



Australian Bureau of Statistics

INFORMATION PAPER

CATALOGUE NO. 6263.0

EMBARGOED UNTIL 11.30 A.M. 11 JULY 1985

NEW ISSUE

COMPARISON OF EMPLOYMENT ESTIMATES FROM THE LABOUR FORCE SURVEY AND THE SURVEY OF EMPLOYMENT AND EARNINGS

INQUIRIES

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Introduction

The Australian Bureau of Statistics publishes two independently obtained series of employment estimates. One is based on data from the household-based Monthly Labour Force Survey (MLFS) and its scope includes the self-employed and employers. The scope of the other is wage and salary earners only and is based on data from the Survey of Employment and Earnings (SEE), a survey of employers conducted quarterly but which obtains details of monthly employment.

In the Information Paper *New Statistical Series : Employment, Average Weekly Earnings, Job Vacancies and Overtime* (6256.0) published on 21 June 1984, an account was provided of the methodological, scope, conceptual and definitional differences between the two series.

The aim of this paper is to provide users with an analysis of quantifiable differences between the two series, together with some discussion of the main sources of non-quantifiable differences.

The main factors contributing to the difference between the two data sets are outlined below.

Scope, Coverage and Concepts

The MLFS collects information, using personal interviews, from civilian persons aged 15 and over in a sample of private and non-private (hotels, motels, institutions) dwellings. The scope of the MLFS includes all employed persons, comprising employers, self-employed persons, unpaid helpers in family businesses and employees in private households, as well as wage and salary earners. The MLFS is a major economic indicator principally designed to provide timely labour market aggregates.

The SEE is based on the ABS business register and has two components. One is a sample survey of about 20,000 private employers in industries other than agriculture, forestry, fishing and hunting; the other is a full enumeration of all Government agencies. In contrast to the MLFS, the SEE is conducted by mail and covers only wage and salary earners, defined as persons who receive pay for any part of the survey reference period. One of the main purposes of the SEE is to provide detailed estimates of industry sector and State/Territory of employment.

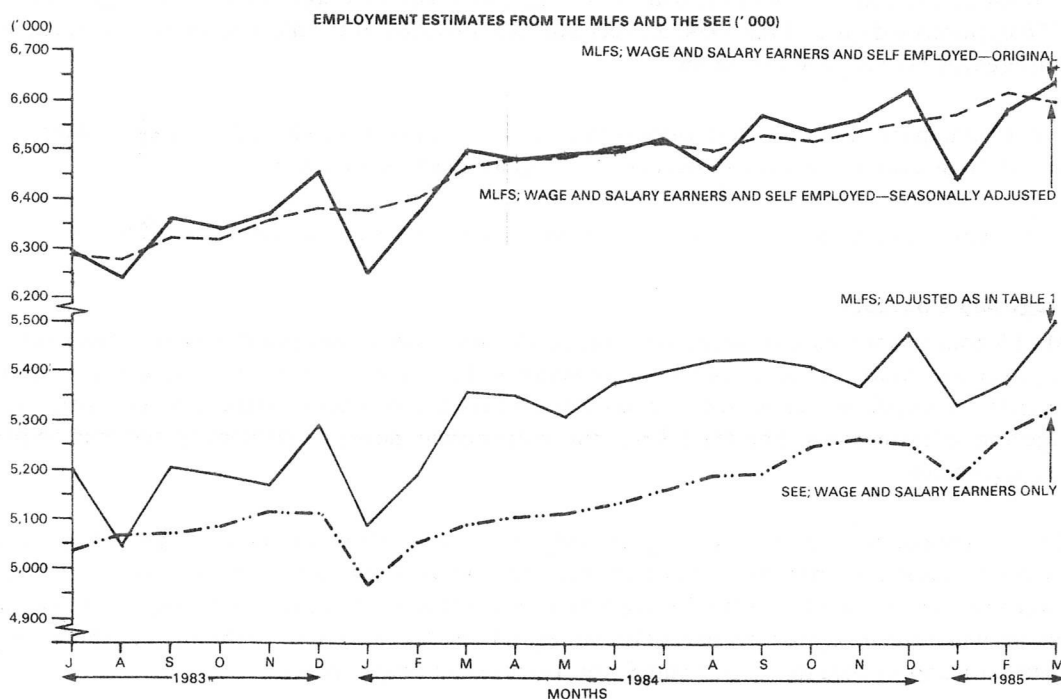
Aggregate data from the two series can be moved closer to the same conceptual basis by the adjustments shown in the following table.

TABLE 1. RECONCILIATION OF EMPLOYMENT ESTIMATES FROM THE LABOUR FORCE SURVEY AND THE SURVEY OF EMPLOYMENT AND EARNINGS (' 000)

	February 1984	February 1985
<i>Labour Force Survey—</i>		
Employed Persons Series	6,366.0	6,576.3
Less Self-employed and employers	976.2	995.2
Helpers in family businesses	21.8	24.0
Private household employees	12.1	11.9
Employees receiving only payment in kind	9.6	6.7
Employees in agriculture, forestry, fishing and hunting	134.4	136.6
Employees on unpaid absences from their jobs(a)	23.6	24.7
Equals Labour Force Survey Series adjusted	5,188.3	5,377.2
<i>Survey of Employment and Earnings—</i>		
Employed Wage and Salary Earner Series	5,053.4	5,284.1
Less Government employees in agriculture, forestry, fishing and hunting	11.7	11.0
Equals Survey of Employment and Earnings Series adjusted	5,041.7	5,273.1
Difference between MLFS adjusted series and SEE adjusted series	146.6	104.1

(a) These figures relate only to persons on workers' compensation expected to be returning to their jobs and persons on strike or locked out. Estimates of the balance of persons who were on unpaid leave are not available from the MLFS and such persons are therefore, included in the adjusted MLFS total.

With these adjustments for differences in concepts and coverage, the estimate from the MLFS exceeded that from the SEE by 146,600 in February 1984 and 104,100 in February 1985. An indication of the relationships between the series over a longer time period is provided by the following graph.



A further conceptual difference which is not quantifiable on a regular basis relates to the treatment of multiple job holders in the surveys. The MLFS counts people in jobs whereas the SEE counts the number of jobs occupied by people. Therefore, people who appear on more than one payroll are counted only once in the MLFS but, are counted for each job held in the SEE. If it were possible to allow for this factor, it would increase the extent to which the MLFS measure of wage and salary earners exceeds the number reported by employers.

The only reliable estimates of the number of multiple job holders are provided by a Labour Force Supplementary Survey conducted in August every second year. Estimates from the most recent survey (1983) show 99,200 persons working as wage and salary earners in more than one job. The next survey on this topic will be in August 1985.

MLFS Estimation Procedures

In the ratio estimation technique used in the MLFS, a short run projection of Australia's population aged 15 and over is used as a *benchmark*; i.e. the survey sample estimates are weighted to conform with a previously determined population structure. These *benchmarks* are based on projections of the components of population change, as estimates are not available until well after the survey reference period. Published MLFS estimates are amended following the quinquennial population census, so that the current MLFS estimates which users compare with the SEE estimates may be revised.

In July 1983, for example, the population benchmark used in the MLFS was 30,200 higher than the current population estimate. If this population estimate is confirmed after the next census, the MLFS level of employment would be revised downward by 22,500, though of course the monthly movement would be little affected. While the MLFS estimates based on projected benchmarks are generally higher than those based on current population estimates, to an extent that varies from time to time, greater variation is evident at State and disaggregated age and sex levels.

SEE Estimation Procedures

The SEE is based on a collection of data from a sample of employers selected from the ABS register of businesses. Information about the commencement of operation of new businesses is provided to ABS by various Governmental agencies. There are, however, unavoidable lags between the *birth* of new businesses and their inclusion on the register. Considerable effort is expended within the ABS to maintain the register and continuous updates are made to reflect takeovers, mergers, changes to industry classification, changes to employment levels and close-down of businesses. At times, special collections are run to check the coverage of the register in particular industries. Generally, these collections identify a number of businesses not previously included on the register. In the period immediately following the update of the register, inclusion of businesses identified through this process will result in a higher level of employment being recorded by the SEE than would otherwise have been the case.

Despite the efforts outlined above, the register can never be fully up to date and to the extent that the register at any date does not totally reflect the current business structure, estimates of employed wage and salary earners may be too low. Any such problems are exacerbated by the operational requirement that the sample for the SEE in any particular quarter be selected from the register some time in advance of the relevant quarter.

Such factors associated with the use of the ABS business register may be of greater significance at different stages of the business cycle (see Cyclical variations below).

Information Available from Respondents

The ABS puts substantial effort into the design of questionnaires, internal scrutiny of returns, intensive training and supervision of interviewers, and quality control in office processing, in order to improve the reliability of statistics. In the end, however, statistical collections depend on the quality of information provided by respondents. There are two areas which may be contributing in some way to differences between estimates from the MLFS and the SEE:

- (a) in the SEE there is potential for some under-reporting by employers of casual employees and those working very few hours, particularly if such persons are not paid through a formal payroll system; a recent MLFS (February 1985) estimated that the number of wage and salary earners working less than 5 hours per week was 106,400; and
- (b) in the MLFS there is some imprecision in determining whether a person is a wage and salary earner or, for example, self-employed. Conceptually, all persons employed by incorporated enterprises are regarded as wage and salary earners. However, information needed to determine the corporate status of a business is not always available when the classification of a person's status is undertaken in MLFS processing.

Survey Reference Periods

The MLFS is generally conducted during the two weeks beginning on the Monday between the 6th and 12th of each month. The information obtained relates to the week before the interview and therefore spans a period roughly corresponding to the first two weeks of each month.

In the case of the SEE, the reference period is a specified pay period ending at or about the middle of each month of the quarter to which the survey relates.

Cyclical Variations

As explained above, new businesses may not be represented in the sample selected from the business register for purposes of the SEE until one or two quarters after they have commenced operation. As a consequence, estimates of

movements in the SEE series will lag those produced from the MLFS. If it is the case that the number of *births* of new businesses rises significantly in the upturn of a businesses cycle, the extent of the lag of SEE behind the MLFS series will increase.

Sampling Variability

Estimates produced from both the MLFS and the SEE are subject to sampling error. That is, the estimates may differ from the figures that would have been produced if a complete census were taken, using the same concepts, definitions and collection methodology as are used in each of the MLFS and the SEE. One measure of the likely difference is given by the standard error which indicates the degree to which an estimate is likely to vary from the value that would have been obtained from a full count (the 'true' figure).

For the MLFS the adjusted estimate of the number of employed wage and salary earners in February 1985 (from the above table) was 5,377,200. This has a standard error of 16,900. There are about nineteen chances in twenty that a full count would have produced a figure in the range 5,343,400 to 5,411,000.

In the case of the SEE the adjusted estimate of employed wage and salary earners (5,273,100) for February 1985 has a standard error of 21,600. There are about nineteen chances in twenty that a full count would have produced a figure in the range 5,229,900 to 5,316,300.

Sub Aggregate Comparisons

The above analysis has been in terms of Australian aggregates of numbers of wage and salary earners. Analyses at more disaggregated levels can be undertaken (e.g. industry and/or State and for full-time/part-time employees). At such levels, however, the relationship between the SEE and the MLFS may be different to that which exists at the aggregate level. For example, in a significant proportion of cases industry coding in the MLFS is based on fairly subjective information; also the classification of persons as part-time or full-time wage and salary earners is based on different criteria in the two surveys. More generally, at lower levels of disaggregation the various factors contributing to differences in the series may assume greater relative significance and render the task of reconciliation more difficult.

Conclusion

The MLFS and the SEE produce different estimates of the number of employed wage and salary earners. This is because of differences in concepts, coverage, scope, survey design, definitions and survey methodology. To the extent that some of the differences lend themselves to quantitative analysis they have been presented above, together with a discussion of other differences which the analyst should take into account when considering the two series.

The statistical series from the MLFS and the SEE should be viewed as *complementary* rather than *alternative* or *competing* series.

The MLFS is very timely and very responsive to changes in the business cycle. It provides data on all the major components of the labour force and a range of demographic and occupational data. However, there are elements of imprecision both in the classification of persons' employment status and also the industry in which they are employed.

The SEE covers only wage and salary earners. Its strength lies in the capacity to provide industry/State estimates which are more reliable than those from the MLFS.

This information paper has focussed primarily on differences in *levels* of estimates. It is evident from the graph that *movements* in the two series are broadly consistent, with the MLFS series tending to move around more from month to month. Series for a longer period for SEE would be needed before it would be worthwhile to undertake a detailed analysis of differences in movements.

Related Information Papers

Review of ABS Employment Statistics (6239.0); published July 1981.

New Statistical Series: Employment, Average Weekly Earnings, Job Vacancies and Overtime (6256.0); published June 1984.

Questionnaires used in the Labour Force Survey (6232.0); published August 1984.

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