and</li> <li>jobs for which a person has been appointed but has not yet commenced duty.</li> </ul>
<b>Junior rate</b>	Payment at a proportion of the full adult rate stipulated in an award, agreement or the minimum wage order in the relevant jurisdiction, based on age.
<b>Labour force</b>	For any group, persons who were employed or unemployed, as defined.
<b>Labour force participation rate</b>	For any group, the labour force expressed as a percentage of all persons aged 15 years and over in the same group.
<b>Labour force status</b>	A classification of the civilian population aged 15 years and over into employed, unemployed or not in the labour force, as defined. The definitions conform closely to the international standard definitions adopted by the International Conferences of Labour Statisticians.
<b>Labour force underutilisation rate</b>	The sum of the number of unemployed persons and the number of underemployed workers expressed as a percentage of the labour force.
<b>Labour hire firm</b>	A labour hire firm is an organisation which is engaged in personnel search, or selection and placement of people for an employing organisation. The agency or firm may also be engaged in supply of their own employees to other employers, usually on a short-term basis. (See also employment agency).
<b>Labour hire workers</b>	Labour hire workers are persons who found their job through a labour hire firm/employment agency and are paid by the labour hire firm/employment agency.
<b>Labour market region</b>	<p>Labour market regions reflect the labour markets within each state and territory. Labour market regions are equivalent to Statistical Areas Level 4 (SA4s) and are smallest geographical output of LFS data.</p> <p>The Australian Statistical Geography Standard (ASGS) is used to classify geographical areas of Australia for statistical purposes. In the LFS, geographical areas relate to a person's usual residence, classified according to the ASGS.</p>
<b>Last 12 months</b>	The 12 months up to and including the survey reference week.
<b>Last job</b>	Refers to last job less than 20 years ago.
<b>Last worked two or more years ago</b>	Unemployed persons who have not worked in the last 2 years are categorised as those who have never worked before (looking for first job) or those who last worked 2 or more years ago (former worker).
<b>Left a job</b>	Persons who are classified as involuntarily ceasing their last job.
<b>Left last job</b>	<p>Unemployed persons who have worked in the last two years are classified by whether they left or lost their job.</p> <p>Persons who provided one of the following reasons for ceasing their last job are categorised as leaving their last job:</p> <ul style="list-style-type: none"> <li>unsatisfactory work arrangements/pay/hours;</li> <li>to obtain a better job or conditions;</li> <li>the job was a holiday job;</li> <li>they left the job to return to studies;</li> <li>their last job was running their own business which closed down or</li> </ul>

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	<p>was sold, for reasons other than financial difficulties;</p> <ul style="list-style-type: none"> <li>• start own or new business;</li> <li>• family reasons: get married, have children, holidays, caring, move house, spouse transferred; or</li> <li>• retired.</li> </ul>
<b>Level not determined</b>	Level not determined includes inadequately described responses or where no responses were given.
<b>Level of highest educational attainment</b>	Level of highest educational attainment identifies the highest achievement a person has attained in any area of study. It is not a measurement of the relative importance of different fields of study but a ranking of qualifications and other educational attainments regardless of the particular area of study or the type of institution in which the study was undertaken. For more information regarding how Level of highest educational attainment is derived see Decision Table: Level of highest educational attainment. It is categorised according to the <i>Australian Standard Classification of Education, 2001</i> (cat. no. 1272.0) Level of education classification.
<b>Level of highest educational attainment (non-school priority)</b>	A person's level of highest educational attainment (non-school priority) is their highest non-school qualification where they have completed one. For persons who have not completed a non-school qualification, their level of highest educational attainment (non-school priority) is the highest year of school they have completed. It is categorised according to <i>the Australian Standard Classification of Education, 2001</i> (cat. no. 1272.0) Level of education classification.
<b>Level of highest non-school qualification</b>	A person's level of highest non-school qualification is the highest qualification a person has attained in any area of formal study other than school study. It is categorised according to the <i>Australian Standard Classification of Education, 2001</i> (cat. no. 1272.0) Level of education classification.
<b>Local government</b>	All public sector units controlled by a local government are classified to the Local Level of Government. Local government units are usually known as councils and are constituted through Local Government legislation. They are established to govern articulated regions within the state or territory known variously as districts, municipalities, shires, or areas. The power to create or vary these regions usually lies with the Governor General, State Governor or a Commonwealth Minister.
<b>Lone parent family</b>	See One parent family.
<b>Long-term unemployed</b>	Persons whose duration of current period of unemployment is 12 months or more.
<b>Long-term unemployment ratio</b>	The number of long-term unemployed persons, expressed as a percentage of the total unemployed population.
<b>Looking for first job</b>	Unemployed persons who have never worked before are categorised as those who have never worked before (looking for first job) or those who last worked 2 or more years ago (former worker).
<b>Looking for work with more hours</b>	Looked for work with more hours at some time during the four weeks up to the end of the reference week.
<b>Lost a job</b>	Persons who have worked for two weeks or more in the past two years and who left that job involuntarily.
<b>Lost last job</b>	Unemployed persons who have worked in the last two years are classified by whether they left or lost their job.

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Persons who provide one of the following reasons for ceasing their last job are categorised as losing their last job:

- laid off or retrenched from that job;
- left that job because of their own ill-health or injury;
- job was seasonal or temporary;
- they were running their own business and the business closed down because of financial difficulties; or
- dismissed.

<b>Main activity when not in the labour force</b>	The main activity of people who are not in the labour force since they last worked or looked for work (or in the last 12 months if they haven't worked in the last year).
<b>Main applicant</b>	The 'main applicant' is generally the person whose skills or proposed activities in Australia are assessed by the Department of Immigration and Border Protection as part of their visa application. They will usually have been specifically identified on the application form as the 'main applicant'. The type of visa is granted to the main applicant, and the secondary applicants (i.e. spouse or dependents).
<b>Main difficulty in finding work</b>	The self-reported main difficulty in finding work experienced during the current period of unemployment.
<b>Main English-speaking countries</b>	The list of main English-speaking countries provided here is not an attempt to classify countries on the basis of whether or not English is the predominant or official language of each country. It is a list of the main countries from which Australia has historically received significant numbers of overseas settlers who are likely to speak English. These countries comprise the United Kingdom, the Republic of Ireland, New Zealand, Canada, South Africa and the United States of America.
<b>Main field of education</b>	The main subject matter of the study undertaken by a person in completing an educational activity. It is categorised according to the <i>Australian Standard Classification of Education, 2001</i> (cat. no. 1272.0) Field of education classification.
<b>Main field of non-school qualification</b>	Main field of non-school qualification is defined as the subject matter of the qualification. It is categorised according to <i>the Australian Standard Classification of Education (ASCED), 2001</i> (cat. no. 1272.0) Field of Education classification.
<b>Main job</b>	The job in which most hours are usually worked.
<b>Main job during school holidays</b>	The job in which the child worked the most hours during school holidays.
<b>Main job during school terms</b>	The job in which the child worked the most hours during school terms.
<b>Managerial employees</b>	Employees who have strategic responsibilities in the conduct or operations of the organisation and/or are in charge of a significant number of employees. These employees usually do not have an entitlement to paid overtime. Includes professionally qualified staff who primarily perform managerial tasks in conjunction with utilising their professional skills. Owner managers of incorporated enterprises are regarded as managerial employees.
<b>Marginal attachment to the labour force</b>	People who were not in the labour force in the reference week, wanted to work and:

- were actively looking for work but did not meet the availability criterion to be classified as unemployed; or
- were not actively looking for work but were available to start work within four weeks.

The criteria for determining those in the labour force are based on activity (i.e. working or looking for work) and availability to start work during the reference week. The criteria associated with marginal attachment to the labour force, in particular the concepts of wanting to work and reasons for not actively looking for work, are more subjective. Hence, the measurement against these criteria is affected by the respondent's own interpretation of the concepts used. An individual respondent's interpretation may be affected by their work aspirations, as well as family, economic and other commitments.

**Market sector**

The market sector is an industry grouping comprising the following industries: Agriculture, forestry and fishing; Mining; Manufacturing; Electricity, gas, water and waste services; Construction; Wholesale trade; Retail trade; Accommodation and food services; Transport, postal and warehousing; Information media and telecommunications; Finance and insurance services; Rental, hiring and real estate services; Professional, scientific and technical services; Administrative and support services; Arts and recreation services; and Other services. Refer to *Australian National Accounts: Concepts, Sources and Methods* (cat. no. 5216.0).

**Matched common sample**

Respondents who report in consecutive months make up the matched common sample from which gross flow figures are derived.

After taking account of the sample rotation and varying non-response in each month, the matched common sample is approximately 80 percent of the original dataset for any month. The figures presented in gross flows do not align with published labour force estimates. The unmatched sample identifies those respondents who do not have a labour force status for the previous month, or those who do not have a labour force status for the current month.

**Maternity/paternity leave**

The provision by an employer of paid maternity/paternity leave.

**Mean weekly earnings**

The amount obtained by dividing the total earnings of a group by the number of employees and OMIEs in that group.

**Median earnings**

The amount of earnings which divides employees into two groups containing equal numbers of employees, one half with earnings below the median and the other half with earnings above the median. The median is less affected by outliers and skewed data than the mean, and is usually the preferred measure of central tendency when the distribution is not symmetrical.

**Median weekly earnings**

The amount which divides the distribution of employees and OMIEs into two groups of equal size, one having earnings above and the other below that amount.

**Method of setting pay**

How an employee's pay is set. Methods are classified to one of the following categories: Award only; Collective agreement; Individual arrangement; or Owner manager of incorporated enterprise.

**Mode of travel to and from work**

Refers to the mode(s) of transport usually used to get to and from the place(s) of work. It excludes travel undertaken during the course of work.

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**Monthly hours worked in all jobs**

Monthly hours worked in all jobs measures the total number of actual hours worked by employed persons in a calendar month. It differs from the actual hours worked estimates (and the usual hours worked estimates) since these refer only to the hours worked in the reference week.

The methodology used to produce monthly hours worked in all jobs means that these are synthetic estimates. Seasonally adjusted and trend estimates of monthly hours worked in all jobs are available for the period July 1978 onwards.

Further information on the methodology used to produce the monthly hours worked in all jobs estimates is available on the ABS website in *Information Paper: Expansion of Hours Worked Estimates from the Labour Force Survey* (cat. no. 6290.0.55.001).

Actual and usual hours worked cannot be aggregated across time to produce either quarterly or annual estimates as they relate to only a single week in the month. In contrast, monthly hours worked in all jobs estimates are a true monthly measure, and may be aggregated across time to produce both quarterly and annual estimates.

**Mother**

A female parent with dependants and/or children, or non-dependent children. The relationship between a mother and a child/dependant can be formed via a natural, adoptive, step, foster or child dependency relationship.

**Multiple jobholder**

Employed persons who, during the reference week, worked in more than one job. Multiple jobholders exclude those who changed employer during the reference week. People who were unpaid voluntary workers or on unpaid trainee/work placement in their second job were excluded from the Multiple jobholder population. Information on earnings in main job is collected from all multiple jobholders. Information on earnings in second job is only collected from multiple jobholders who were employees or OMIEs in their second job and were an employee or OMIEs in their main job.

**Non-dependent child**

Non-dependent children are defined as children over the age of 15 years who are not studying full-time.

In order to be classified as a child, the person must have no partner or child of his/her own usually resident in the household. A separate family in the household is formed in this instance.

The types of parent-child relationships which can be formed are via a natural, adoptive, step, or foster relationship.

Dependency, as used in these classifications, refers to economic dependency and is only applied to the part of the population that can be described as 'children'.

The dependency criterion is based on the barriers to full-time employment: age and student status. Essentially, once a child turns 15 years and becomes eligible to be included in the labour force, they lose their dependency status unless they are attending school or a tertiary educational institution full-time, are aged 15 to 24 years old and live in the same household as their

	parents/ guardian.
<b>Non-economic reasons</b>	<p>Non-economic reasons for full-time workers having worked fewer than 35 hours in the reference week include:</p> <ul style="list-style-type: none"> <li>• holiday, flextime or study leave;</li> <li>• own illness or injury or sick leave;</li> <li>• standard work arrangements, shift work or rostered day(s) off;</li> <li>• on strike, locked out or took part in an industrial dispute;</li> <li>• bad weather or plant breakdown;</li> <li>• began, left or lost job during the reference week; and</li> <li>• personal reasons.</li> </ul>
<b>Non-managerial employees</b>	Employees who are not managerial employees (as defined above), including non-managerial professionals and some employees with supervisory responsibilities.
<b>Non-market sector</b>	The non-market sector is an industry grouping comprising the following industries: Education and training; Public administration & safety; and Health care and social assistance. Refer to <i>Australian National Accounts: Concepts, Sources and Methods</i> (cat. no. 5216.0).
<b>Non-private dwelling</b>	An establishment which provides a communal type of accommodation, such as a hotel, motel, hospital or other institution.
<b>Non-school qualification</b>	Non-school qualifications are awarded for educational attainments other than those of pre-primary, primary or secondary education. They include qualifications at the Postgraduate Degree level, Master Degree level, Graduate Diploma and Graduate Certificate level, Bachelor Degree level, Advanced Diploma and Diploma level, and Certificates I, II, III and IV levels. Non-school qualifications may be attained concurrently with school qualifications.
<b>Not available to start work</b>	Refers to people who were not available to start work with more hours either in the reference week, or in the four weeks following the interview.
<b>Not employed</b>	People who are either unemployed or not in the labour force.
<b>Not fully employed</b>	People who are not fully employed comprise part-time workers who would prefer to work more hours, and full-time workers who worked part-time hours in the reference week for economic reasons.
<b>Not in labour force</b>	Persons who were not in the categories employed or unemployed, as defined. They include people who undertook unpaid household duties or other voluntary work only, were retired, voluntarily inactive and those permanently unable to work.
<b>Not retired from the labour force</b>	People aged 45 years and over who have, at some time, worked for two weeks or more and were not retired from the labour force. That is, either employed, unemployed or not in the labour force and intend to look for, or take up, work in the future.
<b>Number of offers of employment</b>	The number of separate offers of employment received during the current period of unemployment.
<b>Number of months with current employer or business</b>	The elapsed period to the end of the reference week that an employed person has held their main job, that is the job in which a person works the most hours.
<b>Number of weeks worked</b>	The number of weeks within the reference period where the child did any work. For example, if a child worked one hour a week for five weeks, this would constitute five weeks worked. If a child worked 20 hours a week for five weeks, this would also constitute five weeks worked.
<b>Occupation</b>	An occupation is a collection of jobs that are sufficiently similar in their title

	and tasks, skill level and skill specialisation which are grouped together for the purposes of classification.
<b>On call</b>	A shift arrangement, for being available, when not at work, to be contacted to resume work. An allowance may be paid to the employee for being on call.
<b>One parent family</b>	A family consisting of a lone parent with at least one dependent or non-dependent child (regardless of age) who is also usually resident in the family. This family type may or may not include other related individuals.
<b>Opposite-sex couple</b>	Two persons of the opposite sex who are in a couple relationship and are usually resident in the same household.
<b>Ordinary time cash earnings</b>	Payment for award, standard or agreed hours of work, including allowances, penalty payments, payments by measured result and regular bonuses and commissions. Ordinary time cash earnings are inclusive of amounts salary sacrificed. Excluded are non-cash components of salary packages, overtime payments, retrospective pay, pay in advance, leave loadings, severance pay, and termination and redundancy payments.
<b>Ordinary time hourly rates of pay index</b>	Measures quarterly change in ordinary time hourly rates of pay.
<b>Ordinary time hours</b>	Award, standard or agreed hours of work paid for at the ordinary rate.
<b>Ordinary time hours paid for</b>	Award, standard or agreed hours of work, paid for at the ordinary time rate. Included is stand-by or reporting time which is part of standard hours of work, and that part of annual leave, paid sick leave and long service leave taken during the reference period.
<b>Other families</b>	<p>A family of related individuals residing in the same household. These individuals do not form a couple or parent-child relationship with any other person in the household and are not related to a couple or one parent family in the household.</p> <p>If two brothers, for example, are living together and neither is a partner, a lone parent or a child to someone else in the household, and neither is related to any person in the household who is in a couple or one-parent family, then they are classified as an 'other family'. However, if the two brothers share the household with the daughter of one of the brothers and her husband, then both brothers are attached to the couple family and classified as other related individuals.</p>
<b>Outgoing rotation group</b>	The LFS sample is made up of eight rotation groups of approximately equal size and characteristics. Each rotation group is in the survey for a period of eight months. Each month a new rotation group enters the sample to replace the rotation group that completed its eighth survey the month before. During its eighth and last month in the survey, a rotation group is called the outgoing rotation group.
<b>Overtime</b>	Work undertaken which is outside, or in addition to, ordinary working hours in main job, whether paid or unpaid.
<b>Overtime earnings</b>	Payment for hours worked in excess of award, standard or agreed hours of work.
<b>Overtime hours</b>	The number of hours paid for in excess of ordinary time hours.
<b>Overtime hours paid for</b>	Hours paid for in excess of award, standard or agreed hours of work.
<b>Owner managers of incorporated enterprises (OMIEs)</b>	People who work in their own incorporated enterprise, that is, a business entity which is registered as a separate legal entity to its members or owners (may also be known as a limited liability company). An owner

	manager of an incorporated enterprise may or may not hire one or more employees in addition to themselves and/or other owners of that business.
<b>Owner managers of unincorporated enterprises (OMUEs)</b>	<p>A person who operates his or her own unincorporated enterprise or engages independently in a profession or trade.</p> <p>An owner manager of an unincorporated enterprise may or may not hire one or more employees in addition to themselves and/or other owners of that business.</p>
<b>Paid leave entitlements</b>	The entitlement of employees to either paid holiday leave, paid sick leave in their main job.
<b>Parent or guardian</b>	A parent is a natural, step, adoptive or foster mother or father of a child and resident in the same household as the child. A guardian is a person aged 15 years and over who is reported as being the guardian or main carer of a child, regardless of the existence of any legal arrangement, and resident in the same household as the child. The term 'parent' also refers to guardians.
<b>Partially self-funded</b>	Funded by government pension and/or allowance and at least one other income source.
<b>Participation rate</b>	For any group, the labour force expressed as a percentage of the civilian population aged 15 years and over in the same group.
<b>Part-time employees</b>	Employees who normally work less than the agreed or award hours for a full-time employee in their occupation. If agreed or award hours do not apply, employees are regarded as part-time if they ordinarily work less than 35 hours per week.
<b>Part-time preference</b>	People who preferred to work one to 34 hours a week. Part-time preference is derived by applying data collected on respondents' preferred number of hours to those who intended to or might enter the labour force in the next 12 months.
<b>Part-time workers</b>	Employed persons who usually worked fewer than 35 hours a week (in all jobs) and who either did so during the reference week, or were not at work in the reference week.
<b>Part-time workers (usual)</b>	Employed people who usually work less than 35 hours a week (in all jobs).
<b>Part-time workers in main job</b>	<p>People who were employees in their main job and were:</p> <ul style="list-style-type: none"> <li>▪ Single job holders who usually work fewer than 35 hours a week, and did so in the reference week; or</li> <li>▪ Multiple job holders who actually worked fewer than 35 hours in their main job in the reference week, or were away from their main job but usually work fewer than 35 hours a week in their main job.</li> </ul>
<b>Payroll tax</b>	Employers whose wage and salary payments reach a specified level, as defined in each state or territory's payroll tax legislation, are liable to pay this tax. Employers may claim exemptions for some categories of employees. In addition, certain types of organisations are exempt from payroll tax. The types of organisations that may be exempt, depending on the state of operation, include religious, not-for-profit, health care, educational and state and local government organisations.
<b>Percentile</b>	Any of a hundred divisions of an earnings or hours distribution. For example: 25% of employees earn less than or equal to the 25th percentile 75% of employees earn less than or equal to the 75th percentile.
<b>Permanent or fixed</b>	Permanent employees are usually employed on an ongoing basis and are



<b>term employees</b>	entitled to paid annual and sick leave. Fixed term employees are employed for a specified period of employment, and may be entitled to paid leave.
<b>Permanent visa</b>	The permission or authority granted by Australia for foreign nationals to live in Australia permanently.
<b>Personal reasons for not actively looking for work</b>	Includes 'own short-term illness or injury' or 'long-term health condition or disability', 'pregnancy', 'attending an educational institution', 'had no need to work', 'welfare payments or pension may be affected', and 'moved house or on holidays'.
<b>Persons in the labour force</b>	Persons who were classified as being in the labour force, that is, either employed or unemployed.
<b>Persons not in the labour force</b>	Persons who were not classified as employed or unemployed. Persons not in the labour force can be divided into those who are marginally attached to the labour force, and those who are not. Persons who are marginally attached to the labour force satisfy some, but not all, of the criteria required to be classified as unemployed.
	Persons not in the labour force are considered to be marginally attached to the labour force if they: <ul style="list-style-type: none"> <li>▪ wanted to work and were actively looking for work (but, unlike unemployed persons, were not available to start work in the reference week); or</li> <li>▪ wanted to work and were not actively looking for work but were available to start work within four weeks.</li> </ul>
	Persons not in the labour force are not marginally attached to the labour force if they: <ul style="list-style-type: none"> <li>▪ did not want to work; or</li> <li>▪ wanted to work but were not actively looking for work and were not available to start work within four weeks.</li> </ul>
<b>Preferred number of extra hours</b>	The number of extra hours a week an underemployed worker would have preferred to work.
<b>Preferred number of hours</b>	The number of hours unemployed persons would like to work each week.
<b>Preferred to work more hours</b>	Employed persons who usually work 0–34 hours each week and would prefer to work more hours than they usually work.
<b>Preferred total number of hours</b>	The total number of hours per week an underemployed worker would prefer to work.
<b>Previous job</b>	The last job in which employment ceased during the last 12 months.
<b>Private dwelling</b>	A residential structure which is self-contained, owned or rented by the occupants, and intended solely for residential use. A private dwelling may be a flat, part of a house, or even a room, but can also be a house attached to, or rooms above shops or offices.
<b>Private health insurance</b>	Includes hospital and/or extras cover only. People who reported ambulance cover only, or other health arrangements (e.g. DVA), are not considered to have private health insurance.
<b>Qualification</b>	Formal certification, issued by a relevant approved body, in recognition that a person has achieved an appropriate level of learning outcomes or

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	competencies relevant to identified individual, professional, industry or community needs. Statements of attainment awarded for partial completion of a course of study at a particular level are excluded.
<b>Quarterly hours worked in all jobs</b>	Quarterly hours worked in all jobs is a three month aggregate of monthly hours worked in all jobs. It shows the total number of actual hours worked by all employed persons in a period of three calendar months.
<b>Reason left or lost last job</b>	Unemployed persons who have worked in the last two years are classified by whether they left or lost their job.

Persons who provided one of the following reasons for ceasing their last job are categorised as leaving their last job:

- unsatisfactory work arrangements/pay/hours;
- to obtain a better job or conditions;
- the job was a holiday job;
- they left the job to return to studies;
- their last job was running their own business which closed down or was sold, for reasons other than financial difficulties;
- start own or new business;
- family reasons: get married, have children, holidays, caring, move house, spouse transferred; or
- retired.

Persons who provide one of the following reasons for ceasing their last job are categorised as losing their last job:

- laid off or retrenched from that job;
- left that job because of their own ill-health or injury;
- job was seasonal or temporary;
- they were running their own business and the business closed down because of financial difficulties; or
- dismissed.

<b>Reason not in the labour force</b>	A person's reason for not participating in the labour force.
<b>Reason work resumed</b>	Reason work resumed statistics relate to the reason for ending the stoppage of work as reported and not necessarily to the reason(s) for settling all matters in dispute. Therefore, they do not reflect the relative importance of the work of various industrial tribunals operating under state and federal legislation. The classification of Reason work resumed is as follows: <p><b>Negotiation without intervention of a third party:</b> Negotiation between the parties involved, or their representatives, without the intervention or assistance of authorities constituted under state or federal industrial legislation, and without mediation.</p> <p><b>State legislation:</b> Intervention or assistance of an industrial authority or authorities created by, or constituted under, state industrial/workplace relations legislation. Disputes that are referred to a mediator by a state industrial tribunal, either on a voluntary or compulsory basis, are included</p>

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under 'Mediation' (except in instances where mediation is directed and a return to work ordered).

**Federal legislation:** Intervention or assistance of the Fair Work Commission (FWC). Disputes that are referred to a mediator by FWC, either on a voluntary or compulsory basis, are included under 'Mediation' (except in instances where mediation is directed and a return to work ordered).

**Pre-determined return to work:** Disputes for which a return to work is determined prior to the industrial action, e.g. when employees decide to go out on strike for a pre-determined period of 24 hours.

**Resumption without negotiation:** Disputes in which employees decide to return to work without the dispute being resolved, and without any negotiations having taken place to prompt the return, e.g. stop-work meetings, and disputes where employees decide to return to work to avoid further loss of earnings or for other reasons. This category may include some disputes which are settled subject to subsequent negotiation, such as industrial court hearings.

**Mediation:** Disputes that are settled through the assistance of a mediator, either voluntarily or as directed by a state or federal industrial tribunal, e.g. FWC.

**Other reasons:** Disputes whose settlement cannot be ascribed to any other category, e.g. replacing employees on strike or locked out, permanent closure of business, and dismissal or resignation of employees.

#### **Reasons for turning down job offers**

Classifies reasons for turning down job offers in current period of unemployment according to the following categories:

##### **Unsuitable Job Conditions**

- Unsatisfactory pay/conditions
- Not in locality or line of work
- Hours unsuitable
- Unwilling to move state/city
- Too far to travel

##### **Personal Reasons**

- Own short-term illness or injury
- Own long-term health condition or disability
- Pregnancy
- Affect welfare payments/pension may be affected
- Returned to study

##### **Family Reasons**

- Childcare
- Ill health of other than self

##### **Other**

- Waiting to start another job/starting new business
- Other reasons

	<ul style="list-style-type: none"> <li>• Did not know</li> </ul>
<b>Recent migrant</b>	A person who was born overseas, who arrived in Australia after 2003, was aged 15 years or over on arrival, was not an Australian citizen or New Zealand citizen on arrival, does not currently hold New Zealand citizenship, and has permanent Australian resident status.
<b>Reference week</b>	The week preceding the week in which the interview was conducted.
<b>Relationship in household</b>	The relationship of each person to the family reference person, or where the person is not part of a family that person's relationship to the household reference person.
<b>Remoteness</b>	The Australian Statistical Geography Standard (ASGS) is used to define remoteness. The Remoteness Structure is described in detail in the <i>publication Australian Statistical Geography Standard (ASGS): Volume 5 - Remoteness Structure, July 2011</i> (cat. no. 1270.0.55.005).
<b>Response rate</b>	The number of fully responding dwellings expressed as a percentage of the total number of dwellings excluding sample loss. Examples of sample loss include: dwellings where all persons are out of scope and/or coverage; vacant dwellings; dwellings under construction; dwellings converted to non-dwellings; derelict dwellings; and demolished dwellings.
<b>Retired from the labour force</b>	People who had previously worked for two weeks or more and had retired from work or looking for work, and did not intend to look for, or take up, work in the future.
<b>Retrenchment</b>	Includes retrenchment occurring in any job held in the three months prior to the survey reference week, not just the last job, and irrespective of a person's current labour force status. This item is measured by the total number of persons who ceased a job during the last three months because they were either: <ul style="list-style-type: none"> <li>• Retrenched, made redundant, employer went out of business, no work was available; or</li> <li>• Self-employed persons whose business closed down for economic reasons, including went broke, liquidated, no work, no supply or demand.</li> </ul>
<b>Salary sacrifice</b>	Salary sacrifice is defined as an arrangement where an employee agrees to forgo part of their pre-tax salary in return for benefits. Common types of salary sacrifice arrangements include pre-tax contributions to superannuation funds and novated leases for motor vehicles.
<b>Same-sex couple</b>	Two persons of the same sex who are in a couple relationship and are usually resident in the same household.
<b>School holidays</b>	The periods of time between school terms. It includes all school holidays in the reference period. It excludes holidays taken during school terms, public holidays that fall during school terms and pupil free days. Note that school holidays differ between states and territories. All work undertaken by home-schooled children has been included under school holidays.
<b>School-based apprenticeship or traineeship</b>	School-based apprenticeships or traineeships are undertaken part-time while at school and combine paid employment as an apprentice or trainee, vocational training and senior secondary school studies.
<b>School study</b>	School study is participation in primary or secondary level education, regardless of the institution or location where the study is or was undertaken. It therefore includes such study undertaken in a Technical and Further Education (TAFE) or other institution.
<b>School terms</b>	The official periods of time during which school was attended in the

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	reference period. It includes weekends that fall between two weeks of school, pupil free days and public holidays that would otherwise constitute a school day. Note that school terms differ between states and territories.
<b>Seasonal adjustment</b>	Process of removing systematic calendar related effects from the original series.
<b>Second job</b>	A job, other than the main job
<b>Secondary applicant</b>	A person whose visa was granted on the basis of being the family member (e.g. spouse, dependent child) of a person who qualified for a visa. They will have been identified on the visa application as a secondary or an 'other' applicant with the person who met the visa criteria being specifically identified on the visa application as the 'main applicant'. The type of visa is granted to the main applicant, and the secondary applicants (i.e. spouse or dependents).
<b>Sector</b>	Public sector comprises local government authorities and all government departments and agencies created by, or reporting to the Commonwealth or State/Territory Parliaments. The private sector comprises all organisations not classified as public sector.
<b>Sector of main job</b>	Sector of main job is used to classify a respondent's employer as a public or private enterprise. The public sector includes all government units, such as government departments, non-market non-profit institutions that are controlled and mainly financed by government, and corporations and quasi-corporations that are controlled by government.
<b>Severance, termination and redundancy payments</b>	Costs incurred by employers on resignation, retirement, retrenchment or disablement of an employee.
<b>Shift arrangements</b>	A system of working whereby the daily hours of operation at the place of employment are split into at least two set work periods (shifts), for different groups of workers.
<b>Shift work</b>	A system of working whereby the daily hours of operation at the place of employment are split into at least two set work periods (shifts) for different groups of workers. Types of shifts include: <ul style="list-style-type: none"> <li>▪ <b>Irregular shifts</b> - Describes shifts that do not follow a set pattern.</li> <li>▪ <b>Regular shifts</b> - Shifts worked to a set pattern of times. Regular shift times are presented as follows: <ul style="list-style-type: none"> <li>• morning shifts - between 6.00am and 12.00pm;</li> <li>• afternoon shifts - between 12.00pm and 5.00pm; and</li> <li>• evening, night or graveyard shift - between 5.00pm and 6.00am</li> </ul> </li> <li>▪ <b>Rotating shift</b> - A shift arrangement, in which the shift worked changes periodically from one time period to another, for example from mornings or afternoons to evenings or nights.</li> <li>▪ <b>Split shift</b> - Occurs when the worked period is broken by an extended unpaid 'free' period, thereby constituting an extended working day consisting of two (or more) shifts.</li> </ul>
<b>Sick leave</b>	The entitlement of an employee to paid sick leave in their main job.
<b>Social marital status</b>	Social marital status is the relationship status of an individual with reference to another person who is usually resident in the household. A marriage exists when two people live together as husband and wife, or partners, regardless of whether the marriage is formalised through registration.

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	Individuals are, therefore, regarded as married if they are in a de facto marriage, or if they are living with the person to whom they are registered as married.
<b>Socio-Economic Status (SEIFA-IRSD)</b>	This is one of four Socio-economic Indexes for Areas (SEIFAs) compiled by the ABS following each Census of Population and Housing, from various characteristics of persons resident in particular areas. The Index of Disadvantage summarises attributes such as income, educational attainment, unemployment and occupation skill levels. The index refers to the area (the Statistical Area Level 1) in which a person lives, not to the socio-economic situation of the particular individual. The index ranks areas on a continuum from most disadvantaged to least disadvantaged. A low score on the index (i.e. lowest quintile or decile) indicates a high proportion of relatively disadvantaged people in an area. Such areas include many households with low income, people with no qualifications and many people in low skill occupations. It should be noted that it cannot be concluded that an area with a very high score has a large proportion of relatively advantaged ('well off') people, as there are no variables in the index to indicate this. It can only be concluded that such an area has a relatively low incidence of disadvantage. For further information about the indexes, see <i>Census of Population and Housing: Socio-Economic Indexes for Areas (SEIFA)</i> , 2011 (cat. no. 2033.0.55.001).
<b>Standby</b>	People who are usually waiting to restart work or people who have had to restart work after being recalled, without additional pay and allowances.
<b>State government</b>	All public sector units controlled by state/territory governments are classified to the State Level of Government. This includes government units controlled by a state/territory government, public financial corporations controlled by a state/territory government and public non-financial corporations controlled by a state/territory.
<b>Status in employment</b>	Status in employment is determined by an employed person's position in relation to their job, and is usually in respect of a person's main job if they hold more than one job. Employed persons are classified according to the reported relationship between the person and the enterprise for which they work, together with the legal status of the enterprise where this can be established. The groups include: <ul style="list-style-type: none"> <li>• Employees</li> <li>• Owner manager of incorporated enterprise (OMIEs) with employees;</li> <li>• Owner manager of incorporated enterprise (OMIEs) without employees;</li> <li>• Owner manager of unincorporated enterprise (OMUEs) with employees;</li> <li>• Owner manager of unincorporated enterprise (OMUEs) without employees; and</li> <li>• Contributing family workers.</li> </ul>
<b>Stock estimates</b>	Stock estimates are a measure of certain attributes at a point in time and can be thought of as stocktakes. For example, the total number of employed persons is an account of the number of people who were considered employed in the Labour Force Survey reference week.
<b>Stood down</b>	Persons who are in a situation where an employer is unable to provide useful work for its employees, for a particular period of time, for

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	circumstances beyond its control.
<b>Suitable job</b>	<p>A suitable job is:</p> <ul style="list-style-type: none"> <li>any job for which the person is qualified (if applicable), is capable of performing and which provides adequate job conditions (including pay, hours, travel to work, etc.); and</li> <li>it is a job that would be accepted by the person irrespective of whether a move was required.</li> </ul>
<b>Superannuation</b>	Employer contributions to superannuation funds on behalf of employees. Contributions by employees, or employer contributions under salary sacrifice arrangements, are excluded.
<b>Superannuation scheme</b>	Any fund, association or organisation set up for the purpose of providing financial cover for members when they retire from work. Contributions could either have been made by the respondent, the respondent's partner or the respondent's employer.
<b>TAFE</b>	A Technical and Further Education institution. In Victoria this may also be interpreted as Training and Further Education.
<b>Temporary resident</b>	<p>A temporary resident is a person who:</p> <ul style="list-style-type: none"> <li>was born overseas;</li> <li>who first arrived to live in Australia (for one year or more) after 2006;</li> <li>was aged 15 years or over on arrival;</li> <li>was not an Australian citizen or New Zealand citizen on arrival;</li> <li>does not currently hold New Zealand citizenship; and</li> <li>has a temporary visa.</li> </ul>
<b>Temporary visa</b>	<p>The permission or authority granted by Australia for a foreign national to travel to Australia and stay up to a specified period of time. Temporary entrants include:</p> <ul style="list-style-type: none"> <li>tourists;</li> <li>students;</li> <li>business people;</li> <li>people with specialist skills, such as managers, academics and medical practitioners;</li> <li>people who make a social or cultural contribution to the community, such as entertainers, media and film staff, sports people, religious workers, visiting academics and public lecturers; and</li> <li>people who contribute to the development of international relations, such as participants in exchange programs and working holiday makers.</li> </ul>
<b>Time since last job</b>	The elapsed time since ceasing the last job.
<b>Time(s) of the day worked</b>	Refers to the time(s) of the day usually worked that is the most common pattern of work undertaken. Time used for preparation is included. Children were counted in each of the time period categories they worked in, even if they did not work for the whole of that period. Children may appear in more than one category as they may have worked across more than one of the time periods presented.
<b>Total hourly rates of</b>	Measures quarterly change in combined ordinary time and overtime hourly

<b>pay index</b>	rates of pay.
<b>Total hours paid for</b>	The sum of ordinary time hours paid for plus overtime hours paid for.
<b>Trade union</b>	An organisation consisting predominantly of employees, the principal activities of which include the negotiation of rates of pay and conditions of employment for its members.
<b>Trade union member</b>	Employed persons who are a member of a trade union, not necessarily in connection with their main job.
<b>Trade union member in main job</b>	Employed persons with membership in a trade union in connection with their main job.
<b>Trainee</b>	A trainee is a person who has entered into a legal contract (called a training agreement or contract of training) with an employer, to serve a period of training in a vocational area (e.g. office administration, information technology, hospitality). Apprentices and trainees are identified by their answer to a question specifically pertaining to the Australian Apprenticeship Scheme. Note that School-based Apprenticeships/Traineeships are excluded.
<b>Trend series</b>	A smoothed seasonally adjusted series of estimates. See Explanatory Notes for more detail.
<b>Type of visa as at time of interview (current visa)</b>	<p>The visa the respondent held at the time of interview that allowed them to stay in Australia. Categories for type of visa are:</p> <ul style="list-style-type: none"> <li>• Australian citizen - Persons who arrived to live in Australia on a permanent or temporary visa and have since obtained Australian citizenship;</li> <li>• Permanent Skilled - Skilled migrants are selected on the basis of their age, skills and their ability to quickly make a contribution to the Australian economy. Includes Independent, Family or government sponsored, and Employer sponsored visas;</li> <li>• Permanent Family - Includes Partner, Child and Parent visas;</li> <li>• Permanent Humanitarian - Includes Special Humanitarian Program and Refugee visas;</li> <li>• Permanent Other/n.f.d. - Includes all other permanent visa categories or where the type of permanent visa could not be determined;</li> <li>• Temporary Student - Temporary student visas are granted to people studying or seeking study, training or skills development in Australia, and are planning to stay in Australia for 12 months or more; and</li> <li>• Temporary Other/n.f.d. - Includes tourists, working holiday makers and visitors planning to stay in Australia for 12 months or more, or where the type of temporary visa could not be determined.</li> </ul> <p>A respondent's visa type as at the time of interview may be different from the type of visa held on arrival to live in Australia. This may be the result of a respondent obtaining Australian citizenship, or the respondent's successful onshore application to another visa type after arrival.</p>
<b>Type of visa on arrival to live in Australia (initial visa)</b>	The visa the respondent held when they first arrived in Australia to live that allowed them to come to Australia. Categories for type of visa on arrival to live in Australia are as for 'Type of visa as at time of interview.'



	A respondent's type of visa on arrival to live in Australia may differ from the type of visa held as at time of interview. This may be the result of a respondent obtaining Australian citizenship, or the respondent's successful onshore application to another visa type after arrival.
<b>Underemployed workers</b>	Employed persons aged 15 years and over who want, and are available for, more hours of work than they currently have. They comprise: <ul style="list-style-type: none"> <li>• persons employed part-time who want to work more hours and are available to start work with more hours, either in the reference week or in the four weeks subsequent to the survey; or</li> <li>• persons employed full-time who worked part-time hours in the reference week for economic reasons (such as being stood down or insufficient work being available). It is assumed that these people wanted to work full-time in the reference week and would have been available to do so.</li> </ul>
<b>Underemployment rate (proportion of labour force)</b>	The number of underemployed workers, expressed as a percentage of the labour force.
<b>Underemployment ratio (proportion of employed)</b>	The number of underemployed workers, expressed as a percentage of total employed persons.
<b>Underutilisation rate</b>	The sum of the number of persons unemployed and the number of persons in underemployment, expressed as a proportion of the labour force.
<b>Unemployed</b>	Persons aged 15 years and over who were not employed during the reference week, and: <ul style="list-style-type: none"> <li>• had actively looked for full-time or part-time work at any time in the four weeks up to the end of the reference week and were available for work in the reference week; or</li> <li>• were waiting to start a new job within four weeks from the end of the reference week and could have started in the reference week if the job had been available then.</li> </ul>
<b>Unemployed looked for full-time work</b>	Unemployed persons who: <ul style="list-style-type: none"> <li>• actively looked for full-time work; or</li> <li>• were waiting to start a new full-time job.</li> </ul>
<b>Unemployed looked for only part-time work</b>	Unemployed persons who: <ul style="list-style-type: none"> <li>• actively looked for part-time work only; or</li> <li>• were waiting to start a new part-time job.</li> </ul>
<b>Unemployment rate</b>	For any group, the number of unemployed persons expressed as a percentage of the labour force in the same group.
<b>Unincorporated enterprise</b>	A business entity in which the owner and the business are legally inseparable, so that the owner is liable for any business debts that are incurred.
<b>Unmatched common sample</b>	The unmatched common sample consists of respondents from households who were part of the seven common rotation groups for the current and previous month (i.e. not part of the incoming group), but for whom a response was obtained in the current but not the previous month, or vice versa. This may be due to, for example, new or different persons residing in

	the same household, or the same respondent from a household being unable to be contacted in the current or previous month.
<b>Unmatched sample</b>	<p>The unmatched sample for a particular month identifies those respondents who do not have a labour force status for the previous month, or those who do not have a labour force status for the current month.</p> <p>The total unmatched sample consists of distinct two groups:</p> <ul style="list-style-type: none"> <li>• the incoming rotation group, and</li> <li>• the unmatched common sample.</li> </ul>
<b>Unpaid activities</b>	Includes caring for own children or other people's children including grandchildren. Also includes caring for elderly or someone with long-term illness or disability or undertaking unpaid voluntary work.
<b>Usual hours of work</b>	Usual hours of work refer to a typical period rather than the hours worked in a specified reference period. The concept of usual hours applies both to persons at work and to persons temporarily absent from work, and is defined as the hours worked during a typical week or day. Actual hours worked (for a specific reference period) may differ from usual hours worked due to illness, vacation, strike, overtime work, a change of job, or similar reasons.
<b>Usual number of hours</b>	The number of hours usually worked in a week.
<b>Usual resident</b>	A person who usually lives in that particular dwelling and regards it as their own or main home.
<b>Vocational Education and Training (VET)</b>	VET relates to education and training that aims to equip people with knowledge, skills and/or competences required in particular occupations or, more broadly, on the labour market. VET is a component of apprenticeships or traineeships, including those that are school-based. However, VET can be undertaken without also undertaking an apprenticeship or traineeship.
<b>Volume measures of underutilisation</b>	<p>There are generally two approaches for analysing data related to labour underutilisation - headcount (number of persons) and volume measures (based on hours). While headline measures of unemployment and underemployment usually relate to headcounts, the hours measures provide further information important for analysing the labour market.</p> <p>Specifically, volume measures relate to the unused potential hours of labour in comparison to the hours usually worked by employed persons. They are relevant for analysing the spare capacity of the labour force, as they take into account the number of hours sought and additional hours preferred by individuals whose labour is not fully utilised.</p> <p>Underutilised hours of labour are comprised of:</p> <ul style="list-style-type: none"> <li>• for unemployed persons: the number of hours of work sought;</li> <li>• for part-time underemployed persons: the number of additional hours preferred; and</li> <li>• for full-time underemployed persons (i.e. full-time employed persons who worked less than 35 hours in the reference week for economic reasons): the difference between the number of hours</li> </ul>

usually worked and actually worked in the reference week.

The total potential hours in the labour force is the sum of the hours usually worked by all employed persons, plus the number of hours of underutilised labour as described above.

<b>Wage price index</b>	Measures changes in the price of wages.
<b>Wanted a paid job</b>	People who are not in the labour force and would like a paid job of any kind. Includes people who said 'depends'.
<b>Wanted more hours</b>	See 'Preferred to work more hours'.
<b>Wanted to work</b>	People not in the labour force who were not actively looking for work who answered 'yes' or 'maybe' when asked if they would like a job, as well as those people not in the labour force who were actively looking. It is assumed those people actively looking want a job.
<b>Weekly earnings</b>	Amount of 'last total pay' (i.e. before taxation, salary sacrifice and other deductions had been made) from wage and salary jobs prior to the interview. For persons paid other than weekly, earnings were converted to a weekly equivalent. No adjustment was made for any back payment of wage increases, prepayment of leave or bonuses, etc.
<b>Weekly ordinary time earnings</b>	Weekly ordinary time earnings refers to one week's earnings of employees for the reference period, attributable to award, standard or agreed hours of work. It is calculated before taxation and any other deductions (e.g. superannuation, board and lodging) have been made.  Included in ordinary time earnings are award, workplace and enterprise bargaining payments, and other agreed base rates of pay, over-award and over-agreed payments, penalty payments, shift and other allowances, commissions and retainers, bonuses and similar payments related to the reference period, payments under incentive or piecework, payments under profit sharing schemes normally paid each pay period, payment for leave taken during the reference period, all workers' compensation payments made through the payroll, and salary payments made to directors.  Excluded are amounts salary sacrificed, non-cash components of salary packages, overtime payments, reimbursements to employees for travel, entertainment, meals and other expenditure incurred in conducting the business of their employer, and other payments not related to the reference period.
<b>Weekly total cash earnings</b>	The sum of weekly ordinary time cash earnings plus weekly overtime earnings.
<b>Weekly total earnings</b>	Weekly total earnings of employees is equal to weekly ordinary time earnings plus weekly overtime earnings.
<b>Weight reference period</b>	The period to which the expenditure weights relate.
<b>Wife/ partner</b>	A person in a couple relationship with another person usually resident in the same household. The couple relationship may be in either a registered or de facto marriage and includes same-sex couples.
<b>With paid leave entitlements</b>	Employees who were entitled to either paid holiday leave or paid sick leave (or both) in their main job.
<b>Without paid leave entitlements</b>	Employees who were not entitled to paid holiday leave and paid sick leave, or did not know whether they were entitled to paid holiday leave or paid

	sick leave in their main job.
<b>Worked at some time in the last 12 months</b>	People who worked in a job which lasted for two weeks or more, in the last 12 months, regardless of whether they worked full-time or part-time.
<b>Worked full-time</b>	People who usually worked 35 hours or more per week in the job in which the work-related injury or illness occurred.
<b>Worked in the last 12 months</b>	Work occurred during the 12 month reference period if the child undertook activities for pay, profit, commission or payment in kind in a job, business or on a farm, or worked without pay in a family business or farm. Some examples of children's work include carrying out work for non-household members for payment, busking or delivering leaflets. Note that chores undertaken for the child's household are excluded.
<b>Worked on a fixed-term contract</b>	Employees with a contract of employment which specifies that the employment will be terminated on a particular date/event. Note, in some instances employees excludes owner managers of incorporated enterprises.
<b>Worked part-time</b>	People who usually worked less than 35 hours or more per week in the job in which the work-related injury or illness occurred.
<b>Workers' compensation</b>	Workers' compensation includes: <ul style="list-style-type: none"> <li>• payments by an insurer or other liable party for costs related to a work-related injury or illness;</li> <li>• medical payments, incapacity payments (income maintenance and salary top-up), rehabilitation payments, travel payments and legal payments; and</li> <li>• any 'settlement' or 'judgement of claim'.</li> </ul>
<b>Workers' compensation costs</b>	Workers' compensation costs comprise, in general, the costs of insurance premiums paid plus any other costs not reimbursed by insurers. Premium rates are usually determined by considering the industry of the employer and the employer's previous claims history. Non-reimbursed costs may vary depending on the legislation which applies in each state, but can include wages and salaries, other costs such as medical and legal costs, and lump sum settlement payments. In addition, most states and territories allow very large employers to self-insure, where, except in extreme circumstances, workers' compensation costs are borne by the employers.
<b>Working days lost</b>	Working days lost refers to working days lost by employees directly and indirectly involved in the dispute.
<b>Working days lost per employee involved</b>	The average number of working days lost per employee involved in the dispute, calculated by dividing the number of working days lost in the dispute by the number of employees involved (both directly and indirectly).
<b>Working days lost per thousand employees</b>	Working days lost per thousand employees are calculated for a quarterly period by dividing the total number of working days lost in the period by the total number of employees in the Australian labour force in the period (obtained from the ABS Labour Force Survey (LFS)) and multiplying by 1,000. LFS employee estimates are revised periodically. As a result, estimates of working days lost per thousand employees are also subject to revision.
<b>Work-related injury or illness</b>	Any injury or illness or disease which first occurred in the last 12 months, where a person suffers either physically or mentally from a condition that has arisen out of, or in the course of, employment. <p>The injury or illness was considered to be in scope if the respondent first became aware of it in the last 12 months, even though the cause of the injury or illness may have occurred outside the 12 month reference period.</p>

Included are injuries or illnesses that occurred while commuting to and from work, outside the place of work but while on work duty, or during work breaks.

Information was collected about the respondent's most recent work-related injury or illness if there was more than one work-related injury or illness in the reference period.

**Works on a contract basis**

Owner managers who were engaged by an organisation to provide a particular service or undertake a particular task at an agreed price or rate, and generally for a specified period.

## ACRONYMS

<b>ABN</b>	Australian Business Number
<b>ABR</b>	Australian Business Register
<b>ABS</b>	Australian Bureau of Statistics
<b>ABSBR</b>	ABS Business Register
<b>ABSEUM</b>	ABS Economic Units Model
<b>AC</b>	Auto Coding
<b>ANZ</b>	Australia and New Zealand Banking Group
<b>ANZSCO</b>	Australian and New Zealand Standard Classification of Occupations
<b>ANZSIC</b>	Australian and New Zealand Standard Industrial Classification
<b>ARA</b>	Any Responsible Adult
<b>ASCED</b>	Australian Standard Classification of Education
<b>ASCL</b>	Australian Standard Classification of Languages
<b>ASCO</b>	Australian Standard Classification of Occupations
<b>ASGC</b>	Australian Standard Geographical Classification
<b>ASGS</b>	Australian Statistical Geography Standard
<b>ASIC</b>	Australian Standard Industrial Classification
<b>ASNA</b>	Australian System of National Accounts
<b>ATO</b>	Australian Taxation Office
<b>AWCE</b>	Average Weekly Cash Earnings
<b>AWE</b>	Average Weekly Earnings
<b>AWOTE</b>	Average Weekly Ordinary Time Earnings
<b>BAS</b>	Business Activity Statement
<b>BFU</b>	Base Frame Unit
<b>BLADE</b>	Business Longitudinal Analysis Data Environment
<b>CAC</b>	Computer Assisted Coding
<b>CAI</b>	Computer Assisted Interviewing
<b>CAPI</b>	Computer Assisted Personal Interviewing
<b>CATI</b>	Computer Assisted Telephone Interviewing
<b>CAWI</b>	Computer Assisted Web Interviewing
<b>CCLI</b>	Classification and Classified List of Industries
<b>CCLO</b>	Classification and Classified List of Occupations
<b>CDEP</b>	Community Development Employment Projects
<b>CDP</b>	Community Development Programme
<b>CE</b>	Completely Enumerated
<b>CES</b>	Commonwealth Employment Service
<b>CI</b>	Confidence Interval
<b>COE</b>	Characteristics of Employment Survey
<b>CORMS</b>	Characteristics of Recent Migrants Survey
<b>CURF</b>	Confidentialised Unit Record File
<b>EAS</b>	Economic Activity Survey
<b>EEBTUM</b>	Employee Earnings, Benefits and Trade Union Membership Survey
<b>EEH</b>	Employee Earnings and Hours Survey
<b>EG</b>	Enterprise Group
<b>ERP</b>	Estimated Resident Population
<b>FBT</b>	Fringe Benefits Tax
<b>FOES</b>	Forms of Employment Survey
<b>FSU</b>	Final Sampling Units
<b>GCCSA</b>	Greater Capital City Statistical Area
<b>GDP</b>	Gross Domestic Product

<b>GFS</b>	Government Finance Statistics
<b>GMI</b>	Gross Mixed Income
<b>GNAF</b>	Geocoded National Address File
<b>GSS</b>	General Social Survey
<b>HES</b>	Household Expenditure Survey
<b>HILDA</b>	Household Income and Labour Dynamics Australia
<b>IC</b>	Indigenous Communities
<b>ICF</b>	Indigenous Community Framework
<b>ICLS</b>	International Conference of Labour Statisticians
<b>ICPSU</b>	Indigenous Community Primary Sampling Units
<b>ICSE</b>	International Conference of Status in Employment
<b>ILC</b>	International Labour Conference
<b>ILO</b>	International Labour Organization
<b>IMF</b>	International Monetary Fund
<b>IOPC</b>	Input-Output Product Classification
<b>ISIC</b>	International Standard Industrial Classification
<b>IVA</b>	Industry Value Added
<b>IVI</b>	Internet Vacancy Index (Department of Employment)
<b>JPDA</b>	Joint Petroleum Development Area
<b>JSE</b>	Job Search Experience Survey
<b>JVS</b>	Job Vacancies Survey
<b>KILM</b>	Key Indicators of the Labour Market
<b>LE</b>	Legal Entity
<b>LEED</b>	Linked Employer-Employee Database
<b>LFS</b>	Labour Force Survey
<b>LFSS</b>	Labour Force Supplementary Surveys
<b>LGA</b>	Local Government Area
<b>LM</b>	Labour Mobility
<b>LPI</b>	Labour Price Index
<b>MB</b>	Mesh Blocks
<b>MFP</b>	Multi-Factor Productivity
<b>MLC</b>	Survey of Major Labour Costs
<b>MPHS</b>	Multipurpose Household Survey
<b>MPS</b>	Monthly Population Survey
<b>NDS</b>	National Data Set
<b>NILF</b>	Not In the Labour Force
<b>NOM</b>	Net Overseas Migration
<b>NPI</b>	Not-Profit Institutions
<b>OAD</b>	Overseas Arrivals and Departures
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>OH&amp;S</b>	Occupational Health and Safety
<b>OMIE</b>	Owner Managers of Incorporated Enterprises
<b>OMUE</b>	Owner Managers of Unincorporated Enterprises
<b>PD</b>	Private Dwelling
<b>PaETS</b>	Pregnancy and Employment Transitions Survey
<b>PJSM</b>	Participation, Job Search and Mobility Survey
<b>PIT</b>	Personal Income Tax
<b>PNILF</b>	Persons Not In the Labour Force Survey
<b>PPL</b>	Paid Parental Leave
<b>PSF</b>	Population Survey Framework
<b>PUR</b>	Place of Usual Residence

<b>Q&amp;W</b>	Qualifications and Work
<b>QBIS</b>	Quarterly Business Indicators Survey
<b>RA</b>	Remoteness Area
<b>RADL</b>	Remote Access Data Laboratory
<b>RBA</b>	Reserve Bank of Australia
<b>RJCP</b>	Remote Jobs and Community Program
<b>R&amp;RI</b>	Retirement and Retirement Intentions Survey
<b>RSE</b>	Relative Standard Error
<b>SA</b>	Statistical Areas
<b>SACC</b>	Standard Australian Classification of Countries
<b>SD</b>	Special Dwelling
<b>SDAC</b>	Survey of Disability, Ageing and Carers
<b>SE</b>	Standard Error
<b>SEARS</b>	Survey of Employment Arrangements, Retirement and Superannuation
<b>SEAS</b>	Survey of Employment Arrangements and Superannuation
<b>SEASABS</b>	SEASonal analysis, ABS standards
<b>SEE</b>	Survey of Employment and Earnings
<b>SESCA</b>	Standard Economic Sector Classification of Australia
<b>SEW</b>	Survey of Education and Work
<b>SGC</b>	Superannuation Guarantee Charge
<b>SIH</b>	Survey of Income and Housing
<b>SISCA</b>	Standard Institutional Sector Classification of Australia
<b>SIH</b>	Survey of Income and Housing
<b>SNA</b>	System of National Accounts
<b>SoS</b>	Section of State
<b>SRA</b>	Self-Representing Area
<b>SSS</b>	Special Social Surveys
<b>STEP</b>	Structured Training and Employment Project
<b>SUPC</b>	Supply Use Product Classification
<b>TAU</b>	Type of Activity Unit
<b>TOBE</b>	Type of Business Entity
<b>TOLO</b>	Type of Legal Organisation
<b>TOOCS</b>	Type of Occurrence Classification System
<b>UCL</b>	Urban Centre and Locality
<b>UEW</b>	Underemployed Workers Survey
<b>UR</b>	Usual Resident
<b>VET</b>	Vocational Education Training
<b>WPI</b>	Wage Price Index
<b>WRI</b>	Work-Related Injuries Survey
<b>WTA</b>	Working Time Arrangements Survey



## RELATED INFORMATION

### Chapter 1: Overview of Labour Statistics

- *Information Paper: Outcomes of the Labour Household Surveys Content Review, 2012* (cat. no. 6107.0)

### Chapter 2: Institutional Units and the Economically Active Population

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## Chapter 18: The Census and the LFS

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- *Employee Earnings, Benefits and Trade Union Membership, Australia* (cat. no. 6310.0)
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- *Working Time Arrangements, Australia* (cat. no. 6342.0)

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- *Characteristics of Employment, Australia* (cat. no. 6333.0)
- *Labour Force, Australia* (cat. no. 6202.0)

### Chapter 21.2: Participation, Job Search and Mobility

- *Participation, Job Search and Mobility, Australia* (cat. no. 6226.0)
- *Persons Not in the Labour Force* (cat. no. 6220.0)
- *Underemployed Workers, Australia* (cat. no. 6265.0)
- *Job Search Experience, Australia* (cat. no. 6222.0)
- *Labour Mobility, Australia* (cat. no. 6209.0)
- *Labour Force, Australia* (cat. no. 6202.0)
- *Labour Force, Australia, Detailed, Quarterly* (cat. no. 6291.0.55.003)

### Chapter 21.3: Survey of Education and Work

- *Education and Work, Australia* (cat. no. 6227.0)
- *Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 (Revision 1.0)* (cat. no. 1292.0)
- *Australian and New Zealand Standard Classifications of Occupations, First Edition, Revision 1* (cat. no. 1220.0)
- *Labour Force, Australia* (cat. no. 6202.0)
- *Labour Force, Australia, Detailed, Quarterly* (cat. no. 6291.0.55.003)
- 'Fact Sheet: Expanded Education Data' in *Labour Force, Australia, Detailed, Quarterly, Aug 2016* (cat. no. 6291.0.55.003)

### Chapter 21.4: Pregnancy and Employment Transitions Survey

- *Pregnancy and Employment Transitions, Australia* (cat. no. 4913.0)

### Chapter 21.5: Characteristics of Recent Migrants

- *Characteristics of Recent Migrants, Australia* (cat. no. 6250.0)
- *Information Paper: ABS Classification of Qualifications (ABSCQ), 1992* (cat. no. 1263.0)
- *Information Paper: ANZSCO -- Australian and New Zealand Standard Classification of Occupations, First Edition, Revision 1, 2009* (cat. no. 1221.0)
- *Standard Australian Classification of Countries (SACC), 2016* (cat. no. 1269.0)
- *Index to the Historical Microfiche Series - Statistical Publications Since Federation, 1901–1933* (cat. no. 1123.0)

### Chapter 22: Multipurpose Household Survey

- Chapter 16: Overview of Survey Methods

## Chapter 22.1: Barriers and Incentives to Labour Force Participation

- *Barriers and Incentives to Labour Force Participation, Australia* (cat. no. 6239.0)
- *Technical Manual: Multipurpose Household Survey, Expanded CURF, Australia, 2008-09* (cat. no. 4100.0)
- *Microdata: Barriers and Incentives to Labour Force Participation, Retirement and Retirement Intentions* (cat. no. 6238.0.55.001)

## Chapter 22.2: Retirement and Retirement Intentions

- *Retirement and Retirement Intentions, Australia* (cat. no. 6238.0)
- *Technical Manual: Multipurpose Household Survey, Expanded CURF, Australia, 2008-09* (cat. no. 4100.0)
- *Microdata: Barriers and Incentives to Labour Force Participation, Retirement and Retirement Intentions* (cat. no. 6238.0.55.001)

## Chapter 22.3: Work Related Injuries

- *Work-Related Injuries, Australia* (cat. no. 6324.0)
- *Technical Manual: Work-Related Injuries, Expanded CURF, Australia, 2009-10* (cat. no. 6324.0.55.001)
- *Technical Manual: Multipurpose Household Survey, Expanded CURF, Australia, 2008-09* (cat. no. 4100.0)
- *Labour Force, Australia* (cat. no. 6202.0)

## Chapter 22.4 Qualifications and Work

- *Qualifications and Work, Australia* (cat. no. 4235.0)
- *Microdata: Qualifications and Work* (cat. no. 4235.0.55.001)
- *Education and Work, Australia* (cat. no. 6227.0)

## Chapter 23: Methods Used in ABS Business Surveys

- Chapter 16: Overview of Survey Methods

## Chapter 24: Annual Economic Activity Survey and Quarterly Business Indicators Survey

- *Business Operations and Industry Performance, Australia, 2000-01* (cat. no. 8140.0)
- *Australian Industry* (cat. no. 8155.0)
- *Business Indicators, Australia* (cat. no. 5676.0)
- *Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 (Revision 2.0)* (cat. no. 1292.0)
- *Standard Economic Sector Classifications of Australia (SESCA), 2008 (Version 1.1)* (cat. no. 1218.0)

## Chapter 25: Job Vacancies Survey

- *Job Vacancies, Australia* (cat. no. 6354.0)
- *Information Paper: Reinstatement of Job Vacancies Survey, Nov 2009* (cat. no. 6354.0.55.001)

## Chapter 26: Industrial Disputes

- *Industrial Disputes, Australia* (cat. no. 6321.0.55.001)
- *Industrial Disputes, Australia* (cat. no. 6321.0)
- *Labour Statistics, Australia* (cat. no. 6101.0)



- *Directory of Industrial Relations Statistics, Jul 1996* (cat. no. 1134.0)

## Chapter 27: Survey of Major Labour Costs

- *Labour Costs, Australia* (cat. no. 6348.0)
- *Employer Training Expenditure and Practices, Australia, 2001-02* (cat. no. 6362.0)

## Chapter 28: Average Weekly Earnings

- *Wage Price Index, Australia* (cat. no. 6345.0)
- *Wage Price Index: Concepts, Sources and Methods, 2012* (cat. no. 6351.0.55.001)
- *Average Weekly Earnings, Australia* (cat. no. 6302.0)
- *Average Weekly Earnings, Australia, Preliminary* (cat. no. 6301.0).
- *Information Paper: Changes to ABS Measures of Employee Remuneration, 2006* (cat. no. 6313.0)
- *Information Paper: Changes to Average Weekly Earnings, Australia, Aug 2009* (cat. no. 6302.0.55.002)
- *Information Paper: Changes to Average Weekly Earnings, Australia, April 2012* (cat. no. 6302.0.55.002)
- *Information Paper: Release of Average Weekly Cash Earnings Series, May 2011* (cat. no. 6302.0.55.003)
- *Information Paper: Average Weekly Earnings, Australia: Upcoming Changes to Time Series Spreadsheets, May 2015* (cat. no. 6302.0.55.004)
- *Future Treatment of Telstra in ABS Statistics, 2007* (cat. no. 8102.0)
- *Employee Earnings and Hours, Australia* (cat. no. 6306.0)
- *Australian Labour Market Statistics, July 2014* (cat. no. 6105.0)
- *Average Weekly Earnings, Australia, 1941–1990* (cat. no. 6350.0)

## Chapter 29: Survey of Employee Earnings and Hours

- *Employee Earnings and Hours, Australia* (cat. no. 6306.0)
- *Employee Earnings and Hours, Australian, Preliminary* (cat. no. 6305.0 and cat. no. 6305.0.55.001)
- *Average Weekly Earnings, Australia* (cat. no. 6302.0)
- *Characteristics of Employment, Australia* (cat. no. 6333.0)
- *Australian Labour Market Statistics* (cat. no. 6105.0)
- *Information Paper: Changes to ABS Measures of Employee Remuneration, 2006* (cat. no. 6313.0)
- *Microdata: Employee Earnings and Hours, Australia* (cat. no. 6306.0.55.001)

## Chapter 30: Survey of Employment and Earnings

- *Employment and Earnings, Public Sector, Australia* (cat. no. 6248.0.55.002)
- *Wage and Salary Earners, Public Sector, Australia* (cat. no. 6248.0.55.001)
- *Information Paper: Changes to ABS Measures of Employee Remuneration, 2006* (cat. no. 6313.0)
- *Business Indicators, Australia* (cat. no. 5676.0)

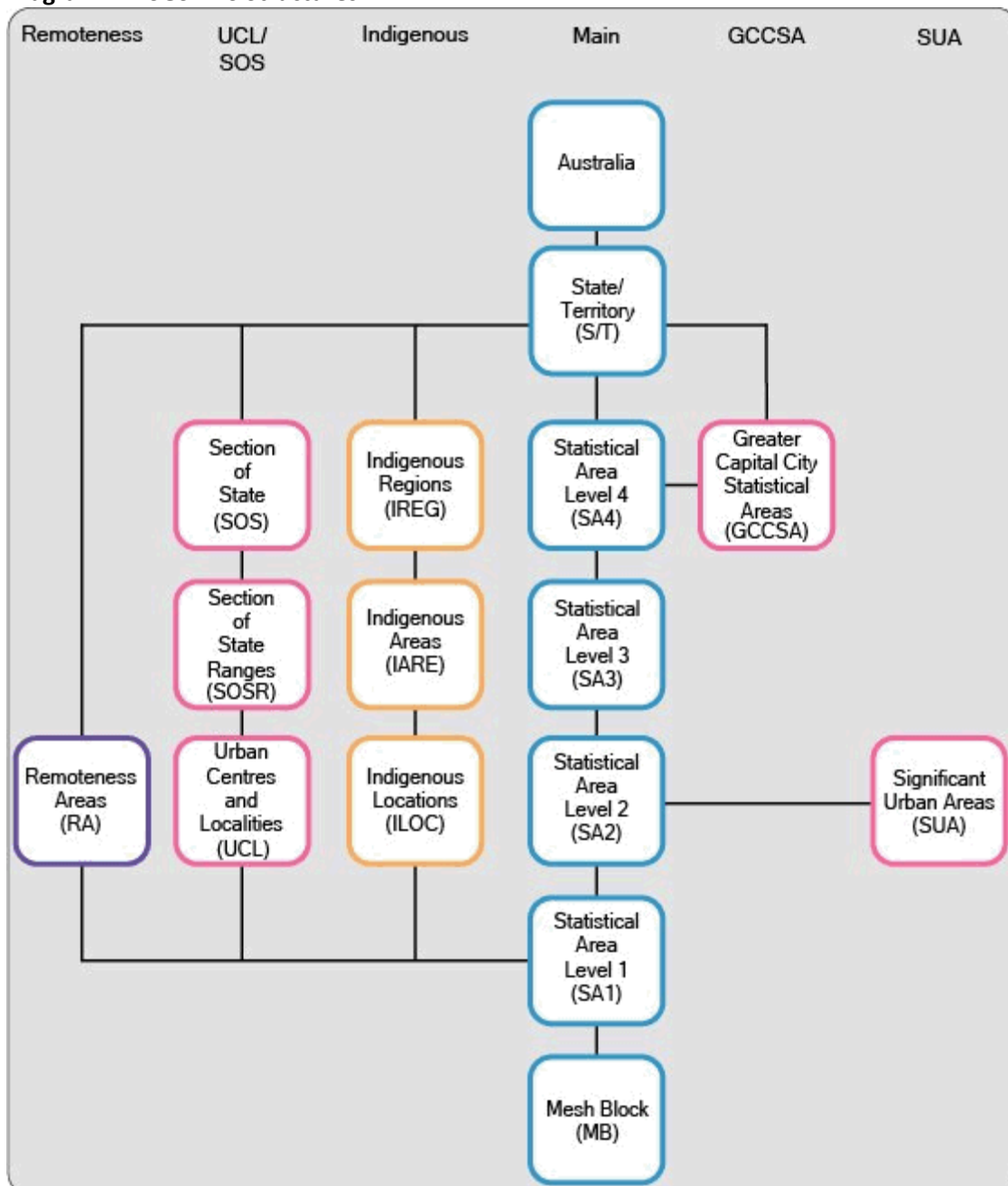
## APPENDIX 1: STATISTICAL GEOGRAPHY AND MAPS

### STATISTICAL GEOGRAPHY

The *Australian Statistical Geography Standard (ASGS), July 2016* (cat. no. 1270.0.55.001) is the Australian Bureau of Statistics' geographical framework, effective from July 2011. The Statistical Areas Level 4 (SA4), State/Territory and Australia Statistical Areas, used for the publication of labour force statistics, are part of the ASGS. The Mesh Block (MB) forms the base region for all individual structures, aggregating up through the different hierarchies.

Diagram 1 depicts the various ABS structures, their component regions and how they interrelate.

**Diagram 1: ASGS ABS Structures**





## Statistical Areas Level 4 (SA4s) and Labour Markets

Labour markets were a key consideration in the design of the SA4s, which are the smallest statistical area used for releasing labour force data. Labour force data has two geographic components to it - the labour supply (where people live) and demand (where people work). For statistical purposes, it is ideal to maximise the extent to which the region being analysed contains both sets of geographic locations. Labour markets are geographic regions, which reflect the highest degree of interconnectivity between the labour supply and demand. By reflecting labour markets, the output data are relevant to both labour supply and demand.

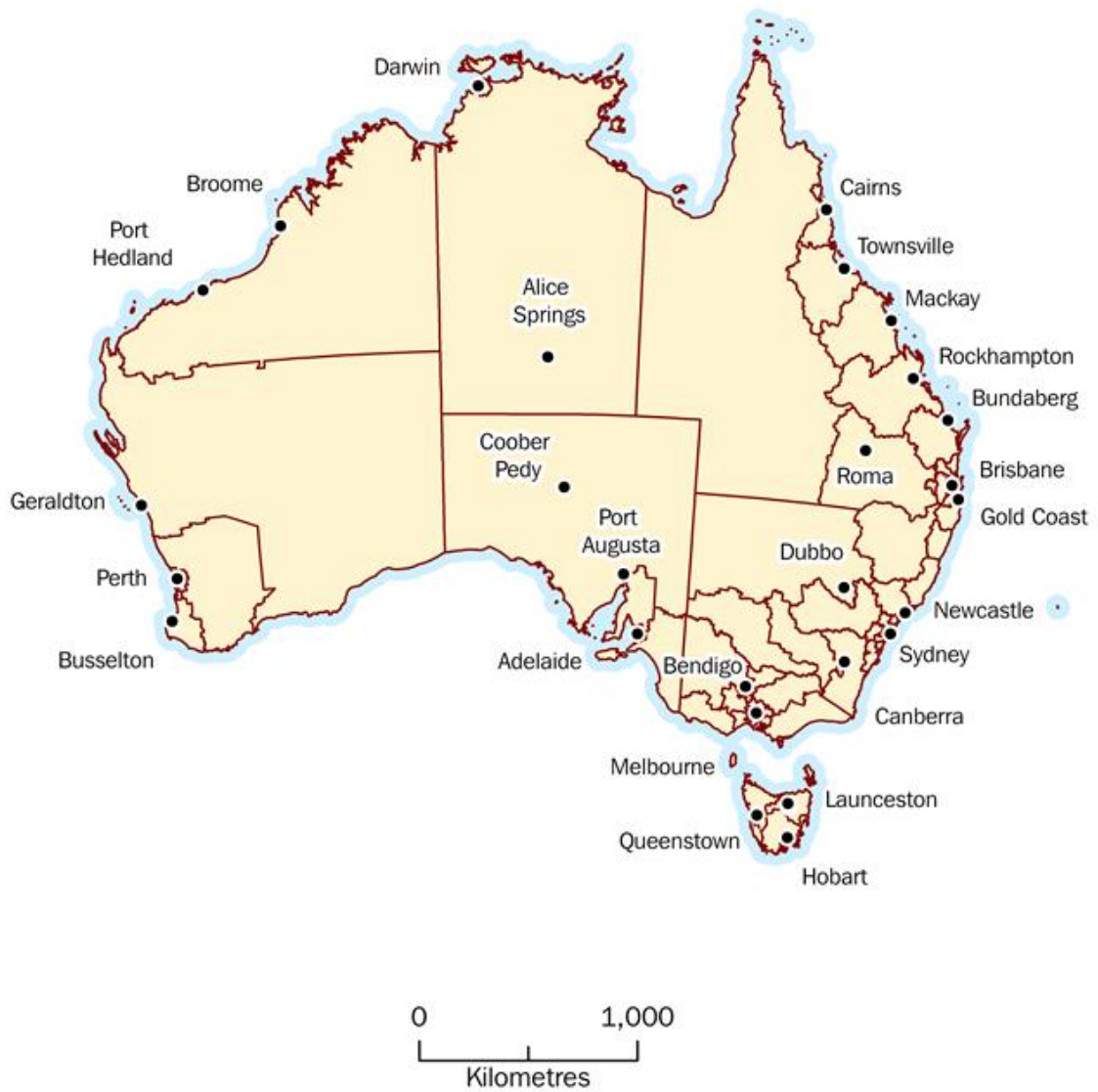
SA4s reflect labour markets within each state and territory, within the population limits imposed by the Labour Force Survey sample. They represent labour markets, sub labour markets, or groups of labour markets within each state and territory. Most SA4s have a population above 100,000 persons to provide sufficient sample size for labour force estimates. In regional areas, SA4s tend to have lower populations (100,000 - 300,000). In metropolitan areas, the SA4s tend to have larger populations (300,000 - 500,000).

In the 2011 edition of the ASGS there were 107 SA4 regions covering the whole of Australia without gaps or overlaps. These include 18 non-spatial SA4 special purpose codes comprising Migratory–Offshore–Shipping and No Usual Address codes for each state and territory.

In the 2016 edition of the ASGS there are 108 SA4 regions. The changes to the 2016 edition of SA4s were that the Western Australia - Outback SA4 was split into two SA4s, Western Australia - Outback (North) and Western Australia - Outback (South). Norfolk Island was added to the Other Territories SA4, which also includes Jervis Bay, Cocos (Keeling) Islands and Christmas Island.

From the January 2014 issue of *Labour Force, Australia* (cat. no. 6202.0), labour force estimates and the regional time series are published under the ASGS. Regional labour force data are currently published for the standard 88 SA4s in the 2011 edition of the ASGS in *Labour Force, Australia, Detailed - Electronic Delivery* (cat. no. 6291.0.55.001). Labour force data is not available below the SA4 level, and is not collected for the 18 special purpose SA4s or the Other Territories SA4.

Figure 1: Example of ABS SA4 boundaries



## MAPS AND MAPPING

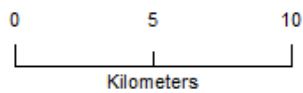
### Statistical Area Level 4 Maps

Examples of Statistical Area Level 4 maps are included below.

#### New South Wales



## Sydney

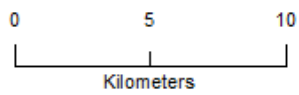


Source: Australian Statistical  
Geography Standard 2016  
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## Victoria

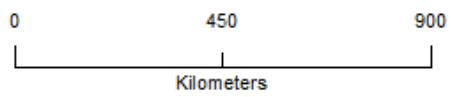
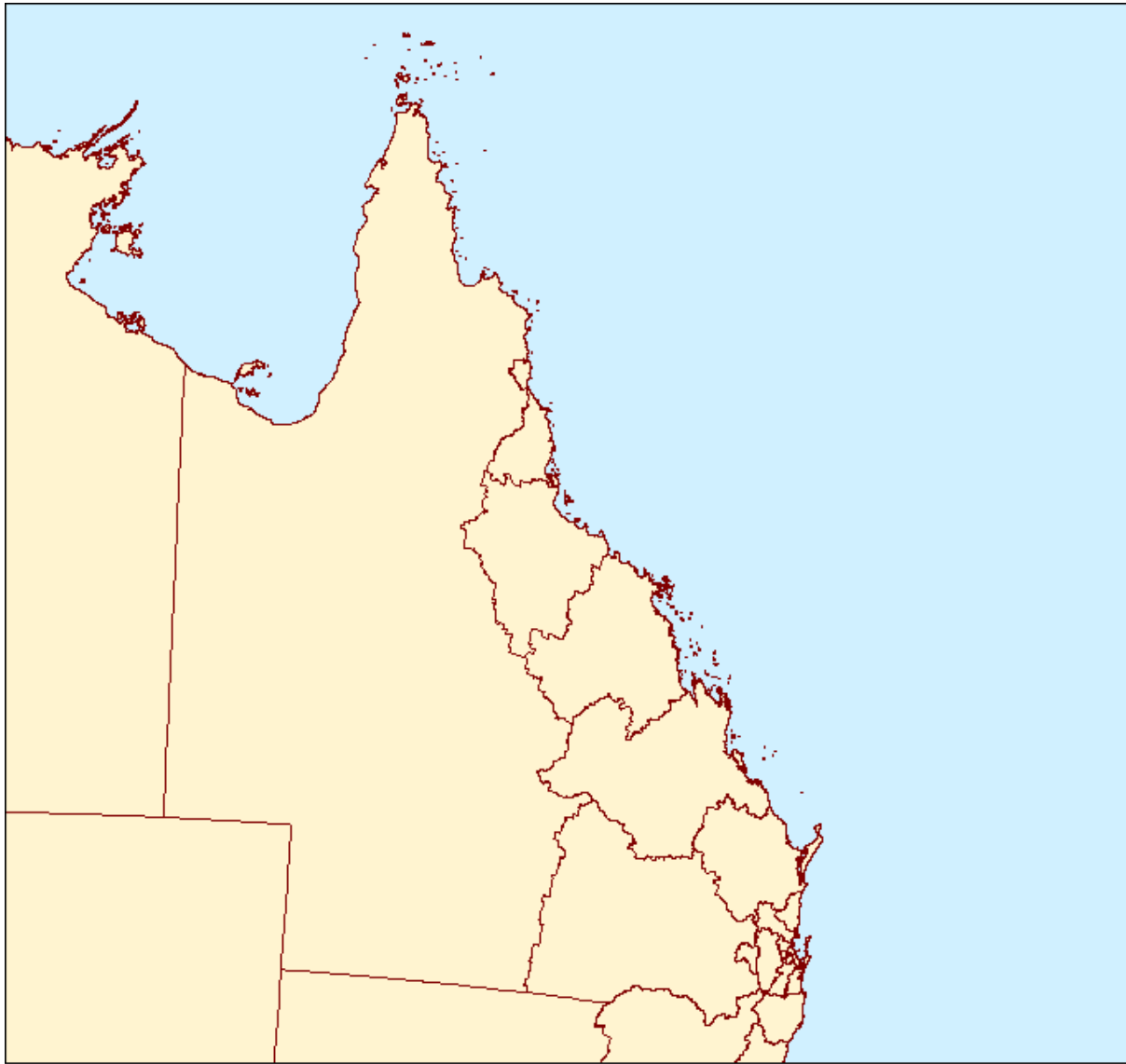


**Melbourne**



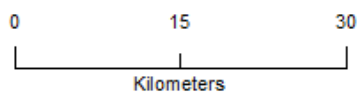
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*Queensland*



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Geography Standard 2016  
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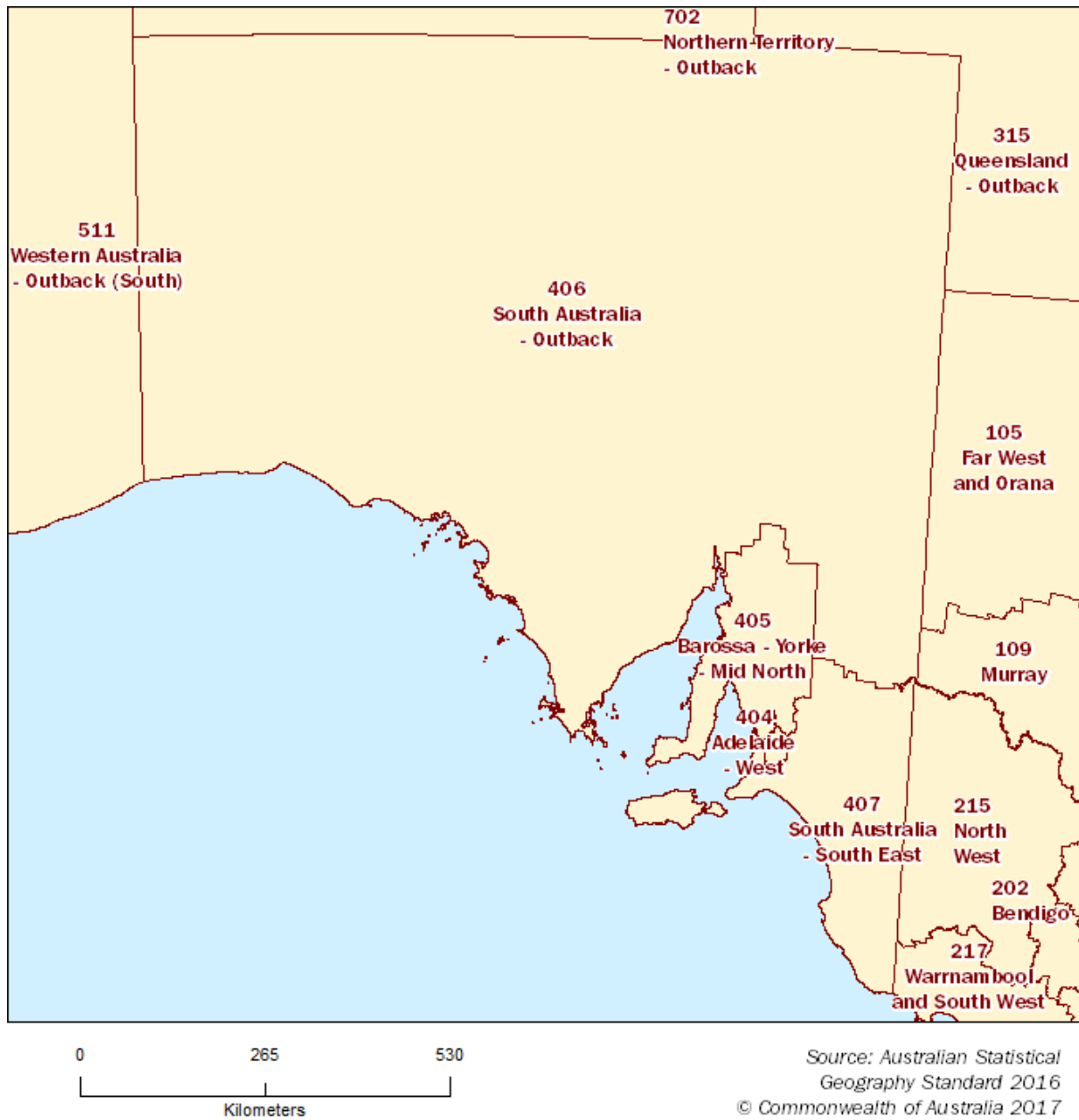
## Brisbane



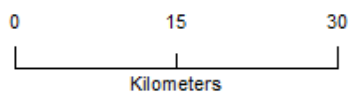
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## South Australia

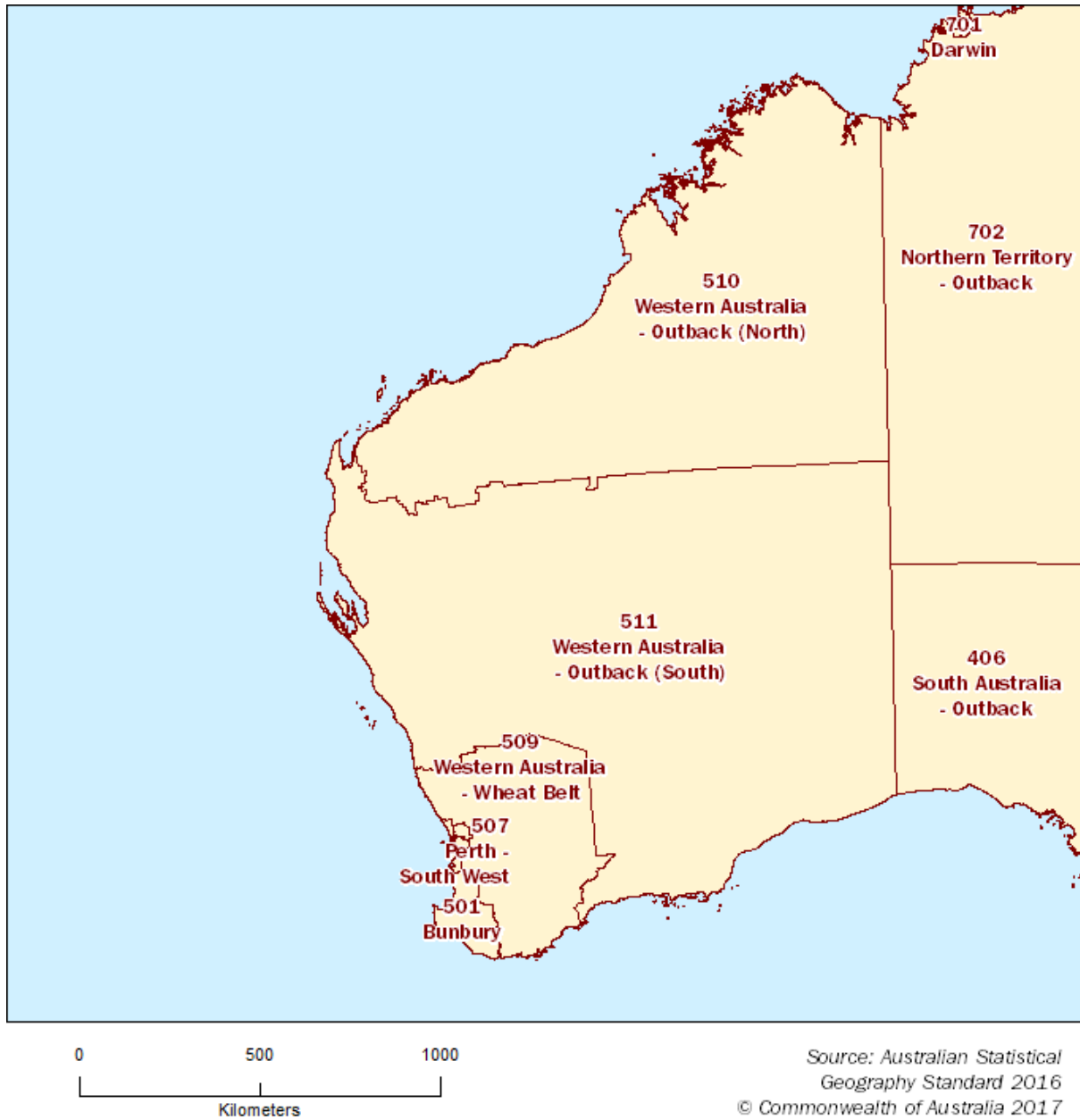


*Adelaide*

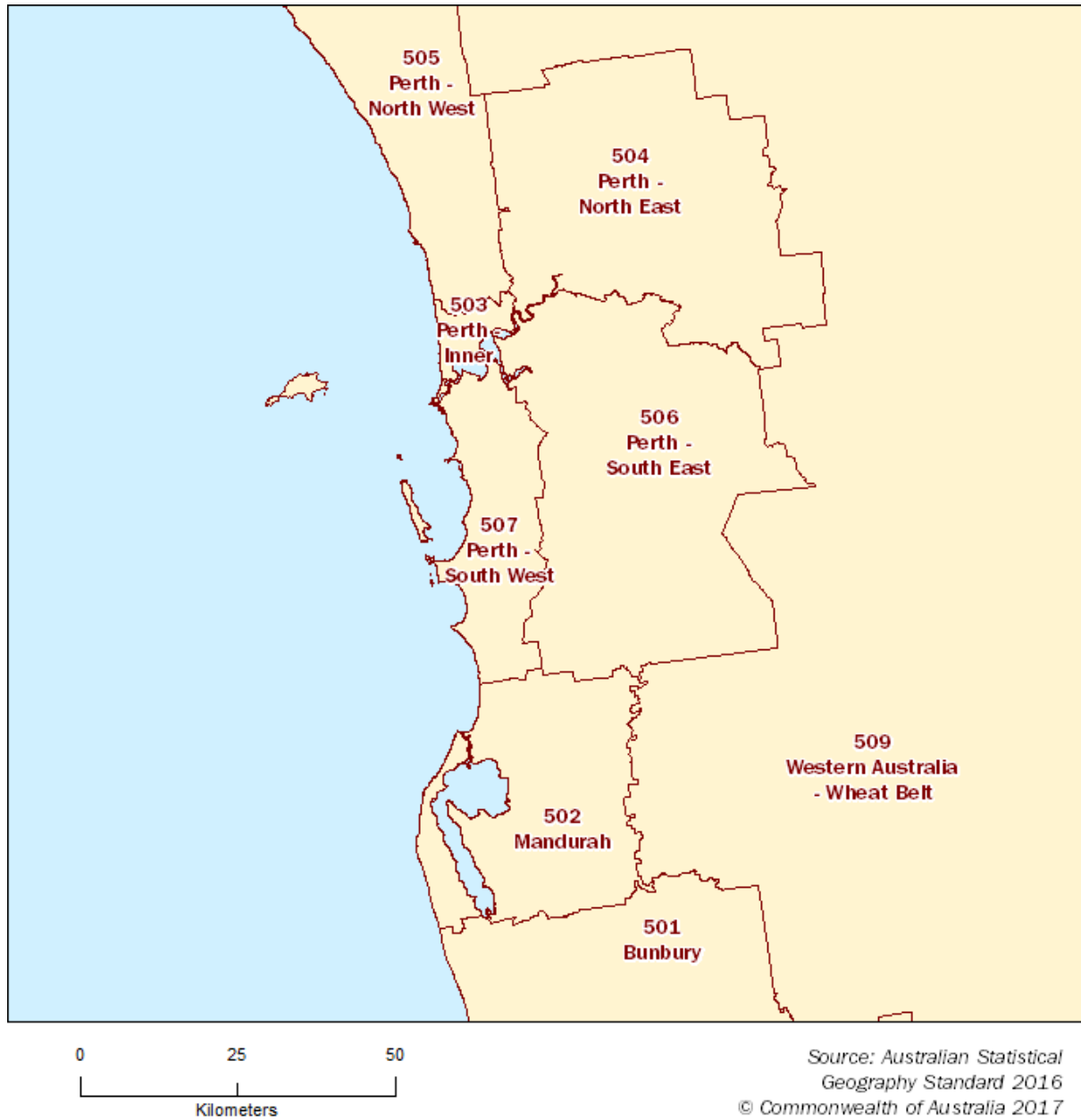


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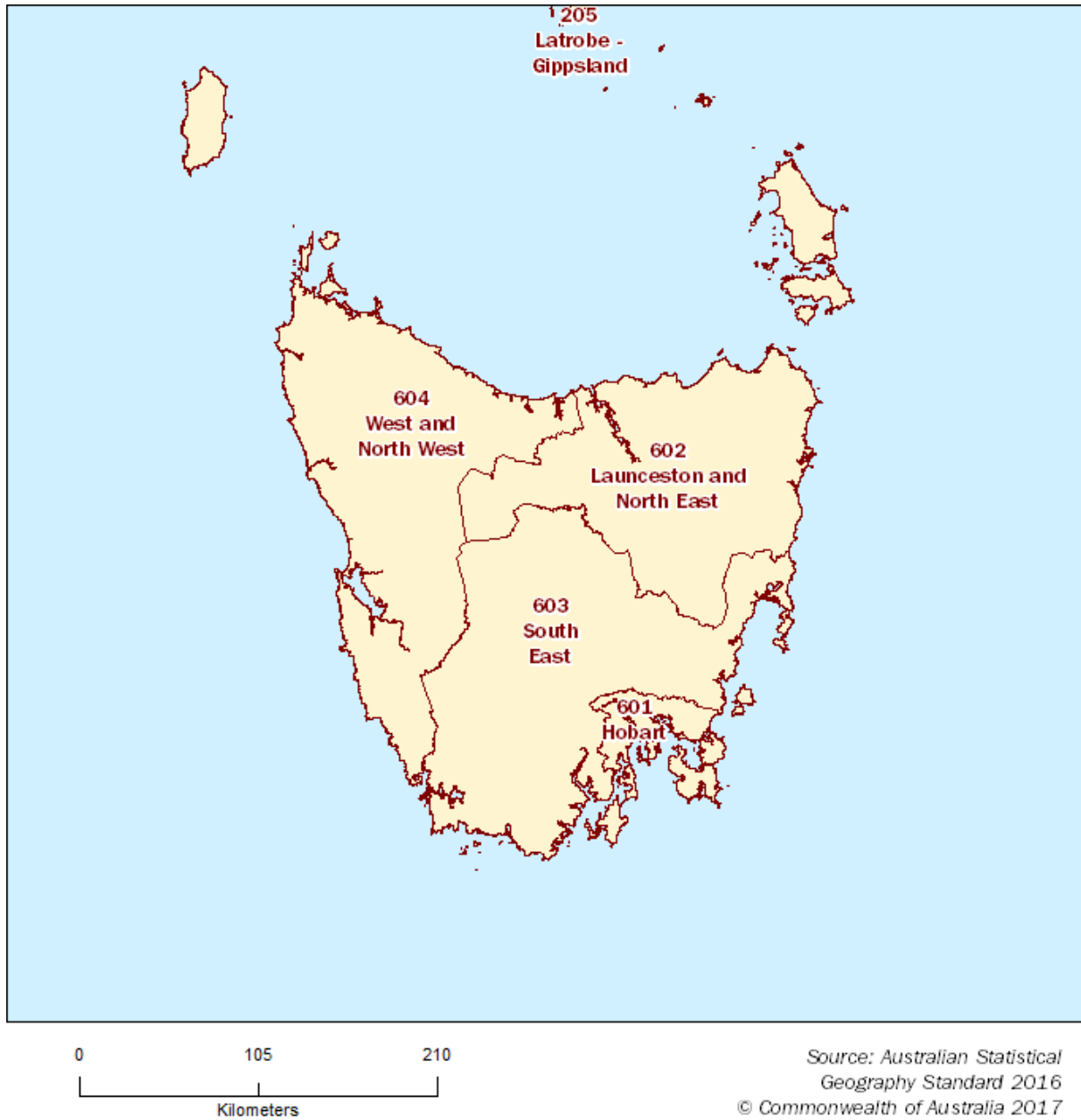
## Western Australia



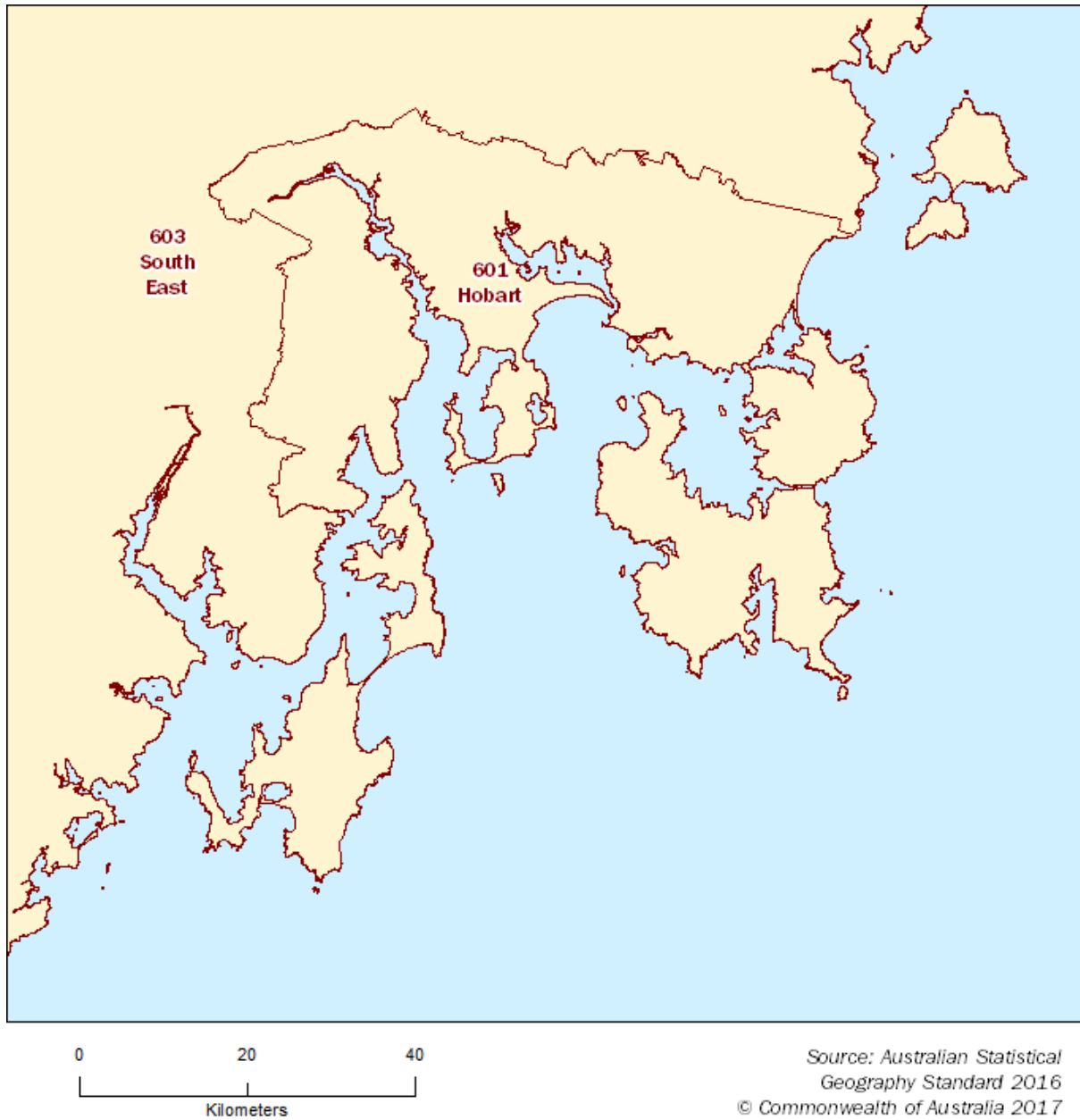
## Perth



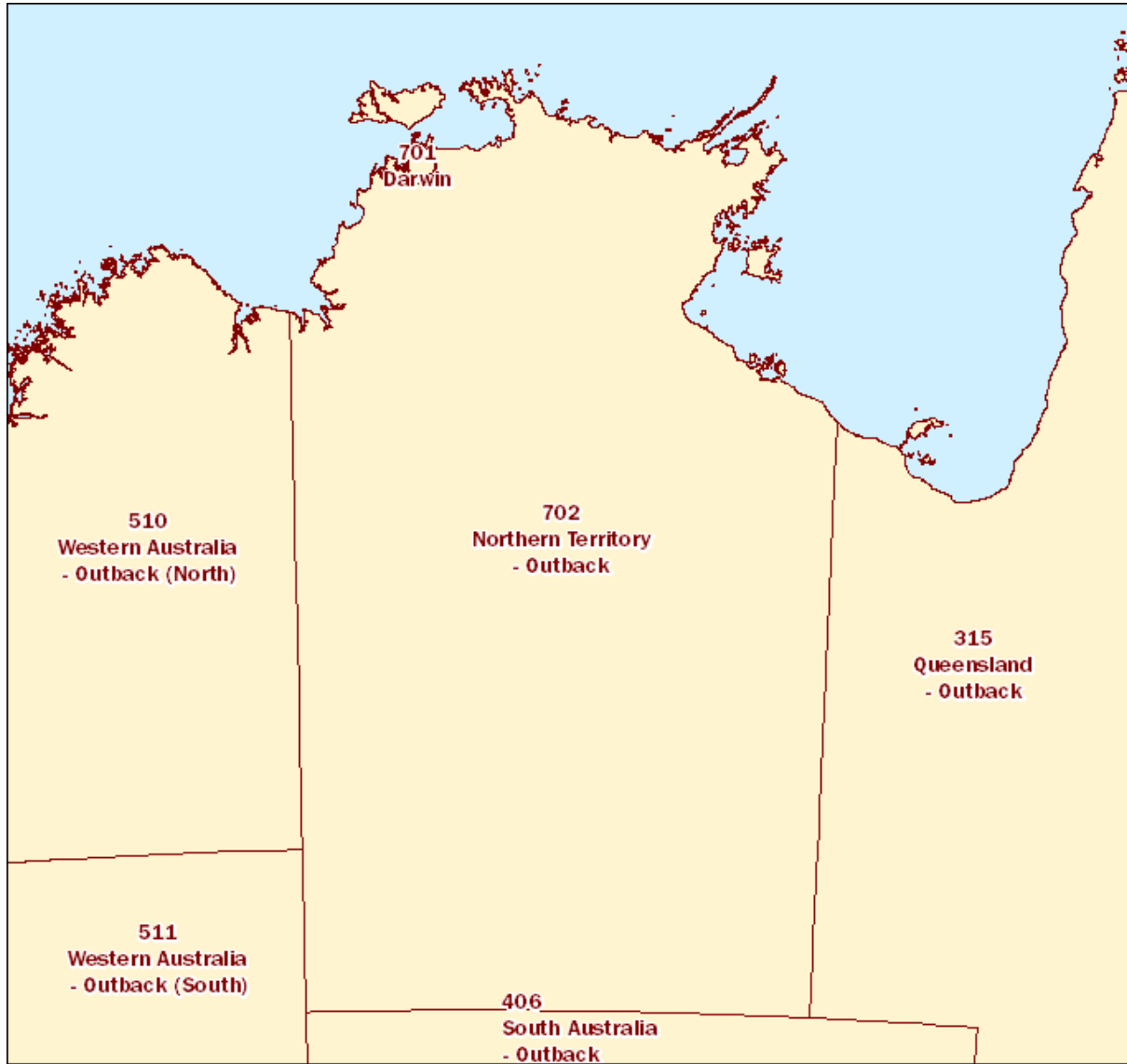
*Tasmania*



## Hobart



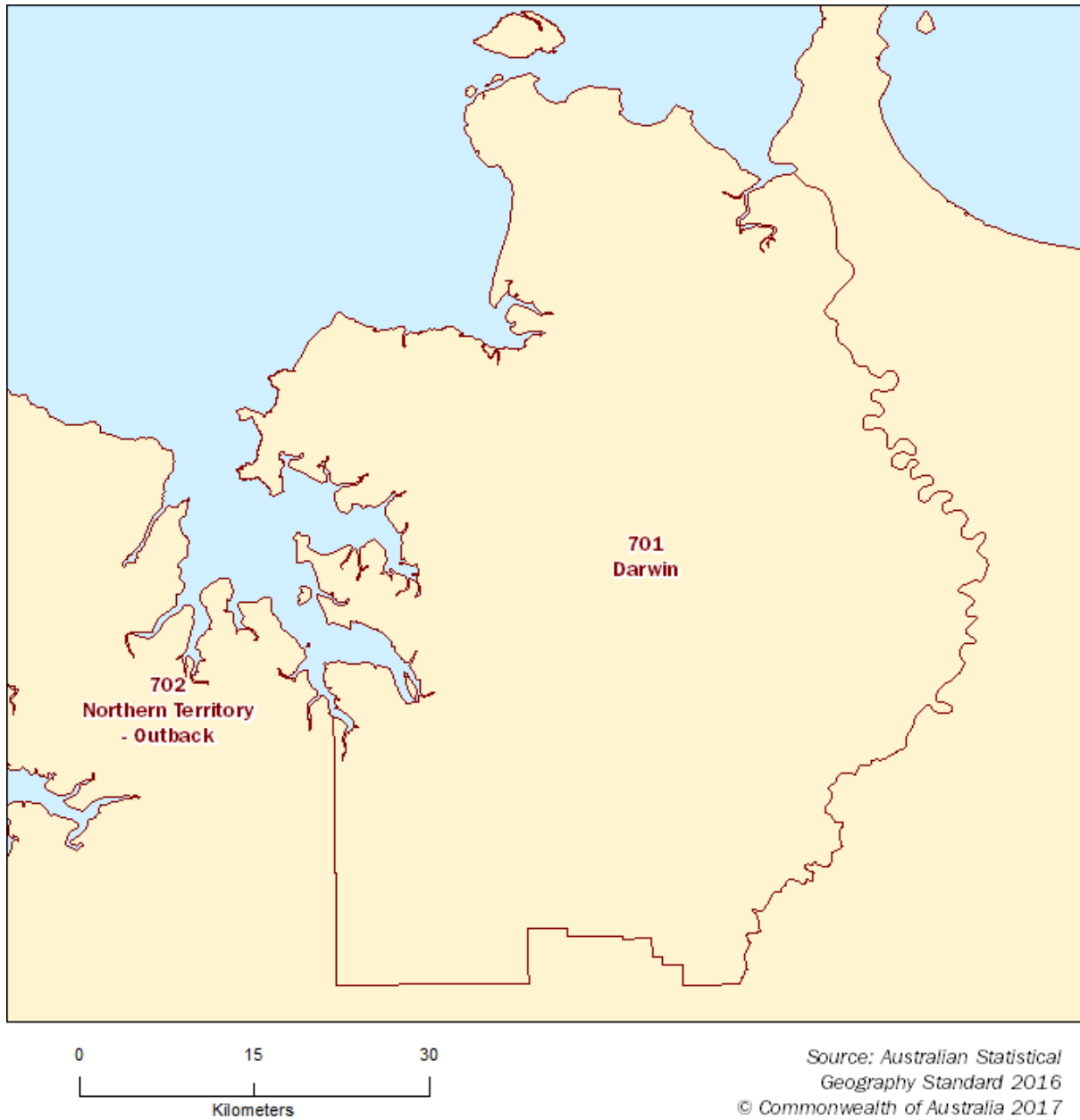
*Northern Territory*



0 345 690  
Kilometers

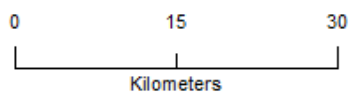
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## Darwin





*Australian Capital Territory*



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Geography Standard 2016  
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### **Digital Maps and Boundaries**

Interactive digital maps with 2016 and 2011 ASGS boundaries are available free of charge on the ABS Maps website.

ASGS digital boundaries (.csv, ESRI Shapefiles, MapInfo TAB file and MapInfo Interchange formats) are available free of charge on the Downloads tab of *ASGS: Volume 1 - Main Structure and Greater Capital City Statistical Areas, July 2016* (cat. no. 1270.0.55.001).

Correspondence files for 2011 to 2016 ASGS are also available from this page, located on the Downloads tab.

### **ABS STATISTICAL GEOGRAPHY PORTAL**

More detailed information on the ASGS is available from the ABS Geography portal.

## APPENDIX 2: SURVEY QUESTIONNAIRES

### LABOUR FORCE SURVEY (LFS)

The current LFS questionnaire, implemented in July 2014, is available from *Information Paper: Questionnaires Used in the Labour Force Survey, July 2014* (cat. no. 6232.0), as a PDF file on the Downloads tab.

### LABOUR FORCE SUPPLEMENTARY SURVEYS

The current Characteristics of Employment questionnaire is available from *Characteristics of Employment, Australia* (cat. no. 6333.0), as a PDF file on the Downloads tab.

The current Participation, Job Search and Mobility questionnaire is available from *Participation, Job Search and Mobility, Australia* (cat. no. 6226.0), as a PDF file on the Downloads tab.

### MULTIPURPOSE HOUSEHOLD SURVEYS

The Barriers and Incentive to Labour Force Participation questionnaire is available from *Barriers and Incentive to Labour Force Participation, Australia* (cat. no. 6239.0), as a PDF file on the Downloads tab.

The Retirement and Retirement Intentions questionnaire is available from *Retirement and Retirement Intentions, Australia* (cat. no. 6238.0), as a PDF file on the Downloads tab.

### WAGE PRICE INDEX SURVEY

The current Wage Price Index collection consists of two main questionnaires, due to the use of two-stage sampling. The first covers business level (employer) questions, while the second covers questions specific to each job surveyed from the business.

Both questionnaire forms are available as a PDF file from the Downloads tab of this publication.

### OTHER ABS SURVEYS

Contact the ABS National Information and Referral Service on 1300 135 070 for inquiries about questionnaires for surveys addressed in *Labour Statistics: Concepts, Sources and Methods* (cat. no. 6102.0.55.001).

## APPENDIX 3: FURTHER REFERENCES

### LABOUR FORCE SURVEY STANDARD PRODUCTS AND DATA ITEM GUIDE

The *Labour Force Survey Standard Products and Data Item Guide* (cat. no. 6103.0) is a reference guide for users of standard Labour Force Survey products, including:

- *Labour Force, Australia* (cat. no. 6202.0);
- *Labour Force, Australia, Detailed - Electronic Delivery* (cat. no. 6291.0.55.001); and
- *Labour Force, Australia, Detailed, Quarterly* (cat. no. 6291.0.55.003).

The guide is divided into two sections:

- Section 1. Labour Force Survey standard product data

The first section alphabetically lists and explains the data items in Labour Force Survey standard products.

- Section 2. Detailed information on Labour Force Survey standard products

The second section lists the Labour Force Survey standard products, and specifies the data items contained within each spreadsheet and data cube.

### STANDARDS FOR LABOUR FORCE STATISTICS

The *Standards for Labour Force Statistics* (cat. no. 1288.0) presents statistical standards for the five core labour force variables:

- Labour Force Status;
- Status in Employment;
- Hours Worked;
- Full-time/part-time Status; and,
- Duration of Job Search (formerly Duration of Unemployment).

These variables are commonly used in a range of social and labour statistical collections. This reference document describes the five core labour force variables and their associated conceptual issues and definitions. The standard for each variable includes the concept(s), definition(s), classification, coding structure, questionnaire modules and output categories used in ABS interviewer-based and self-enumerated collections.

### LABOUR FORCE SURVEY STANDARD ERRORS

The *Labour Force Survey Standard Errors, Data Cube, Feb 2014* (cat. no. 6298.0.55.001) allows the calculation of standard errors for estimates from the monthly Labour Force Survey (LFS).

The spreadsheet in this publication can be used to calculate the standard errors for the Australian Statistical Geography Standard based regional estimates and 2011 Census based population revisions, introduced in the Jan 2014 release of *Labour Force, Australia* (cat. no. 6202.0).