

## INQUIRIES

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UNEMPLOYMENT, FEBRUARY 1977  
PRELIMINARY ESTIMATES

## MAIN FEATURES

- In February 1977 the estimated number of unemployed persons was 324,800 (5.3 per cent of the estimated labour force). The figure includes persons looking for part-time work as well as those looking for full-time work. The seasonally adjusted estimate was 279,200.
- There were 164,100 unemployed males (4.1 per cent of the male labour force) and 160,700 unemployed females (7.6 per cent of the female labour force).
- Of persons in the labour force aged 15-19 years about one in seven males and one in five females was unemployed.
- Unemployment rates were 2.9 per cent for males aged 20 years and over and 5.3 per cent for females aged 20 years and over.

## EXPLANATORY NOTES

## Introduction

This statement contains preliminary unemployment estimates for Australia derived from the quarterly population survey. More detailed estimates are published each quarter in *The Labour Force (Preliminary)* (Reference No. 6.32) and *The Labour Force* (Reference No. 6.20).

## The population survey

2. The survey is based on a multi-stage area sample of private dwellings (about 30,000 houses, flats, etc.) and non-private dwellings (hotels, motels, etc.) and covers about two-thirds of one per cent of the population of Australia. The information is obtained in February, May, August and November from the occupants of selected dwellings by carefully chosen and specially trained interviewers. Interviews are carried out during a period of four weeks, so that in each of the months to which the survey relates, there are four survey weeks, chosen so as to fall within the limits of the calendar month or with minimum encroachment into the adjacent months.

## Definition

3. For purposes of the survey, unemployed persons are defined as all civilians aged 15 years and over who either:

- (a) during the survey week did not work and did not have a job, but could have taken one had it been available, and had been looking for full-time or part-time work in the four weeks up to and including the survey week (including persons who would have been prevented from taking a job in the survey week by their own temporary illness or injury, or by their having made arrangements to start after the survey week in a new job in which they would have preferred to start in the survey week) or
- (b) were waiting to be called back to a job from which they had been temporarily stood down without pay for four weeks or less (including the whole of the survey week).

4. Unemployed persons therefore comprise those looking for full-time work, those looking for part-time work and those temporarily laid off from either full-time or part-time jobs. This definition of unemployed persons conforms closely to that recommended by the Eighth International Conference of Labour Statisticians (1954).

## Reliability of the estimates

5. Since the estimates are based on a sample, they may differ from the figures that would have been obtained from a complete census using the same questionnaires and procedures. There are about two chances in three that the differences would be less than 3,800 for total unemployed males, less than 3,700 for total unemployed females and less than 5,100 for total unemployed persons, and about nineteen chances in twenty that they would be less than twice these figures. Further details about the survey and the reliability of the estimates will be found in the quarterly bulletin *The Labour Force* (Reference No. 6.20).

## Seasonal adjustment

6. Problems encountered recently in seasonally adjusting the numbers of unemployed persons have been mentioned previously, and the procedures have been revised. Revised estimates were first published in the August 1976 issue of this statement.

7. Because there is insufficient length of series available to enable a complete assessment of the reliability of the new method to be made, it would be claiming too much to suggest that these problems have now been wholly overcome, but the revised estimates are

at least a considerable improvement over those published previously. A brief explanation of the problems and the adjustment method now used is given below.

8. The method used (the U.S. Bureau of the Census X-11Q) assumes that the amplitude of seasonal change is proportional to the level of the series. Until 1974 this assumption worked very satisfactorily, but following the rapid rise in the level of unemployment in 1974 the proportional relationship appears to have changed very substantially, and the X-11Q method was unable to adapt sufficiently.

9. By considering the series in two parts an estimate of the effect of the change in the proportional relationship has now been made. By means of prior adjustment factors derived from this estimate and applied to the data, the X-11Q program moving averages are now able to accommodate the 1974 change. The resulting seasonal factors reflect one proportional relationship up to 1974 and the other relationship since then.

10. The shape of the seasonal variation since 1974 may have changed as well as the relationship between amplitude and level. (For example, the rise in the original series in August 1976 could be due, at least in part, to a new seasonal pattern.) If it has, the change will have to be handled by the adaptive capacity of the program itself.

11. As from the May 1976 issue of this statement the unemployment estimates derived from the population survey have been based on a revised definition. See *The Labour Force, May 1976* (Reference No. 6.20), pages 3 and 4, paragraphs 9 to 14 for details. Estimates of unemployment on the revised basis have a different seasonal pattern from those on the old basis. Because only five quarterly figures on the revised basis were available at the time the seasonal adjustment factors were calculated it has been necessary to make special estimates for the seasonally adjusted series.

#### Comparability with Commonwealth Employment Service figures

12. The sample estimates will differ from the number of persons registered with the Commonwealth Employment Service (CES) as not employed, awaiting

placement in full-time employment, for a number of reasons, including the following:

- The survey estimates include persons looking for *part-time* work as well as those looking for *full-time* work
- they exclude persons who did any work at all during the survey week, even though they may subsequently have become unemployed and registered with the CES or have done so little work as not to lose eligibility for unemployment benefit
- they represent *averages over a period* (see paragraph 2), whereas the numbers registered with CES refer to a particular day at the end of the month
- they are subject to sampling variability (see paragraph 5)
- they include some unemployed persons (particularly females) who do not register with the CES
- they exclude any persons registered as unemployed who find jobs but do not notify the CES at once that they have done so.

In recent quarters the effect of these factors on the movements in the two series appears to have been increasing.

#### Related publications

13. Users may also wish to refer to the following publications which are available on request:

*The Labour Force (Preliminary)* (Reference No. 6.32)

*The Labour Force* (Reference No. 6.20).

All publications produced by the ABS are listed in *Publications of the Australian Bureau of Statistics* (Reference No. 1.8) which is available free of charge from any ABS office.

NOTE. Any discrepancies between totals and sums of components in the table are due to rounding.

UNEMPLOYED PERSONS (a) : AUSTRALIA

| Month               | Looking for           |                       | Aged 15-19 years             |              | Aged 20 years and over ('000) | Total           |                                   | Total excluding persons aged 15-19 years looking for first job |                                | Per cent of labour force (b) |                        |          |                         |
|---------------------|-----------------------|-----------------------|------------------------------|--------------|-------------------------------|-----------------|-----------------------------------|----------------------------------------------------------------|--------------------------------|------------------------------|------------------------|----------|-------------------------|
|                     | Full-time work ('000) | Part-time work ('000) | Looking for first job ('000) | Total ('000) |                               | Original ('000) | Seasonally adjusted (c)(d) ('000) | Original ('000)                                                | Seasonally adjusted (d) ('000) | Aged 15-19 years             | Aged 20 years and over | Total    |                         |
|                     |                       |                       |                              |              |                               |                 |                                   |                                                                |                                |                              |                        | Original | Seasonally adjusted (d) |
| MALES               |                       |                       |                              |              |                               |                 |                                   |                                                                |                                |                              |                        |          |                         |
| 1975 - November (e) | 127.9                 | 11.0                  | 12.2                         | 43.0         | 96.0                          | 139.0           | 141.0                             | 126.8                                                          | 130.1                          | 12.2                         | 2.7                    | 3.6      | 3.6                     |
| 1976 - February †   | 147.0                 | 12.5                  | 17.4                         | 51.3         | 108.2                         | 159.5           | 138.0                             | 142.0                                                          | 125.2                          | 13.1                         | 3.0                    | 4.0      | 3.5                     |
| May                 | 123.3                 | 9.2                   | 9.4                          | 41.7         | 90.7                          | 132.4           | 142.2                             | 123.0                                                          | 127.5                          | 10.8                         | 2.5                    | 3.3      | 3.6                     |
| August              | 138.0                 | 8.1                   | 12.5                         | 42.7         | 103.4                         | 146.2           | 166.3                             | 133.7                                                          | 145.1                          | 11.8                         | 2.9                    | 3.7      | 4.2                     |
| November            | 133.4                 | 10.9                  | 15.3                         | 42.5         | 101.8                         | 144.2           | 145.6                             | 129.0                                                          | 131.9                          | 11.6                         | 2.8                    | 3.6      | 3.7                     |
| 1977 - February (f) | 152.0                 | 12.2                  | 22.0                         | 58.7         | 105.4                         | 164.1           | 141.3                             | 142.1                                                          | 125.1                          | 14.6                         | 2.9                    | 4.1      | 3.6                     |
| FEMALES             |                       |                       |                              |              |                               |                 |                                   |                                                                |                                |                              |                        |          |                         |
| 1975 - November (e) | 89.9                  | 45.6                  | 19.3                         | 49.3         | 86.2                          | 135.5           | 136.8                             | 116.2                                                          | 119.6                          | 14.9                         | 4.7                    | 6.3      | 6.4                     |
| 1976 - February †   | 96.0                  | 49.1                  | 22.7                         | 56.8         | 88.3                          | 145.0           | 126.4                             | 122.3                                                          | 107.4                          | 16.2                         | 4.9                    | 6.7      | 5.9                     |
| May                 | 79.1                  | 36.0                  | 14.8                         | 45.7         | 69.4                          | 115.1           | 122.2                             | 100.4                                                          | 103.8                          | 13.6                         | 3.9                    | 5.4      | 5.7                     |
| August              | 84.9                  | 33.1                  | 13.8                         | 45.9         | 72.1                          | 118.0           | 132.1                             | 104.2                                                          | 114.0                          | 14.4                         | 4.1                    | 5.6      | 6.2                     |
| November            | 80.3                  | 30.1                  | 15.8                         | 44.7         | 65.6                          | 110.4           | 111.2                             | 94.5                                                           | 97.0                           | 13.8                         | 3.6                    | 5.2      | 5.3                     |
| 1977 - February (f) | 114.2                 | 46.6                  | 30.4                         | 66.5         | 94.3                          | 160.7           | 139.7                             | 130.3                                                          | 114.3                          | 19.6                         | 5.3                    | 7.6      | 6.7                     |
| PERSONS             |                       |                       |                              |              |                               |                 |                                   |                                                                |                                |                              |                        |          |                         |
| 1975 - November (e) | 217.8                 | 56.6                  | 31.5                         | 92.3         | 182.2                         | 274.5           | 279.2                             | 243.1                                                          | 250.6                          | 13.5                         | 3.4                    | 4.5      | 4.6                     |
| 1976 - February †   | 243.0                 | 61.5                  | 40.2                         | 108.0        | 196.5                         | 304.5           | 263.2                             | 264.3                                                          | 232.0                          | 14.6                         | 3.7                    | 5.0      | 4.3                     |
| May                 | 202.4                 | 45.2                  | 24.2                         | 87.4         | 160.1                         | 247.6           | 263.8                             | 223.4                                                          | 231.1                          | 12.1                         | 3.0                    | 4.1      | 4.3                     |
| August              | 222.9                 | 41.2                  | 26.3                         | 88.6         | 175.5                         | 264.1           | 297.3                             | 237.9                                                          | 259.2                          | 13.0                         | 3.3                    | 4.4      | 4.9                     |
| November            | 213.7                 | 40.9                  | 31.1                         | 87.2         | 167.4                         | 254.6           | 257.8                             | 223.5                                                          | 229.5                          | 12.6                         | 3.1                    | 4.2      | 4.2                     |
| 1977 - February (f) | 266.1                 | 58.7                  | 52.4                         | 125.2        | 199.7                         | 324.8           | 279.2                             | 272.4                                                          | 238.6                          | 16.9                         | 3.7                    | 5.3      | 4.6                     |

(a) Aged 15 years and over. For definition, see paragraph 3. (b) The number of unemployed in each group as a percentage of the labour force in the same group. (c) The method used in seasonally adjusting estimates for total unemployed persons is to adjust estimates for unemployed persons aged 15 to 19 years looking for their first job and estimates for the remainder of unemployed persons separately and to add the two figures to obtain total estimates for unemployed persons. Estimates for unemployed males and females are treated similarly. (d) See paragraphs 6 to 10. (e) The sample size was reduced for the November 1975 survey. Consequently the standard errors for estimates from that survey are larger than usual. For details see the November 1975 issue of *The Labour Force* (Reference No. 6.20). (f) Preliminary estimates, subject to revision.

† Affected by the deferral of the interviewing period by one week. It is estimated that had interviewing taken place in the normal period, the seasonally adjusted figure for total unemployed persons would have been higher by some 5,000 to 10,000.