

PARLIAMENTARY LIBRARY

INFORMATION ANALYSIS ADVICE

QUICK GUIDE

RESEARCH PAPER SERIES, 2015–16

4 MARCH 2016

Statistics on wages and gender: a quick guide

Penny Vandebroek
Statistics and Mapping Section

Introduction

This guide provides a brief overview of the statistics available on wages and gender, including an introduction to the key concepts and terminology, and lists of relevant data sources. A quick guide to [Earnings in Australia](#) is also available from the [Parliamentary Library](#) website, along with the following related guides: [labour force](#) and [employment](#).

Gender differences

Key labour market statistics can benefit from being analysed through gender, as men's and women's experiences of the labour force (and outside of it) vary. The [International Labour Organization \(ILO\)](#) observed that women have tended to work in undervalued jobs (e.g. caring roles), that usually have poorer working conditions than other jobs, as well as lower levels of pay. Globally, women face a range of barriers to education, training and recruitment, and are generally overrepresented in informal work and non-standard forms of employment. The ILO publishes an annual summary of labour market indicators in [Global employment trends for women](#). Key indicators can be used to examine trends over time and to assess possible demographic and behavioural changes.

Types of labour market gaps

Gender gaps are observed differences which tend to disadvantage women compared with men. Most often discussed is the wage or pay gap. However, there are a number of other labour market indicators where gaps may occur. Women tend to have lower levels of labour force participation and, when they are employed, they are more likely to work part-time. These and other situations may contribute to the gender pay gap.

What are the key measures?

Gender wage ratio

The gender wage ratio (GWR) is the ratio of female to male wages, or the earnings of women expressed as a proportion of the earnings of men.

$$\text{Female earnings [divided by] male earnings [multiplied by] 100}$$

This calculation may be based on any earnings source, but often relies on average weekly ordinary time earnings of full-time employees. This will be discussed in the next section.

Gender wage (or pay) gap

The gender wage gap (GWG) is the difference between parity (100%) and the gender wage ratio. In 2015, the ILO estimated the gap was approximately 22.9% globally. They acknowledged that while the gap has been gradually closing over the last decades, there is still an ‘unexplained’ portion of the [pay gap](#) that must be attributed to discrimination – conscious or unconscious.

100 [minus] the Gender Wage Ratio (see above calculation)

Using the ILO estimate above, a wage gap of 22.9% indicates that for every \$1 a male employee receives, a female employee receives 77.1 cents. This gap however, is dependent on the source of earnings used for the calculation. For example, the gap is larger when using weekly earnings and reduces by about half when using hourly earnings. For example, [non-managerial employees paid at the adult rate](#):

- Average weekly total cash earnings—men \$1,406.50 and women \$940.90, or a gap of 33.1%
- Average hourly total cash earnings—men \$38.90 and women \$33.20, or a gap of 14.7%.

There are a few dynamics to consider; the first is that female employees are typically underrepresented in managerial roles ([approximately 31%](#) of senior and middle level managers in 2015), so removing these people makes for a more comparable group of employees. Women also tend to be overrepresented in part-time work, so using an hourly wage calculation makes it easier to compare dollars earned. In some instances, full-time employees are used as a pseudo adjustment for the differences in men’s and women’s labour force participation. However, this [exclusion is problematic](#), particularly for women, as many work part-time (approximately 46% of female employees). The main sources and types of earnings are discussed elsewhere.

What can these measures tell us?

A number of detailed studies have recognised gender pay differences in Australia that are significant, persistent and ‘unexplained’ (see for example, [M Smith, ‘Closing the gender pay gap’](#)). While report findings are able to attribute a small proportion of the gap to differences in ‘productivity-related characteristics of men and women’ (for example, education levels or workplace experience) the conclusion is that the types of jobs held by men and women and the method of setting pay for those jobs are contributing factors to the gap. Where women work is also important, with [higher gaps](#) for employees in the private sector, in large organisations and at the top of the wage distribution.

Why are these measures important?

These types of measures can assist in recognising pay gaps. They can be used as a starting point for questions about work type, methods of setting pay, value of work done and more. There are a range of limitations to such measures, with pay equity varying across industries, sectors and between states (see for example, [P Todd and A Preston, ‘Gender pay equity in Australia’](#)). There are also differences between employees on award and non-award agreements, working full-time or part-time, and permanent and casual workers. The gender wage ratio is unlikely to pick up any nuances within an ‘employee’ group, therefore all of these variables, and more, need to be considered when analysing differences in men’s and women’s pay.

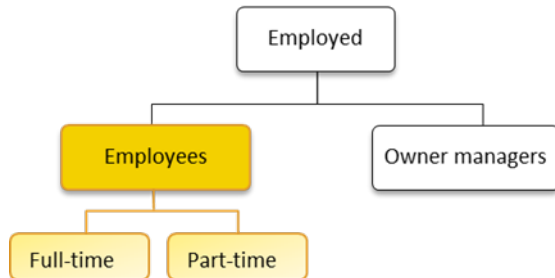
Wages/earnings

The terms ‘wages’ and ‘earnings’ generally refer to the same thing, with ‘earnings’ often used for statistical purposes. The [ILO](#) describes ‘earnings’ as remuneration paid to employees, generally at regular intervals, for time worked or work done, as well as remuneration for time away from work (e.g. annual leave, vacation pay, holidays). Earnings exclude employer contributions on behalf of employees paid to social security and pension schemes. Also excluded are severance and termination pay. The Australian Bureau of Statistics (ABS) definition of ‘earnings’ also excludes payment in kind (non-cash goods or services provided to employees).

ABS sources of earnings data

The ABS provides a summary of its earnings data sources, as well as strengths and limitations, in the article, '[Understanding earnings in Australia using ABS statistics](#)', *Australian Labour Market Statistics, July 2014* (cat. no. 6105.0). Two of the main sources will be discussed in further detail. The release, '[Characteristics of employment](#)' (cat. no. 6333.0), while not discussed here is also a relevant source.

ABS earnings data generally relates to employees, who are a subset of all employed people—see diagram below.



Average weekly earnings, Australia (cat. no. [6302.0](#))

There are limitations to the ABS data on earnings due to changes in survey collections and concepts over time. However, '[Average weekly earnings](#)', provides fairly consistent estimates based on weekly earnings of full-time employees. This survey is designed to provide estimates of the level of average earnings at a point in time, being conducted every six months (note: until May 2012 this survey was run on a quarterly basis). The data can be used to create a benchmark, from which individual earnings can be compared to the average level. The key series of earnings data from this source are:

- Average weekly ordinary time earnings for full-time adult employees (excludes overtime)
- Average weekly total earnings for full-time adult employees (includes overtime), and
- Average weekly total earnings for all employees (includes part-time workers, youth, overtime, etc).

From May 2011, there has also been a 'cash' series that includes salary sacrificed amounts. Note that this survey differs conceptually to *Employee earnings and hours* and the estimates cannot generally be compared.

Concept of average earnings

The ABS advise that average weekly earnings figures represent average gross (before tax) earnings of employees and do not relate to average award rates nor to the earnings of the 'average person'.

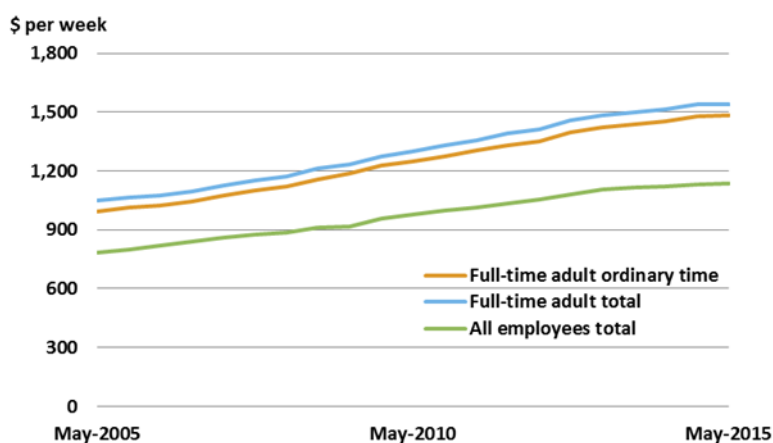
Average weekly earnings = estimates of weekly total earnings [divided by] estimates of number of employees

Further survey concepts and exclusions are available from '[Earnings in Australia: a quick guide](#)'.

Full-time and part-time employees

Whether people worked full-time or part-time is generally based on the number of hours worked; it does not relate to the type of relationship they have with their job—casual, temporary or ongoing. Full-time is often considered as 35 hours or more per week. However, where the agreed or award hours for an employee vary (e.g. full-time = 38 hours or more per week), the employees measured will vary slightly. To highlight the differences between the key series, Graph 1 (on the next page) provides average weekly earnings of full-time adults and all employees over a ten year period.

1. Average weekly earnings of selected employee groups—original(a)



(a) Original data has been used for time series purposes. Trend data is only available from May 2012.

Source: ABS, [Average weekly earnings, May 2015](#), cat. no. 6302.0

Employee earnings and hours, Australia (cat. no. 6306.0)

The ABS conducts this survey every two years, providing estimates on the composition and distribution of employee earnings. The data comes from employing businesses at the individual employee level. This makes it possible to look at earnings distribution (e.g. medians, deciles, ranges), as well as being able to derive hourly measures (for non-managerial employees only). The key series of average weekly cash earnings data relate to: all employees; non-managerial employees; and full-time non-managerial employees. Unfortunately, there have been a number of changes to the survey concepts and methodology. This means that many of the releases cannot be compared over time. In 2014, a new concept of payment was introduced to better clarify differing wage rates (i.e. adult, junior, trainee), which has led to a clear break in the series. Further information is provided in the [May 2014](#) release.

Employee characteristics

Earnings data is available by various employee characteristics, including: sex, full-time/part-time status, adult/junior status, type of employee (permanent, fixed-term contract or casual), method of setting pay (award, collective agreement and individual arrangement), occupation, industry, sector, employer size and age (from 2014 only). Analysing earnings data using additional variables can enable better understanding of the differences between men's and women's pay; however, not all characteristics can be cross-classified by sex. There are a number of useful [tables](#) available from the survey release (see the 'Downloads' tab).

Average hourly cash earnings

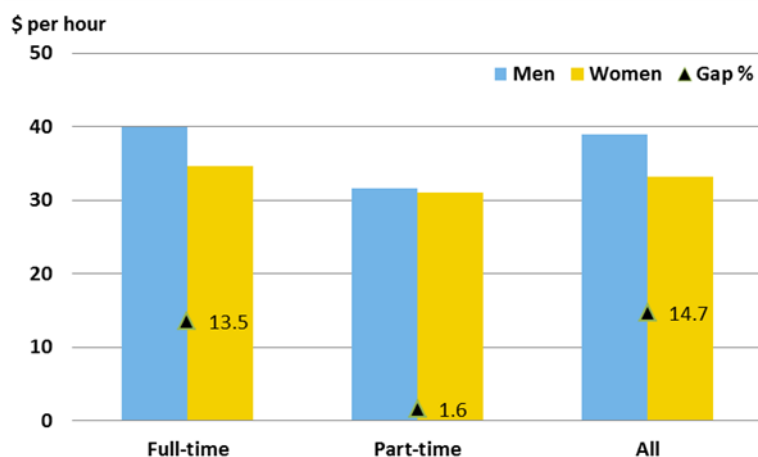
The earnings time unit most useful for analysing the gender pay gap is the hourly rate, as it best accounts for differences in men's and women's patterns of work.

Average hourly total cash earnings = total taxable gross weekly earnings [divided by] total hours paid for

To highlight changes to the gap depending on the unit selected, following are rates for **non-managerial employees paid at the adult rate**—average hourly cash earnings at May 2014 (see also Graph 2):

- Full-time employees—\$40.00 for men and \$34.60 for women, or a wage gap of 13.5%
- Part-time employees—\$31.60 for men and \$31.10 for women, or a wage gap of 1.6%
- All employees—\$38.90 for men and \$33.20 for women, or a wage gap of 14.7%.

2. Average hourly cash earnings of non-managerial employees paid at the adult rate—May 2014(a)



(a) Managerial employees and anyone paid at a rate other than the adult rate are excluded.

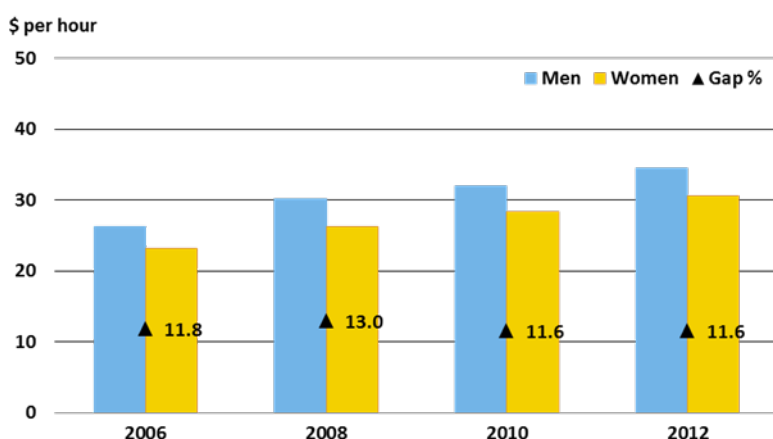
Source: ABS, [Employee earnings and hours](#), May 2014, cat. no. 6306.0

A couple of things to note:

- managerial level employees are excluded
- men represent approximately 61% of all full-time employees (paid at the adult rate)
- women represent approximately 73% of all part-time employees (paid at the adult rate), and
- anyone paid at a rate other than the adult rate (e.g. trainees, apprentices, conditional or junior employees) are excluded.

Unfortunately, the earlier data from this survey is not comparable with the 2014 release (see earlier explanation). However, it is possible to make limited comparisons of the survey from 2006 to 2012. Graph 3 compares the average hourly cash earnings of all non-managerial employees across this period. It shows a larger gap in 2008, but a fairly consistent gap across all other survey periods.

3. Average hourly cash earnings of all non-managerial employees—May 2006 to May 2012



Source: ABS, [Employee earnings and hours](#), May 2006, May 2008, May 2010 and May 2012, cat. no. 6306.0

Workplace Gender Equality Agency data set

Another source of earnings data is the Workplace Gender Equality Agency (WGEA). The WGEA data set draws on reports submitted by more than 12,000 employers, covering 4 million employees across Australia. In 2014–15 the data represented approximately **40% of the total labour force**. A key strength of the data set is that information on all people employed by a business is included. A limitation of the data is that it only represents non-public sector employers with 100 or more employees. It therefore excludes the public sector, small organisations and many medium sized organisations. The [website](#) provides a series of data presentations on the gender pay gap; managers and employees by workforce status; and types of paid parental leave. The [Data Explorer](#) is an interactive website that provides a platform for the data to be interpreted through three key themes - gender equality, industry and comparisons. [Summary information](#) explains the concepts used and assists in interpreting the data. The WGEA also provide a gender pay gap [fact sheet](#) on their website, which contains a summary of their wages data, as well as ABS data on an average weekly earnings basis.

APS Remuneration Report

The [APS Remuneration Report](#) is an annual snapshot of remuneration across the whole of the Australian Public Service (APS). It provides information on remuneration by classification level and details on key components of remuneration packages. Comparisons with previous reports are also provided. The 2014 report is the fourth edition where all APS agencies have provided data. Between 2001 and 2010, the information was provided through an annual sample survey, undertaken by an external consultant. In [2014](#), the report data was based on 2,406 senior executives (SES) and 136,991 non-SES employees. When considering the data, it should be noted that large agencies have a significant impact on the results. The Department of Human Services, Australian Taxation Office and the Department of Defence account for almost half (49%) of the APS workforce, and the profiles of those agencies therefore influence the median figures. Further information on the source data and employees excluded from the figures is provided in the report.

© Commonwealth of Australia



Creative Commons

With the exception of the Commonwealth Coat of Arms, and to the extent that copyright subsists in a third party, this publication, its logo and front page design are licensed under a [Creative Commons Attribution-NonCommercial-NoDerivs 3.0 Australia](#) licence.