

Reviewing Recent Trends in Wage Income Inequality in Australia

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1 Introduction*

The deregulation of the Australian labour market has been actively supported by those who regard increased labour market flexibility as necessary to stimulate further improvements in labour productivity. But it has also raised concerns over its impact on inequality in a country that has traditionally relied upon labour market institutions to exert a moderating force on market outcomes (Castles, 1985), and hence on the demand for state redistribution. The outcome of the 2004 federal election has given added impetus to this debate, since the Howard Government seems set on pursuing a labour market reform agenda that had previously stalled in the face of Senate resistance.

Not surprisingly, there are substantial differences in the views of those who hold opposing positions on the desirability of further labour market deregulation. Those in favour of further deregulation regard increased earnings inequality as reflecting a just reward structure that provides a desirable incentive structure for future efforts. Others argue that the increased employment presumed to accompany greater flexibility will allow any increased inequality among individual workers to be offset at the level of the family – possibly supported by changes in welfare benefits and/or tax credits. In contrast, the opponents of deregulation see it as threatening the entire system of social protection, of which wage fixation has been a cornerstone, and a recipe for increasing job insecurity and growing in-work poverty. Concern about these issues was voiced by Keith Hancock in his 1998 Cunningham Lecture, where he noted that protection of the low-paid had been one of the major functions of the Australian industrial tribunals, but warned that ‘ the undermining of the authority of the Australian Industrial Relations Commission ... has left the low paid more exposed to the inequalities of market power than for many decades’ (Hancock, 1998, p. 23).

Against this background of competing claims and renewed policy interest, the primary goal of this chapter is to update recent studies of wage income inequality, the principal features of which are briefly summarised in Section 2. The bulk of the paper uses data from the latest available *Survey of Income and Housing Costs* (SIHC – which replaced the previous *Income Distribution Survey* (IDS) in 1995) to examine changes in wage income inequality among the full-time workforce. In doing so, the

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existing Australian literature on earnings inequality will be assessed from an income distribution perspective. No attempt is made to identify the causes of the observed trends, although some of the results are suggestive of particular conclusions and these are highlighted in the discussion.¹

One of the advantages of using the SIHC data to examine wage income inequality is that the results can be linked to changes in the overall income distribution, thus providing a basis for assessing the impact of any observed change in the structure of earnings on the distribution of overall well-being. Against this, there are problems with the SIHC data, both in terms of the accuracy of some of the reported incomes, and in terms of their consistency over time. These issues are briefly discussed in Section 3, which also compares the conceptual and empirical frameworks used in studies of earnings inequality and income distribution. Section 4 investigates aggregate changes in wage income inequality between 1986 and 2000-01, the longest period for which reliable comparisons can be made using the existing SIHC data.² Section 5 presents some breakdowns of the aggregate results, and Section 6 summarises the main findings.

2 Overview of Recent Research

The number of studies of earnings (or wage income – the terms are used interchangeably) inequality has increased in line with the growing interest in inequality generally, and with the increasing research capacity provided by greater access to data and the increased refinement of analytical techniques. Many previous studies have contributed to this literature, including those by Borland and Norris (1996), Borland and Wilkins (1996), Borland and Kennedy (1998), Borland (1999), Norris and McLean (1999), Borland, Gregory and Sheehan (2001), Saunders (2000), Pappas (2001) and Keating (2003). This body of literature has greatly increased our knowledge about the structure of, and changes in, labour market incomes in recent decades. The principal findings to emerge from the literature are:

- There is a broad consensus, supported by robust evidence, that full-time earnings inequality has increased since the mid-1970s for both men and

¹ The contributions to Richardson (1999) provide an excellent contribution to this topic.

² The latest SIHC data available for detailed analysis relate to 2000-01, although it is expected that results for 2002-03 will be released for analysis in 2005.

women (Borland, 1999), particularly in the period between 1990 and 1994-95 (Borland and Kennedy, 1998);

- Growing earnings inequality mainly reflects changes at the top of the distribution (Saunders, 2000), particularly for males (Pappas, 2001), whereas the overall change in female inequality is characterised by strong growth at the bottom of the distribution (Pappas, 2001);
- Increased inequality has mainly occurred within groups of employees with the same levels of education and experience (Borland, 1999);
- The increases are concentrated in a small number of industry sectors (Borland and Kennedy, 1998), exist for both Australian-born employees and immigrants (Borland and Kennedy, 1998), and have taken place in the private sector but not in the public sector (Nevile and Saunders, 1998; Borland and Kennedy, 1998; Saunders, 2000); and
- Increased inequality at the bottom of the distribution has been greater among employees aged 25-54 years than among those aged 15-64 years (Borland and Kennedy, 1998; Pappas, 2001).

Although there is close to universal agreement with these propositions, there is a greater range of opinion about what has caused the observed changes. The fact that similar trends have taken place in many other OECD countries lends support to the view that there is an international dimension to the underlying causes. Of particular relevance in this context is the role of deregulation of the labour market (which has also been occurring in many countries), compared with factors such as changes in the structure of labour demand that are occurring independently of changes in state regulation.

Some have claimed that there is broad agreement (the 'transatlantic consensus' – see Atkinson, 1999) among labour economists that the observed changes reflect changes in labour demand that have benefited more highly-skilled workers, with this in turn being driven by technological change, possibly reinforced by the effects of international trade. However, Sheehan (2001, p. 57) has cast doubt on the empirical basis for these claims, arguing that 'the literature must be regarded as inconclusive, to this point in time, on the causes of the widespread increases in earnings inequality.' Writers such as Atkinson (1999) see the changes as resulting

from a reduced adherence to traditional pay norms that may be an indirect consequence of deregulation.

The nature and causes of increased labour market inequality in Australia have been addressed in a recent paper by Keating (2003), who examines a variety of income survey and labour force data over the period since 1975 (sometimes, because of definitional changes, since 1985). He concludes that:

- While inequality of *earnings* continued to increase up to 2000 for both males and females, *relative pay rates* have been broadly stable since the mid-1970s;
- It is only since 1997 that average earnings increases for highly-paid occupations have exceeded those of low-paid groups – the earlier findings showing that this trend began in 1990 reported by Borland, Gregory and Sheehan (2001) were based on flawed data provided by ABS;
- A more detailed comparison of the distribution of pay rates (based on average weekly ordinary time earnings) reveals that male pay rate relativities have widened since 1996, whereas there has been little change in female pay relativities;

These findings lead Keating to conclude that the observed increase in earnings inequality is more a reflection of changes in the composition of employment than changes in rates of pay for given occupations.³ This change is in turn attributable to changes in the demand for different skill levels that have been accommodated by existing labour supply. As Keating (2003: p. 391) puts it: ‘This change in the composition of employment most probably reflects the particular way that Australia has responded to technological change. Certainly this hypothesis seems to be consistent with the available evidence, although more work is needed to firmly establish it’. The implication, although guarded, is that deregulation of the labour market has not been responsible for the change in inequality that has taken place.

³ Keating’s main conclusion, that the increase in inequality reflects changes in the structure of employment rather than in relative wage rates, has obvious implications for labour market policy, although the consequences for equity and redistribution are less clear-cut. But the distinction identified by Keating is nonetheless of considerable importance and requires further examination. Work is currently underway to try to establish whether his findings are consistent with the detailed changes implicit in the IDS/SIHC data.

While these studies have contributed greatly to our understanding of the nature of recent labour market trends, they have focused on the earnings of full-time employees and have not attempted to relate changes in earnings inequality among individuals employed full-time to the distribution of income among families. Studies that have examined this issue from an income distribution perspective include Saunders (1993; 1997; 2001) and Pappas (2001). Richardson and Harding have also examined this issue by investigating where low-wage individuals fall in the overall distribution of family incomes (Harding and Richardson, 1998; Richardson and Harding, 1999). This analysis reminds us that the link between individual wages and family incomes (and hence economic well-being) has become more tenuous in today's 'post-male breadwinner world', adding impetus to the need for an integrated approach.

3 Frameworks and Data Limitations

The two main advantages of using the SIHC data to examine changes in wage income inequality are:

1. The SIHC data allow the earnings of individuals to be related to their family circumstances, providing the basis for linking inequality of individual earnings to the distribution of income among families, thus locating the analysis of earnings inequality in the broader distributional context (see Saunders, 2004)
2. The SIHC data are available in confidentialised unit record file (CURF) format that provide researchers with the flexibility to experiment with alternative assumptions and methods that allow robustness and sensitivity issues to be investigated.

However, the SIHC data are not entirely unproblematic, and issues arise in relation to their consistency over time and the ways in which some of the key variables are defined and reported – as will become apparent.

Conceptual frameworks

It is useful to begin by considering the differences between the conceptual and empirical frameworks used in conventional research on earnings inequality and income distribution. Most of the differences shown in Table 1 are self-explanatory and require no further comment. However, the fact that these two fields of research have evolved with their own priorities and methodologies is significant, in light of the

fact that they are increasingly using common data sets and examining related issues of public concern.

Table 1: Frameworks Used in Research on Income Distribution and Earnings Inequality

Issue	Income Distribution	Earnings Inequality	Comments
Main research focus	The distribution of individual well-being (descriptive)	The functioning of the labour market (explanatory)	Roles of state and market are a more explicit focus of income distribution
Key research questions	The distributional impact of taxes and transfers	The role of labour market demand and supply factors	Proximate versus underlying causes
Unit of analysis	Income-sharing within the income unit, family or household, but person-weighting of data	Individual	No equivalence adjustment or income-sharing assumptions in studies of earnings inequality
Time period	Annual or current (weekly) income	Current weekly earnings or pay rates	Annual and current data may show differing trends
Key concepts	Market, gross and disposable (equivalised) income	Gross earnings, wage (pay) rates and employment	Limitations of reported tax and benefit income
Standard breakdowns	By family type or income source	By occupation and/or gender	Definitional changes can be important
Inequality measures used	Gini coefficient and other summary indicators; income shares and percentile ratios	Percentile ratios and summary indicators; use of 'synthetic' cut-offs (e.g. Gregory, 1993)	Sensitivity of measures at different parts of the distribution is a potential issue
Data sources	ABS income and/or expenditure surveys (e.g. SIHC and HES)	ABS labour force data (and SIHC)	Availability of unit record data?
Data issues	Problems with (some) reported incomes; inter-temporal comparability	Definitional changes	Limitations on the period and scope of inequality trends
Data frequency	Every 2-3 years (with long lags)	At least annual (some exceptions); generally shorter lags	Data release lags are an issue

Three examples illustrate why it is important to pay more attention to some of the implications of the differences highlighted in Table 1. First, although both fields of research focus on individuals, this is far more direct in the case of research on earnings inequality than in the case of income distribution, where the person-

weighting of data requires the use of an equivalence scale adjustment that introduces complex, unresolved issues over which scale to use, while introducing the controversial and contested assumption of equal resource sharing within the family (or household).

Second, while most income distribution researchers prefer to use annual income, current (weekly) income is the focus of all studies of earnings inequality. This distinction might not matter, were it not for the fact that recent research has highlighted a difference in some of the key distributional trends revealed by the annual and weekly income data (Bradbury, 2003; 2004). The third issue relates to how inequality is measured. The percentile ratios used in many studies of earnings inequality may not capture more complex distributional shifts, including changes in the tails of the distribution (which have been a feature of recent distributional changes, as reflected in the ‘disappearing middle’ debate: see Gregory, 1993; Harding, 1997).

Some of the differences that arise when moving between the two conventional frameworks shown in Table 1 can be illustrated with a specific example. A series of synthetic distributions has been constructed to show how the pattern of inequality changes as one moves in stages from an individual earnings inequality approach towards one that is more consistent with the standard income distribution framework. The five distributions considered for this purpose are:

- D1: The distribution of wage and salary income among full-time employee individuals only.
- D2: The distribution of the combined full-time wage and salary income among full-time employee individuals and couples where both partners are employed full-time, adjusted using a simple equivalence scale (the square root of the number of adults), weighted by the number of (adult) persons.
- D3: As D2, but including all single people and couples where at least one partner is a full-time employee, and covering the combined wage and salary income of both partners (whether from full-time employment or not), weighted by (adult) persons.
- D4: As D3, but based on the combined disposable income of single employees or both partners in couples, including all wage and salary income and

income from any other sources, after deducting income tax, again weighted by (adult) persons.

D5: As D4, but including all income units, and covering all sources of income (and income tax deductions) and adjusting using the square root equivalence scale but allowing for the presence of children when making this adjustment, weighted by persons (i.e. adults *and* children).

Starting with the standard earnings inequality approach (D1), distribution D2 statistically ‘marries’ those full-time employees who are partnered and equivalence adjusts in order to allow the results to be presented for individuals (i.e. on an adult, person-weighted basis). Distribution D3 then includes all wage and salary income of couples (not just that of full-time employees), while D4 describes the distribution of disposable income among couples, after applying the same equivalence adjustment. Finally, D5 describes the conventional income distribution among all income units (not just couples) and makes a more complete equivalence adjustment (that allows for the presence of children), but is still person-weighted. Thus, while all five distributions refer to individuals, the coverage of family members and income sources increases incrementally moving between distributions D1 and D5.

The resulting distributions in 2000-01 are compared in Table 2. The first three distributions, which cover only wage incomes, are similar and the ‘marrying’ of full-time partners has little impact on wage income inequality (after equivalising), with a slight decline in the Gini coefficient but the Lorenz curves intersect, preventing any clear inequality ranking. Adding in all wage and salary income (D3) causes inequality to rise (mainly because the inclusion of part-time wage incomes adds a set of new low-incomes to the bottom of the distribution). The next distribution (D4) expands the coverage of income beyond wage incomes and leads to a decline in inequality due to the operation of the tax and transfer systems.⁴

The final distribution (D5) is comprehensive in its coverage of the population and the income sources included, and takes account of all family members when applying the equivalence adjustment, although the unit of analysis is still the individual. The degree of inequality in distribution D5 is considerably greater than that in D1 (the

⁴ Distributions D4 and D5 in Table 2 both include a number of negative recorded incomes that have not been excluded from this illustrative analysis. It should also be remembered that re-ranking will take place between the different distributions due to the changes in population and income coverage.

Lorenz dominance condition is satisfied – see Jenkins, 1991), with much of the difference explained by the difference between distributions D4 and D5, when the scope is expanded to include jobless and retired households and the equivalence adjustment allows for the costs of children.

Table 2: Inequality Summary Measures for Alternative Distributions in 2000-01

Distribution	Sample size		Inequality indicators				Gini
	Unweighted	Weighted (*000)	P10	P50	P90	P95	
D1	5,069	5,813.7	400	690	1000	1517	0.280
D2	2,634	3,986.8	425	800	1414	1712	0.272
D3	4,259	8,320.9	380	750	1413	1689	0.293
D4	4,259	8,320.9	386	656	933	1309	0.251
D5	8,400	18,750.3	232	337	651	994	0.341

Notes: See text.

It might seem obvious that changes in the scope of distributional analysis would result in changes in how much inequality is found to exist. The point of the example, however, is to indicate the magnitude of the overall change between distributions D1 and D5. Of greater practical significance is the fact that the distribution of wage incomes among full-time employees (D1) is more equal than the final distribution of economic well-being among families (measured by the distribution D5) and thus that wage income relativities exert an equalising influence on the overall inequality profile. This suggests, more concretely, that the changes associated with further deregulation of the labour market must be analysed not only in terms of their labour market impacts, but also in terms of their wider distributional consequences.

Data issues

Having examined the most recently available income distribution data, attention now focuses on the quality of that data, not only from the perspective of its accuracy at a point in time, but also in relation to its comparability over time.⁵ The inter-temporal consistency of the SIHC (and IDS) data (and that from the Household Expenditure Surveys, HES) in terms of variable definitions, the weighting of the data and its validation against external benchmarks has been the subject of recent research (Siminski et al., 2003a; 2003b). Broadly speaking, the analysis identified significant

⁵ These issues have been the subject of extensive analysis as part of the ARC project C00106830 'Household Income, Living Standards and Economic Inequality in Australia and Its Regions', that has involved researchers at the Social Policy Research Centre with the ABS as Industry Partner (Siminski et al., 2003a; 2003b). The author acknowledges the insights and contributions of his SPRC and ABS collaborators on the ARC SPIRT project on which this part of the discussion draws heavily.

changes in the benchmarking of survey variables against external aggregates that undermines aspects of its inter-temporal consistency. There are also consistency problems with the coverage of some groups, although as Table 3 indicates, the coverage of those employed full-time (but not those employed part-time) has generally been high.⁶

Table 3: Employed Persons: Ratios of Income Survey Totals to Labour Force Survey Totals (percentages)

Survey/year	Males			Females			All Employed persons		
	FT	PT	All	FT	PT	All	FT	PT	All
IDS 82	100.6	70.1	98.7	97.1	101.9	98.8	99.6	94.8	98.7
IDS 86	100.6	111.8	101.3	96.5	107.3	100.7	99.3	108.3	101.1
IDS 90	99.3	90.2	98.6	93.9	103.7	97.9	97.6	100.7	98.3
SIHC 94-95	104.2	82.1	101.8	104.0	91.8	98.8	104.1	89.3	100.5
SIHC 95-96	100.2	103.5	100.6	102.4	100.1	101.4	100.9	101.0	100.9
SIHC 96-97	100.5	90.8	99.4	103.3	92.7	98.7	101.4	92.2	99.1
SIHC 97-98	100.1	100.8	100.2	104.4	93.7	99.7	101.5	95.6	100.0

A key determinant of the reliability of the IDS/SIHC data in establishing earnings inequality trends is the coverage and accuracy of the reported data on wage and salary income. Comparisons of the reported IDS/SIHC data with the corresponding series in the National Accounts (reported in detail in Siminski et al., 2003b) indicates that, at least since 1986, the reported aggregate survey figures for wage and salary income approximate the ANA aggregates.⁷ However, there is a difference between the use of weekly and annual series, with the current survey figures tending to under-state the ANA aggregates by up to 8 per cent, and the annual survey figures tending to over-state the ANA data by up to 5 per cent.⁸ These comparisons thus suggest that the IDS/SIHC data on the wage and salary incomes of full-time workers can be used with

⁶ Further analysis reported in Siminski et al. (2003b) indicates that the coverage of the working-age population in the IDS/SIHC surveys has also been generally high.

⁷ In the initial (1981-82) survey, the wage and salary incomes of the self-employed were included as part of own-business income and not separately identified, preventing a reliable comparison with the later surveys. There is also a specific problem with the wage and salary income data for 1982 that reflects the wording of the survey question in that year. These features explain why 1981-82 has not been excluded from the analysis.

⁸ The difference between the current and annual figures probably reflects the fact that annual wages and salaries include some non-regular overtime and any bonus payments which current income does not, since it is collected as 'usual' receipts from wages and salaries.

a reasonable degree of confidence to examine patterns of inequality and trends over time.⁹

4 Aggregate Wage Inequality Trends

The results presented in this and the following Section have been derived from the CURFs based on the IDS/SIHC surveys conducted since 1986. It is important to acknowledge that a major change in survey methodology introduced in 1995, when a new continuous survey (SIHC) conducted as a supplement to the Labour Force Survey was introduced to replace the previous special survey (IDS) that was conducted over a three-month period every five years or so. There are legitimate concerns about how far this change has affected comparisons that span this change, and these need to be kept in mind.¹⁰

The analysis is restricted to employees aged between 15 –64 years who are working full-time and refers to their total wage and salary income.¹¹ In addition to the standard percentiles P10, P50 (the median) and P90, the 95th percentile P95 has also been included to capture movements in inequality at the top of the distribution, along with a summary measure of inequality, the Gini coefficient. All percentile values have been expressed in real terms, by adjusting nominal values by the CPI.

Table 4 provides a summary of the changes in employment patterns over the sample period, indicating that many of the new jobs are part-time, and have been taken up by women, particularly by married women. Thus, 41.8 per cent of the new jobs created over the period were part-time, with full-time employment increasing by just over 25 per cent over a period of more than fifteen years, or by an average annual rate of 1.6 per cent. Within the full-time employed population, employment grew more than twice as fast among women than men, more strongly among those who were married

⁹ The same cannot be claimed of some of the other income components reported in the IDS/SIHC surveys, where the ABS (2002; 2003) has identified problems with the reported data on welfare benefit incomes and income from own business.

¹⁰ For example, evidence presented in Siminski et al. (2003a) shows that the ratio of the survey to National Accounts estimates of total wage and salary income increased between 1990 and 1994-95 (when SIHC replaced IDS) by around 5 percentage points – potentially enough to explain the observed increase in inequality over this period.

¹¹ An employed (or self-employed) person is defined as working full-time in the IDS and SIHC if they usually work for 35 hours a week or more in all jobs. It has not been possible to restrict the wage variable to that associated with the main job only, so the sample includes those who are working full-time in more than one job, and examines their combined wage income from all jobs.

than those who were single (for both men and women), and more strongly among those with children (for men and women, whether married or single).

Table 4: Changes in Employment by Selected Characteristics, 1986 to 2000-01

Category	1986 (‘000)	2000-01 (‘000)	Percentage change:
Total employment	5,784.1	7,809.1	35.0
Part-time	1,149.8	1,995.4	73.5
Full-time	4,634.3	5,813.7	25.4
Full-time males:	3,156.1	3,706.3	17.4
Single	1,100.7	1,278.2	16.1
- without children	1,073.1	1,231.1	14.7
- with children	27.6	47.0	70.3
Married/Partnered	2,055.3	2,428.1	18.1
- without children	752.1	972.3	29.3
- with children	1,303.2	1,455.9	11.7
Full-time females:	1,478.2	2,107.4	42.6
Single	722.6	891.0	23.3
- without children	665.1	749.9	12.7
- with children	57.5	141.1	145.4
Married/Partnered	755.6	1,216.4	61.0
- without children	456.7	707.6	54.9
- with children	298.9	508.8	70.2

Source: IDS and SIHC confidentialised unit record files.

The rapid increases in full-time employment among lone parents (male and female) are particularly striking (although the numbers are quite small) given the focus of much of the recent welfare reform debate. The proportion of females in the full-time workforce increased from 31.9 per cent to 36.2 per cent, while the proportion who had children (men or women) increased slightly from 36.4 per cent to 37.0 per cent. These changes in the composition of the full-time labour force explain why work-family balance has emerged as an important issue.

Table 5 summarises the trends in wage and salary income inequality among the entire full-employed population over the period and provides a breakdown by gender. Among all employees working full-time, there has been a marked increase in inequality, as can be seen from the steadily rising percentile increases and in the change in the Gini coefficient by almost one-fifth – a very substantial increase over a relatively short period.¹² The results confirm Borland and Kennedy’s finding that the rise in aggregate wage income inequality is concentrated in the years between 1990

¹² The real percentile declines between 1999-2000 and 2000-01 reflect the increase in the CPI that followed the introduction of the GST. It should be noted that the accompanying reductions in income tax introduced as part of ANTS are not captured in the before-tax variable shown in Table 5.

and 1994-9 (when the switch from IDS to SIHC took place), and it is unlikely that the changes before and since this period are large enough to be statistically significant for men, women or persons.

Table 5: The Distribution of Wage and Salary Income Among Full-time Employees by Gender, 1986 to 2000-01 (\$2000-01)

	1986	1990	1994- 95	1995- 96	1996- 97	1997- 98	1999- 00	2000- 01	% change
<i>All full-time employees:</i>									
P95	1242	1247	1393	1336	1429	1501	1627	1517	22.1
P90	1055	1048	1127	1114	1134	1208	1272	1248	18.3
P50	628	612	638	621	652	659	694	690	9.9
P10	381	380	383	390	385	389	403	400	5.0
Gini	0.234	0.238	0.275	0.266	0.268	0.276	0.281	0.280	19.7
<i>All full-time male employees:</i>									
P95	1347	1372	1509	1502	1598	1648	1787	1714	27.2
P90	1151	1122	1208	1225	1266	1324	1459	1382	20.0
P50	673	649	673	668	685	714	742	724	7.6
P10	414	414	406	390	396	401	419	402	-2.9
Gini	0.232	0.243	0.285	0.281	0.278	0.289	0.293	0.295	27.2
<i>All full-time female employees:</i>									
P95	948	947	1068	1069	1074	1099	1170	1182	24.7
P90	832	838	918	931	934	990	1039	1000	20.2
P50	537	539	580	569	573	599	636	615	14.5
P10	338	349	349	379	370	371	382	400	18.3
Gini	0.203	0.203	0.235	0.219	0.228	0.227	0.238	0.233	14.8

There are marked gender differences in the changes in inequality shown in Table 5. Thus, while male inequality increased very substantially (and the Lorenz dominance condition is satisfied, indicating that inequality clearly increased), the female distribution reveals a more stable pattern of increases across the percentiles (and the Lorenz curves for 1986 and 2000-01 intersect, indicating that there has not been an unambiguous increase in inequality). These gender-specific findings confirm the results reported by Pappas (2001) in showing that male wage inequality was particularly strong at the top end of the distribution, while female wage incomes grew strongly at the bottom end.

The contrast in male and female outcomes shows up starkly when comparing the changes experienced at the 10th percentile, where female wage incomes grew by over 18 per cent, while male earnings declined by 3 per cent. This change virtually eliminated the differential between the earnings of 10th percentile men and women by 2000-01 – a claim that cannot be made of other parts of the distribution, where male

earnings continue to exceed female earnings by a rising margin as one moves up the earnings distribution.

The different experiences of men and women shown in Table 5 appears to contradict the recent claim by Keating (2003: p. 376) that, over the period covered, ‘the change in the dispersion of earnings has been about the same for males and females’. This raises questions about the reliability of the IDS/SIHC data when compared with ABS data on employee earnings and hours (EEH) (ABS Catalogue No. 6306.0) used by Keating and other labour economists to study earnings inequality. It is not possible to provide a direct comparison of the two series because of differences in timing and in the public availability of the EEH data, but Table 6 compares the earnings percentiles by gender for non-managerial full-time employees between 1994 and 2001.¹³

Table 6: Comparing Wage Inequality Changes Among Non-managerial Full-time Employees Using Alternative Data Sources

	1994/1994-95		2000/2000-01		Percentage change:	
	EEH, May 1994	SIHC, 1994-95	EEH, May 2000	SIHC, 2000-01	EEH, 1994 to 2000	SIHC, 1994-95 to 2000-01
Persons:						
P90	1058	1063	1206	1219	14.0%	14.7%
P50	681	609	751	689	10.3%	13.1%
P10	479	383	506	405	5.6%	5.7%
Males:						
P90	1136	1161	1313	1325	15.6%	14.1%
P50	719	644	806	730	12.1%	13.4%
P10	496	402	524	424	5.6%	5.5%
Females:						
P90	941	894	1041	1026	10.6%	14.8%
P50	623	570	686	636	10.1%	11.6%
P10	464	360	490	382	5.6%	6.1%

Note: SIHC = *Survey of Income and Housing Costs*; EEH = *Survey of Employee Earnings and Hours*
Sources: See text.

Although the two series are very similar at the higher percentiles, there are marked differences lower down the distribution, which suggest that there may be some under-statement of wage incomes among low-wage employees in the SIHC.¹⁴ However, if

¹³ The EEH data also refer to adult employees only, defined as being over-21 or under-21 and paid at the full adult rate for their occupation.

¹⁴ In light of the earlier suggestion that the IDS/SIHC may be subject to some under-reporting of wage incomes at the bottom end, the results in Table 5 were re-estimated after removing the lowest 2.5 per cent of reported wage and salary incomes. This had little effect on the estimated changes in Gini inequality, but real earnings changes at the 10th percentile were more marked, with the 2.9 per cent decline for men shown in Table 5 becoming an increase of 2.0 per cent, and the increase for women declining for 18.3 per cent to 12.6 per cent.

this were true, one would expect it to show up in aggregate comparisons of the SIHC and ANA data, but this is not the case, as noted earlier. Despite these differences, Table 6 indicates that the patterns of percentile earnings changes over the period are similar across the two data sources.

5 Disaggregate Results

It has already been noted that a number of previous studies have found that the patterns of changes in earnings vary considerably between sub-groups of the full-time employed population. In exploring this issue using the SIHC data, attention is focused on those breakdowns where SIHC has a comparative advantage over other data sets, i.e. by examining groups classified by age and family circumstances (in addition to gender).¹⁵ A note of caution must be applied to some of these disaggregated results because the sample size is sometimes reduced to around 700 (unweighted) cases, so that the deciles contain as few as 70 observations and some of the percentile values are liable to large sampling errors.

Table 7 presents a distributional breakdown based on age, the working-age population being split into three sub-groups: those aged under-25, 'prime-aged' workers, aged 25-49 years; and older workers aged 50 and over. It is clear that, as expected, earnings levels vary with age, but there is also a strong age pattern to the changes in inequality. In particular, the strong increase in inequality for those aged over-25 is not apparent for the under-25 group, who experienced far more modest real wage gains within the context of a broadly stable distribution.¹⁶ In contrast, full-time workers aged 25-49 experienced higher real wage increases (except at the bottom where real wages fell), and those aged over-50 did even better in terms of wage growth but also experienced the largest increase in inequality.

For the two older age groups, the increase in inequality was substantial - the Gini coefficient rising by almost one-quarter for those aged 25-49 and by more than one-third for those over-50. For both groups, the overall increase was concentrated between 1990 and 1994-95 (as it was for all workers in Table 5). In contrast, for those

¹⁵ Information on occupation is available in the IDS/SIHC data, but there is a change in the classifications after 1996-97 that prevents a consistent series being available for the period covered here.

¹⁶ This finding is consistent with the results reported by Borland and Kennedy (1998) and Pappas (2001).

aged under-25, inequality followed a spasmodic path after 1994-95 but fell sharply in 2000-01 back to the level that existed in 1986. It seems likely that these differences largely reflect the nature of the (full-time) jobs that were available in the youth labour market over the period, rather than any specific features of the determination of youth and younger worker wages – although further analysis is required to establish what factors were at play. Importantly, the results indicate that the real wage income of workers at the 10th percentile aged 25 and over declined overall, particularly in the period prior to 1994-95. These declines stand in stark contrast to the rising incomes of the highest-paid workers and together these divergent trends explain the increase in inequality.

Table 7: The Distribution of Wage and Salary Income Among Full-time Employees, by Age, 1986 to 2000-01 (\$2000-01)

	1986	1990	1994-95	1995-96	1996-97	1997-98	1999-00	2000-01	% change:
<i>Full-time employees aged under-25:</i>									
P95	817	801	871	835	874	879	910	800	-2.1
P90	707	698	706	706	740	742	753	727	2.8
P50	480	470	472	473	473	495	509	500	4.2
P10	262	274	267	257	275	264	276	270	3.1
Gini	0.212	0.202	0.236	0.212	0.219	0.233	0.234	0.214	0.09
<i>Full-time employees aged 25-49:</i>									
P95	1325	1320	1413	1413	1492	1538	1686	1538	16.1
P90	1145	1102	1161	1175	1195	1237	1325	1267	10.7
P50	697	671	695	668	692	714	742	731	4.9
P10	472	449	441	445	437	440	463	450	-4.7
Gini	0.210	0.218	0.257	0.248	0.249	0.261	0.265	0.261	24.3
<i>Full-time employees aged 50 and overs:</i>									
P95	1367	1497	1741	1500	1720	1648	1696	1842	34.7
P90	1123	1171	1267	1225	1254	1319	1417	1428	27.2
P50	651	624	644	668	659	709	742	737	13.2
P10	454	427	389	395	385	418	424	410	-9.7
Gini	0.226	0.261	0.305	0.300	0.301	0.289	0.294	0.306	35.4

The other way in which the distributional trends have been disaggregated reflects the employment status of partners within couples. This issue is of interest in its own right as a factor contributing to overall inequality, but also because it has a bearing on the work-family balance issue that has been at the forefront of the policy debate. In examining this issue, couples where the male is a full-time employee have been disaggregated into three sub-groups: those where the female partner is also a full-time employee; those where the female partner is employed part-time; and those where the female partner is not employed. The distributions of the wage incomes of the *males* in these three sub-groups of couples are shown in Table 8: no account is taken of the

wage incomes of the female partners (where relevant) since our primary interest is in examining whether the employee status of the female partner has any impact on the level (and distribution) of the wage incomes of their male partner.

Table 8: The Distribution of Wage and Salary income Among Full-time Male Employees by the Employee Status of Their Spouse, 1986 to 2000-01 (\$2000-01)

	1986	1990	1994-95	1995-96	1996-97	1997-98	1999-00	2000-01	% change:
<i>Full-time male employees with female spouse a full-time employee:</i>									
P95	1307	1372	1509	1539	1686	1648	1946	1728	32.2
P90	1160	1185	1248	1283	1266	1273	1486	1436	23.8
P50	712	723	714	733	744	769	795	768	7.9
P10	497	486	441	468	462	470	477	475	-4.4
Gini	0.204	0.212	0.272	0.267	0.264	0.246	0.274	0.269	31.9
<i>Full-time male employees with female spouse a part-time employee</i>									
P95	1474	1462	1604	1671	1651	1799	1890	1843	25.0
P90	1279	1246	1377	1408	1319	1562	1590	1478	15.6
P50	759	747	754	780	769	838	846	800	5.4
P10	515	474	464	445	437	459	477	461	-10.5
Gini	0.209	0.224	0.279	0.290	0.275	0.296	0.292	0.294	40.7
<i>Full-time male employees either single or with female spouse not employed:</i>									
P95	1476	1505	1741	1671	1909	1857	2026	2141	45.1
P90	1242	1247	1337	1306	1460	1480	1590	1613	29.9
P50	734	685	734	672	759	760	815	783	6.7
P10	500	451	464	445	462	440	466	455	-9.0
Gini	0.215	0.241	0.284	0.275	0.285	0.315	0.293	0.329	53.0

Male members of all three sub-groups experienced large increases in wage income inequality and although these were concentrated between 1990 and 1994-95 for couples where both worked full-time, the inequality trend continued after 1995 for the other two sub-groups. There are also some marked differences in the level of wage incomes at the same point in the three distributions, particularly at the top end.¹⁷ Thus, for example, while the 95th percentile wage of males with partners employed part-time or not at all were the same in 1986, by 2000-01 a wage income relativity over 16 per cent had opened up in favour of the latter group. One again, employees at the 10th percentile experienced a decline in real wage incomes over the period (mainly in the period before 1994-95) across all three of the sub-groups covered in Table 8.

The disaggregated results presented in Table 7 and Table 8 raise questions about the voracity of the claims of many labour economists that the increase in inequality reflects changes in the structure of labour demand that is driving changes in the composition of employment rather than changes in relative pay rates. Although it can

be argued that the age variations shown in Table 7 are consistent with this explanation because occupations are segmented by age, it seems an implausible explanation for the results shown in Table 8 which show that married male wage income inequality patterns (and changes) vary according to the employment status of partners. These differences suggest that labour supply decisions within the family have also been affecting wage outcomes. If this were true, then it would seem to be the case that growing wage income inequality reflects the impact of both demand and supply forces in an increasingly deregulated labour market.

6 Summary and Conclusions

In announcing its decision to award a \$19 a week increase in the federal minimum wage in its *Wages Safety Net Review* in May 2004, the Industrial Relations Commission noted that ‘all employer parties and interveners opposed the claim’ (Australian industrial relations Commission, 2004, p. 1). This opposition captures the concern that many people have over the likely impact of further deregulation of the Australian labour market, since it suggests that the removal of existing controls would lead to increased inequality, particularly at the bottom end. Increased deregulation would result in less control over the relative incomes of the low-paid and a reduced capacity to meet the needs of the low-paid (Hancock, 1998). Had employers had the power to prevent the safety net increase they would have, from which it follows that further labour market deregulation would create more inequality of wage outcomes. This is an important observation given the important role that wage income inequality plays in moderating the overall distribution of economic well-being (Table 2).

This paper analyses data from the ABS income surveys conducted since 1986 to explore changes in the distribution of wage and salary incomes at both aggregate and disaggregate levels. The great advantage of the SIHC data is that they are available on a unit record basis, are reasonably consistent over time, and the results on changes in wage income inequality can be linked to broader analyses of income distribution. This latter aspect is of particular importance because many of the concerns about labour market deregulation relate to its flow-on effects for the overall structure of inequality.

In line with previous studies, the results indicate that the increase in wage income inequality is concentrated between 1990 and 1995, and there has been broad stability

¹⁷ The differences shown in Table 8 may be compounded with the age effects shown in Table 7 since

in many dimensions of inequality since then. The major exceptions to this trend are full-time married males with a spouse working either part-time or not employed, where there have been modest increases since 1994-95. The Australian labour market is characterised by group wage differences based on gender (Table 5) and age (Table 7), and inequality has followed different trajectories among women and men, as well as among those aged under-25 and over-25. But with the exception of full-time employees aged under-25, all of the distributions examined here display the most rapid increases at the top (90th and 95th percentiles) of the wage income hierarchy.

Contrary to widespread perceptions, not all full-time employees have experienced an increase in their wage income over the fifteen-year period studied. Male employees at the 10th percentile have experienced a decline in their real wage incomes since 1986 (Table 5 and Table 8), as have all 10th percentile employees aged over-25, with the decrease most marked among those aged over-50 (Table 7). For all of the groups examined, the real incomes of 10th percentile employees have increased slightly since 1995-96, but only women have experienced an increase over this period in excess of 5 per cent.

Inequality increased particularly sharply among men employed full-time with partners who are not employed, with the wage incomes of 95th percentile men in this group experiencing a 45 per cent increasing real earnings, while those of 10th percentile of this group of men declined by almost 10 per cent. It is difficult to explain these family status differences in terms of education or experience differentials, which suggests that not all of the observed change in inequality can be attributed to changes in labour demand that have favoured more highly-skilled (and highly-paid) jobs.

Overall, the results suggest that further work is needed before any definitive conclusions can be reached about the determinants of observed changes in wage income inequalities – where the plural is used deliberately to emphasise the need for a better understanding of the disaggregate, as well as aggregate trends. Such research has the potential to make an important contribution to debate over the impact of labour market deregulation.

older men tend to be married to an older cohort of women, who are less likely to be employed.

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