

COMMONWEALTH BUREAU OF CENSUS AND STATISTICS
MONTHLY CIRCULAR ON EMPLOYMENT AND UNEMPLOYMENT
SUPPLEMENTARY NOTES ON INTERPRETATION OF TABLES

(Issue No. 3.)

AUSTRALIA.

TABLE A.I. ESTIMATED TOTAL EMPLOYMENT, ALL STATES.

This table brings together the estimates of total wage or salary earners in employment in each State as shown in Tables N.I., V.I., Q.I. (modified), S.I., W.I., and T.I.

The methods of estimation used for New South Wales and Tasmania are practically identical, information about private employment in both States being given fairly comprehensively in wage tax returns.

The estimates for Victoria, South Australia and Western Australia are based on the total of wage or salary earners (full and part-time) recorded as actually employed at the date of the Census of 1933. It has been assumed that since then total employment has fluctuated in the same directions, though not quite in the same degree, as fluctuations in that part of total employment which can be currently "measured", either by actual counting or by estimation from "sample" data.

Assumptions about the relative degree of fluctuation in the "measured" and "unmeasured" fields of employment must necessarily be based on a general assessment of probabilities. The nature and long-term trend of the more important elements in the field which is currently "unmeasured" (but which, nevertheless, has been recorded in some detail at the Censuses of 1911, 1921 and 1933) suggest the desirability for this purpose of distinguishing between that part of the "unmeasured" field of employment which is relatively elastic, and that part which is relatively inelastic. For the period subsequent to the 1933 Census, therefore, the inelastic part has been assumed (partly as a technical device) to have remained completely constant in Victoria and South Australia, while the elastic part of the field has been assumed to have fluctuated in those two States, proportionately with fluctuations in the elastic elements in the measured field. In Western Australia it has been assumed that the development of the gold mining industry has given about as much elasticity to most of the "unmeasured" field as has been experienced by the "measured".

The validity of these assumptions is naturally open to some doubt, particularly in respect of periods for which only "sample" factory and retail shop employment data are available. The following table summarises the position for a recent year:

Employment Fields	Victoria		South Australia		Western Australia	
	No.	%	No.	%	No.	%
A. <u>Measured</u> -						
Governmental employment ..	97,177	16.2	31,952	17.5	29,501	20.1
Factory employment ..	193,854	32.2	42,018	23.0	22,090	15.0
Retail Shop employment ..	48,800	8.1	19,860	10.9	35,316 ^(a)	24.0
Mining employment ..	4,044	0.7	832	0.5	11,427	7.8
Rural employment ..	27,355	4.5	10,121	5.5	10,470	7.1
<u>Total measured:</u>	371,230	61.7	104,783	57.4	108,804	74.0
B. <u>Unmeasured</u> -						
Elastic elements ..	180,023	29.9	60,520	33.1	38,291	26.0
Inelastic elements ..	50,520	8.4	17,347	9.5	-	-
<u>Total unmeasured:</u>	230,543	38.3	77,867	42.6	38,291	26.0
C. <u>Estimated Total Employment:</u>	601,773	100.0	182,650	100.0	147,095	100.0

(a) Includes Warehouses. The index of employment in retail shops is applied during current months to the total figure which cannot be split into its two constituents.
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The percentages shown in this table give some indication of the degree of reliance to be placed on the assumptions made above in respect of periods for which "final" (or recorded) factory, retail shop, mining and rural employment statistics have become available. (The figures for mining and rural employment are estimates of wage or salary earners in permanent - as distinct from casual - employment, derived from recorded figures of all persons permanently "engaged"). Until the "final" statistics do become available, however, the figures given for these elements are themselves estimates, based (in the case of factory and retail shop employment) on returns from "sample" establishments. It is also to be noted that rural employment and mining employment during current months are assumed to remain constant at the last recorded annual average.

The number of Queensland employees in work is estimated by the Queensland Bureau of Industry by totalling the number of insured employees, the estimated number of persons evading insurance, the estimated number of employees under 18 in insurable work, the estimated number of employees on salaries above limits for insurance (including exempt managers and overseers), and the estimated number of uninsurable employees in work. Whereas the monthly figures of employees in work shown in Table Q.I. represent, for each month, the average number for the three months ending in the month stated, adjusted to eliminate seasonal variations, the monthly figures shown for Queensland in Table A.I. are the estimates for the three months ending in the month stated unadjusted for seasonal variations. They are therefore comparable in the latter respect with the monthly figures for other States.

In other respects the employment estimates for Queensland are not strictly comparable with those of other States. They are based on the number of wage or salary earners in full-time (not part-time) employment recorded at the Census of 1933, adjusted by the addition of the full-time equivalent of the estimated number in part-time employment in private industry at that date, less a percentage (3.2%) of the total working population to allow for an assumed over-statement of employment by retired persons, etc., and less a percentage (14.7%) of recorded unemployment to allow for an assumed under-statement of unemployment.

The figures for New South Wales include the equivalent of part-time relief workers in actual employment on jobs provided by public authorities. The figures for Tasmania do not include the full-time equivalent of the number of workers for sustenance, which in no year since 1935-36 has exceeded an average of about 300. So far as Victoria, South Australia and Western Australia are concerned, the numbers of part-time relief workers in actual employment are, by implication from the methods used, included in the "unmeasured" field.

TABLE A.II. MONTHLY INDEX OF FACTORY EMPLOYMENT.

Comprehensive statistics of employment in factories in each month of the year are collected at annual intervals from all factories in Australia. The tabulated results for each year ending 30th June usually become available about the following April or May. These "final" figures form the basis of the index-numbers given in this table, which are brought up to date by using information collected monthly from a number of "sample" factories in each State. (A larger "sample" is obtained for New South Wales by using data given in wage tax returns. Final figures are used wherever possible and the extent of their use is indicated in the footnote to the table. The accuracy of the estimates based on the "samples", when tested by "final" figures, has proved in the past to be reasonably satisfactory, and a comparison of the results for each State appears to indicate that the accuracy of the estimates does not bear any close relationship to the relative sizes of the "samples". The table is intended to indicate the trends in factory employment rather than to provide an exact measure of actual numbers employed.

"The "unadjusted" index gives the best measure available of the absolute changes in factory employment. In order to make some allowance for the gradual increase in the numbers seeking employment, the index is divided by an index of the numbers of the "employee population", which is arbitrarily defined for this purpose as the number of persons who described themselves as employees in the 1933 Census, adjusted to allow for subsequent deaths, migration and changes in ages.

TABLE A.IV. MONTHLY INDEX OF EMPLOYMENT IN RETAIL STORES.

These index-numbers are not available before July, 1933. As an annual
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census of employment in retail stores is not taken, there is no means of ascertaining how accurately the movement of employment in reporting stores represents all employment in the retail field. Consequently these index-numbers are much less reliable than the index-numbers of employment in factories. The Australian index is an average of the State indexes weighted by the numbers of persons returned as engaged in "Commerce" in the 1933 Census. This census industry class "Commerce" comprises both wholesale and retail dealing, and it is not possible to obtain separate figures for the latter.

TABLE A.V. NUMBERS OF PERSONNEL OF COMMONWEALTH AND STATE GOVERNMENTS, SEMI-GOVERNMENTAL AND LOCAL GOVERNMENT BODIES.

This table, which is still undergoing revision and refinement, includes "temporary" and "casual" employees (other than part-time relief workers) as well as permanent officers and employees. Enlisted men in the defence forces of the Commonwealth are not included. The comprehensiveness of the figures given for "employees of contractors on construction work" has not yet been finally established. Some of these employees are included in relevant tables relating to private employment given elsewhere in the Circular.

TABLE A.VIII. QUARTERLY PERCENTAGE OF UNEMPLOYMENT IN TRADE UNIONS, BY STATES.

The only continuous long-period index of variations and trends in unemployment in Australia is given by the mid-quarterly returns of unemployment furnished by reporting trade unions. The membership of the reporting unions in November, 1939, was 479,348, representing approximately 54 per cent. of the total membership of all trade unions, 20.6 per cent. of the estimated total of 2,323,000 available wage earners and 24.7 per cent. of 1,939,000 available adult wage earners (aged 20 years and over). The membership of the reporting trade unions was composed of 84 per cent. males and 16 per cent. females.

The quarterly unemployment percentages reported by the trade unions have, in the absence of any more comprehensive measure of unemployment over a long period, been frequently taken as a rough indication of the percentage of the total wage or salary earning group unemployed at any time. The trade union percentages, however, must be interpreted in the light (a) of the accuracy of individual returns, which are of necessity based on imperfect information, (b) of the variable number and the unequal and variable membership of the reporting unions in the different States, (c) of the sex composition of the reporting unions, and (d) of the degree to which membership of the reporting unions is a representative sample of the total wage or salary earning group available for employment.

The numbers shown as unemployed refer to those who were unemployed from lack of work, sickness or accident (but not because of industrial disputes) for more than three days during the week corresponding most closely to the mid-period of the middle month of the quarter. Returns are not collected from unions whose members are in permanent employment, such as railway and tramway employees, and public servants, or from unions whose members are casually employed, such as wharf labourers, shearers, etc.

A comparison of the trade union figures with those collected in the Census of 1933 suggests that, whereas the trade union percentage for Australia as a whole might afford a rough indication during intercensal years of the proportion of the total wage-earning group unemployed in the mid-month of each quarter, and therefore a rough indication of the trend of unemployment generally throughout the country, the percentages in any one State cannot be used in the same way with equal assurance, nor can the percentages for the States be used safely for interstate comparisons of general unemployment.

TABLE A.IX. QUARTERLY PERCENTAGE OF UNEMPLOYMENT IN TRADE UNIONS IN INDUSTRIAL GROUPS.

The comments in the note to Table A.VIII apply generally to this table also. Trade union percentages by industrial groups are available for each State, but are not included here. In some States the "sample" representing a single industrial group may be very inadequate, and comparison between States of the movements of unemployment in the group might be misleading. Even the figures in the table here given (A.IX) should be used only for comparisons from quarter to quarter for the same industrial group, and not for comparisons between groups.

NEW SOUTH WALES

NOTES SUPPLIED BY GOVERNMENT STATISTICIAN.

TABLES N.I. AND N.II. SUMMARY OF EMPLOYMENT.

Number Available for Employment: This may be defined, roughly, as the current equivalent of the number of persons who stated in 1933 that they were in the wage-earning group, but it is exclusive of about 16,000 persons "unavailable" through illness, etc. The number "available for employment" is adjusted from year to year for natural increase and net migration. (It is hoped that data from National Register will provide some check on these estimates). Monthly totals are interpolated. It should be kept in mind that (within probably narrow limits) "number available for employment" may fluctuate from year to year in accordance with availability of employment itself. No calculable allowance can be made on this account.

Total Private Employment and Local Government Employees (as here shown) differ slightly from totals hitherto published. A few thousand Local Government employees have been transferred from "Private Employment" to "Local Government Employees", where they rightly belong.

Government Employees include all direct employees of State, Commonwealth and semi-governmental bodies whether on loan or revenue account, but do not include relief workers. Details as to Government Employees are shown in Table N.VI.

SPECIAL NOTE REGARDING EMPLOYMENT IN DECEMBER.

The numbers shown as employed in December include a considerable number of students, married women, etc., who are not normally wage earners but who "take a job" at Christmas time. They are not included in the "number available for employment" (as defined above). No attempt is made to adjust "number available for employment" in accordance with seasonal fluctuations in availability. So far as has been observed in New South Wales such seasonal fluctuation at other periods is not so extensive as at Christmas time. In calculating percentage of employed and unemployed, those seasonally available only are estimated and omitted both from availables and employed.

SPECIAL NOTE REGARDING "NUMBER AVAILABLE" SINCE AUGUST, 1939.

The "number available for employment" since August last has not been adjusted to exclude wage earners who have enlisted. The number of these is being ascertained. It is believed that apart from the militia they number about 26,000 (end of May, 1940) from New South Wales. Those of them, however, who still appear on pay sheets of employers (for difference in pay) are included as in employment.

On the other hand, "number available" has not been adjusted to allow for attraction of women, youths, etc., into employment under war conditions when employment is readily available for them.

The numbers involved are not as yet large in relation to total available or total employed. The problem of adjustment is difficult and special data are being sought.

DIFFERENCE BETWEEN "NUMBER AVAILABLE" AND "NUMBER EMPLOYED".

If the "number of available wage earners and the number employed" could both be ascertained with absolute precision, the difference would represent precisely the number unemployed. But it will be obvious to any who have studied the matter that "wage earner" is not a rigidly limited category. There is a margin who are sometimes wage earners, sometimes self employers, sometimes employers, sometimes dependants. It is true that this is not a wide margin considered in relation to a total group of 900,000. But considered in relation to a difference between two approximate totals of that order of magnitude the margin may be, and is at times, appreciable. Read

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broadly, the difference between "available" and "Employed" gives some indication of absolute number unemployed and, more especially, of the trend of unemployment. It is not and cannot be a precise measure of unemployment.

This "difference" is shown below in comparison with the number of registered adult male unemployed. Both of these figures have a fairly definite meaning, but they relate to different aspects of unemployment. (See comment below).

Month	1938		1939		1940	
	"Available" minus "Employed"	Registered Adult Male Unemployed	"Available" minus "Employed"	Registered Adult Male Unemployed	"Available" minus "Employed"	Registered Adult Male Unemployed
	'000	'000	'000	'000	'000	'000
January ..	57.0	45.0	71.8	50.8	58.0	47.4
February ..	44.3	45.6	60.0	50.1	51.2	46.4
March ..	44.7	45.4	61.0	49.9		
April ..	45.0	45.3	58.1	48.9		
May ..	46.1	47.5	60.3	50.1		
June ..	43.0	48.4	66.5	50.9		
July ..	45.4	49.3	65.2	52.1		
August ..	51.0	49.4	68.0	52.9		
September	46.3	48.5	63.3	52.3		
October ..	50.4	48.3	53.7	51.3		
November ..	48.4	47.3	48.7	47.6		
December ..	-	47.2	-	45.5		

Note: The numbers of registered female and juvenile unemployed in the above period were relatively small; these are not included above.

COMMENT.

"Registered adult male" unemployed represent, largely, men in necessity through long unemployment and are therefore seeking sustenance or relief work, or men who normally look to governmental construction works for their employment. They do not normally include craftsmen, nor those semi-skilled and unskilled who are unemployed for short periods. The numbers tend to fluctuate (inversely) in accordance with total employment, but are very largely influenced by fluctuations in volume of Government construction works. They include men on relief works and are affected at times by change in classification of jobs and by administrative changes. They include some non-wage earners (e.g. small farmers in distress) and are the sink of needy breadwinners and not exclusively of needy wage earners. The number registered is intended to be exclusive of persons unemployed through illness, etc. The number registered has shown relatively little fluctuation in the past two years.

"Number Available" minus "Number Employed" is a fairly sensitive measure of fluctuations in unemployment though not necessarily of the absolute magnitude of unemployment. It represents difference between estimated number of wage earners available for work and number on pay sheets as at middle of month.

In the middle of 1938 "number available minus number employed" was less than number registered. At the time employment had reached a very high level and there was a shortage of certain kinds of labour. It is possible to infer that "number available" was underestimated by perhaps 5,000; 10,000, or possibly 15,000. If this is so, it would imply a similar condition at other periods unless the abundant employment in certain fields had "attracted" non-wage-earners into employment only temporarily. Reference to the figures for 1939 provides interesting sidelights on either hypothesis and raises interesting questions as to what is to be expected in the near future.

It is important to avoid comparing current records of "unemployment" without defining terms. It is also important to avoid thinking of unemployment as though all unemployment is of the same kind, i.e., due to a general deficiency in volume of work. Everybody knows, on reflection, that this is not the case. But the fact is often ignored in discussion. It may be partly due to a deficiency of certain kinds of work for which labour is available - coupled with a superabundance of work for

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which suitable labour is not available. This has special relevance to the tables above.

No country has as yet devised a complete and continuous means of recording (and dissecting) unemployment. We are working on the problem, but still have a long way to go before solving it.

The difference between "number available" and "number employed" for New South Wales is a measure of difference between number in work and number estimated to be available by reference to conditions as at a past point of time. Obviously it needs checking and correcting by periodical ascertainment of facts, and the census method at present is the only available check. It is hoped that data from the National Register will provide a means of testing estimates for 1939 and re-aligning the basis if necessary.

TABLE N.III. PERSONS EMPLOYED BY PRIVATE EMPLOYERS WITH TEN OR MORE TAXABLE EMPLOYEES.

This table shows by sample the trend of private employment monthly in ten major groups (subject to qualification in regard to "Building and Contracting" and "Rural Industries").

The classification places each employer's return in the group corresponding to his principal activity, and includes all of his employees in that group.

Returns of these larger employers cover nearly 60 per cent. of all private employment. Tests have indicated that fluctuations in the remaining 40 per cent. of employment are very closely in accordance with those of the 60 per cent. which is recorded monthly.

The difference between "Total of foregoing" (over 10) and "Number of Persons Privately Employed" represent employees of the "smaller" employers (under 10) but include some (about 20,000) who are employed in establishments which have increased their number of employees above 10 or who fluctuate above and below 10. This course has been followed in order that the number of employees in the "over 10" group may be taken as a sample.

Notes on Numbers shown in Groups.

1. Mines and Quarries: The totals are virtually complete. Where men temporarily idle on major stoppages are included, a note is inserted.
2. Retail Trade: The numbers here shown are approximately 63 per cent. of total retail employment.
3. Wholesale Trade: The numbers here shown are estimated to be 90 per cent. of total employment in wholesale trade.
4. Total Transport includes shipping and private land transport other than railways, tramways and other Government transport.
5. Factories and Workshops represent approximately 80 per cent. of factory employment.
6. Building and Contracting relate to the larger jobs only and include very little home building employment. The numbers are possibly 20 per cent. to 25 per cent. of total building employment and cannot be considered as representing trend in building employment as a whole.
7. Rural Industries: The numbers are possibly about 10 per cent. of rural employment and include considerable seasonal employment, such as shearing. They cannot be relied upon as showing trend of rural employment, but do illustrate in some degree the seasonal movement.

TABLE N.IV. FACTORY EMPLOYMENT BY CLASSES.

The total is a reliable indication of fluctuations of total factory employment. The numbers in individual groups indicate group trends, but not necessarily degree of change in groups from month to month. Further research is being undertaken with a view to getting reliable group samples.

The number of factories shown in the respective groups exclude some now "over 10" who were formerly under 10 and some which fluctuate above and below 10. The number of factories with 10 or more employees has not in fact decreased, although the number in the sample has decreased. The employment sample is a reliable sample and has been kept so by careful investigation.

TABLE N.VI. GOVERNMENT EMPLOYMENT.

The record of State employment is complete.

The number shown as employed directly on loan works may exclude a very few who are employed on minor State loan works. Particulars from certain of the smaller semi-governmental bodies have still to be obtained.

The numbers of Commonwealth employees are still under investigation and may need some revision in recent months.

The number employed on State works by contractors may not be quite complete and is still under investigation. The number employed on Commonwealth works by private contractors is being ascertained.

The number of Local Government employees is partly estimated and is complete.