

**THE SUFFERING MIDDLE:
TRENDS IN INCOME INEQUALITY
IN AUSTRALIA
1982 TO 1993-94**

Ann Harding

Discussion Paper No. 21

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NATSEM

National Centre for Social and Economic Modelling

• Faculty of Management • University of Canberra •

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Abstract

This paper compares labour force trends, household composition and income inequality between 1982 and 1993-94, principally using unit record tapes for the two years produced by the Australian Bureau of Statistics. The results suggest that earnings and private income inequality increased during these 11 years. However, increasing progressivity in the income tax system and particularly in the government cash transfer system fully offset this growing market-based inequality. Summary inequality measures suggest that the distribution of disposable (after-tax and transfers) income and equivalent disposable income was much the same in 1993-94 as in 1982. However, this apparent stability disguised real income gains at the top and bottom of the income spectrum and losses for the middle 50 per cent of Australians.

Author note

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General caveat

NATSEM research findings are generally based on estimated characteristics of the population. Such estimates are usually derived from the application of microsimulation modelling techniques to microdata based on sample surveys.

These estimates may be different from the actual characteristics of the population because of sampling and nonsampling errors in the microdata and because of the assumptions underlying the modelling techniques.

The microdata do not contain any information that enables identification of the individuals or families to which they refer.

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1 Introduction

Income distribution issues have attracted enormous attention during the past decade in Australia. For about the past five years, analyses have typically been confined to the period 1981-82 to 1989-90 because comprehensive sample survey unit record data were available for this period from the Australian Bureau of Statistics (ABS) (see, for example, Harding 1996 and Saunders 1993a). A welcome development during the last half of 1996 was the release of the 1993-94 household expenditure survey unit record tape by the ABS.

This paper examines trends in current weekly income inequality between late 1982 and 1993-94, based on the ABS 1982 income survey and 1993-94 household expenditure survey unit record tapes.¹ A number of amendments were made to both of these surveys to make them more comparable and these, plus further details about the study and methodology, are described in appendix A. While every effort has been made to make the scope and other characteristics of the two surveys comparable, it is possible that some differences still exist.

It should be noted that the focus of this analysis is cash incomes. While there have also been major changes in the public education, housing, health and community services (most notably the introduction of Medicare in 1984) during the past decade and a half, these changes in the 'social wage' are not canvassed in this paper. Similarly, neither the tax base broadening nor the future benefits of increasing superannuation due to the wage-superannuation tradeoffs of the 1980s are captured.

2 Labour force and earnings trends

One of the key factors affecting income inequality is trends in the labour force. The past 15 years have seen profound changes in the labour market, with the demise of the traditional assumption that male

¹ In the 1982 income survey, households were sampled between September and November 1982, while in the 1993-94 household expenditure survey they were sampled at some point during that financial year.

'breadwinners' would work full-time for the whole of their working lives, while their wives would remain at home with the children.

As a society, Australians were apparently working more than ever by the mid-1990s. The proportion of all Australians aged 15 years and over participating in the labour market increased from 60.8 per cent in November 1982 to 62.8 per cent in 1993-94. (Figures in this section are from the ABS *Labour Force* series.) This overall average, however, disguised a 3.8 percentage point fall in the male labour force participation rate during the period and a 7.6 percentage point increase in the female rate (to 73.7 and 52.2 per cent in 1993-94 respectively). These changes reflected structural changes in employment, with the decline of traditional male blue-collar and manufacturing jobs and the growth of such sectors as community services, wholesale and retail, where more women are employed. The rapidity of the changes for males aged 50-65 years was particularly startling, with the proportion of males aged 50-55 years in full-time jobs falling from 83 per cent in November 1982 to 74 per cent in November 1993 (for those aged 55-59 years the comparable figures are 71 to 59 per cent). There has also been a shift towards self-employment during the 1980s and 1990s.

The apparent rise in the labour force participation rate also disguised a 2 percentage point fall in the *full-time* participation rate and a 4 percentage point rise in the *part-time* participation rate. As a result, by August 1993, 24 per cent of all employees worked part-time, up from 17 per cent ten years earlier. Casual employment (which may be full-time but is more usually part-time, and which does not attract sick or holiday leave) also grew, from 16 per cent in August 1982 to 22 per cent ten years later. As the Department of Social Security (1993, p. 7) notes: 'around one in five Australian employees work variable hours and do not have security of employment or leave entitlements'.

Unemployment has also increased markedly during the past two decades, rising rapidly during recessions and falling much more slowly during the subsequent recoveries. Unemployment stood at 10.5 per cent in 1993-94, substantially higher than the 8 per cent prevailing in November 1982 (when unemployment was just starting to climb because of the 1982-83 recession). Equally significantly, the proportion who were long term unemployed — that is, who had been unemployed for at least one year — had risen, from less than 20 per cent in 1982 to about 35 per cent in 1993-94.

While these labour market changes were taking place, the industrial relations environment was also evolving. From 1983 to 1987 the Prices and Incomes Accord continued the Australian tradition of highly centralised wage fixation, setting minimum pay rates and offering some financial protection to almost all workers. From 1987 onwards, employees had to increase efficiency to gain pay increases and, since 1991, the wages and conditions of a growing number of employees have been determined through enterprise bargaining. The industrial relations system is thus moving away from the concern with social protection and the 'living wage' that characterised the first three-quarters of this century towards direct bargaining at the workplace level. While the evidence is not yet conclusive, many are concerned that the shift to enterprise bargaining will accelerate the trend towards greater earnings inequality and lower wages for the most lowly paid and disadvantaged (Robertson 1992).

Major changes in earnings inequality accompanied these profound changes in the labour market and the industrial relations system. Considering only male full-time wage and salary earners, there was a striking 5.6 percentage point decrease in the proportion with earnings between 75 and 125 per cent of median (that is, middle) earnings between November 1982 and 1993-94 (table 1 and figure 1). Thus, just over one in every 20 males working full-time 'moved' out of this middle earnings zone, with about two-thirds moving 'down' to jobs paying below 75 per cent of male median full-time earnings and the remaining third moving 'up' to jobs paying more than 125 per cent of median earnings.²

For female full-time wage and salary earners, there was a less pronounced decline in the proportion with earnings close to the relevant female median earnings, and a sharper increase in the proportion with earnings above 150 per cent of the female median full-time earnings (figure 1).

² This colloquial description may not be accurate, as it should be noted that there is debate in Australia about whether there is a 'disappearing middle' or a 'vanishing bottom' (Belchamber 1995). In addition, because of mobility, this and subsequent discussion does not mean to imply that the same people were earning less than 50 per cent of full-time median earnings (or are in the same decile) in the two years under consideration.

The distributional waters were muddied somewhat by the strong growth in the number of part-time employees. Looking just at part-timers, a similar hollowing out of the middle was apparent for female part-time wage and salary earners, but not for male part-time workers. When the picture for all wage and salary earners was examined, a marked decline in the proportion with earnings close to the median was again apparent. The proportion of people earning more than one and a half times the median grew (figure 1).

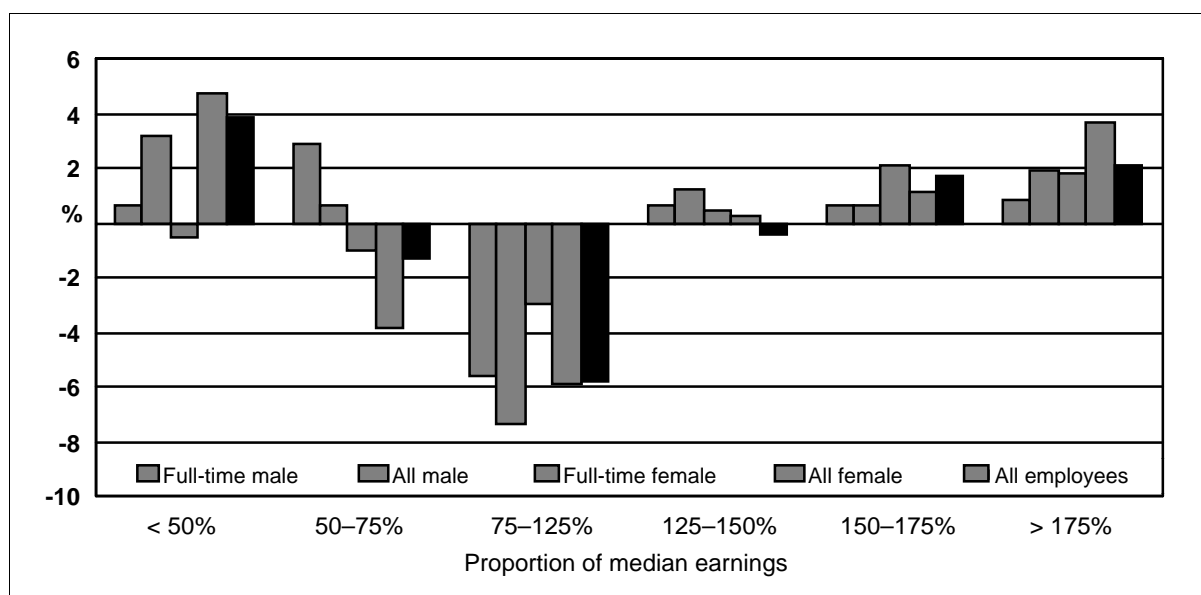
Table 1 Proportion of employees with various percentages of median earnings, November 1982 and 1993-94

Category	<50% of median	50–75% of median	75–125% of median	125–150% of median	150–175% of median	>175% of median	All
	%	%	%	%	%	%	
Males							
<i>Full-time employees</i>							
1982	5.4	14.4	51.5	12.9	6.9	9.0	100
1993-94	6.0	17.3	45.9	13.5	7.5	9.8	100
<i>Part-time employees</i>							
1982	29.4	13.1	15.8	6.9	6.8	28.0	100
1993-94	29.4	11.1	21.5	9.4	9.2	19.3	
<i>All employees</i>							
1982	7.2	13.3	50.4	12.7	7.2	9.1	100
1993-94	10.4	13.9	43.0	13.9	7.8	11.0	100
Females							
<i>Full-time employees</i>							
1982	4.7	13.9	58.3	11.1	7.2	4.8	100
1993-94	4.2	12.9	55.3	11.5	9.3	6.6	100
<i>Part-time employees</i>							
1982	19.6	14.5	30.6	11.8	8.2	15.2	100
1993-94	22.4	13.2	27.6	12.8	9.4	14.6	100
<i>All employees</i>							
1982	14.6	16.2	44.2	11.5	6.0	7.6	100
1993-94	19.3	12.3	38.3	11.7	7.1	11.3	100
All full-time employees							
1982	5.6	14.7	51.5	12.7	6.9	8.7	100
1993-94	5.2	14.8	48.4	13.9	7.9	9.8	100
All employees							
1982	11.6	13.6	45.0	12.8	6.9	10.0	100
1993-94	15.5	12.3	39.2	12.4	8.6	12.1	100

Note: The results are for individuals declaring positive wage and salary income in the two surveys. The median is recalculated for each subgroup of the labour force. That is, the female full-time median is different from that for all employees.

Source: 1982 income survey and the 1993-94 household expenditure survey, as amended by NATSEM.

Figure 1 Percentage point changes in the proportion of employees with different percentages of the median earnings between November 1982 and 1993-94



Data source: 1982 income survey and the 1993-94 household expenditure survey, as amended by NATSEM.

Changes in the *real earnings* (earnings after taking out the impact of inflation) can also be traced. The results in table 2 indicate that real earnings increased on average for full-time employees during the 11 years. Interestingly, female full-time employees experienced higher real wage increases than male full-time employees — a conclusion also confirmed using a different ABS data source, the average weekly earnings series.

Table 2 Real earnings in 1993-94 and change from November 1982 for full-time employees with various percentages of median earnings

Category	<50% of median	50-75% of median	75-125% of median	125-150% of median	150-175% of median	>175% of median	All
	\$	\$	\$	\$	\$	\$	\$
Males							
1993-94	195	382	565	795	940	1 451	657
Change from 1982	-3	14	15	25	29	203	36
Females							
1993-94	165	321	472	662	785	1 043	528
Change from 1982	-12	34	31	60	66	136	60

Note: The results are for individuals declaring positive wage and salary income in the two surveys. The median is recalculated for each subgroup of the labour force. That is, the female full-time median is different from that for all employees.

Source: 1982 income survey and 1993-94 household expenditure survey, as amended by NATSEM.

The results also suggest that the real earnings of both males and females who earned less than 50 per cent of median full-time earnings for their gender declined between 1982 and 1992-93. For the vast majority of full-time employees, however, real earnings increased. The real dollar increases were highest for those full-time working males and females earning more than 125 per cent of median earnings. In particular, both the percentage and dollar increases were highest for those earning more than 175 per cent of median full-time earnings, amounting to a real increase of about 14 per cent for both males and females. These results thus support other studies that have suggested growing earnings inequality, often allied with real declines in earnings at the bottom end of the distribution and a 'disappearing middle' (Borland and Wilkins 1996; Gregory 1993).

The trend away from full-time jobs in the middle of the earnings distribution, allied with real declines for the most poorly paid and sharp increases for the most highly paid, higher rates of unemployment, and strong growth in casual, part-time and self-employed jobs, all suggest that the distribution of earned income among families is likely to have become more unequal. However, trends in individual earnings are not always reflected in comparable changes in family earnings and, to the surprise of some, the growing labour force participation rate of married women, for example, has led to greater equality of family income (Harding 1995; Saunders 1993b).

Summary measures of inequality such as the Gini coefficient and the coefficient of variation suggest, however, that the inequality of earnings among households did increase between 1982 and 1993-94 (table 3). For example, the Gini coefficient for earnings increased by 0.037 between 1982 and 1993-94, from 0.500 to 0.537. Similarly, the coefficient of variation for wage and salary earnings increased from 0.92 in 1982 to 1.03 in 1993-94, also indicating a rise inequality. The ratio between the earnings of the 90th percentile and the 10th percentile of Australians is not included for earnings, because the 10th percentile of the population when ranked by household earnings receive zero earnings and the measure thus cannot be calculated. (A range of other income measures are included in table 3 and discussed later in this paper.)

Table 3 Estimated summary inequality measures for various household income measures and the concentration coefficient for income taxes, 1982 and 1993-94

Income measure	Gini coefficient (and tax concentration coefficient)			Coefficient of variation		90th decile:10th decile earnings ratio	
	1982	1993-94	Change	1982	1993-94	1982	1993-94
Business and trust	0.889	0.923	+0.034	2.90	4.03	–	–
Investment	0.879	0.891	+0.012	3.62	4.86	–	–
Wage and salary	0.500	0.537	+0.037	0.92	1.03	–	–
Market income	0.417	0.476	+0.059	0.79	0.97	–	–
Gross income	0.354	0.368	+0.014	0.68	0.79	6.6	5.9
Disposable income	0.326	0.320	-0.006	0.66	0.65	5.1	4.6
Before-housing equiv. disposable income	0.276	0.275	-0.001	0.58	0.56	3.4	3.2
Income tax-paid	0.486	0.579	+0.093	–	–	–	–

Note: Market income is defined here as private or 'pre-government action' income, with earnings, self-employment and investment income being the major sources of market income. The Lorenz curves for gross and equivalent income cross (Atkinson 1970), so the related Gini coefficient results are not robust for these two income measures.

Source: 1982 income survey and 1993-94 household expenditure survey, as amended by NATSEM.

As table 4 shows the most affluent 10 per cent of Australians ranked by the equivalent before-housing income of their households (see appendix A) received an estimated 26 per cent of all earned income in 1993-94. Their share had increased by a striking 31 per cent since 1982 when they enjoyed only 19.8 per cent of all earned income. The earnings shares of those in the middle of the income distribution fell, reflecting both labour force and compositional changes (see chapter 5).

Looking at all market income (principally from earnings, investments and self-employment), the most affluent 10 per cent of Australians are estimated to have increased their share of total household market income from 23.3 per cent in November 1982 to 26.8 per cent in 1993-94. Conversely, the share of market income accounted for by the bottom half (in terms of income) of Australians fell by about 4 percentage points to 20 per cent during the same period. Other Australian studies have also found that the inequality of both earned and market (that is, private) income increased during the 1980s and early 1990s (Johnson, Manning and Hellwig 1995; Saunders 1993a).

Table 4 Estimated shares of income and cash transfers received and income taxes paid by deciles of individuals, ranked by equivalent before-housing disposable household income

	Decile of equivalent before-housing Henderson disposable household income										Bottom 50%	All
	1	2	3	4	5	6	7	8	9	10		
	%	%	%	%	%	%	%	%	%	%	%	%
1993-94												
Earnings	0.7	1.9	3.1	5.3	7.9	9.8	12.4	15.0	17.9	26.0	18.9	100
Market income	1.3	2.1	3.4	5.5	7.6	9.8	12.0	14.2	17.4	26.8	19.9	100
Gross income	2.8	4.5	5.1	6.5	8.0	9.6	11.2	13.0	15.7	23.6	26.9	100
Disposable income	3.4	5.3	5.9	7.2	8.5	9.8	11.3	12.9	15.0	20.7	30.3	100
Equiv. before-housing disposable income	3.3	5.6	6.4	7.3	8.4	9.5	10.8	12.5	14.7	21.4	31.0	100
Cash transfers	13.9	21.0	17.1	14.0	11.0	8.2	5.6	4.7	3.2	1.4	77.0	100
Income taxes	0.3	0.9	1.8	3.8	6.1	8.4	10.9	13.3	18.7	35.9	12.9	100
Percentage point change between 1982 and 1993-94												
Earnings	0.2	-0.1	-1.7	-1.7	-1.2	-1.3	-0.4	-0.4	0.4	6.2	-4.5	100
Market income	0.3	-0.3	-1.5	-1.5	-0.9	-0.5	0.1	0.1	0.8	3.5	-3.9	100
Gross income	0.4	0.6	-0.6	-0.8	-0.5	-0.5	-0.3	-0.4	0.1	2	-0.9	100
Disposable income	0.5	0.8	-0.4	-0.5	-0.2	-0.4	0	-0.1	0.2	0.1	+0.2	100
Equiv. before-housing disposable income	0.2	0.3	-0.1	-0.3	-0.2	-0.3	-0.2	0.1	0.3	0	-0.1	100
Cash transfers	-3.4	1.1	3.3	3.3	2.6	-0.2	-1.2	-1	-1.9	-2.6	+6.9	100
Income taxes	0.1	-0.2	-1.4	-1.6	-1.3	-1.4	-1.3	-1.7	-0.7	9.7	-4.4	100

Source: 1982 income survey and 1993-94 household expenditure survey, as amended by NATSEM.

After taking out the impact of inflation, the average Australian faced a \$67 a week decline in real market income between 1982 and 1993-94 (table 5). However, the relative gains or losses differed across the income spectrum. The top 10 per cent of Australians enjoyed after-inflation increases in their market incomes of about \$100 a week between 1982 and 1993-94 (table 5). The bottom 10 per cent also experienced after-inflation increases, of about \$11 a week (due partly to the changing composition of this bottom decile, as the aged moved out and people of labour force age moved in — see chapter 4). The remaining 80 per cent faced falls in their market incomes, after taking out the impact of inflation. This may seem at odds with the earlier findings that real full-time wages increased during this period. Part of the reason seems to lie in the declining number of full-time earners in these households. (While real earnings increased on average for those who were lucky enough to

have full-time jobs, a smaller proportion of Australians held such jobs.) Another part of the reason lies in the declining size of households (see chapter 4).

Table 5 Real income and household characteristics in 1993-94, and changes since November 1982

	Decile of equivalent before-housing Henderson disposable income										All
	1	2	3	4	5	6	7	8	9	10	
1993-94 results											
Earnings	\$43	\$111	\$187	\$319	\$478	\$593	\$748	\$906	\$1 078	\$1 570	\$603
Self-employment	\$36	\$23	\$47	\$52	\$43	\$76	\$78	\$70	\$133	\$205	\$76
Market income	\$93	\$155	\$248	\$399	\$554	\$710	\$871	\$1 030	\$1 270	\$1 948	\$728
Cash transfers	\$144	\$214	\$176	\$144	\$113	\$84	\$58	\$48	\$33	\$14	\$103
Gross income	\$237	\$370	\$424	\$543	\$667	\$794	\$929	\$1 078	\$1 303	\$1 962	\$831
Income tax	\$5	\$14	\$29	\$59	\$96	\$133	\$172	\$209	\$296	\$566	\$158
Disposable income	\$232	\$356	\$395	\$484	\$571	\$661	\$757	\$868	\$1 007	\$1 396	\$673
Equiv. income	\$226	\$376	\$437	\$496	\$568	\$646	\$734	\$846	\$1 000	\$1 455	\$679
Change between 1982 and 1993-94											
Earnings	\$10	-\$15	-\$111	-\$116	-\$83	-\$91	-\$42	-\$44	-\$5	\$344	-\$15
Self-employment	\$1	-\$28	-\$26	-\$38	-\$41	-\$25	-\$37	-\$45	-\$30	-\$242	-\$52
Market income	\$11	-\$37	-\$146	-\$155	-\$122	-\$108	-\$74	-\$89	-\$49	\$99	-\$67
Cash transfers	\$16	\$67	\$73	\$65	\$50	\$21	\$7	\$5	-\$4	-\$15	\$29
Gross income	\$27	\$31	-\$72	-\$90	-\$71	-\$86	-\$66	-\$83	-\$54	\$83	-\$38
Income tax	\$2	-\$3	-\$22	-\$26	-\$22	-\$23	-\$22	-\$28	-\$12	\$151	-\$0
Disposable income	\$25	\$34	-\$50	-\$64	-\$49	-\$64	-\$44	-\$55	-\$42	-\$68	-\$38
Equiv. income	\$17	\$19	-\$0	-\$14	-\$16	-\$13	-\$6	\$7	\$30	\$8	\$3
Household characteristics in 1993-94											
No. of full-time earners	0.43	0.32	0.49	0.72	0.84	1.01	1.21	1.47	1.56	1.64	0.97
No. of part-time earners	0.35	0.28	0.22	0.28	0.43	0.46	0.47	0.40	0.35	0.24	0.35
No. of dependent children	1.88	1.93	1.37	1.56	1.35	1.25	1.07	0.75	0.66	0.47	1.23
No. of people	3.79	3.64	3.31	3.61	3.57	3.50	3.40	3.17	3.03	2.78	3.38
Change between 1982 and 1993-94											
No. of full-time earners	-0.09	-0.17	-0.32	-0.33	-0.32	-0.35	-0.27	-0.25	-0.26	-0.11	-0.25
No. of part-time earners	0.16	0.12	-0.01	0.03	0.17	0.19	0.19	0.11	0.08	0.01	0.11
No. of dependent children	-0.03	0.52	-0.30	-0.16	-0.23	-0.19	-0.20	-0.23	-0.16	-0.16	-0.11
No. of people	-0.08	0.27	-0.56	-0.42	-0.31	-0.41	-0.32	-0.45	-0.39	-0.32	-0.30

Source: 1982 income survey and 1993-94 household expenditure survey, as amended by NATSEM.

3 Changes in the tax–transfer systems and income inequality

The data suggest that, in the eleven years to 1993-94, on average Australians lived in households where after-inflation market incomes fell. One of the factors counteracting this fall for many households — and the growing market income inequality — was the changes in the government cash transfer system during this period. (Cash transfers include payments such as age pension, unemployment benefits, family payments and AUSTUDY.) The Labor government had a strong commitment to social justice which, combined with the perceived need to reduce government outlays, resulted in the two-pronged strategy of tighter targeting of those in greatest need allied with relatively generous increases for those still receiving payments (see Mitchell, Harding and Gruen 1994 for a summary of the reforms).

Tighter targeting involved restricting the categories of the population eligible to receive various types of cash payments, as well as tightening entitlement (principally by imposing assets tests on all the major cash payments and introducing both income and assets tests on the formerly universal family payment). At the same time, real payment levels were increased and payments to groups identified as being in particular need — such as low income families with children and low income private renters — were introduced and/or raised very substantially.

The basic pension rate paid to both singles and couples increased by 12 per cent between December 1982 and December 1993, after taking out the effects of inflation. While younger unemployed did not fare so well, payments to single unemployed people aged 21 years or more increased by 22 per cent after inflation. In contrast, real average weekly earnings for full-time workers increased by only 3 per cent over the same period (table 6).

Even more striking were the changes in the payment rates and the extension of eligibility for low income family payments and rent assistance. In December 1982 only pensioners and beneficiaries received additional payments for their children, and only pensioners, sole parents and sickness beneficiaries renting privately received rent assistance. By the early 1990s the landscape was completely different. The family income

supplement, introduced in May 1983 for low income working families with children, had been amalgamated with the additional pensions and benefits to produce a single payment for all low income families with children. For pensioners and beneficiaries, the after-inflation increase in the child payment rate was a substantial 70 per cent (table 6). For low income working families, the increase in the child payment rate was even more significant, as they were not eligible for the payment in 1982. Similarly, rent assistance was extended after the late 1980s to most unemployment payment recipients and to low income working families with children and the payment structure was revamped so that those with three or more children received a higher rate. As a result, even for the relatively limited number of pensioners and beneficiaries receiving rent assistance in December 1982, the real value of the payment more than doubled. The gains for those not formerly eligible were again very substantial.

These changes have made a profound difference to the income distribution. On average, Australians lived in households where the value of cash transfers increased by \$29 a week between November 1982 and 1993-94, after taking out inflation effects. This gain was not equally spread but heavily concentrated towards the bottom half of the income distribution. The share of total cash transfers received by the most

Table 6 Amounts of and real changes in selected social security payments and average weekly earnings, December 1982 to December 1993

	Dec. 1982	Dec. 1989	Dec. 1993	Change 1982-89	Change 1989-93	Change 1982-93
	\$	\$	\$	%	%	%
Pensioner/allowee couple	128.80	222.70	263.70	5	7	12
Sole parent ^a	83.25	145.60	172.60	6	7	14
Unemployed, under 18 years	40.00	53.55	64.90	-19	9	-11
Unemployed, single 21 years and over	64.40	124.75	143.20	18	4	22
Add. family payment, 1 child under 13 years	10.00	24.00	30.95	46	16	70
Rent assistance, 1 child	10.00	25.00	37.40	52	35	105
Rent assistance, 3 children	10.00	25.00	42.60	52	54	134
Average weekly earnings, all	290.40	451.20	521.50	-6	4	-2
Average weekly earnings, full-time	342.70	553.80	642.50	-2	5	3

^a Includes mothers/guardians allowance.

affluent 20 per cent of Australians halved to only 4.6 per cent in the 11 years to 1993-94, while the share received by the lower half of the income spectrum rose by 7 percentage points to reach 77 per cent of total cash transfers (table 4).

The average after-inflation increase in family payments for the poorest 20 per cent of Australians was \$45.50 a week while, for the next 20 per cent, it was \$23 a week. (This slightly overstates the real increases in family payments as, for some families, rent assistance and payments for children were received as part of their pension in 1982.) The least affluent 40 per cent of Australians received 76 per cent of all family payments in 1993-94. For the most affluent 40 per cent of Australians, real family payments fell, reflecting the income and asset testing of the family allowance as well as the declining proportion of all Australian children in these deciles (table 5).

The real value of unemployment benefits paid also increased substantially in the 11 years to 1993-94, when the unemployment rate was a third higher than in 1982.

These changes in the cash transfer system substantially offset the growth in inequality in market income, according to summary measures of inequality such as the Gini coefficient and the coefficient of variation (table 3). For example, in 1982 the effect of cash transfers was to reduce the Gini coefficient from 0.417 for market income to 0.354 for gross income (market income plus cash transfers) — that is, by 0.063. In 1993-94, cash transfers produced a 0.108 reduction in the Gini coefficient, which was an appreciably greater effect.

What about the income tax system? The top marginal tax rate was cut from 60 per cent in 1982-83 to 46 per cent by 1993-94, and this has fuelled the perception that the taxation system became less progressive (that is, less redistributive towards the poor). However, during the same period the real value of the income-tax-free threshold declined by about a third, and the various thresholds above which higher marginal tax rates became payable were not fully indexed for inflation.³ Table 7 shows the

³ Full-year full-rate social security recipients were protected from the effects of the declining real tax threshold by the introduction of special income-tested tax rebates.

Table 7 Average tax rates paid by taxpayers at various multiples of full-time average weekly earnings in December 1982 and December 1993

Multiple of full-time average weekly earnings	1993 dollar equivalent	Average tax rate	
		Dec. 1982	Dec. 1993
	\$	%	%
0.25 of average weekly earnings	8 353	0	7
0.5 of average weekly earnings	16 705	15	14
Average weekly earnings	33 410	23	23
1.5 of average weekly earnings	50 115	30	29
2.0 of average weekly earnings	66 820	34	34
2.5 of average weekly earnings	83 525	39	36
3.0 of average weekly earnings	100 230	43	38

average tax rates payable by single taxpayers on different proportions of full-time average weekly earnings in December 1982 and December 1993. The story is a reasonably complicated one. For those snared by the falling value of the tax-free threshold, average tax rates increased. Those who were above this threshold and who benefited from the cut in the lowest marginal tax rate saw their average tax rates fall. The vast majority of taxpayers, in the middle of the income distribution, faced no change in the proportion of income they had to pay in tax. Only those who received more than about two and a half times full-time average weekly earnings — less than 2 per cent of all taxpayers — received a substantial tax cut. However, although not captured in these figures, taxpayers on higher incomes were more likely to be affected by the tax base broadening measures implemented during the 1980s — namely, the fringe benefits tax and the capital gains tax.

Summary measures of the progressivity of the income tax system suggest that the net effect of all of these changes was to make the income tax system more progressive in 1993-94 than in 1982 (table 3)⁴. For example, the concentration coefficient increased by 0.093, suggesting an

⁴ It should be noted that income tax paid was imputed for both years (by the ABS for 1993-94 and by NATSEM for 1982). A cautionary note thus has to be sounded as the income tax variable measures the amount of tax that apparently should be paid, rather than the amount actually paid. However, a comparison of the 1993-94 imputed estimates with the 1993-94 taxation statistics produced by the Australian Taxation Office suggested a relatively good match of the two.

increase in taxation progressivity. Another way of checking this is to examine the degree of inequality in disposable income. (Disposable income equals gross income minus income taxes, and so captures the impact on income of both cash transfers and income taxes.) In 1982, income taxes reduced the Gini coefficient by 0.028 when moving from gross to disposable income measures, and in 1993-94 they reduced the Gini coefficient by 0.048 (table 3). Both the Gini coefficient and the coefficient of variation for disposable income were almost the same in 1993-94 as they were 11 years earlier, suggesting no appreciable change in the inequality of disposable income over this period.

The average Australian household was paying the same real amount in income taxes in 1993-94 as in 1982 (table 5). Thus, although aggregate real income tax collections increased, this was due to a rising number of households rather than to an increase in the real income tax paid by each household. Overall, the real disposable or after-tax incomes of the average Australian household in 1993-94 appeared to be about \$38 a week lower than in November 1982. This initially looks like a bad outcome, but the picture is clouded by the far reaching changes in household and labour force structures that took place during those 11 years.

4 Changes in household composition

Either by choice or by circumstance, Australians were living in different types of households in 1993-94. Between November 1982 and November 1993 there was a rise in the number of Australians living in sole parent or couple without children families or living by themselves. Conversely, the number of single Australians sharing accommodation with others and the number of Australians living in couple with children families fell (Harding 1995, p. 3). As a result of these trends, households became smaller, with an average of 3.38 people per household in 1993-94, down by 0.3 people from the 1982 number (table 5). Similarly, the average number of dependent children within each household declined by 0.11 children.

One of the most noticeable changes was the rapid decline in the proportion of Australians in the traditional family consisting of a full-time worker, a nonworking spouse and dependent children. While more

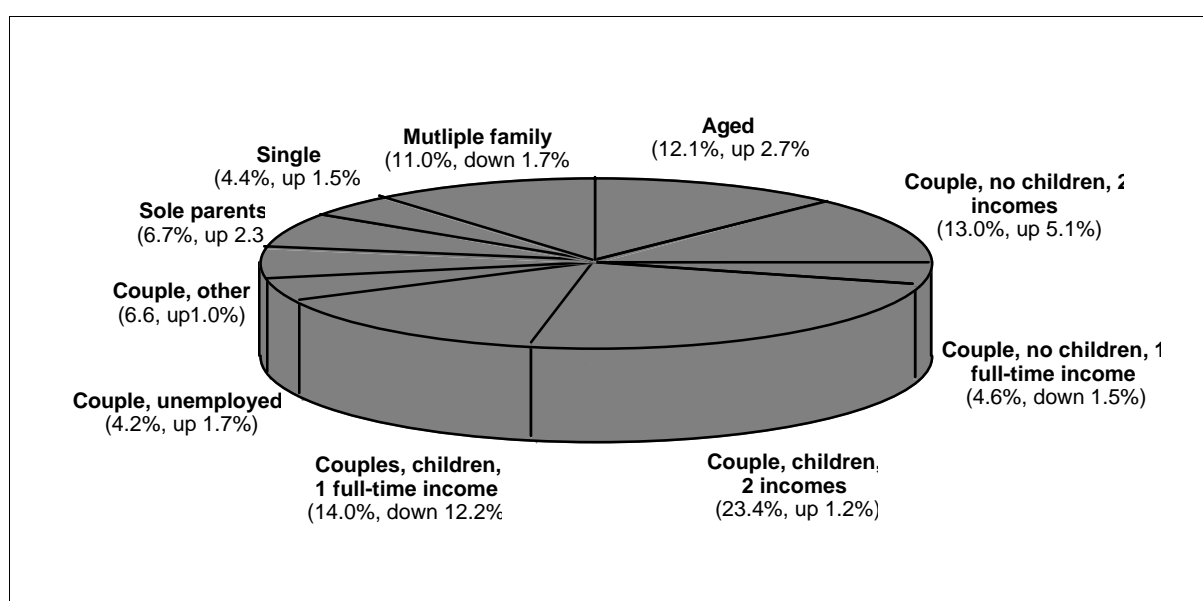
than a quarter of Australians lived in this type of household in 1982, the proportion had fallen to only 14 per cent by 1993-94 (figure 2). There was also a fall in the proportion of Australians living in multiple family households and in households of single income couples without children.

Other household types increased commensurately. The most significant change was in the number of Australians living in two income couple households without children, whose numbers almost doubled to reach 13 per cent of the total. There was a 1.5 percentage point increase in non-aged single adult households (up to 4.4 per cent), while the ageing of the population was reflected in the increase in the proportion of households with a head above age pension age, to 12.1 per cent of the total.

The proportion of Australians living in sole parent households rose by just over 2 percentage points, to reach about one in every 15 Australians. Couples both with and without children where one or both partners were unemployed also grew, reaching 4.2 per cent of the total in 1993-94.

These changes in household types were not spread evenly across the income distribution and had a major impact on income inequality. Figure 3 shows the types of households of the poorest 10 per cent of Australians ranked by equivalent before-housing disposable household

Figure 2 Proportions of Australians in different household types in 1993-94 and percentage point changes since 1982

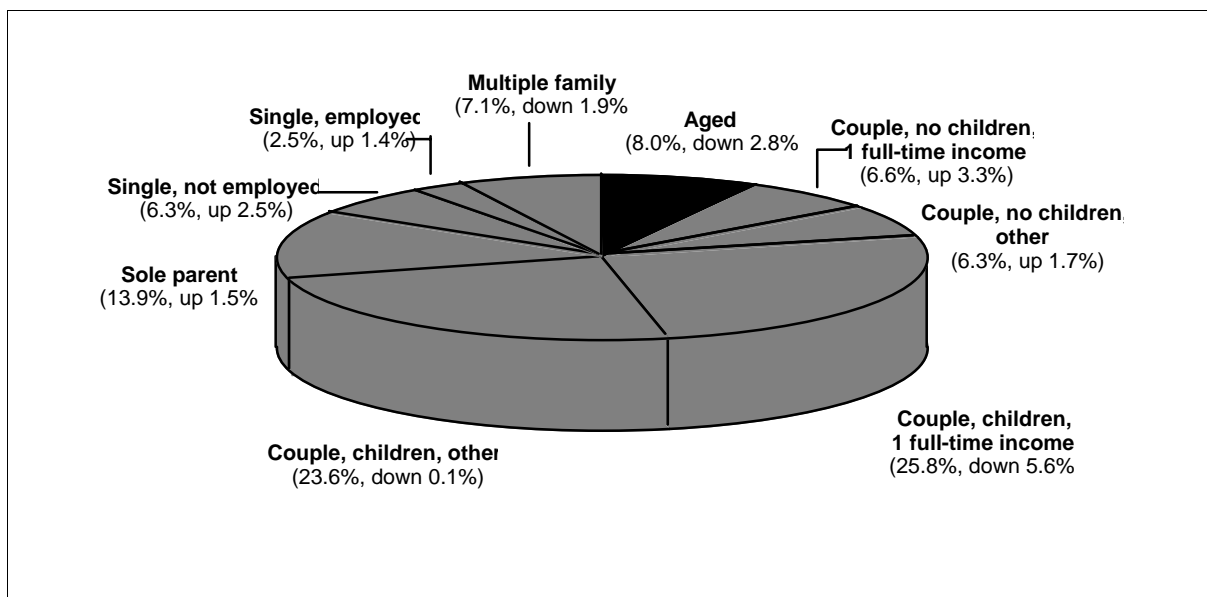


Source: 1982 income survey and 1993-94 household expenditure survey, as amended by NATSEM.

income in 1993-94 and the percentage point changes since 1982. Reflecting the increases in family payments and their rapid extension to working families with children, the proportion of Australians living in couple with children households in this bottom decile had declined by almost 6 percentage points to 49.4 per cent by 1993-94. Those couple with children families remaining at the bottom were almost equally split between families where at least one parent worked full-time and those where neither parent worked full-time (for example, one or both parents were unemployed, working part-time or not in the labour force). Despite the encouraging drop in their representation at the bottom of the income spectrum, couples with children remained the largest group within the bottom decile.

As figure 3 indicates, the number of people living in households with an aged head had also declined, by almost 3 percentage points. (There was an even more pronounced fall for the next decile, reflecting the move of the aged out of the bottom and into the lower to middle part of the income distribution.) Their place was largely taken by the working poor and the unemployed — both couples and singles, but without children. These changes appear to be one of the factors underlying the above-average increases in earnings and disposable income for this decile (table 5). This decile experienced a below-average fall in the number of full-

Figure 3 Proportions of the least affluent 10 per cent of Australians in different household types in 1993-94 and percentage point changes since 1982



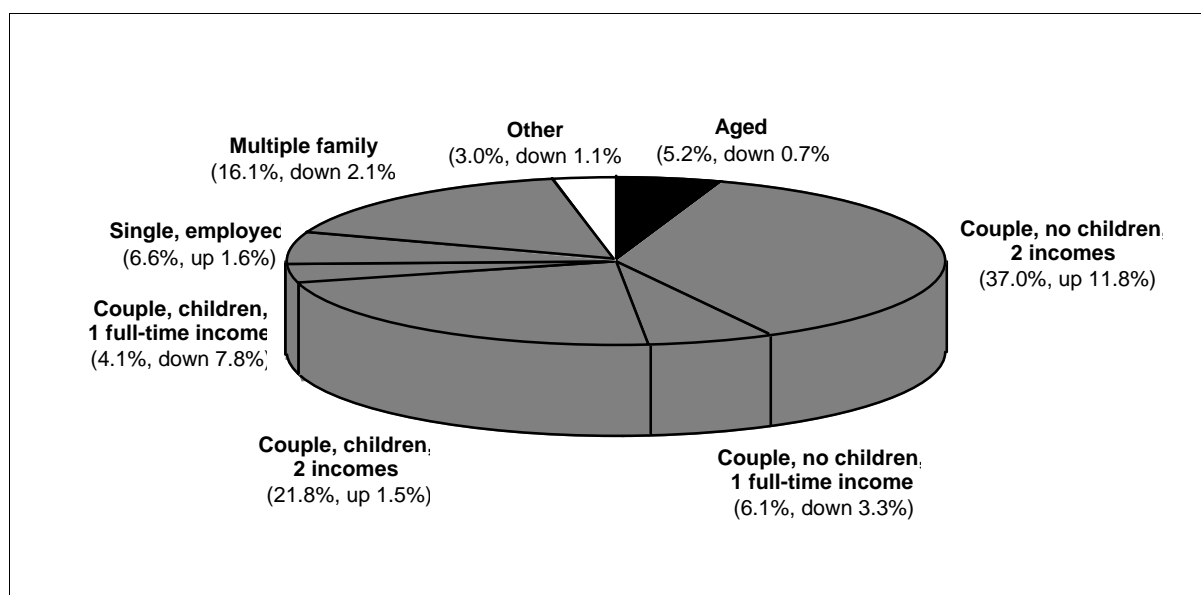
Source: 1982 income survey and 1993-94 household expenditure survey, as amended by NATSEM.

time earners and an above-average increase in the number of part-time earners between 1982 and 1993-94. This suggests that, while the non-working aged moved out, those with low wage full-time and part-time jobs moved in. In addition, presumably reflecting the impact of the 'active society' approach and the Jobs, Education and Training Scheme for sole parents, the proportion of sole parents who were out of the labour force in the bottom two deciles declined because many took on part-time employment.

At the top end of the income distribution, people in households of two income couples without children displaced other groups, particularly single income couples with children (figure 4). About 37 per cent of Australians in the top decile in 1993-94 were in households of two income couples without children, with a further 22 per cent in households of two income couples with children. As a result, both the average household size and the average number of dependent children at the top end of the income scale were well below the averages for all Australian households. For example, households in the middle of the income distribution on average contained almost three times the number of children and about a third more people than top decile households (table 5).

In the middle ranges of the income spectrum were the aged, early

Figure 4 Proportions of the most affluent 10 per cent of Australians in different household types in 1993-94 and percentage point changes since 1982

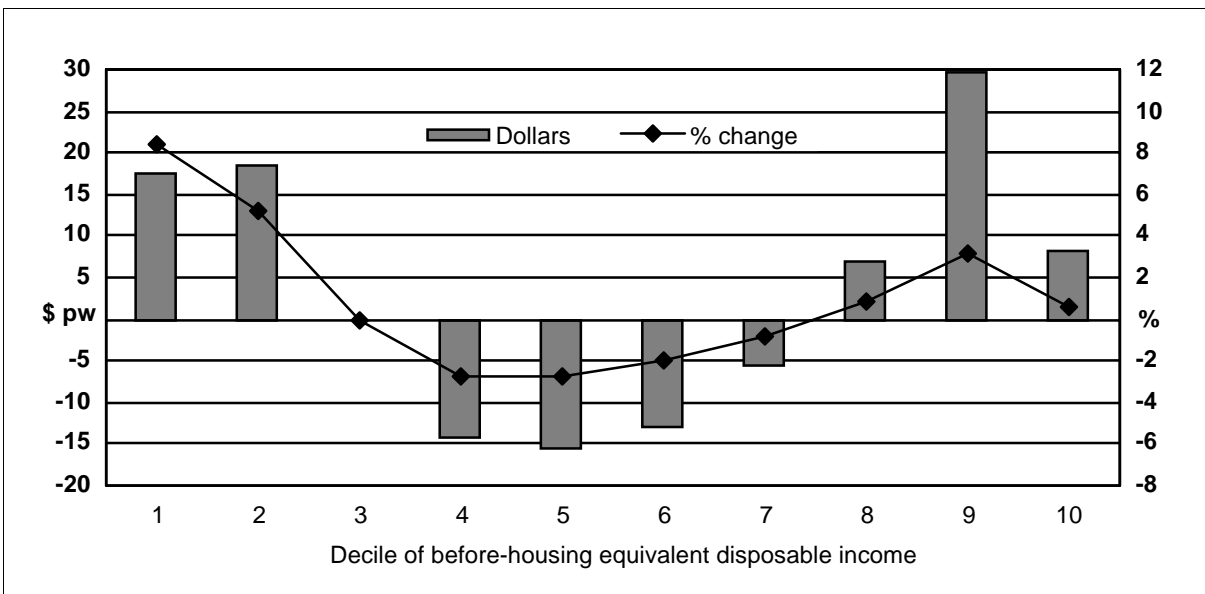


Source: 1982 income survey and 1993-94 household expenditure survey, as amended by NATSEM.

retirees, single people, and single and two income couples with and without children. Despite the growing number of two income households, households in the middle of the income distribution showed above-average decreases in the number of full-time earners, the number of dependent children and the number of people within the household (table 5).

All of these changes in household composition greatly increase the importance of taking account of the needs of households when attempting to analyse trends in income inequality. This is typically done by adjusting the income of a household by an equivalence scale, which takes account of the number and the characteristics of people dependent on that income. After adjusting household disposable income for the needs of each household, using the Henderson equivalence scales, summary inequality measures indicate that there was no change in needs-adjusted or equivalent household income during the 11 years under examination in this study. Thus, the Gini coefficient for 'before-housing equivalent disposable income' shown in table 3 shows no appreciable change between 1982 and 1993-94. However, the \$38 a week real decline in disposable household income mentioned earlier was transformed into a \$3 a week real gain in equivalent income in the 11 years to 1993-94, after account was taken of the smaller number of

Figure 5 **Average real dollar and percentage changes in equivalent household disposable income between 1982 and 1993-94, for individuals ranked by decile of household equivalent income**



Source: 1982 income survey and 1993-94 household expenditure survey, as amended by NATSEM.

people to be supported by that income (table 5).

Once again, the overall picture of no change on average disguised divergent trends of deciles. The gains in equivalent income made by the top 30 per cent and bottom 20 per cent of Australians were counter-balanced by the losses experienced by the middle 50 per cent of Australians (figure 5).

In summary, using the most sophisticated measures of cash income available from the relevant ABS surveys, it appears that the rich got richer but the poor did not get poorer. Instead, it was the middle who lost ground.

5 Summary and conclusions

The latest available evidence from large scale ABS sample surveys suggests that the inequality of earnings, among both individuals and households, increased between 1982 and 1993-94. When added to labour force changes — such as the rise in unemployment and in part-time and casual work — this produced a higher degree of inequality in market income by the mid-1990s than at the beginning of the 1980s.

However, this growing inequality of income produced by the market was offset by changes in the income tax and cash transfer systems. Changes in the cash transfer system were particularly important. After taking out the impact of inflation, the cash transfers received by the average Australian household rose by 40 per cent. In addition, the strong emphasis on targeting those in greatest need meant that cash transfer payments were redistributed away from higher income households. Increases in family payments were especially significant for the half of the population with lower incomes, and helped to counteract the effects of lower wages and disappearing full-time jobs.

The income tax system also became more progressive during this period, even though the extent of that change was understated within this analysis as the effects of some of the base broadening measures were not captured.

Overall, therefore, while some features of the policies followed during these years would still be strongly criticised by many welfare groups (for example, the decline in real payments to the young unemployed), the overall distributional outcomes appear relatively stable. While market income inequality has increased in Australia, this is also true of most OECD countries (Smeeding and Gottschalk 1995, p. 16). This suggests that many of the forces producing rising earnings and market income inequality cannot be directly controlled by any Australian government, but are the product of such factors as the increasing globalisation of economies and structural change. Changes in demographic and family structures also appear to be making some contribution to rising market income inequality (Harding 1995; Smeeding and Gottschalk 1995, p. 24).

On the other hand, overseas evidence suggests that government responses to the rising inequality being produced by the market can make a substantial difference to whether *disposable* (post-tax and post-transfer) income inequality also increases or decreases (Smeeding and Gottschalk 1995, p. 23). This certainly appears to be the case in Australia for the 11 years to 1993-94, when the tax-transfer systems apparently offset the growth in market income inequality and when new programs such as family payments and the Jobs, Education and Training Scheme for sole parents appear to have had an impact on income.

Previous studies of income distribution trends during the 1980s have suggested that the rising progressivity within the tax-transfer systems was not sufficient to offset growing inequality in market incomes, resulting in a more unequal distribution of income at the end of the 1980s than at the beginning (Harding 1996, p. 286; Nevile 1995; Saunders 1993a). In contrast, this study, which spans a longer period, indicates that the changes in the tax-transfer systems (particularly the cash transfer system) appeared sufficient to fully offset growing inequality of market incomes, resulting in little change in the aggregate distribution of disposable income and equivalent disposable income (income after adjustment for need) during the 11 years. (A recent study using micro-simulated data for the period 1982-94 also concluded that market income inequality increased during this period, but that changes in the tax-transfer systems and non-cash benefits resulted in falling inequality once more comprehensive income definitions were used (Johnson, Manning and Hellwig 1995).

However, the lack of change in the *overall* disposable income inequality measures disguised substantial movements *within* the income distribution. Increases in the share of equivalent income for the bottom 20 and top 30 per cent of Australians were counterbalanced by real falls for the middle 50 per cent of Australians.

Rather than looking at how overall income is distributed between different groups, an equally relevant question is whether income increased or decreased over the 11 years ended 1993-94. After taking full account of inflation, there were declines in the market and disposable incomes received by the average Australian household between 1982 and 1993-94. Reasons for this included a drop in the proportion of Australians working full-time and declines in real business and investment income over the period.⁵

Equally importantly, however, there were profound shifts in demographic and family structures, with the average household size falling and a decline in the average number of dependent children within each household. There were also major shifts in households within the income distribution, with aged households moving up the income spectrum and unemployed and single person households moving down. Once these changes were taken into account by using an equivalent income measure there appeared to be almost no change in the average household real income during the 11 years. The sharp contrast between the equivalent and unadjusted income measures underlines how misleading the results can be in studies of income inequality trends that do not take account of changes in household size and composition. One of the key conclusions to emerge from this study was that the rapid pace of social, family and labour force change has had a profound impact on income distribution.

Once again, while the *average* equivalent household income did not appear to change during the 11 years, the picture varied for those at

⁵ During the 11 years both real household disposable income per person and real GDP per person increased. Part of the reason for the differing picture presented by these measures and the ABS household surveys lies in the more restricted income definition used in the income and expenditure surveys. For example, a large and rapidly growing component of household disposable income per person is the income of superannuation funds, and imputed rent on owner occupied homes is also included. Both of these are excluded from the income measures collected in the ABS household surveys.

different points within the income distribution. The real after-tax incomes of the bottom 20 per cent of Australians, after adjustment for the needs of their households, rose during the 11 years by more than \$15 a week. Similarly, the real needs-adjusted incomes of the top 30 per cent of households rose by a similar amount. The 40 per cent of Australians in the middle of the income distribution, however, faced a \$12 a week decline in their real needs-adjusted incomes during the 11 years.

There are a number of important caveats to these conclusions. First, while every effort has been made to make the 1982 income survey and 1993-94 household expenditure survey comparable, there may be remaining differences.

Second, because of concerns about the feasibility of producing comparable housing costs estimates for the two surveys, this study uses before-housing costs measures of income. While many other analysts differ, the author's preference is to compare the disposable incomes of households after they have met their housing costs. Real housing costs increased sharply during the 11 years, and an after-housing measure might lead to different conclusions about relative winners and losers and about trends.

Third, the study did not include the impact of non-cash benefits (such as public health and education services) and real outlays on such services have increased since 1982. The inclusion of such benefits could change conclusions about trends (see, for example, Raskall and Urquhart 1994 and Johnson et al. 1995). The impact of indirect taxes is also excluded (Warren 1992), as well as the plus side of the wages–superannuation tradeoff.

Fourth, the impact of the tax base broadening measures of the 1980s (capital gains tax and fringe benefits tax) are not captured in the estimates of income taxes paid, but consequent behavioural changes might underlie some of the apparent growth in incomes at the top end.

Finally, results in these studies are often greatly affected by the beginning and end points of the period considered, with factors such as the timing of tax cuts, social security increases or strong real wage growth making a difference to the results.

Appendix A Data and methodology

Current weekly income is the income variable used in this study, with the definition of income including cash income sources such as wages, salaries, investment and self-employment. Income taxes were imputed onto the 1982 income and housing survey by NATSEM and onto the 1993-94 household expenditure survey by the ABS. Capital gains taxes are not included in the estimates of income tax paid in these surveys. No one has yet attempted to impute both assets and then capital gains taxes onto such surveys. Consequently, it is important to appreciate that none of the current studies of trends in income distribution in Australia take account of the tax base broadening that occurred during the 1980s and that particularly affected high income earners.

A decision had to be made about how widely income is assumed to be shared between individuals. The income unit used in this study is the household, which consists of all individuals living together as a single unit in the sense that they have common eating arrangements. This definition is thus broader than the standard family or 'ABS income unit' definition, which has been used in most studies of income inequality. The only difference between the family and household income unit definitions is multiple family households. These are typically single unrelated adults sharing accommodation, but may also include, for example, families with lodgers. Typically, the household income distribution is less unequal than the family or 'ABS income unit' distribution.

After the income unit was defined, a judgment was made about whether to attribute income to the income unit or to each individual within that income unit. (Essentially, this is a choice about whether to weight the results by household size.) To ensure that the inequality measures are not biased by changes in household size, the estimates in this paper ascribe to each individual in a household the characteristics and income of their household, following the approach recommended by Danziger and Taussig (1979, p. 374). The estimates thus deal with individuals, not households. When deriving the inequality measures, the household weight was multiplied by the total number of people in the household (including any children aged less than 15 years). A household of six was thus given three times the importance given to a household of two when calculating the aggregate inequality measures.

When measuring changes in inequality (and poverty), one of the things to determine is whether the *distribution of income relative to need* has become more or less unequal. By ranking all individuals by the total cash income of their household and then drawing conclusions about who is 'rich' and who is 'poor', for example, it is implicitly assumed that those with the same total income enjoy the same standard of living. Thus, it is assumed that an individual with a family income of \$50 000 enjoys the same standard of living as a couple with six children with a family income of \$50 000. Most people would be unwilling to make such an assumption, but the problem is how to put families of varying sizes and composition on an equal footing, so that a more accurate estimate can be made of who is well-off and who is struggling.

One standard method is to use equivalence scales, which estimate how much more (or less) income families with various characteristics require to achieve the same standard of living as a 'benchmark' family. This analysis uses the simplified Henderson equivalence scales, which assume that the standard nuclear family of an employed male, a non-working spouse and two children require 88 per cent more income than a single employed person in order to have the same standard of living. The Henderson scales have been extensively criticised in recent years, partly because the relativities between different family types are based on 1954 New York expenditure data and it is not clear whether they accurately reflect the relative needs of Australian families today or, indeed, ever did (Mitchell and Harding 1993, p. 404). However, these scales have the advantage of allowing for the additional costs faced by those who work. Other commonly used equivalence scales, such as the OECD and Whiteford scales, allow costs to vary in line with only the number of adults and children in the family. During times of rapid labour force change it is possible that the use of these simpler scales might bias the assessment of changes in income distribution.

There are a number of possible variants of the Henderson scales, and the results can vary greatly depending on the approach used. One key decision is whether to use a 'before-housing' or 'after-housing' costs approach. In the former approach, the total cash incomes of families (after the payment of income tax) are adjusted by the Henderson before-housing equivalence scales. In the latter approach, the housing costs faced by each family are deducted from their disposable cash income, and the resulting figure is adjusted by the Henderson after-housing scales. There are arguments for using both approaches. Use of the after-

housing approach can be criticised on the grounds that home purchase represents a form of saving and that many families choose to incur high mortgage repayments. On the other hand, the aged have much higher rates of home ownership — and thus lower housing costs — than many other types of families. As a result, the before-housing approach systematically understates their standard of living when compared with the after-housing approach. It can thus be argued that the after-housing approach provides a clearer picture of the resources available to families after meeting their housing costs. However, as described below, it has not been possible in this study to use an after-housing approach.

In using the Henderson scales in this study, it has been assumed that the unemployed face the same costs in searching for work as the employed incur in undertaking employment. This is consistent with the practice recommended by the original Poverty Commission in the 1970s. Adults who are not the head, spouse or dependent children have been assigned the same equivalence scale value as spouses, the amount depending on their labour force status.

As noted earlier the results in the paper are derived from the 1981-82 income and housing survey and the 1993-94 household expenditure survey unit record files. (This study uses the first version of the 1993-94 household expenditure survey released by the ABS. Later versions correcting minor errors have since been released, but a check indicated that using the corrected versions made no appreciable difference to the results.) Analysts normally shy away from comparing the income and expenditure surveys, although it is not clear that the expenditure surveys provide less accurate income information than the income surveys. One possible alternative would have been to compare the 1984 and the 1993-94 household expenditure surveys. However, in the earlier of these two surveys the 'amount of income tax paid' is that recorded by the household as being paid, while in the latter survey it is the imputed amount of tax that should have been paid based on the individual's income and family characteristics. Earlier experience with recorded and imputed income tax data in the 1985-86 income survey suggested that the two methods can make a major difference to estimates at the bottom end of the income distribution. As the 1984 survey is available on only a household basis, it is not possible to impute income taxes paid to make it more comparable with the 1993-94 data. In addition, there are other differences between the two expenditure surveys (such as the treatment

of negative business income). And, of course, a shorter period would be covered than in this analysis.

For all of these reasons, the decision was taken to use the 1982 income and housing survey and the 1993-94 household expenditure survey for this analysis. However, considerable work was undertaken to make the two surveys more comparable.

1. The household expenditure survey sampled only people in private dwellings (including those whose usual private dwelling was a caravan park). The income survey sampled people in private dwellings and non-institutional dwellings from the 'special dwellings' group (namely, flophouses, licensed hotels and motels, boarding houses, religious and educational institutions, aboriginal settlements, caravan parks and camping grounds). To make the scope comparable all income units with the housing tenure type of 'not applicable' were excluded from the income and housing survey sample. This resulted in the exclusion of 212 000 people aged 15 years or more (plus any dependants). A check against census data provided by the ABS suggested that this had made the scope comparable (that is, the data suggested that about 212 000 people aged 15 years or more lived in these non-institutional special dwellings in 1981-82).
2. In the income and housing survey, the incomes of all 15-20 year old dependants were set to zero. To make the household expenditure survey comparable, the incomes of all such dependants were also reset to zero.
3. In the income and housing survey, negative business incomes were set to zero. An examination of the unit record file indicated that negative business and investment incomes were reset to zero before any addition to other income sources such as government benefits. Accordingly, negative business and investment incomes in the household expenditure survey were reset to zero and all total income variables were then recalculated.
4. While much work using the income and housing survey has used the ABS income unit or the family as the income unit, many variables in the household expenditure survey are available only on a household basis. As a result, the income unit used in the income and housing

survey was recalculated as the household, and new total income variables were calculated for the household.

5. According to the ABS, the definitions of business and investment income are comparable in the two surveys. However, the definition of wage and salary income differs slightly. According to the ABS, the household expenditure survey estimate of employee income additionally includes children's wages and salaries and leave loading and income in kind. Children's wages and salaries were separately identified in the household expenditure survey and were thus able to be excluded from the household expenditure survey totals. However, it was not possible to exclude leave loading and income in kind. However, according to the ABS these two income sources together equal less than 1 per cent of employee income. The effect of the difference is thus likely to be very marginal.
6. NATSEM research suggested that the original weights supplied with the income and housing survey did not accurately reflect the characteristics of the population due to differential non-response (Harding 1993). The file was reweighted by NATSEM to November 1993 labour force survey benchmarks. Defence forces are not included in the labour force survey, although they are in scope for both the income and housing survey and the household expenditure survey. Accordingly, they have been left with their original income and housing survey weights. The ABS has weighted the 1993-94 household expenditure survey using a new method designed to overcome the problems with differential non-response, so these weights should not need adjustment.
7. For some purposes, an after-housing measure of disposable income provides a more accurate indicator of living standards than a before-housing costs measure of income (particularly for the aged, who typically have very low housing costs). In the household expenditure survey, intrahousehold payments for housing were excluded to avoid double counting (for example, rent payments made by one member of a household to another household member who was paying a mortgage were not included in the household's total housing costs). In the income and housing survey, on the other hand, the relevant variable is total housing costs of the income unit. In this case the rent paid by one household member might appear as the housing costs of that income unit, while the mortgage paid by the

other household member would appear as their housing costs. Adding the two together to derive the total housing costs of the household would thus overstate the actual housing cost of the household. It might be possible to overcome this in the income and housing survey by resetting to zero board or rent payments made by a child of the household head or rent paid to another person in the dwelling. However, it is not entirely certain whether this solves the problem. For these reasons, the study uses before-housing income measures.

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