Australian Bureau of Statistics
INFORMATION PAPER

CATALOGUE NO. 6270.0

EMBARGOED UNTIL 11.30 A.M. 1 OCTOBER 1987

NEW ISSUE

LABOUR FORCE SURVEY — MEASURING TEENAGE UNEMPLOYMENT

PHONE INQUIRIES • *about this paper*—contact Mr Bruce McClelland on Canberra (062) 52 6691 or any ABS State office.
• *about other statistics and ABS services*—contact **Information Services** on Canberra (062) 52 6007, 52 6627, 52 5402 or any ABS State office.

MAIL INQUIRIES • *write to* **Information Services**, ABS, P.O. Box 10, Belconnen, A.C.T. 2616 or any ABS State office.

ELECTRONIC SERVICES • on **VIATEL** — key *656#. • on **AUSSTATS** — phone (062) 52 6017. • on **TELESTATS** — phone (062) 52 5404.

Introduction

The Labour Force Survey, which is conducted monthly, provides the data used to measure the overall level of employment and unemployment in Australia. Details are available for various subsets of the population as well as in aggregate. For a number of years, the labour force characteristics of teenagers, particularly the unemployment rate, have attracted considerable interest.

2. During recent months, there have been several instances of misinterpretation of the published unemployment rate for teenagers. In particular, there has been a tendency for some commentators to infer, mistakenly, that the teenage unemployment rate of (say) 19 per cent means that 19 per cent of *all teenagers* are unemployed. Also, it has been suggested that the teenage unemployment rate is misleading because it takes no account of whether teenagers who are classified as unemployed attend educational institutions.

3. The purpose of this information paper is to explain the concepts underlying the teenage unemployment rates published by the ABS. It also discusses a selection of alternative methods for measuring the unemployment level of the teenage population by making use of data released regularly by the ABS, and compares the results with the equivalent adult measures.

Concepts

4. In this paper the term 'unemployment rate' is confined to measures which use the standard international concepts. This means that an unemployment rate for a particular population group is calculated by dividing the number of unemployed within that group (i.e., the number not employed, actively seeking work and available to commence work in the reference week) by the number in the labour force for that group (i.e., the employed plus the unemployed). As such, the complement of the unemployment rate is the employment rate.

5. All the unemployment rates published by the ABS are calculated using International Labour Office (ILO) recommendations. While these recommendations may have their critics, nevertheless they are used by the vast majority of Western countries thus allowing reasonable international comparisons. Further, as the rates are strictly defined in terms of the components of the labour force, rates for various population groups (which may differ on a range of social and demographic characteristics) can be compared on a consistent basis.

6. It is important to note that *unemployment rates* compare the number unemployed with the total number in the labour force (i.e., the employed plus the unemployed) for the population subset of interest. Therefore it is not correct to use an unemployment rate as a measure of the proportion of the population which is unemployed. For example, the *labour force* does not include those who prefer to continue their full-time education before actively seeking work, others who are not actively seeking work, or persons who are not readily available to start work.

7. In addition, it is important to understand that a variety of statistical measures can be used to portray teenage unemployment from different perspectives. Such measures may look at unemployment in relation to the total teenage population, or take into account particular characteristics of teenagers to provide insights into the nature of teenage unemployment.

Comparisons of Adult and Teenage Unemployment Rates

8. The teenage unemployment rate has always been topical. ABS monthly labour force surveys (commenced in 1978) have shown that the unemployment rate for the 15 to 19 years age group, especially those unemployed teenagers seeking full-time work, has been consistently higher than that for the rest of the civilian population aged 20 and over. The graph on page 2 shows the 'full-time' unemployment rates for these two age groups. (The 'full-time' unemployment rate is the number unemployed looking for full-time work divided by the sum of the number working full time and the number unemployed looking for full-time work.) The graph shows that, since 1978, the 'full-time' unemployment rate for the 15 to 19 years age group has been 12 to 15 percentage points

higher than the corresponding rate for adults. To further highlight the different trends in adult and teenage unemployment rates, the graph shows that the 'full-time' unemployment rate of teenagers has been slowly increasing recently while the adult 'full-time' unemployment rate has changed little over the last two years.

9. There are three teenage unemployment *rates* considered in this paper (the overall rate, the 'full-time' rate and the non-student rate). They show similar seasonal patterns, and similar levels (for July 1987 they fall between 18.3 and 20.5 per cent). The teenagers' unemployment rates are shown to be 2.8 to 3.0 times higher than the corresponding rates for persons aged 20 years or more (see Table 3).

Alternative Measures

10. The ABS provides a wide range of data each month in the publications *The Labour Force, Australia, Preliminary (6202.0)* and *The Labour Force, Australia (6203.0)*. They allow the calculation of a large variety of alternative measures and indicators of the teenage unemployment situation.

11. Care should be taken when using other measures of teenage unemployment because the capacity for between-group comparisons is diminished once rates for particular demographic groups incorporate characteristics peculiar to those groups. For instance, teenage rates may be modified to take account of full-time attendance at educational institutions but the resultant measures would not be readily comparable across demographic groups.

12. All the measures described in this paper can be derived from the data on teenagers and their labour force characteristics made available monthly in the ABS labour force publications. Classificatory variables in the publications include State, sex, marital status, age, school attendance and birthplace. Labour force characteristics include full and part-time employment, unemployed looking for full or part-time work, looking for first full-time job and duration of unemployment. In addition to this data, *The Labour Force, Australia (6203.0)* now contains statistics on full-time attendance at tertiary educational institutions.

13. Selected alternative measures of teenage unemployment, other than those which follow standard ILO definitions, are described in Table 1, and discussed further in this paper. Three types of measures of teenage unemployment are considered:

(a) standard unemployment rates — the ratio of the unemployed to the labour force (the employed plus the unemployed);

(b) unemployment to population ratios — the number unemployed divided by the number in the population;

(c) unemployment/fully active ratio — the number unemployed and not in full-time education divided by the number of 'fully active persons' (i.e., those engaged in education full time plus others who are employed or unemployed).

Chart 1 shows population subset estimates for July 1987 and the way in which the various elements contribute to both the numerator and the denominator of each of the alternative measures. Table 2 provides comparative results for the last 16 months.

14. In considering alternative measures to describe teenage unemployment, attendance at educational institutions is a factor often used to modify the standard concepts of employed and unemployed. It has been suggested that full-time students should not be considered as part of the labour force and that the teenage unemployment rate should only take into account non-students unemployed as a proportion of the non-student labour force. In this paper, this measure is shown as R4.

15. Alternatively, it is possible to treat teenage students, regardless of their labour force status, as 'fully active', along with the employed. Such students, it might be argued, have a satisfactory situation from a social and economic standpoint, irrespective of their labour force status. They are seen to be enhancing their future employability, and such students might be seen as just as fully 'employed' as a young person in receipt of a wage. It is possible to construct a ratio (the 'unemployment/fully active ratio') which reflects this state of affairs. The ratio involves considering as 'unemployed' (i.e., in the numerator) only those unemployed who are not full-time students, and considering as 'employed' those persons who are employed in the standard sense plus all others who are full-time students either at school or in tertiary institutions. The ratio (shown as R1) is calculated by dividing the number 'unemployed' by the sum of the 'employed' plus the 'unemployed'.

16. The unemployment/population ratio can also be used as an indicator of teenage unemployment. It is a measure of the proportion of the teenage *population* which is unemployed as distinct from the proportion of the teenage *labour force* which is unemployed. It is shown in this paper as R3. A similar ratio can be compiled by considering the proportion of unemployed persons seeking full-time work. This measure is called the 'full-time' unemployment/population ratio and is shown as R2.

17. Understandably the unemployment to population ratios are lower than unemployment rates because the ratios compare the unemployed with the total population (including those teenagers who have no immediate interest in joining the labour force because they are still at school). For July 1987 the unemployment/population ratio showed that 11.1 per cent of the teenage population was unemployed (a ratio 2.7 times that for the population aged 20 and over).

18. The unemployment/fully active ratio produces a still lower number because it does not consider as unemployed those teenagers seeking work but also engaged in full-time education. For July 1987 this ratio was 7.9 per cent for teenagers. The corresponding ratio for the adult population was approximately 6.5 per cent (the lack of data on persons aged 25 and over who are attending tertiary educational institutions full time prevent the ratio being calculated precisely — the correct estimate would be slightly less than 6.5 per cent).

19. For July 1987, these comparisons of alternative measures for teenagers and the adult population aged 20 and over are given in Table 3. With the exception of the unemployment/fully active ratio, the table shows that each teenage measure was between 2 and 3 times the level of the corresponding adult measure. This result strongly suggests that teenage unemployment is demonstrably higher than the adult rate whichever measure is chosen to make the comparison.

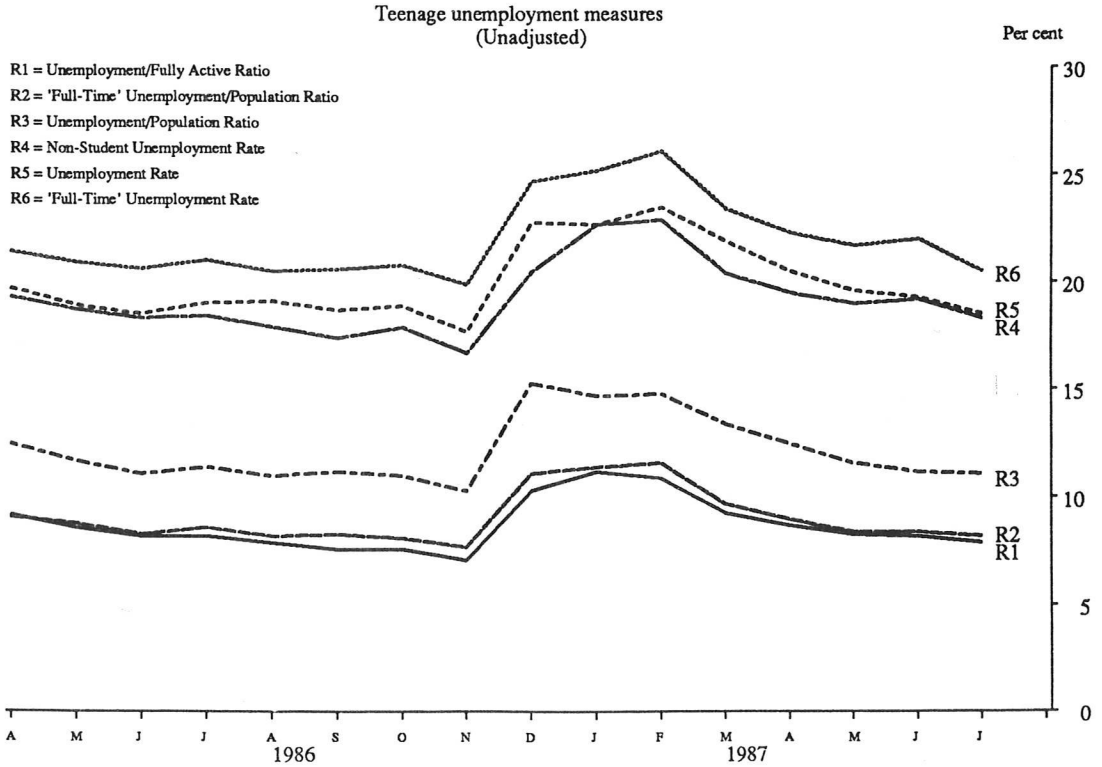
20. The graph below shows each of the measures discussed in this paper for the period April 1986 to July 1987. It plots the non-seasonally adjusted values and it is evident that each of the measures available on a monthly basis follows the same broad pattern although at quite different levels. This pattern largely reflects the seasonality associated with the number of teenagers unemployed, looking for full-time work and not attending educational institutions full time. It is this component which dominates the numerator of each of the measures shown on the graph. It is also apparent from the graph that the rates and ratios cover a wide numeric range, and it is possible to portray teenage unemployment as a low number or a high number — depending on the definition and context selected.

21. For comparative purposes, the standard unemployment rates, i.e., those that follow ILO definitions of unemployed and labour force, are shown as R5 and R6. The unemployment rate (R5) is the ratio of the number of unemployed (whatever their educational status) to the number defined as being in the labour force. The 'full-time' rate (R6) is the ratio of unemployed seeking full-time work to the full-time labour force. The 'full-time' unemployment rate for teenagers is an important indicator of teenage labour availability, on a full-time basis, and of hardship insofar as it indicates the proportion of the teenage full-time labour force unemployed and unable to obtain full-time work.

22. An example of an alternative approach to measuring teenage unemployment could be to consider relaxing the ILO definition of unemployment. Persons who are classed as not in the labour force, but who are said to be marginally attached to the labour force, may also be considered. They are persons who are not in the labour force, but who want to work and:

(a) are available to start within four weeks, or

(b) are actively looking for work but are not available to start within four weeks.



23. The brief selection of alternative measures presented in this paper could be readily extended. Other items which might be considered include data on full and part-time work undertaken or sought by students; persons underemployed; full or part-time attendance at schools, colleges, etc.; and the degree of marginal attachment to the labour force (e.g. discouraged jobseekers). A myriad of measures would result and no doubt each would be useful in the appropriate context. Generally, the ABS makes available sufficient data to enable these measures to be compiled, as is the case with the recent release of new data on full-time attendance at educational institutions (classified by labour force status) from the June 1987 issue of publication 6203.0 onwards.

24. The attachments to this paper set out the definitions of the standard and alternative measures, and illustrate the results of compiling those measures in the recent past both in graphical form and in data tables.

Table 1: *Alternative Measures of Teenage Unemployment*

Defines each of the measures discussed in this paper.

Table 2: *Alternative Measures of Teenage Unemployment, Estimates*

Shows the values taken by each of the measures discussed in this paper, between April 1986 and July 1987.

Table 3: *Alternative Measures of Unemployment, Adult/Teenage Comparison*

Shows the values taken by each of the measures for both the teenage population and the population of adults (i.e., those aged 20 years and over).

Graph 1: *Teenage Unemployment Measures*

Graphs the values of a selection of the measures over the period February 1978 to July 1987.

Chart 1: *Teenage Population, Labour Force Framework*

Shows the composition of the teenage population according to the elements which the various unemployment measures take into account. This chart shows estimates for these elements for July 1987. It also shows how these elements contribute to each of the measures, as a series of boxes showing components of the numerator and denominator for each ratio compiled. At the foot of each column, the values of the numerator and denominator of each particular measure are shown, together with the resultant value of the ratio.

IAN CASTLES
Australian Statistician

TABLE 1. ALTERNATIVE MEASURES OF TEENAGE UNEMPLOYMENT(a)

TITLE		
R1	Unemployment/Fully Active Ratio	$100 \times \frac{\text{Unemployed not attending educational institutions full time}}{\text{Labour force plus others attending educational institutions full time}}$
R2	'Full-Time' Unemployment/Population Ratio	$100 \times \frac{\text{Unemployed, looking for full-time work}}{\text{Civilian population}}$
R3	Unemployment/Population Ratio	$100 \times \frac{\text{Unemployed}}{\text{Civilian population}}$
R4	Non-Student Unemployment Rate	$100 \times \frac{\text{Unemployed, not attending educational institutions full time}}{\text{Persons in the labour force, not attending educational institutions full time}}$
R5	Unemployment Rate	$100 \times \frac{\text{Unemployed}}{\text{Labour force (employed plus unemployed)}}$
R6	'Full-time' Unemployment Rate	$100 \times \frac{\text{Unemployed looking for full-time work}}{\text{Employed full time plus unemployed looking for full-time work}}$

(a) For each measure, both the numerator and the denominator refer to the civilian population aged 15 to 19.

TABLE 2. ALTERNATIVE MEASURES OF TEENAGE UNEMPLOYMENT, ESTIMATES

	Unemployment/ fully active ratio	*'Full-time' unemployment/ population ratio*	*Unemployment/ population ratio*	*Non-student unemployment rate*	*Unemployment rate*	*'Full-time' unemployment rate*
	R1	R2	R3	R4	R5	R6
1986—						
April	9.2	9.1	12.5	19.3	19.7	21.4
May	8.6	8.8	11.7	18.7	18.9	20.9
June	8.2	8.3	11.1	18.3	18.5	20.6
July	8.2	8.6	11.4	18.4	19.0	21.0
August	7.9	8.2	11.0	17.9	19.1	20.5
September	7.6	8.3	11.2	17.4	18.7	20.6
October	7.6	8.1	11.0	17.9	18.9	20.8
November	7.1	7.7	10.3	16.7	17.7	19.9
December	10.3	11.1	15.3	20.5	22.8	24.7
1987—						
January	11.2	11.4	14.7	22.7	22.7	25.2
February	10.0	11.6	14.8	22.9	23.5	26.1
March	9.3	9.7	13.4	20.4	21.9	23.4
April	8.7	9.0	12.5	19.5	20.5	22.3
May	8.3	8.4	11.6	19.0	19.6	21.7
June	8.2	8.4	11.2	19.2	19.3	22.0
July	7.9	8.2	11.1	18.3	18.5	20.5

R1, R4 compiled from data published in *The Labour Force, Australia (6203.0)* (June and July) and unpublished data (April 1986 to May 1987). December, January and February data includes as 'attending educational institutions' full time those persons who did not know whether they would do so when the next academic year commenced.

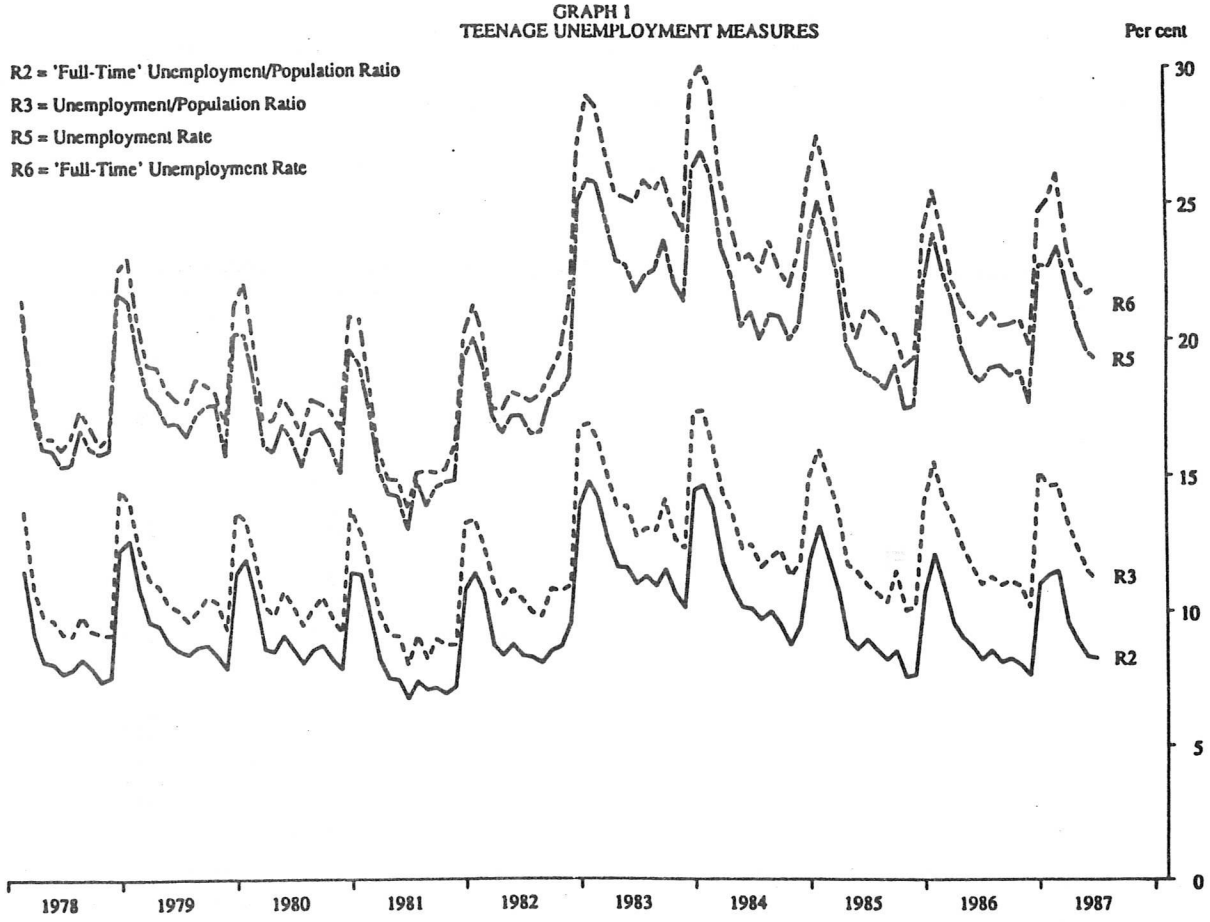
R2, R3, R5, R6 compiled from data published in *The Labour Force, Australia (6203.0).*

TABLE 3. ALTERNATIVE MEASURES OF UNEMPLOYMENT ADULT/TEENAGE COMPARISON JULY 1987

	Total population	*Teenagers*	*Adults*	*Teenagers/ adults*
	(1)	(2)	(3)	(2)/(3)
R6 'Full-time' unemployment rate	8.1	20.5	6.9	3.0
R5 Unemployment rate	7.9	18.5	6.6	2.8
R4 Non-student unemployment rate	(a)7.3	18.3	(a)6.6	2.8
R3 Unemployment/population ratio	4.9	11.1	4.1	2.7
R2 'Full-time' unemployment/population ratio	4.1	8.2	3.6	2.3
R1 Unemployment/fully active ratio	(a)7.3	7.9	(a)6.5	1.2

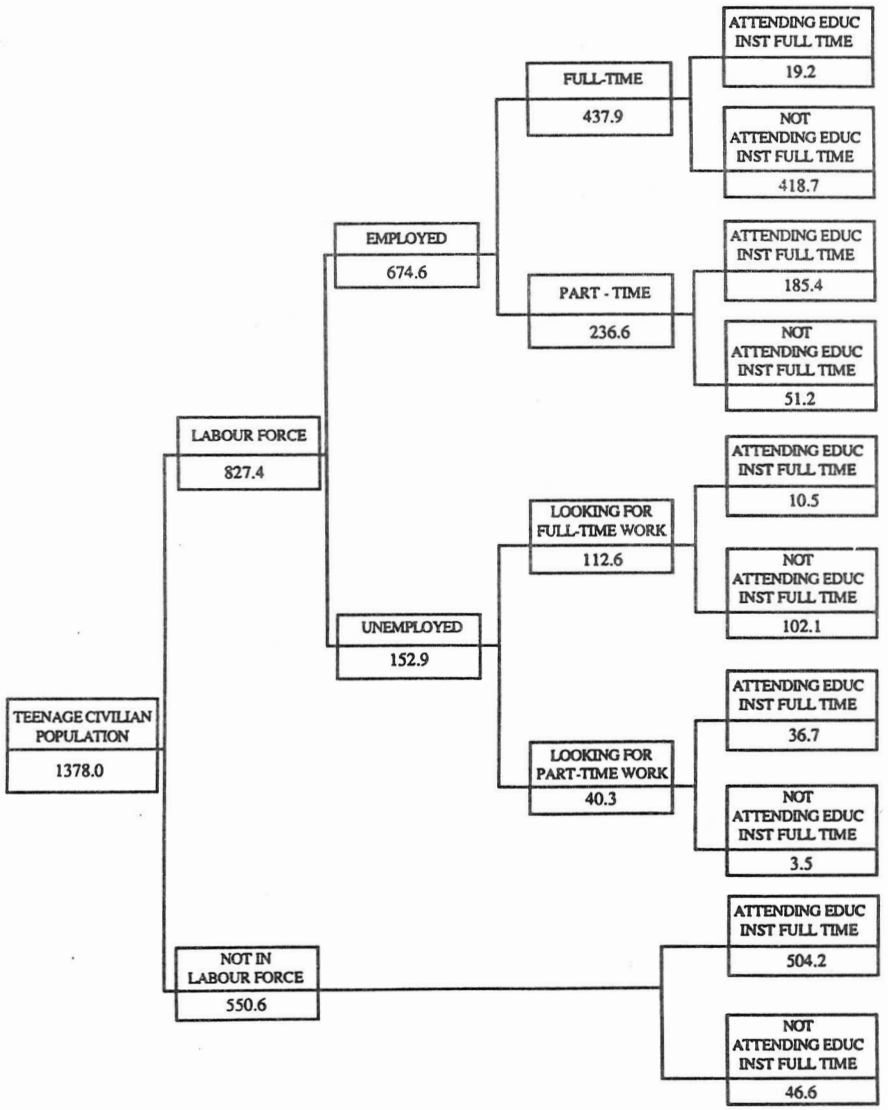
(a) Based on the assumption that no-one aged 25 and over undertaking full-time studies at a tertiary institution is classified as unemployed. The correct figures are likely to be marginally lower than those shown.

GRAPH 1
TEENAGE UNEMPLOYMENT MEASURES



Printed by C. J. THOMPSON, Commonwealth Government Printer, Canberra

TEENAGE POPULATION AUSTRALIA JULY 1987
LABOUR FORCE FRAMEWORK
('000 PERSONS)



ALTERNATIVE TEENAGE UNEMPLOYMENT MEASURES **CHART 1**