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REVISED LABOUR FORCE SURVEY ESTIMATES: JANUARY 1984 TO JANUARY 1989

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Introduction

1. Labour force survey estimates for the period January 1984 to January 1989 have been revised. The revisions take into account amended population estimates based on the results of the 1986 Census of Population and Housing.

2. Revised estimates for principal labour force survey series were first presented in *The Labour Force, Australia, Preliminary* (6202.0), February 1989. The appendix to *The Labour Force, Australia* (6203.0), February 1989, also contained revised estimates, back to January 1984.

3. The revisions were necessary to ensure that comparisons of labour force survey estimates from February 1989 (based on 1986 census population totals) with estimates for the period January 1984 to January 1989 (previously based on 1981 census population totals) could be made on a sound basis. Otherwise such comparisons would be distorted by an unquantified effect due solely to a change in estimates of the population.

4. An examination of the revised estimates between June 1981 and June 1986 showed that the effects on labour force survey estimates for the period before January 1984 were inconsequential, and that no meaningful purpose would be served by publishing revised estimates for that period.

5. This paper examines the impact of the revised population totals on some of the main estimates produced from the survey.

Benchmarks

6. The Labour Force Survey produces estimates relating to the civilian working-age population by surveying a sample of individuals in that population. In order to translate the results of the sample into estimates for the population, a weight is assigned to each respondent in the survey. This weight corresponds to the number of persons in the population represented by a given survey respondent. Estimates of the number of persons with a certain characteristic (e.g. employed, unemployed, by age, sex etc.) are obtained by adding up the weights of the survey respondents possessing that characteristic. The respondents' weights are determined in a way which ensures that the survey estimates produced add up to independent es-

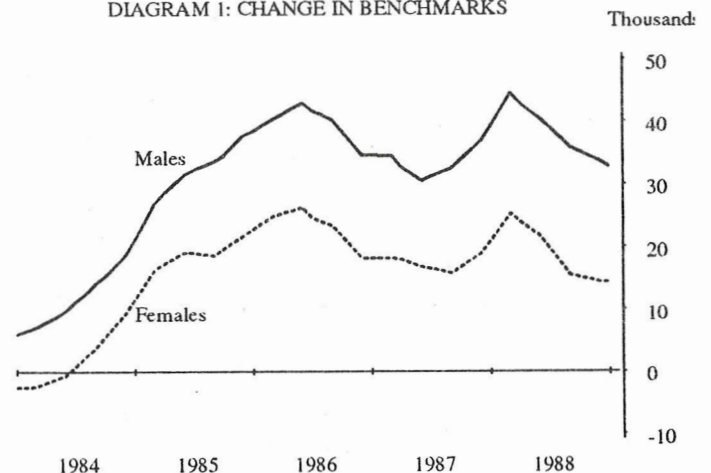
timates of the population aged 15 and over by State, part of State (capital city/rest of State), sex and age. These independent population estimates are termed *benchmarks*.

Changes in benchmarks

7. Since the 1986 census showed a higher population total for June 1986 than had been estimated based on the previous census, this post-censal revision results in upward adjustments to population totals over the period. The largest adjustment to the population total occurred in March 1988: it was revised upwards by 69,700 (0.55%). The smallest adjustment occurred in January 1984, with an upward revision of only 3,500 (0.03%).

8. Increases over the period were greater for males than for females, as can be seen in the following graph.

DIAGRAM 1: CHANGE IN BENCHMARKS



(The vertical axis represents the 1986 census-based benchmarks minus the 1981 census-based benchmarks.)

9. The revision affected persons aged 60 years and over proportionally more than those aged 15-59 years. For January 1984, the estimated number of persons aged 60 years and over is higher than the 1981 census-based estimate by 9,700 (0.43%) while the estimate for those aged 15-59 years is lower by 6,200 (-0.07%). For June 1986, both age groups show an increase: 28,300 (1.19%) for

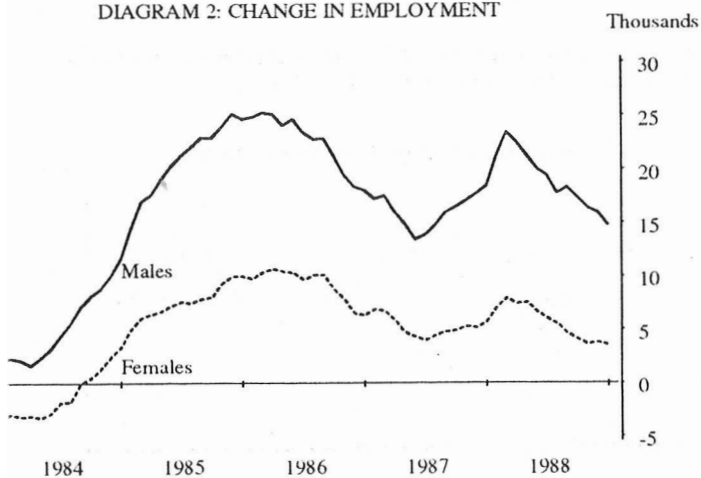
those aged 60 years and over, and 40,900 (0.42%) for those aged 15-59 years. There is a similar pattern in January 1989: an increase of 24,300 (0.96%) for those aged 60 years and over, and an increase of 22,800 (0.22%) for those aged 15-59 years.

Labour force characteristics

10. As is the case with population, the adjustment to the January 1989 **employment** estimate is less than the adjustment for June 1986. The employment estimate for June 1986 was revised upwards by 35,000 (0.50%), of which 24,700 (0.58%) are males, and 10,300 (0.38%) are females. For January 1989 the employment estimate rose by 18,300 (0.25%), of which 14,800 (0.33%) are males and 3,500 (0.12%) are females. The largest adjustment occurred in April 1986: employment increased by 35,800 (0.51%). The smallest adjustment occurred in June 1984, with an upward revision of only 300 (0.005%). In the 15 to 59 age category for June 1986, employment was revised upwards by 30,500 (0.46%) and for those aged 60 years and over it rose by 4,500 (1.60%). For January 1989, employment rose in these categories by 15,400 (0.22%) and 2,900 (0.97%) respectively.

11. Diagram 2 shows the resulting change in employment for males and females over the period January 1984 to January 1989.

DIAGRAM 2: CHANGE IN EMPLOYMENT



12. Throughout the revision period, the impact of adjustments on overall levels of **unemployment** was marginal. The largest change occurred in March 1988: unemployment increased by 2,900 (0.45%). The smallest change occurred in April 1987, with a downward revision of only 50 (-0.007%). The unemployment estimate in June 1986 was adjusted upwards by 1,900 (0.35%).

13. Revised estimates of persons **not in the labour force** show upward adjustments of 32,200* (0.69%) for June 1986 and 28,400 (0.58%) for January 1989. The largest adjustment occurred in March 1988, when the estimate of persons not in the labour force was revised upwards by 35,500 (0.77%). The smallest adjustment occurred in January 1984, with an upward revision of 6,200

(0.13%). These higher than expected increases are due to the fact that the benchmark increases were greatest for aged persons, who are mainly not in the labour force. Of the increase in June 1986, 23,600 (1.13%) was attributable to persons aged 60 years and over, and 8,600 (0.34%) to persons aged 15-59 years. For January 1989, the estimate of persons not in the labour force rose by 21,200 (0.95%) for those aged 60 years and over, and by 7,200 (0.27%) for those aged 15-59 years.

14. Diagram 3 shows the resulting change in the estimates of "not in the labour force" for males and females over the period January 1984 to January 1989.

DIAGRAM 3: CHANGE IN NOT IN LABOUR FORCE



Rates

15. Rates calculated from the survey estimates have been little affected overall. For instance, the June 1986 unemployment and participation rates both fell by 0.1 after the revision, to 7.4% and 61.8% respectively. The January 1989 unemployment rate remained unchanged at 7.4% and the participation rate fell by 0.1 to 62.0%.

State/Territory data

16. In **New South Wales**, the total benchmark changed very little for June 1986 as a result of the revision. However the employment estimate was revised downwards by 5,000 (-0.21%) and the revised number of unemployed was 2,000 (-0.98%) lower. The unemployment rate remained unchanged at 8.0%, and the participation rate dropped by 0.1 to 60.9%.

17. For January 1989, the total benchmark in New South Wales fell by 14,200 (-0.32%). The employment and unemployment estimates were revised downwards by 16,000 (-0.64%) and 3,200 (-1.50%) respectively. The unemployment rate remained unchanged at 7.7%, whereas the participation rate fell by 0.2 to 60.5%.

18. The total benchmark for **Victoria** in June 1986 fell by 3,600 (-0.11%) as a result of the revision. This consisted of a fall of 5,000 (-0.27%) in the employment estimate, and virtually no change in the unemployment estimate.

imate. The unemployment rate remained unchanged at 5.8% and the participation rate dropped by 0.1 to 61.4%.

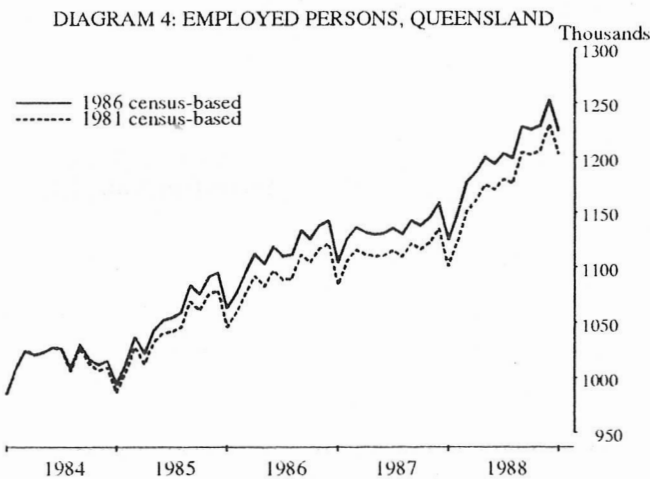
19. This pattern is repeated in January 1989.

20. In contrast to Victoria, the total benchmark for **Queensland** in June 1986 rose by 37,000 (1.91%). This adjustment affected males proportionally more than females. Estimates of employment, unemployment and those not in the labour force all rose: by 21,700* (1.98%), 2,200 (2.00%) and 13,100* (1.78%) respectively. The unemployment and participation rates remained unchanged at 9.0% and 62.2% respectively.

21. For January 1989 the total benchmark was adjusted upwards by 36,500 (1.74%). Again, this adjustment affected males proportionally more than females. Estimates of employment, unemployment and those not in the labour force all rose: by 20,800* (1.73%), 1,700 (1.59%) and 13,900 (1.76%) respectively. The unemployment and participation rates remained unchanged at 8.3% and 62.5% respectively.

22. Diagram 4 shows the level estimates of employment for Queensland based on 1986 census benchmarks and 1981 census benchmarks over the period January 1984 to January 1989.

DIAGRAM 4: EMPLOYED PERSONS, QUEENSLAND



23. The total benchmark for **South Australia** rose by 10,100 (0.94%) in June 1986. Of these, 8,000 (1.53%) were males and 2,100 (0.39%) were females. The employment and unemployment estimates rose by 7,300 (1.21%) and 700 (1.49%) respectively. The unemployment rate remained unchanged at 7.7%, and the participation rate rose by 0.2 to 60.9%.

24. This pattern was repeated in January 1989.

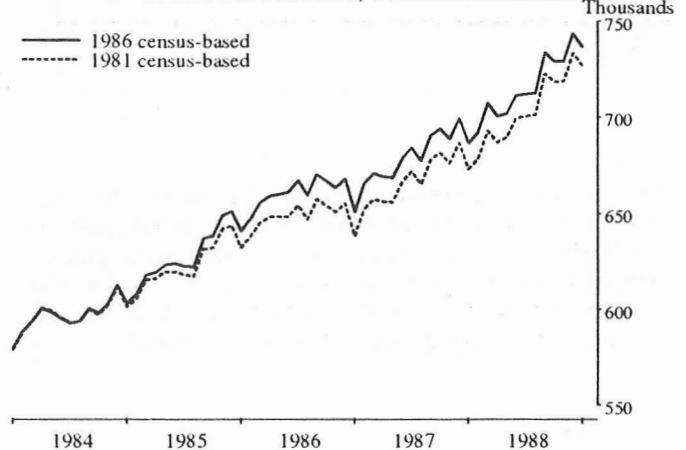
25. In **Western Australia**, the total benchmark was also revised upwards for June 1986, by 22,000 (2.03%). This rise was spread fairly evenly over the sexes. The employment and unemployment estimates rose by 12,600* (1.95%) and 1,000 (1.83%) respectively. The unemploy-

ment rate remained unchanged at 7.6%, and the participation rate dropped by 0.1 to 64.7%.

26. The rise in the total benchmark moderated to 18,200 (1.53%) in January 1989. The employment and unemployment estimates increased by 10,000 (1.38%) and 1,000 (2.06%) respectively. The unemployment rate remained unchanged at 6.5% and the participation rate dropped by 0.1 to 65.4%.

27. Diagram 5 shows the level estimates of employment for Western Australia based on 1986 census benchmarks and 1981 census benchmarks over the period January 1984 to January 1989.

DIAGRAM 5: EMPLOYED PERSONS, WESTERN AUSTRALIA



28. In **Tasmania**, the total benchmark for June 1986 was revised downwards by 400 (-0.13%). This resulted in a fall in the employment estimate of 900 (-0.50%) and no significant change in the unemployment estimate. The unemployment rate rose by 0.1 to 8.0%, while the participation rate dropped by 0.2 to 58.7%.

29. For January 1989 the total benchmark was adjusted downwards by 1,100 (-0.31%). As a result, the employment estimate fell by 1,500 (-0.83%) while there was no significant change in the unemployment estimate. The unemployment rate remained unchanged at 11.6%, however the participation rate fell by 0.3 to 59.7%.

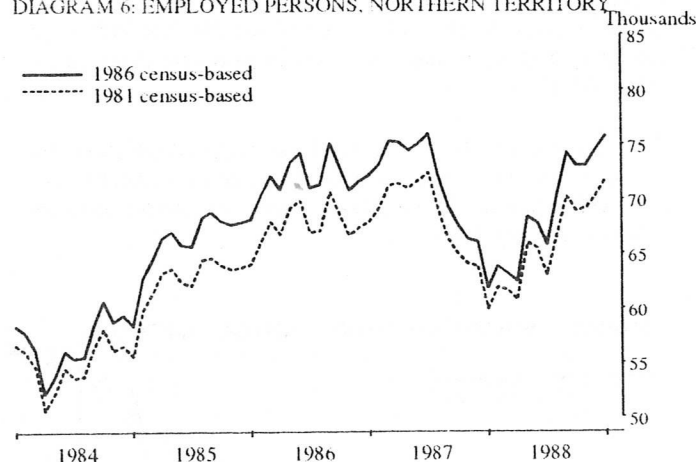
30. The revision had the greatest impact on the total benchmark for the **Northern Territory**. This was revised upwards by 6,100 (6.00%) in June 1986. This adjustment affected males proportionally slightly more than females. The employment and unemployment estimates rose by 4,400* (6.31%) and 300 (5.92%) respectively. The unemployment rate dropped by 0.1 to 5.7%, while the participation rate rose by 0.2 to 73.2%.

31. Estimates for January 1989 are similarly affected.

32. Diagram 6 shows the level estimates of employment for the Northern Territory based on 1986 census

benchmarks and 1981 census benchmarks over the period January 1984 to January 1989.

DIAGRAM 6: EMPLOYED PERSONS, NORTHERN TERRITORY



33. In the Australian Capital Territory the total benchmark for June 1986 was revised downwards by 1,300 (-0.70%). This adjustment affected females proportionally more than males. The changes in the employment and unemployment estimates were of no statistical significance. The unemployment rate was adjusted upwards

by 0.1 to 4.9%, while the participation rate was adjusted upwards by 0.5 to 73.4%. The female participation rate was adjusted upwards by 0.6 to 63.8%.

34. There was a downward adjustment to the total benchmark in January 1989 of 3,500 (-1.72%). The revision affected females proportionally more than males. The changes in the employment and unemployment estimates were of no statistical significance. The unemployment rate was adjusted downwards by 0.1 to 5.7%, while the participation rate was adjusted upwards by 0.6 to 70.7%. Both the male and female participation rates rose, by 0.5 (to 82.5%) and 0.6 (to 59.5%) respectively.

Summary

35. The extent of the revision varies according to State, sex, age and time period. While there were revisions of varying significance to level estimates such as total employed persons, the impact on unemployment and participation rates was small.

36. Revised labour force survey estimates for the period from January 1984 to January 1989, cross-classified by a wide variety of demographic variables, are available on microfiche, and the ABS on-line computer dissemination service, AUSSTATS.

* This adjustment is statistically significant.

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