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What is This?

The Impact of Incomes Policy on the Male Inter-Industry Wage Structure

MARTIN J. WATTS* and WILLIAM J. MITCHELL**

With few exceptions, the wage guidelines between 1975 and March 1987 in Australia imposed uniform percentage wage adjustments. From 1975 to 1983, however, the inter-industry Average Weekly and Ordinary Time Earnings distributions exhibited increased dispersion, which reflected less stringent compliance requirements than the later period, when intra-industry wage dispersion appeared to rise. During the period 1983-87, incremental creep and job promotions for incumbent workers appear to explain part of the increased dispersion. Over the period 1966-88, both inter-industry wage distributions exhibited significant rank order correlations, except for the period 1980-81 during the breakdown of the centralized system. This suggests that there is a relatively stable ordering of inter-industry wages, irrespective of the presence or absence of incomes policy.

1. Introduction

In a recent paper (1990), we examined the impact of the different eras of incomes policy since 1975 on Australian wage inflation. We concluded that there is strong evidence supporting the belief that wage guidelines, introduced as part of a national incomes policy, have been associated with considerable restraint in aggregate wage outcomes.

A related but largely unexplored question is the impact that the various guidelines have on the wage structure or the spread of wages. Opponents of national wage guidelines, in general, argue that such norms generate micro inefficiencies because they ignore the role of relative wages. The cost of lower aggregate inflation is therefore an inflexible wage structure. Yet it is clear that the design of a particular wage guideline (for example, the period of plateau indexation between 1978(4) and 1981(1)), can, in addition to restraining aggregate inflation, change the relative pay structure.[1] Further, the process of award restructuring is designed to rationalize the structure of awards and link wages more closely to the education and training undertaken by workers. The success of this process obviously requires consensus among unions and employers as to the new structure of relativities.

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1. Plateau indexation decisions would tend to narrow the distribution of wages.

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Other analysts argue that particular guidelines may promote a higher rate of wage inflation precisely because they alter the relativities existing between earning groups. Thus, the wage structure is believed to be resistant to change (for market or institutional reasons), and any policy-induced alterations would meet with friction, in the form of leapfrogging, as groups of occupations struggled to restore the pre-existing relativities.

A further dimension of the impact of incomes policy on relativities relates to whether incomes policy guidelines disadvantage the lower earning occupations relative to the more privileged employee categories. This is because if the guidelines are firmly adhered to (by threat or peak union acceptance), the ability to increase remuneration outside the guidelines is virtually nonexistent for low wage workers.

On the other hand, the higher earning positions are characterized by wider incremental clusters and more flexibility to reclassify and to exploit fringe entitlements. Accordingly, high wage workers can accelerate their earnings (and non-pecuniary elements of total pay) faster than the guidelines strictly permit, even though the adjustments to the awards are similar for all.

In this case, if the guidelines are successfully reducing the inflationary impulses coming from the labour market, and if a stable wage structure (or a more egalitarian structure) is desired, then a strong case exists for the government supplementing the guidelines with direct tax reform. The tax system could be reformed to frustrate the ability of the high wage earners to generate real income gains through classification or incremental creep. Selective fiscal drag could negate these aspirations and therefore maintain a desired wage structure in addition to aggregate restraint.

In this article an analysis is conducted to determine the manner and extent to which the incomes policy guidelines have affected the relative wage structure by industry in Australia since the mid-1970s. Where possible, comparison is made to the period 1966–75, when incomes policy did not operate. To assess whether the guidelines have changed relativities, it would be useful to define what the structure of pay should be in their absence. Economists have invoked a number of notions to explain relative wages (equalization of net advantages, costs of education and training, and status), but the notional competitive outcomes are obscured by a range of regulatory and institutional influences.

It is recognized that a number of economic factors might influence the evolution of the wage structure for male full-time employees. A recent study by Davidson and Reich (1988) has explored three structural hypotheses that might account for the observed increase in inter-industry wages dispersion. These are: deindustrialization (declining share of manufacturing employment); divergence between primary and secondary labour markets, which increases the earnings gap between the two markets; and rising international competition, which eliminates employment in the import competing, middle-range earning industries.

In our study, it is assumed that these trend or structural forces are likely to influence the pattern of earning dispersion slowly, if at all. As a consequence, short-run changes in earnings dispersion are not likely to be associated with these factors. Indeed, calculations based on the inter-industry distribution of male wages, as opposed to the overall wage distribution, are

based on constant employment weights to purge the effect of inter-industry shifts in employment.[2] On the other hand, it is plausible that a sudden imposition or change in the principles underpinning wage fixation, particularly non-uniform wage adjustment, may show up fairly quickly in the wage structure. For this reason we trace the pattern of dispersion in the wage structure and compare it with the phases of incomes policy that have been imposed over the last two decades. Obvious changes that coincide with a change in the regime are then of interest but, equally, strong trend movements in the dispersion of the wage structure require analysis. Dean (1978, 41) argues that

> All we can do is look at pay comparisons over time and examine whether any sharp movements coincide with incomes policy periods. In the absence of any other explanations for these movements one can say that such movements *may* have been caused by the presence of incomes policies. No strong conclusions are possible but some indication of the effects of incomes policies on differentials can be adduced.

The inter-industry wage structure is an appropriate level of analysis, because many studies have demonstrated that correction for occupational composition and other personal characteristics such as age and experience leaves unexplained inter-industry differentials but reduces the standard deviation of the distribution.[3]

The analysis is inhibited by the limitations imposed by the availability of data. In particular, the overall distribution of male Average Weekly Ordinary Time Earnings (AWOTE) is not published so that the Average Weekly Earnings (AWE) distribution is used, which includes overtime. Secondly, such a study would be enhanced by the availability of extensive longitudinal wage data. Time series wage data incorporate the impact of changes in the structure of employment and numbers employed, which makes their interpretation difficult.

We demonstrate that, despite the uniformity of most National Wage Case decisions over the indexation eras since 1975, the overall distribution of Average Weekly Earnings has exhibited an increasing long-run trend, which accelerated over 1980–81. Examination of the dispersions of male inter-industry Average Weekly Earnings and Average Weekly Ordinary Time Earnings suggests that the increasing spread of wages was confined to intra-industry movements after 1983. Hence, different eras of incomes policy have impacted differently on the distribution of earnings. Despite the increased variation of wages, the distribution of average male wages by industry has exhibited significant intertemporal rank order stability since 1966, irrespective of the presence or absence of incomes policy, except for the period 1980–81, when centralized

2. For wage distributions based on total (full-time and part-time) employment, changes in the mixture of part-time and full-time employment would evidently assume importance.

3. For example, both Chapman and Miller (1983), with respect to Australia, and Krueger and Summers (1987), in an international study, claim that controlling for a variety of worker characteristics (human capital) leaves unchanged the ranking of industries. Further, Krueger and Summers argue that similar patterns of inter-industry wage structures are found across different occupations.

wage fixation was breaking down. Thus, it would appear that the status quo is characterized by a relatively stable inter-industry distribution of average male earnings, which cannot be attributed to the institutionalized nature of wage fixing in Australia.

The study is arranged as follows. Section 2 reviews the relevant literature. Section 3 documents the National Wage Case decisions over the period 1975–88. Section 4 analyzes the summary statistics computed from the various distributions of male average weekly earnings, and the properties of the inter-industry wage distributions are examined in section 5. Movements of awards and drift by industry are documented in section 6. Conclusions are drawn in the final section.

2. The literature

With the exception of Mylius (1988), there has been no other recent time series study of the influence of incomes policy on the inter-industry wage structure in Australia.[4] Norris (1977) argues that there was little change in the dispersion of earnings over the period 1960–75. There are significant differences in inter-industry earnings dispersions, which he attributes to the variation of awards and differences between earnings and awards. A large part of the earnings drift is due to overtime changes.

Papola and Bharadwaj (1970), in an international study (excluding Australia), conclude that there is a general tendency for wage differentials and hence the coefficient of variation to decline across countries through time, irrespective of their level of industrialization. The inter-industry wage structure exhibits rank stability in the short run in industrialized countries, although there are difficulties in making an operational distinction between the short and long run.

Dean (1978) examines the influence of incomes policies in the United Kingdom in the 1970s on the distribution of earnings. He claims, with subsequent support from Ashenfelter and Layard (1983), that the flat-rate increase of 6 pounds (August 1975–August 1976) had a smaller impact on dispersion of the earnings distribution than the decision of 4 per cent plus 1 pound (5 pounds maximum) for the period April–November 1973 (as measured by the ratio of the highest to the lowest decile). He cites evidence (page 49) of a narrowing of differentials at the top of the distribution due to a combination of the flat-rate policies, upper cut-off points and unindexed tax allowances.

Tarling and Wilkinson (1982) find that the rank correlation of monthly October earnings across eighty-two industries in the United Kingdom, based on the initial year 1948, shows a long-term decline, at least until 1980. Generally the rank correlation coefficient is stable during periods of incomes policy, but it increased in the short term on two occasions (1973 and 1977). In both cases, rapid adjustments of earnings after the end of incomes policy appear to have returned the wage structure to where it would otherwise have been. They argue (page 244) that the apparent rank stability of the money earnings

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4. A number of studies, including Hughes (1973) and Norris (1980), have made inter-country comparisons of the inter-industry wage structure at a point in time.

distribution during incomes policy arises because wage settlements tend to compensate for past price increases.

Krueger and Summers (1987, 24–7) find evidence of a high rank correlation over time, but no evidence of a secular trend in the dispersion of industry wages in the United States. Dispersion does move countercyclically, however, and capitalist economies exhibit more dispersion than do underdeveloped, socialist and communist countries.

3. National Wage Cases 1975–88

Due to data limitations, our analysis is based on differences between gross earnings. Dispersion of gross pay could change differently to relativities in net pay, especially given the lack of tax indexation and the persistence of moderate to high inflation over the period analyzed.

In the fourteen years to the end of 1988, Australia had four distinct but broad phases of de facto incomes policy, namely full/plateau/partial indexation 1975(2)–1981(2), a wages pause 1983(1)–1983(2) and the two Accord phases 1983(2)–1987(1) and 1987(2)–1988(4).

The 1975(2)–1981(2) phase can be divided into four sub-periods corresponding to variations in the guidelines that prevailed. The wages pause outlawed any increase in money wages. Under the first broad phase of the Accord, both money wage adjustments (via indexation) and real wage movements (via formal productivity hearings) were determined by the National Wage Case under the auspices of the Australian Conciliation and Arbitration Commission.[5]

Of the twenty-three National Wage Case decisions presided over by the Arbitration Commission over the two indexation eras from May 1975 to March 1987 only five did not involve uniform percentage adjustment of award wages, although only ten decisions entailed full indexation of awards in line with the quarterly (or half-yearly) increase in the Consumer Price Index (see table 1).[6]

Consequently, in the absence of significant wage drift, individual industry award adjustment and/or the uneven reclassification and growth of jobs across industries, the inter-industry wage structure should exhibit high rank correlation and relatively stable percentage relativities, at least over the periods of incomes policy until March 1987.[7]

The March 1987 two-tier decision entailed a uniform (lump sum) 10 dollar increase under the first tier, with a ceiling imposed on the second-tier increase under the restructuring and efficiency principle, which had to be ratified by

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5. State industrial commissions tend to follow the decisions of the federal commission. However, about 13 per cent of the workforce are not covered by an award.
6. Three of the decisions involved plateau indexation, namely partial or full indexation up to a prescribed level of the award and then a constant absolute increase above that level. In the August 1976 decision the increase of $2.50 for awards less than $166 exceeds 1.5 per cent, the percentage increase for those workers whose award exceeded $166. Thus, again wage dispersion is reduced. The other decision, effective 31 March 1977, entailed an equal sum of $5.70 to all workers.
7. This assumes that the occupational composition of employment by industry remains more or less stable. Evidence supporting this proposition can be found in Withers et al. (1986) and Mylius (1988, 25).

the Commission after September 1987, following negotiations between unions and employers over improvements in work practices to increase productivity. The second lump sum increase of 6 dollars was awarded in February 1988.[8] The lump sum decisions would tend to maintain rank order of the inter-industry wage structure but reduce the dispersion of the wage distribution, whereas the staggered second-tier percentage increases would tend to increase the variance of the wage distribution.

Table 1 National Wage Case award adjustments 1975–81, 1983–88

	ΔCPI (%)	Decision (%)	Date of decision
QUARTERLY			
1975(1)	3.6	3.6	15/5/75
1975(2)	3.5	3.5	18/8/75
1975(3) & (4)*	6.4	6.4	15/2/76
1976(1)	3.0	3% for weekly wage < $125, then flat $3.80	15/5/76
1976(2)	2.5	$2.50 for weekly wage < $166, then flat 1.5%	15/8/76
1976(3)	2.2	2.2	22/11/76
1976(4)	6.0	$5.70	31/3/77
1977(1)	2.3	1.9% for weekly wage < $200, then flat $3.80	24/5/77
1977(2)	2.4	2.0	22/8/77
1977(3)	2.0	1.5	12/12/77
1977(4)	2.3	1.5% for weekly wage < $170, then flat $2.60	28/2/78
1978(1)	1.3	1.3	7/6/78
BI-ANNUAL			
1978(2) & (3)	4.0	4.0	12/12/78
1978(4) & 1979(1)	4.0	3.2	27/6/79
1979(2) & (3)	5.0	4.5	4/1/80
1979(4) & 1980(1)	5.3	4.2	14/7/80
1980(2) & (3)	4.7	3.7	9/1/81
1980(4) & 1981(1)	4.5	3.6	7/5/81
1983(1) & (2)	4.3	4.3	6/10/83
1983(3) & (4)	4.1	4.1	6/4/84
1984(1) – (4)	2.5	2.6	6/4/85
1985(1) & (2)	3.8	3.8	4/11/85
1985(3) & (4)**	4.3	2.3	1/7/86
TWO-TIER SYSTEM			
1987(1)	.	$10 + maximum of 4% after 1/9/87	10/3/87
1988(1)		$6	5/2/88
1988(3)		3% maximum after 1/9/88	12/8/88

* September 1975 CPI increase held over under principle 5 of the guidelines.
** Discount of 2 per cent in wage increase for CPI increase in September and December quarters 1985 in exchange for tax cuts.

8. In the August 1988 decision a 3 per cent increase in award wages was granted in exchange for a commitment by unions to negotiate over further restructuring. This decision has little impact on the results presented in this paper, except in the computation of rank correlations, which are based on November data (tables 4 and 5).

4. Overall distributions of male average weekly earnings

The use of adult male Average Weekly Earnings avoids some of the potential sources of bias, including those associated with aggregating over sex and age. Table 2 provides a comprehensive summary of these data for the period 1975–88.

Table 2 Summary statistics

Full-time adult male (non-managerial) average weekly earnings distribution (May)*											
	1975	*1976*	*1977*	*1978*	*1980*	*1981*	*1983*	*1985*	*1986*	*1987*	*1988*
Mean ($)	157	181	200	217	265	298	358	414	439	465	500
Median ($)	147	169	187	204	248	276	331	382	404	432	463
RQ	0.361	0.367	0.358	0.363	0.387	0.403	0.408	0.427	0.447	0.436	0.450
UQ	1.212	1.218	1.214	1.211	1.228	1.239	1.248	1.256	1.272	1.257	1.267
LQ	0.851	0.852	0.856	0.848	0.840	0.837	0.840	0.829	0.821	0.821	0.817
RD	0.735	0.748	0.720	0.712	0.750	0.800	0.784	0.818	0.861	0.827	0.858
All full-time male weekly earnings in main job (August)**											
	1975	*1976*	*1977*	*1978*	*1980*	*1981*	*1983*	*1985*	*1986*	*1987*	*1988*
Mean ($)	152	174	191	209	248	276	340	394	418	444	476
Median ($)	140	159	174	192	224	252	308	357	380	405	431
RQ	0.428	0.440	0.443	0.448	0.496	0.492	0.512	0.513	0.534	0.526	0.538
RD	0.971	1.008	0.989	1.002	1.089	1.127	1.068	1.003	1.092	1.089	1.128

RQ is the interquartile range, namely the third quartile (P75) minus the first quartile (P25), divided by the median.
The upper quartile ratio, UQ, is the ratio of the third quartile to the median and the lower quartile ratio, LQ, is P25 divided by the median.
RD is the ninetieth percentile (P90) minus the tenth percentile (P10) divided by the median.
Source: * ABS, *Distribution and Composition of Employee Earnings and Hours* (Cat. no. 6306), various issues. 1982 and 1984 data not available. 1979 omitted due to space considerations.
    ** ABS, *Weekly Earnings of Employees (Distribution)* (Cat. no. 6310), and unpublished data 1986, 1988.

The distribution of Average Weekly Earnings for full-time adult (non-managerial) males is reported in May of each year, defined over bands of 10, 20 and 50 dollars. The distribution was converted into deciles and quartiles by linear interpolation across these bands for the years 1975–88. A number

of summary statistics were computed for this wage distribution and weekly earnings in main job of full-time male workers.[9]

An examination of the interquartile and decile ratios (RQ and RD) reveals an upward trend of the dispersion of (non-managerial) Average Weekly Earnings for full-time males over the period of centralized wage fixation 1975–81, but with a temporary decline during the plateau indexation and lump sum decisions of 1976–78[10] and an acceleration over 1980–81 when the system was breaking down. (The absence of pre-1975 data makes any conclusions about the impact of incomes policy tentative.)

The long-run increase in the ratios continued over the Accord era, except for the period 1986–87, which probably reflects the 10 dollar lump sum, first-tier increase, awarded in March 1987. The distribution continued to widen over 1987–88 because of the slow diffusion of second-tier wage adjustments, which tended to be granted initially to higher paid union members.

Even though the use of Average Weekly Earnings rather than Average Weekly Ordinary Time Earnings complicates interpretation, it is hard to argue that the widening dispersion of the Average Weekly Earnings distribution arises exclusively because the higher paid workers have gained disproportionately from the higher hours associated with Average Weekly Earnings as compared to Ordinary Time Earnings, particularly when such workers are normally salaried and do not receive overtime.

Additional insights are possible by decomposing the interquartile ratio into its two constituent parts, namely, the upper and lower ratios (UQ and LQ—see table 2) for the non-managerial Average Weekly Earnings distribution. The ratio of the lower quartile to the median exhibits a consistent decline over the years 1975–88 (except for a small rise between 1981 and 1983) with a total decline of 0.034. Part of this decrease could be explained by the entry of young adult workers into the employed workforce, which tends to be concentrated in the lower quartile of the distribution, but the Australian Council of Trade Unions (ACTU) (1988, table 2) argues that net job growth, at least over the period 1983–87, is concentrated at wage rates above Average Weekly Earnings (see section 6). On the other hand, the ratio of the upper quartile to the median, after showing little change over the period 1975–78, rises consistently from 1.211 in 1978 to 1.272 in 1986. These results suggest that high wage (non-managerial) workers have been able to 'stretch out' the upper end of the distribution. The rise in the long-term mean-to-median ratio for this wage series confirms that the upper end of the distribution has risen relatively more compared to the median than the lower end of the distribution has declined.

Workers in internal labour markets not only have the power (strong unions) but also the opportunity to press for reclassification, or at least to obtain

9. Data for all full-time *adult* male weekly earnings in main job are also available for 1976–85, 1987 from this source, but the data for 1981 onwards are presented as deciles so that calculation of the quartile ratios requires interpolation between consecutive deciles, which is somewhat inaccurate.

10. Despite two plateau indexation decisions in 1976, the measure of dispersion exhibits an increase over the period 1975–76. Catch-up provisions were still in place until the end of 1978.

an incremental increase through the existence of an internal wage structure, without ostensibly contradicting the guidelines. By contrast, workers in less structured employment are not able to pursue wage increases without contradicting the guidelines unless an industry case can be mounted.[11] Under award restructuring more workers may be faced with well-defined job ladders with associated internal wage structures. Hence, there may be greater scope for wage adjustments within job classifications.

The interquartile ratio follows a similar long-run trend for the Average Weekly Earnings distribution (in main job) of all full-time males, but the decile ratio (RD) reveals little change after 1981. Similarly the upper quartile ratio (UQ) shows little change after 1980, whereas the lower quartile ratio (LQ) reveals a long-term decline over the whole period. This wage distribution, which embraces managerial salaries, exhibits a modest increase in dispersion over the period 1976–78.

Thus, workers, who were generally not subject to award provisions and tended to earn higher than average wages, enjoyed a faster rate of wage increase over the period 1976-78. Conversely, over the period 1980–81, during which there was substantial wage drift, the ratios declined. This suggests that salary increases for middle management, as opposed to those in the top quartile of the distribution, were relatively contrained over this period, as compared to the rest of the male workforce. Definitive conclusions are difficult to make because this wage distribution represents the combination of managerial and non-managerial wage distributions.

Data on the distribution of Average Weekly Earnings by individual industries is only available for all full-time males, rather than for full-time adult males. Rising dispersion as measured by the interquartile ratio occurred between 1975 and 1982 for all industries. Consistent with the evidence presented earlier, no systematic pattern is found over the wage pause period of 1982–83. Yet, despite uniform award adjustment between 1983 and 1986, most industries exhibit a rise in their respective interquartile ratios, with the exception of electricity, gas and water, construction, communication and community services. Also a majority of industries exhibit a decline in interquartile range (RQ) between 1986 and 1987 and a rise in this variable over 1987–88. These observations are consistent with those from the aggregate average weekly earnings data.

5. Inter-industry adult male AWOTE and AWE
Coefficient of variation

Adoption of industry data with constant employment weights confines any composition effect to intra-industry variation of occupational composition and upgrading, rather than inter-industry changes in employment.

Table 3 shows the mean, standard deviation (SD) and coefficient of variation (COV) of the distribution of adult male (non-managerial) Average Weekly Ordinary Time Earnings and Average Weekly Earnings, defined over fifteen

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11. Analysis of the 1983-87 period is made more difficult by the large increase in male full-time employment.

Table 3   Male adult (non-managerial) AWOTE and AWE: mean, standard deviation and coefficient of variation for selected years for fifteen industries

	Average weekly ordinary time earnings									
	*1966**	*1975*	*1980*	*1981*	*1982*	*1983*	*1985*	*1986*	*1987*	*1988*
Mean	$54.7	$151.1	$249.4	$280.4	$327.5	$343.8	$385.6	$413.4	$435.8	$466.9
SD	$4.36	$13.96	$26.43	$29.41	$38.31	$41.27	$36.88	$45.48	$51.73	$50.46
COV	0.080	0.092	0.106	0.105	0.117	0.120	0.096	0.110	0.119	0.108

	Average weekly earnings									
	*1966**	*1975*	*1980*	*1981*	*1982*	*1983*	*1985*	*1986*	*1987*	*1988*
Mean	$62.7	$165.1	$262.7	$307.9	$354.0	$371.7	$425.4	$444.2	$479.5	$521.3
SD	$5.67	$15.07	$35.09	$38.00	$48.70	$47.20	$50.45	$52.70	$61.29	$61.27
COV	0.091	0.091	0.134	0.123	0.138	0.127	0.119	0.119	0.128	0.118

* 1966 calculations exclude electricity, gas and water and public administration, defence and community services due to unavailable data.
COV denotes standard deviation divided by mean.
Source: ABS, *Survey of Wages, Earnings and Hours in Labour Report 1965-71*, October.
      ABS, *Average Earnings and Hours of Employees 1972-88* (Cat. no. 6304.0), October–November.

industries, using male employment weights from the 1981 census, for the years between 1966 and 1988. The movements of the coefficients of variation of the two distributions broadly coincide, at least until 1982, and confirm the long-run increase in dispersion since 1975, revealed by the overall wage distributions (see table 2), but the coefficients of variation decline over 1980–81.[12]

For the period of the Accord (1983–86), however, the ratios associated with the overall distributions increase, whereas the coefficient of variation based on (non-managerial) adult male ordinary time earnings and weekly earnings by industry decline.[13]

12. Comparison of the figures for 1966 and 1975 confirms Norris's claim (1977, 481, 486), from the examination of the distribution data, that the degree of dispersion of average weekly earnings has shown little change over the period 1965-75.
      Decomposition of the variance of the Ordinary Time Earnings distribution confirms that the disaggregation of manufacturing is not disproportionately responsible for its magnitude with 18.2 per cent of total male employment responsible for 14.8 per cent of the variance in 1988, but 37.7 per cent of the variance of Average Weekly Earnings is explained by manufacturing. Thus the analysis is focused on Ordinary Time Earnings.
13. A similar pattern of coefficients of variation for the two wage distributions is found by Mylius (1988, 30-1), whose calculations are based on hourly earnings and exclude electricity, gas and water and public administration, defence and community services.

These results imply that there was an increasing intra-industry dispersion of earnings over the era of the Accord, although few individual award adjustments occurred. This hypothesis receives some support from the data of individual industry wage distributions, which is cited in section 4. The question then arises as to whether the rising dispersion over the Accord eras, 1983–86, 1987–88, is a product of significant wage drift or intra-industry compositional change. This issue is explored in section 6.

Conversely, between November 1986 and November 1987, which covers the March 1987 two-tier decision, the coefficients of variation of both wage series increase, which reflect the small number of 4 per cent second-tier wage adjustments. Over the period 1987–88, however, both of the coefficients of variation decline, which is probably a result of the great diffusion of the second-tier adjustment. Hence, the non-synchronized collection of these wage data may be responsible for these different results.

Rank correlation

A question of importance is whether this long-term increase in dispersion of the inter-industry wage structure has been accompanied by a significant change in the rank order of industries. Table 4 shows the matrix of rank correlation coefficients associated with the level of adult male (non-managerial) Ordinary Time Earnings corresponding to different years.[14]

In general, our results differ from the British evidence about inter-industry earnings presented by Tarling and Wilkinson (1982). The rank correlations do not exhibit a secular decline over the period. In particular, the decentralized era of 1981–82 in Australia is associated with an increase in rank correlations based on the initial years 1966, 1975 and 1980, following the disruption to rank stability over 1980–81 when the centralized system of wage fixation was in crisis.

On the other hand, the first row of table 4 suggests wage structure stability during the decentralized era of 1966–1975[15] and the period of incomes policy 1975–80, although the latter period was associated with an increase in wage dispersion.[16] Flow-ons (and leapfrogging) occurred when arbitral decisions did not involve uniform adjustment. This promoted staggered wage adjustments on an industry-by-industry basis, through both award or over-award movements.

Likewise, for base years 1966, 1975 and 1980, the Accord era until 1987 was associated with the virtual constancy of the rank correlation of inter-industry Ordinary Time Earnings. There is a marked decline in the rank correlation coefficients in 1988, which can be primarily attributed to the slow

14. The Spearman rank correlation coefficient is defined as: ·
    $RCC = 1 - \Sigma_i 6 (R_i-C_i)^2/(n(n^2 - 1))$ where R_i, C_i are the rank orders of industry (i) at two different points in time and n denotes the number of industries. Evidently the calculation would be distorted by a large change in rank order of a small industry.
15. Rank correlations for 1966–75 show some long-term decline, mainly attributable to the fall in the ranking of transport, storage and communication.
16. Norris (1983, 157) cites a similar figure of 0.84 for seventeen industries computed over 1968–80.

Table 4 Adult male (non-managerial) AWOTE in fifteen industries: rank correlation between selected years (November)

	1975	1980	1981	1982	1983	1986	1987	1988
1966*	0.850	0.883	0.743	0.839	0.822	0.861	0.907	0.878
1975		0.950	0.914	0.957	0.950	0.936	0.932	0.838
1980			0.861	0.911	0.882	0.896	0.914	0.865
1981				0.896	0.911	0.864	0.868	0.758
1982					0.957	0.964	0.957	0.881
1983						0.957	0.921	0.867
1986							0.925	0.921
1987								0.881

* Electricity, gas and water and public administration, defence and community services excluded from 1966 calculations because of non-availability of data.[17]
Source: See table 3.

Table 5 Adult male (non-managerial) AWE in fifteen industries: rank correlation between selected years

	1975	1980	1981	1982	1983	1986	1987	1988
1966*	0.846	0.709	0.813	0.873	0.857	0.841	0.830	0.863
1975		0.811	0.785	0.936	0.975	0.857	0.840	0.789
1980			0.879	0.732	0.832	0.889	0.896	0.850
1981				0.832	0.864	0.871	0.871	0.850
1982					0.946	0.775	0.825	0.729
1983						0.875	0.843	0.800
1986							0.938	0.971
1987								0.929

* See table 4.
Source: See table 3.

17. Only one Ordinary Time Earnings observation appears for electricity, gas and water prior to 1973, namely 1965. The accuracy of this number is consequently questionable. On the other hand, continuous and seemingly consistent Ordinary Time Earnings data for finance, insurance, real estate and business services is available from 1966.

diffusion of the 4 per cent second-tier wage increases, which commenced in September 1987, and also the 3 per cent second-tier increases, which began in September 1988.[18]

The use of AWOTE data for October–November each year in the calculation of rank correlation coefficients is arbitrary and would tend to lead to mis-representation of the coefficient over years characterized by the erratic timing of over-award or non-National Wage Case award adjustments and staggered flow-ons of varying length. Consequently, those coefficients corresponding to 1975 and 1981 (after the first era of incomes policy had collapsed) may be understated.[19]

The high rank correlation coefficients[20] strongly suggest the existence of an 'equilibrium' inter-industry rank order of AWOTE for adult males. If such an equilibrium does not exist, then the numbers reveal a relatively orderly system of flow-on that preserves the rank order over long periods of time. The latter interpretation is unlikely because Boehm (1974) provides evidence of leapfrogging over the period 1966–75.

Despite the potentially distorting impact of the cycle, a similar pattern for the adult male Average Weekly Earnings rank correlation matrix for the selected years is found (see table 5).[21] There are low rank correlation coefficients in the early 1980s, but a marked improvement in 1982 for the base years 1966 and 1975. Subsequent observations are erratic and do not show a consistent trend.[22]

6. Awards and drift

An award index for adult male wage and salary earners, AWARD(FW), based on fixed weights associated with the occupational structure prevailing in 1976 and the absence of incremental creep, is available from June 1976. Corresponding indexes by industry are available from December 1979. Movements of the indexes reflect National Wage Case and individual industry award adjustments.

18. Only a few isolated second-tier increases were less than the maximum of 4 per cent, so variation in the magnitude of second-tier adjustments is not responsible for the decline in rank correlation.
19. It can also be argued that the choice of 1966 as the base year is arbitrary and may bias the results. The rank correlations for Ordinary Time Earnings were also calculated for the initial years 1965 and 1967 respectively. The rank correlation coefficients for the years 1975, 1980, 1981, 1982, 1983, 1986, 1987 and 1988 were (0.951, 0.885, 0.720, 0.879, 0.863, 0.835, 0.940 and 0.797) and (0.786, 0.824, 0.670, 0.769, 0.890, 0.819, 0.868 and 0.874), which are consistent in relative magnitude with the coefficients associated with 1966.
20. At the 0.001 level the value of the Spearman test statistic, based on 15 (13) observations is 0.7464 (0.7912). Examination of tables 4 and 5 reveals that virtually all entries until 1987 exceed the corresponding critical value. Hence, the hypothesis that the rank orders of industry wages over different years are independent is rejected.
21. The low rank correlation coefficient (1966–80) is primarily caused by finance, insurance, real estate and business services, which drops from fifth to twelfth industries but its subsequent rankings for 1981, 1982, 1983 and 1986 (eleventh, sixth, ninth and ninth) would indicate that this may be a timing phenomenon.
22. Unsurprisingly, the pattern of results is not repeated for Average Hourly Earnings, but the rank correlation matrix does not exhibit a systematic decline along its rows.

Further, from 1975 there is a (non-managerial) $ award series by industry, AWARD(CW), based on a survey of employers (Cat. no. 6306.0). The series embraces incremental creep, because if a series of increments constitutes part of the award, then the award figure collected for an individual would reflect his or her position in the incremental scale. The latter is useful for comparison with overall wage distributions where no correlation for inter-industry employment shifts is possible. Growth rates of these two series are reported in table 6.

Table 6   Gross growth rates (%) of fixed and current weight awards, AWE and AWOTE for full-time males 1975–87 (May)

	1976–80	1980–81	1981–83	1983–87
AWARD(FW)*	37.4**	13.4**	19.1	23.2
AWARD(CW)†	46.6	11.3	24.5	28.9
AWE†	46.5	12.4	20.3	29.9
AWOTE†	45.6	11.9	23.4	27.5

* Adult wage and salary earners.
** Computed from June to June.
† Male non-managerial workers.[23]

Sources: ABS, Distribution and Composition of Employee Earnings and Hours (Cat. no. 6306.0), various issues.
ABS, Award Rates of Pay Indexes (Cat. no. 6312.0), various issues.

Table 6 reveals the significant difference between the current and fixed weight award indexes. In particular, over the period 1983–87, the apparent wage drift of 6.7 per cent with respect to Average Weekly Earnings becomes about 1 per cent with the use of the current weight index.[24] This reveals the significance of compositional change as opposed to over-award adjustment (drift) in explaining the rising dispersion of the overall distribution of Weekly Earnings, despite the fall in the coefficient of variation of the inter-industry wage distribution and the evidence of modest rank stability of the industrial wage structure over this period.

A mean award series based on the $ industrial awards and weighted using the 1981 census weights (rather than the ABS weights) was also calculated. Computed growth rates over the different time periods are very similar to those for AWARD(CW). Hence, the compositional change identified in table 6 is primarily intra-industry, but its precise nature is hard to locate.

23. These series are not strictly comparable, but the broad movements of each provide some insights.
24. Both Weekly and Hourly Earnings are correlated with the state of the cycle due to higher overtime rates of pay. Despite the exclusion of overtime, Ordinary Time Earnings are also affected by the state of the cycle, through, for example, varying downtime and absenteeism (see Indecs Economics, State of Play, Allen & Unwin, Sydney, 1986, 55–8). Consequently both Weekly Earnings and Ordinary Time Earnings drift are correlated with the state of the cycle.

Incremental creep and promotions for incumbent workers have been conflated with net job growth for full-time males of about 272 000 over this period.[25]

7. Summary

Although there are limitations associated with the wage data, some tentative conclusions can be drawn about the influence of incomes policies on the overall and inter-industry distributions of earnings.

Despite the uniformity of most of the arbitral decisions over the eras of wage indexation, the overall dispersion of the (non-managerial) Weekly Earnings distribution has exhibited an increasing long-run trend, which accelerated over the period 1980-81 when the centralized system was breaking down.

Movements of the coefficients of variation for the inter-industry Ordinary Time and Weekly Earnings distributions confirm the long-run increase in the degree of wage dispersion at least until 1983. The virtual constancy of the coefficients of variation between 1983 and 1987 points to the likelihood of increases in *intra-industry* wage dispersion over this period. This proposition receives some support from calculations of dispersion based on wage distributions of individual industries, and also from the virtual absence of wage drift over this period when an award series based on current awards, but fixed industry employment weights, is utilised.

Hence, the eras of incomes policy appear to have had different impacts on the distribution of earnings. The period of centralized wage fixation (1975-81), was characterized by less stringent compliance requirements and greater scope for individual industry and occupation award adjustments, whereas the opposite conditions held for wage fixation between 1983 and 1987. This explains the predominance of *intra-industry* wage movements in the first era and *intra-industry* movements over the Accord phase 1. Our recent work (Watts and Mitchell 1990) suggests that in the Accord era 1983-87 there was marginally more success in restraining aggregate wage outcomes than in the previous period of incomes policy.

The industrial Weekly and Ordinary Time Earnings distributions had significant rank order stability, except for the period 1980-81, which heralded the demise of centralized wage fixation. In particular, over the decentralized era 1981-82, the rank correlation of Ordinary Time Earnings improves for the initial years 1966, 1975 and 1980. Similarly, the decentralized era (1966-75) is also characterized by significant rank stability (correlation 0.850).

One explanation is that a status quo exists, characterized by a relatively stable inter-industry wage distribution, irrespective of the presence or absence

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25. In a submission to the June 1988 National Wage Case, the ACTU also claimed that the apparent drift of Average Weekly Earnings between May 1983 and May 1987 is caused primarily by compositional effects. These effects are partly due to total (male and female) full-time employment growth of 600 000 over this period. The ACTU compared the May 1987 Weekly Earnings distribution of all non-managerial wage and salary earners with the corresponding May 1983 distribution adjusted for the intervening wage decisions. Net job losses and gains are computed over the income ranges and some of the net job growth necessarily occurs in the upper deciles of the distribution.

of incomes policy. Hence, the interrelated movement of wage rates across industries cannot be attributed specifically to the centralized, institutionalized nature of Australian wage determination. Indeed the Arbitration Commission does not sanction award increases on the basis of comparative wage justice. The principles of award adjustment were sufficiently unclear or flexible, however, to permit flow-ons when National Wage Case decisions gave rise to non-uniform adjustments.

In particular, flow-ons occurred in 1978–79 and 1980–81, when the compliance requirements were less stringent than those of the Accord era of 1983–87. There was greater scope for arbitrated award and consent award adjustments, as well as over-award movements. Distortions in the rank order of industries were created through the staggered wage round of 1980–81 that preceded the breakdown of the wages system. This was partially remedied over the period 1981–82 when the wage round was completed after the indexation system broke down. Thus, decentralized wage bargaining was associated with a restoration of rank stability.

Over the 1983–87 period the traditional rank order was restored, despite the imposition of an incomes policy, which required a significant degree of compliance but granted uniform percentage award increases, thereby maintaining percentage differentials. Wage adjustment was permitted under catch-up provisions for workers who missed the metal industry wages round of 1981–82. Under the first tier of the two-tier decision of March 1987, workers were granted an increase of 10 dollars, which, while tending to maintain the rank order of industries, led to a reduction in dispersion. Under the second tier there was the possibility for non-uniform award wage adjustment, but in practice most decisions have involved a 4 per cent increase in awards at least in aggregate over the enterprise. The major difference between this form of adjustment and the uniform indexation adjustment under the first phase of the Accord has been the staggered wage adjustment brought about by the requirement that each agreement be ratified by the Commission. Such wage adjustment causes difficulty with the interpretation of rank correlation coefficients associated with 1988.

These results cast further doubt on the claim that incomes policies inhibit the efficiency of the market mechanism because wage differentials do not appear to be sensitive to market forces (see also Withers et al., 1986).

Data appendix

Male Ordinary Time and Weekly Earnings series were collected across eight industries and seven subsectors of manufacturing for the period 1963–88 from ABS statistics (see table 3). The industries were manufacturing, its subsectors, textiles, clothing and footwear; food, beverages and tobacco; paper and paper products, printing and publishing; chemicals, petroleum and coal products; basic metal products; fabricated metal products, other industrial machinery and equipment and household appliances; transport equipment; mining; construction; transport, storage and communication; finance, insurance, real estate and business services; wholesale trade; retail trade; electricity, gas and water; and public administration, defence and community services. Separate data for communication, community services and the new industrial category

of recreation, personal and other services are only available since 1986.

Weights used since 1986 in the construction of the composite categories of transport, storage and communication and public administration, defence and community services are based on the male employment data from the 1981 census.

Fixed weight award indexes based on the occupational distribution of employment, prevailing in June 1976 are available on a monthly basis from 1980 for adult male wage and salary earners by industry, in the Australian Bureau of Statistics' *Award Rates of Pay Indexes* (Cat. no. 6312.0).

References

ACTU (Australian Council of Trade Unions) (1988), National Wage Case Submission, June (ACTU 2).

Ashenfelter, O. and Layard, R. (1983), 'Incomes Policy and Wage Differentials. *Economica* 50, 127–43.

Boehm, E. (1974), 'Distortions in Relative Wages: The Inflationary Consequences and Policy Implications', *Australian Economic Review* 28(4), 39–50.

Chapman, B. and Miller, P. (1983), 'Determination of Earnings in Australia: an analysis of the 1976 census', in Keith Hancock et al. (eds), *Japanese and Australian Labour Markets: A Comparative Study*, Australia-Japan Research Centre, Canberra.

Davidson, C. and Reich, M. (1988), 'Income Inequality: an Inter-Industry Analysis', *Industrial Relations* 27(3), 263–86.

Dean, A. J. H. (1978), 'Incomes Policies and Differentials', *National Institute Economic Review* 85, August, 40–8.

Hughes, B. (1973), 'The Wages of the Weak and the Strong', *Journal of Industrial Relations* 15(1), 1–24.

Indecs Economics (1986), *State of Play*, Allen & Unwin, Sydney.

Krueger, A. B. and Summers, L. H. (1987), 'Reflections on the Inter-Industry Wage Structure', in K. Lang and J. S. Leonard (eds), *Unemployment and the Structure of Labour Markets*, Basil Blackwell, Oxford.

Mylius, Peter (1988), *Relative Wages and Incomes Policy in Australia*, BEc (Hons) Thesis, The Flinders University of South Australia, November.

Norris, K. (1977), 'The Dispersion of Earnings in Australia', *Economic Record* 53, 475–89.

Norris, K. (1980), 'Compulsory Arbitration and the Wage Structure in Australia', *Journal of Industrial Relations* 22, 249–63.

Norris, K. (1983), *The Economics of Australian Labour Markets*, Longman Cheshire, Melbourne.

Papola, T. S. and Bharadwaj, V. P. (1970), 'Dynamics of Industry Wage Structure: An Inter-Country Analysis', *Economic Journal* 80, March, 72–90.

Tarling, R. and Wilkinson, F. (1982), 'Changes in the Inter-Industry Structure of Earnings in the Post-War Period', *Cambridge Journal of Economics* 6(3), 231–48.

Watts, M. J. and Mitchell, W. F. (1990), 'Australian Wage Inflation: Real Wage Resistance, Hysteresis and Incomes Policy: 1968(3) to 1988(3)', *The Manchester School*, June, 142–164.

Withers, G. et al. (1986), 'Wages and Labour Market Adjustment: A Cross Country Causality Approach', *Economic Record* 62, December, 415–26.