NOTES FOR TABLES ON

B. REMUNERATION OF THE WORKFORCE 1. MINIMUM WAGES AND STANDARD HOURS

Australia's long history of compulsory conciliation and arbitration has provided a valuable statistical legacy for "award" or minimum wages and for standard hours prescribed by those industrial tribunals. Since such awards have applied to the bulk of the work force for most of the present century, such award data are important and are presented in this section.

(A) COMMONWEALTH BASIC WAGE AND MINIMUM WAGE, 1907 TO 1981

A benchmark data series is the Commonwealth basic wage. Begun with the renowned "Harvester Standard" of 1907 and formally applied to awards under Commonwealth jurisdiction from 1908, the basic wage came to provide a floor to the Australian wage structure. It was the minimum weekly rate payable for full—time work to an unskilled adult male in Commonwealth awards. Official statistics of the basic wage commence in 1923 and historical data for 1923 until 1967 are published in the Labour Report. From 1908 to 1922 estimates of the basic wage are available from MacCarthy (1972) who took the rates awarded directly from each individual case in the Commonwealth Arbitration Reports for each year and applied weights from the earliest disaggregated occupational information (Census of 1933) to derive a series called "Average weekly nominal wages of the lowest paid grade of adult male workers". These figures are averages over the calendar year and are an average of the six mainland state capital cities.

From 1922 figures are as at end of the year. This means as at end November, except for the years 1934 to 1939 and 1967 to 1981 where the figures are recorded at end December. The 1922 figure is taken from the individual cases for November in Commonwealth Arbitration Reports. The figures for 1923 to 1981 are from the Labour Report 1973 and from Labour Statistics, 1981. Details on basic wages for state jurisdiction can be found in the Labour Report. It should be noted that from 1967 the basic wage was eliminated and a 'total wage' was developed. But a 'minimum rate' for adult males was still prescribed separately, though it was no longer a floor for the whole wage structure in the sense of the basic point of reference for determination of other wages.

In the nineteenth century no such legal minima applied until the emergence of arbitration in some colonies in the 1890s. Prior to that wage rates were determined in the market. Indexes of market wage rates from 1861 through to

1914 are also presented in this section (see below).

After the commencement of the Commonwealth Basic Wage for adult males a seperate basic wage for females became operative, based on the tribunal's assessments of the 'needs' of a single female without a dependent. From the 1920's to 1949 this was set at 54% of the male basic wage. It was increased to 75% in 1949, and seperate awards by gender for the basic wage ceased in 1967.

(B) MINIUMUM WEEKLY WAGE RATES AND STANDARD HOURS, BY STATE, INDUSTRY GROUP AND SEX, 1891 TO 1981

Prior to the adoption of the 'total wage' in 1967 the award wage could include separate basic wage, margin and loading elements. A comprehensive series which combines these elements and which thereby provides direct continuity with the 'total wage' is available. It provides weekly minimum wages for full time workers by sex, cross-classified by state and industry group with figures for selected years 1891-1906 and regularly thereafter for adult males and from 1914 for adult females. (No similar figures for juniors were compiled.) The series are presented in CBCS/ABS publications with annual historical data being readily accessible in the Labour Report to 1973 and its successor Labour Statistics (Cat 6101.0) thereafter. In the post-world war II period, data on adult males are also available as at the end of each quarter from March 1939 to December 1956 and monthly thereafter; particulars for adult females have been compiled on a quarterly basis from March 1951 to June 1967 and monthly thereafter. (See ABS, Minimum Wage Rates. March 1939 to June 1965, Cat. 6313.0; ABS, Wage Rates Indexes, June 1965 to June 1968, Cat. 6314.0; ABS, Wage Rates Indexes, June 1968 to June 1972, Cat. 6314.0 and ABS, Wage Rates and Earnings, Cat. 6312.0 for subsequent figures.)

The minimum wage series published provide data on the legal minimum rate for a full week's work (excluding overtime). Rates which relate solely or mainly to salary earners are excluded. Most of the wage rates are those prescribed in awards or determinations of federal and state industrial authorities or in collective agreements registered with them; rates prescribed in some important unregistered collective agreements are also used. The series are compiled as weighted averages, published in both money and index form. This means they are not actual current average rates, but rather dollar indexes describing trends which use prescribed rates for representative occupations within each industry and state, weighted in line with the

occupational structure shown by survey in a base period. The adult male series 1939 to 1982, are based on weights from the 1954 survey distribution as are the adult female series 1951 to 1982. Series for earlier periods are based on 1911 for adult males and 1914 for adult females. (An exception is the estimates prior to 1914 which are simple averages of the component wages and which relate largely to capital cities and not states). In 1982 a new series extending to salary earners and using the new weighting base of 1976 was commenced. Estimates back to 1977/78 were provided under the new weighting system.

There are fifteen industrial groups for males and eight for females. It should be noted that the industry groupings used were changed for data from 1939 for adult males and from 1951 for adult females. The data presented here conform to the new system of classification. Essentially the change involved discontinuing the rural series and introducing total manufacturing, and communication groups and extending the domestic and hotels group to include amusements, sport and recreation. Otherwise the reclassification involved re-ordering and the dissection of the previous 'miscellaneous', group into two component groups ('wholesale and retail trade' and 'public administration and professional'). The Labour Report 1959 says "the overall trends of the old and new indexes (excluding rural industry) show comparatively little divergence from each other, except in the mining and building groups, for which the basis of measuring wage rates was changed in the new indexes" (p. 23).

The standard hours of work are those prescribed as a standard full week's work by the industrial authorities. The hours are taken directly from the Labour Report and its successor ABS Labour Statistics (6101.0). The 1914 figure is for April. All other figures are December.

Other relevant information on award rates of pay and hours of work for particular occupations are available on a comprehensive basis from the <u>Labour</u>

Report and, on a selective basis, from Labour Statistics. Even more detailed information 1965 to 1983 has been published in ABS, Award Rates of Pay and Prescribed Hours of Work, (Cat. 6316.0), though until 1969 it covered Melbourne and Sydney only.

Finally, note that the use of a fixed weight series for average minimum wages means the series are not subject to the effects of compositional changes in employment or industry structure. The series also avoid compositional problems of remuneration by excluding all over-time and over-award payments and ancillary payments such as bonuses. Margins and regular occupational loadings are included, though a break-down of minimum wages into basic wages, margin and loading is published. By being minimum rates the series does not reflect movement in earnings resulting from progression up an award scale (eg annual increments), but they also exclude payments to workers not subject to an award, a disadvantage with changing award coverage.

(C) ANU INDEXES OF WEEKLY WAGES, 1861 TO 1914

The only comprehensive and continuing sources of wage data for the nineteenth century are the colonial Statistical Registers. There is a mass a relevent statistical material in the annual Registers indicating weekly wages for a wide range of occupations. However no combined or average wage was calculated across occupations by the colonial Statisticians. N.G. Butlin (1962) has drawn some of this material together for four colonies for the years 1861 to 1900 and provided money wage and effective wage indexes. His procedure is to make a detailed computation of all available money wage rates series in each colony's Statistical Registers, weighted by census groups of the major components of blacksmith, engineers, etc." (p 157). The census weights are 1901, so that the series is a fixed base weight series, not a current year weight. Also Butlin indicates that 'The rates taken are, in all cases, the average of ranges quoted' (p. 157).

For the period 1891 to 1914, Macarthy(1971) provides alternative indexes for the two colonies/states of Victoria and NSW. Requiring data beyond 1900 and having access to a new source of wage data from 1895, Macarthy provided two different series to Butlin. For Victoria Macarthy used the Annual Reports fo the Chief Inspector of Factories, Workrooms and Shops, which provided detailed wage data and data on the number of employees so remunerated. Using current year weights Macarthy compiled a series of average weekly wages paid in Victorian manufacturing weighted for numbers employed, by sex, age and industry. The data covered both wages board and non wages board industries. Homeworkers, working proprietors, clerks, managers, supervisors and casual workers were excluded. The wages were for the usual weekly wages and hours of labour in each trade. Projection of the data back to 1891 was based on Statistical Register series.

Alternative data for NSW were less readily available Macarthy used Butlin's

wage estimates from the Statistical Register to 1900 and then used the annual wages bill and total manufacturing workforce data published in the Statistical Registers from 1901. In the latter case total annual wages paid in manufacturing were divided by the average number of persons employed, and the average yearly wage "has been calculated to give a crude average weekly wage" (p.66)

REFERENCES:

- N.G. Butlin, Australia Domestic Product, Investment and Foreign Borrowing, London: CUP, 1962;
- P.G. Macarthy, 'Wages in Australia 1891 to 1914' Australian Economic History Review, 10, 1971, 56-76.

NOTES FOR TABLES ON

B. REMUNERATION OF THE WORKFORCE
2. EARNINGS: UNIT WAGES, 1907 TO 1981.

Unit wage data refer to wage cost per unit of labour and are derived by dividing a total wage bill by a total number of employees. Wage bill data are derived from enterprise sources and, it should be noted, can therefore be affected by compositional factors. This can include changes in part-time and junior employment, overtime hours worked, the payment of bonuses and seniority increments of various kinds, the occupational industrial and demographic composition of the work force. Appropriate definition of the relevant wage bill and labour force can control for some of these factors.

(A) AVERAGE ANNUAL EARNINGS IN MANUFACTURING BY STATE AND SEX, 1907 TO 1982

For Australia the economic censuses held for manufacturing since 1907 provide unit wage cost figures of average manufacturing earnings, and since 1968/69 provide unit wage figures for other sectors under the integrated economic census. In the post-world-war-II period the manufacturing series can also be compared to the national accounts figures for the economy as a whole since 1948/49, and for ASIC industry divisions annually since 1962/63. However, in relation to the economy wide figures, there are problems in allowing for agricultural employees and domestic servants in arriving at an overall figure, since these are included in the wage bill data but are excluded from the published employment series.

The manufacturing census data presented in this section are obtained from the Commonwealth Bureau of Census and Statistics (CBCS) Production Bulletin for the years 1907 to 1948, CBCS Secondary Industries Bulletin 1949 to 1963, CBCS/ABS Manufacturing Industries Bulletin 1964 to 1968, ABS Manufacturing Establishments since 1969. Average earnings are obtained by dividing the gross annual wages and salary bill (excluding drawings by working proprietors) by the full year equivalent number of persons employed in manufacturing activities (excluding working proprietors), from 1918/19. Prior to this date employed persons represent the average during the period of operation of factories Overlap data for 1918/19 to 1920/21 indicate that the earlier earnings series are uniformly and exactly 5 percent below what would be the case with a full year equivalent employment base. Adjustment is not made here for that change. In some recent years data on numbers of working proprietors for some states are not published in the above sources. Unpublished data were obtained from ABS.

Until 1964/65 the ACT and NT are excluded, but are included from that date. Until 1968/69 persons employed in selling and distribution activities are

excluded, but are included from that date. (The data from 1968/69 can be sub-divided into production employees and others. But the former is not consistent with the previous factory worker definition which did include clerical office workers even though it excluded those engaged in selling and distribution.) For all years except 1968/69 to 1973/74 inclusive, the data relate to single establishments employing four or more persons. The 1968/69 to larger just manufacturing not and to a11 relate figures 1973/74 represented manufacturing small 1.974/75 (In establishments. establishments with 19,570 employed persons, the latter representing only 1.5 percent of all employed persons in manufacturing). Data are published on a calendar year basis to 1918 and thereafter on a financial year basis. No data were collected in 1970/71. No specific mention is made of the treatment of weekly hours of work including part-time vs full-time employment, but it seems that persons employed treats these without distinction and so could suffer some compositional effects. Earnings by gender cannot be calculated for Australia and for some states prior to 1911 and from 1968/69 because the wages and salaries bill is not differentiated by sex. However earnings figures by sex are available 1911 to 1967/68 from the sources indicated, and figures for NSW and Victoria are available 1909-11. The change in industry classification 1968/69 makes any series of earnings by manufacturing necessarily discontinuous. For these reasons industry series are not presented here, nor are state data for reasons of space and since state wage differences are already represented by the minimum wage series and the latter cover other industries beyond manufacturing. Reference may be made to the CBCS/ABS series these information further for publications mentioned above disaggregations of the manufacturing data.

(B) AVERAGE ANNUAL EARNING IN MANUFACTURING ALL EMPLOYEES, BY COLONY 1861 TO 1900

Butlin wage indexes outlined above in B.1.(C) extended beyond The manufacturing occupations and were weekly rates. Taking account of average periods of employment for factory employees, time lost and the sex and age composition of the workers and wage-salary relationships, the Statistical Register data embodied in the indexes presented above were nevertheless transformed into a total wages bill and then divided by factory employees to give an estimate of annual average factory earnings for four colonies: NSW, Victoria, Queensland and Tasmania. Further detail of the recalculation is not provided by Butlin except to indicate that a base weight of 1900-05 is used. Despite these deficiencies in documentation, the Butlin series are the only longer-run comprehensive manufacturing unit cost wage series for the nineteenth century. No Australian aggregate series is explicitly presented by Butlin though there is an implicit series in Butlin's gross product calculations which themselves are based on a simple 'rule of thumb' scaling up of the wages and salaries bill by an annual constant share of the total product. The Butlin implied series is presented here and is based on the simple rule adopted by Butlin of (for gross product) equating Tasmania and Queensland with the missing data for Western Australia and South Australia. It should therefore be used cautiously.

REFERENCE:

N.G. Butlin, Australian Domestic Product, Investment and Foreign Borrowing, London: CUP, 1962.

(C) AVERAGE WEEKLY EARNINGS PER EMPLOYED MALE UNIT STATES AND TERRITORIES, 1946 to 1982

unit wage series from official sources that comes The representing the economy as a whole is the series on average weekly earnings per employed male unit. This series is based on the unit wage cost figures obtainable by using payroll tax returns extended to include estimates for employees for whom payroll tax is not payable and then adjusted to "male units" using independently derived estimates of the ratio between male and female earnings. The series dates from 1947 and is readily linked to a new series that commenced in 1966, and which incorporated more accurate survey information on multiple job-holding and non-payroll tax returns. substantial changes took place in 1981 when an employer survey-based series replaced the payroll tax information. Unlike the 1966 linkage, overlap data for the 1981 change show some significant empirical differences between the new and old series. The basis for the differences lies in the inclusion in the 'old' series of irregular payments such as retrospective pay adjustments, leave bonuses and redundancy payments, and the exclusion from the 'old' series of managerial earnings. The 'old' average weekly earnings series was closer to the unit wage earnings series derivable from the national accounts than is the 'new' series in its inclusion of irregular payments, but it too excluded managerial earnings whereas the national accounts did not. The source for average weekly earnings data is ABS Average Weekly Earnings (Cat. 6302.0), with historical data from 1947 given in the Labour Report and in dollars in Wage Rates and Earnings (Cat 6312.0), November 1966.

The independently derived estimates of the ratio between male and female earnings can be used to impute average female earnings. The ratio is published in ABS, Average Weekly Earnings from 1952. The ratio used for 1943 to 1951 is reported in Keating(1967) from an ABS personal communication. The implied level of average earnings for females is obtained by application of the ratio

to average weekly earnings per employed male unit. A fairly constant relationship was assumed until the mid 1960's. The ratio was revised from 1966 to provide a better basis for the male unit calculation so as to more precisely reflect state differences and emerging changes in male-female relativities as these became more important.

REFERENCES:

M. Keating 'Australian Work Force and Employment', <u>Australian Economic History</u>
<u>Review</u>, 7(2), 1967, 150-155

(D) PUBLIC AND PRIVATE SECTOR EMPLOYEE ANNUAL AVERAGE EARNINGS

The series of private and public sector average annual earnings takes the national account estimates of wages, salaries and supplements for these sectors and divides these by the number of private employees and government employees respectively. Wages, salaries and supplements estimates by sector are available for both sectors annually since 1948/49 and are published in ABS Australian National Accounts. They represent payment made by producers to their employees in the nature of wages and salaries and allowances (e.g. board and quarters etc.) and supplements (e.g. pension contributions, workers compensation payments). They include civilian and defence force payments. Government wages and salaries and supplements paid are the sum of these items for public authorities and public enterprises.

Private organizations comprise companies, unincorporated enterprises, private non-profit organizations and households employing domestic servants. Government consists of the Australian Commonwealth, state and local governments and their public corporations. These latter include trading and financial enterprises which aim at recovering their expenses by revenue from sales or charges and net interest receipts.

Prior to 1948/49 official estimates of wages, salaries and supplements for both sectors are not available. However N.G.Butlin (1962) contains separate estimates for general government and private enterprise, which can be summed for the period 1901 to 1938. No estimates are available for the Second World War period. The Butlin series for public enterprise wages, salaries and supplements had to be augmented by PMG wages, salaries and supplements for compatibility with employee figures. These PMG wage data came from Commonwealth Parliament Budget Papers, various. A further adjustment for compatability with employees' measures was the need to add in wages, salaries and supplements for overseas forces during World War I. This came from the

distribution of Australian reimbursement of the United Kingdom for such payments, as given in Mclean (1968)

The employees' series used for the public sectors is that given in Barnard, Butlin and Pincus (1977) updated from ABS Wage and Salary Earners in Civilian Employment. There are some discontinuities in this series at 1966, whereafter trainee teachers are excluded from the workforce and from 1972 where there is a change in treatment of public hospitals and some marketing authorities. The total employees series used is Butlin and Dowie (1969) to 1948, Keating (1973), less Keatings own estimates of working proprietors to 1963 and the ABS Labour Force thereafter.

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OTES FOR TABLES ON

- . REMUNERATION OF THE WORKFORCE
 - WAGES AND SALARIES SHARE IN VALUE ADDED, 1907 TO 1982

Data relating to labour's share of value added are of major economic and olitical significance. Estimates are available of the labour share in Gross National Product from the Commonwealth Statistician's National Income and Expenditure. However there are major conceptual problems in speaking of labour's share of GNP as a whole, particularly because of difficulties in statistically treating entrepreneurial income. Nevertheless the table here presents the most commonly used wage share series, which is wages, salaries and supplements paid in the non-farm sector of the economy expressed as a percentage of non-farm gross domestic product at factor cost. These data are from 1948/49. A more reliable indicator is labour's share of value added in relatively is the unincorporated sector manufacturing, where Similarly, focus on manufacturing avoids problems of the treatment in the National Accounts of income of dwellings (wholly allocated to profits) and of the non-production government sector (valued at wages and salaries paid).

The National Accounts do permit a manufacturing analysis, but the Accounts only begin 1948/49. By contrast data on wages and salaries paid manufacturing and value of production (value added) in manufacturing are available for Australia from the manufacturing census since 1907. These data are given in the Commonwealth Bureau of Census and Statistics/Australian Bureau of Statistics Production, Secondary Industries, Manufacturing Industry, and Manufacturing Establishment Bulletins. Data are available for individual industries within manufacturing but changes in industrial classification For aggregate Australia produce major obstacles to long-run comparisons. manufacturing a minor discrepency in making long-run comparisons since 1907 is the change in 1968/69 to incorporating manufacturing in the integrated economic census, whereby the product measure used was slightly altered so that comparisions of absolute levels before and after the date are not totally reliable. Other changes include the change from calendar to financial year reporting commencing in fiscal year 1919 and reporting for a less restricted scope of manufacturing establishments from fiscal years 1969 to 1974. Relevant data for single establishments with less than four persons employed are not reported except for those years. There was no manufacturing census conducted for 1971. ACT and NT are included only from 1964/65, which adds a further minor discontinuity. It should be noted that the series excludes an imputed amount for the drawings (of a wage and salary nature) of working proprieters.

The manufacturing census figures for wages and salaries are given as share of value added in manufacturing. A manual worker subclassification of wages is available but no overall disaggregation into wages and salaries separately is possible. It seems preferable to refer to all incomes from a contract of employment rather than the more limited manual wages.

In interpreting the data presented it is important to recognise that the labour share can be influenced by a range of factors. These include: the individual industry shares in manufacturing, the impact of overseas trade, capital consumption and company taxation practices, and changing work—force occupational composition.

Finally note that the manufacturing census definition of value added differs from the National Accounts definition due to different treatment of certain expenses and to a different stock valuation procedure. Thus even for the post-war period where both data series are available they are not strictly comparable.

While the official series for Australia begin in 1907 it is possible to also present here estimators of wage share in New South Wales as computed by Macarthy (1971) using Coghlan's Wealth and Progress of NSW as the source for

1891-1901 and NSW Statistical Register for 1904-1914, with 1902-1903 linear interpolated for wages. The series is male and female wages share in New South Wales manufacturing value added 1891 to 1914 presented as a three year moving average index with 1910-12=100:

Table N1

Index	of Wage	Share in NSW Man	ufacturing Value Added
1891 to 1914			
1891	107	1899 102	1907 96
1892	110	1900 97	1908 100
1893	111	1901 97	1909 101
1894	1.10	1902 97	1910 101
1895	108	1903 97	1911 100
1896	109	1904 96	1912 99
1897	110	1905 94	1913 102
1898	108	1906 93	1914 102

It may be thought that a series of wage share could be deduced from N.G. Butlin's estimates of factory wages and factory value added for the Australian colonies, 1861 to 1900. In fact Butlin constructs his value added (gross product) manufacturing series by assuming a fixed wage share over the whole The share is 55.6%, which is deriven by taking factory wages and period. salaries bill as 20% of gross output and then taking materials, fuels and miscellaneous as 64% of gross output. Value added is gross output less material fuels and miscellaneous expenses. The key 20% regular ratio of wages and salaries to gross output is said to apply consistently for the official data in all years to 1938/39 in all the states. "In the nineteenth century, when we have the official Victorian estimates for 1880, 1890 and 1900, the same ratio applies"(Butlin, 1962, p. 157). Accordingly, and accepting also the materials fuels and miscellaneous expenses adjustments, which Butlin bases on the same Victorian censuses, we have only limited discrete estimates of nineteenth century wage shares beyond Macarthy's index estimates for NSW. Butlin says these estimates show a 56% wage share of manufacturing value added.

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NOTES FOR TABLES ON

B. REMUNERATION OF THE WORKFORCE 4. OTHER

There are other general sources of wage earnings and work hours data, but they do not provide long historical series and so are not included here. The major sources are: the income questions in the Census, when asked viz 1915 (War census), 1933, 1976, 1981; income tax data; the annual October survey of earnings and hours conducted by ABS since 1962; ABS surveys of earnings and hours conducted since 1974 and of the distribution of earnings and income conducted intermittently since 1961; there are also some earnings data in the monthly labour force survey. Reviews of these and other data sources are available in Piggott (1984), Australian Treasury (1978), Maddock et al (1984), Scherer (1978).

Beyond the general sources there are series compilable for particular occupations, professions, employers etc. Few of these have been published or made readily available. A listing of a wide variety of contemporary non-official sources of earnings data is given in Bureau of Labour Market Research (1982), Piggott (1984) Maddock etal (1984).

REFERENCE:

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