

Trends in Income and Wealth Inequality in Australia

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1 Introduction

Inequality has been a hotly debated topic in Australia in recent years. This paper looks at trends in national and spatial income inequality and in wealth inequality. The measurement of income inequality is not straightforward and is highly dependent upon the quality of available data provided in the national sample surveys conducted by the Australian Bureau of Statistics (ABS). These issues have been recently thrust into the spotlight in Australia in the ongoing examination of income inequality. Measurement of wealth inequality is even more challenging, because of the lack of data about the distribution of household wealth in Australia. The results for wealth in this paper rely upon the imputation of wealth by NATSEM onto the ABS income surveys.

2 National income inequality

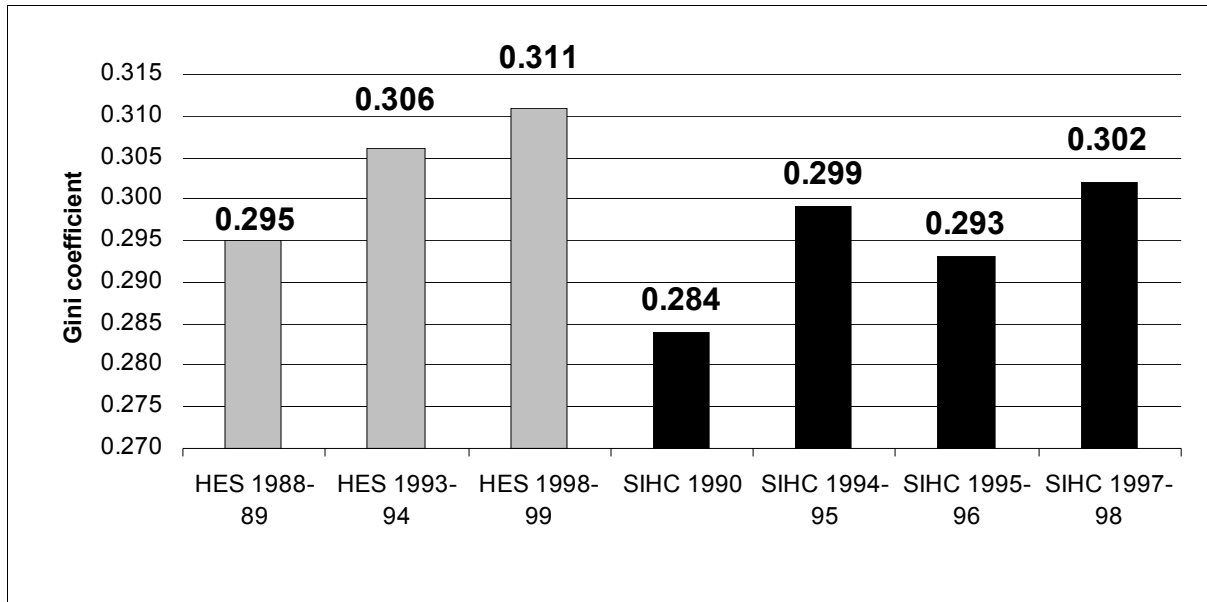
2.1 Methodology

This section uses weekly income data from two sets of national sample surveys undertaken by the Australian Bureau of Statistics to look at income inequality trends in the 1990s. The methodology behind the study is described in detail in Harding and Greenwell (2001) but, in summary, the data sources are the unit record tapes released by the ABS for the Household Expenditure Surveys and the Income Surveys; the income unit used is the household; 'dependent children' means all persons aged less than 18 years living in the household except where the young person lived by themselves, with a spouse, or in a group household; the equivalence scale used is the square root of household size, which is widely used internationally; income is current weekly income; in the later surveys negative business and investment incomes have been reset to zero to maintain comparability with the earlier surveys; the measure of resources is disposable (after-income tax) income, adjusted by the equivalence scale to take into account the needs of households of different size; and the income distribution is determined by a ranking of people by their equivalent household income, so that a household containing five people is counted five times, not once, when calculating inequality.

2.2 Results

One widely used summary measure of inequality is the Gini coefficient, which varies between 0, when income is equally distributed, to 1, when one household holds all income. In general, a higher Gini coefficient is associated with increasing inequality. As Figure 1 shows, data from both the Household Expenditure Surveys and the Income Surveys both suggest that income inequality increased over the course of the 1990s. Thus, the Gini coefficients derived from the Expenditure Surveys increase by 0.016 between 1988-89 and 1998-99, while those derived from the Income Surveys increase by 0.018 between 1990 and 1997-98.

Figure 1 **Comparison of Gini coefficients for equivalent disposable household income from the Expenditure and Income Surveys**



Data source: Harding and Greenwell, 2001.

Another popular way of looking at income inequality is to examine real (inflation adjusted) incomes at different points in the income distribution. Percentile 10, for example, is the equivalent disposable household income of the person at the 10th percentile of the income distribution. According to the Household Expenditure Survey, weekly income at this point has remained fairly stable in real terms, rising from \$393 in 1988-89 to \$410 ten years later (Table 1 and Figure 2). (This is after adjustment for inflation.) Above this point, incomes at the lower middle and middle of the income distribution pick up between the 1993-94 and 1998-99 surveys, after little change over the previous five years. But perhaps the most significant movement is at the top end of the distribution, with the average real incomes of those at the 90th and 95th percentiles of the distribution increasing strongly over the last decade – and apparently particularly in the last half of the 1990s. For example, the left hand column in Table 1 indicates that real weekly incomes at the 95th

percentile have increased from \$1770 to \$2103 over the 10 years to 1998-99 – a 18.8 per cent increase.

This suggests that there has been a growing gap between the top and the middle as well as between the top and the bottom. This is confirmed by the ratios between these various income points, shown in the middle panel in Table 1. Both the 90/10 and the 95/10 ratios have increased markedly over the 10 years to 1998-99. The gap between the top and the middle has also grown since 1988-89 but not by as much, as shown by the lesser increase in the 90/50 ratio over those 10 years. The relative distance between the middle and the bottom has apparently increased in the last ten years, with median income now reaching 2.17 times that of the 10th percentile.

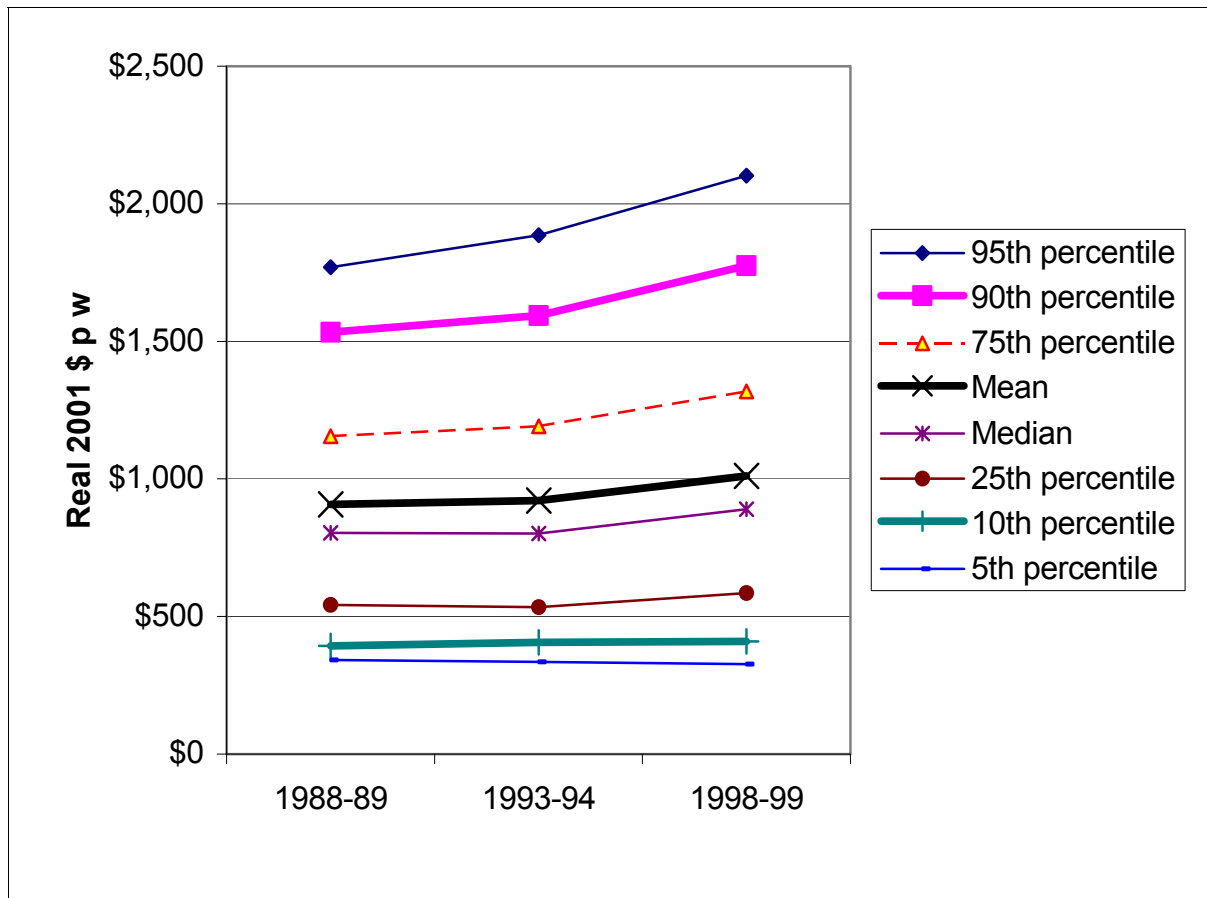
Table 1: Range of indicators of income inequality, Household Expenditure Surveys and Income Surveys, various years

	Expenditure Surveys			Income Surveys		
	1988-89	1998-99	% change 1989-99	1990	1997-98	% change 90-98
Weekly income at particular points in the distribution						
95th percentile	\$1,770	\$2,103	18.8%	\$1,967	\$2,121	7.9%
90th percentile	\$1,533	\$1,775	15.8%	\$1,709	\$1,843	7.8%
75th percentile	\$1,155	\$1,318	14.1%	\$1,326	\$1,390	4.9%
Mean	\$908	\$1,011	11.4%	\$1,025	\$1,073	4.7%
Median	\$804	\$890	10.7%	\$944	\$956	1.3%
25th percentile	\$542	\$586	8.1%	\$624	\$625	0.1%
10th percentile	\$393	\$410	4.2%	\$443	\$449	1.5%
5 th percentile	\$343	\$327	-4.6%	\$364	\$376	3.2%
Ratios						
95/10 ratio (very top/bottom)	4.5	5.13	14.1%	4.44	4.72	6.3%
90/10 ratio (top/bottom)	3.9	4.33	11.2%	3.86	4.1	6.3%
90/50 ratio (top/middle)	1.91	2	4.6%	1.81	1.93	6.4%
50/10 ratio (middle/bottom)	2.04	2.17	6.2%	2.13	2.13	-0.1%
Decile shares						
Bottom 10%	3.2	2.7	-14.7%	3.1	3	-3.1%
Bottom 20%	8.1	7.4	-6.3%	8	7.7	-3.7%
Middle 20%	17.8	17.6	-1.2%	18.3	17.8	-2.7%
Top 20%	37.4	38.2	2.1%	36.1	37.5	3.9%
Top 10%	22.2	22.5	1.3%	20.9	22	5.6%

Note: The income measure is the International equivalent weekly disposable household income of individuals. All incomes have been adjusted for inflation to March 2001 dollars, using the CPI. The 95/10 ratio is the ratio between the incomes of those at the 95th percentile of the income distribution with those at the 10th percentile of the income distribution.

Source: Harding and Greenwell, 2001.

Figure 2: Real incomes at different points in the income distribution, Household Expenditure Surveys, 1988-89 to 1998-99



Note: The income measure is the International equivalent disposable household income of individuals. All incomes have been adjusted for inflation to March 2001 dollars.

Data Source: ABS Household Expenditure Survey unit record files.

Do the Income Surveys tell us the same story about income inequality as the Expenditure Surveys? In comparing the two, we have to keep in mind the slightly different time periods covered. In particular, the Expenditure Surveys cover two additional years, so higher increases in income might be expected given the longer time period.

The Income Surveys tell a somewhat different story about what is happening at various points within the income distribution (Table 1). Relative to the Expenditure Surveys, the Income Surveys suggest that:

- the bottom has fared better;
- the middle has fared worse;
- the top has fared less well than indicated in the Expenditure Surveys.

However, there is still some consistency within the results from the two sets of data, in that the top has experienced larger gains in income than either the bottom or the

middle over the 1990s. It is also important to note that, even after taking out the impact of inflation, both sets of surveys suggest that both the average and median (middle) households enjoyed higher incomes at the end of the 1990s than at the beginning.

The bottom panel of results in Table 1 also presents a third set of measures commonly used to look at income inequality. This is the share of total income received by various groups in the population. For example, according to the Expenditure Surveys, the poorest 10 per cent of the population saw their share of the income pie decline from 3.2 per cent to 2.7 per cent of the total. Similarly, the middle 20 per cent of the population, when ranked by their household income, experienced a marginal fall in their income share, down to 17.6 per cent of the total pie in 1998-99. The Income Surveys also suggest that the middle and the bottom lost ground over the 1990s. Both surveys indicate that the most affluent 10 and 20 per cent of the population increased their share of the pie.

2.3 Labour market and earnings trends

Research on labour market trends suggests that one of the forces producing growing income inequality is the increasing polarisation of work. One recent study found that the proportion of jobless households increased from 14.2 per cent in 1990 to 16.3 per cent in 1997 (Dawkins et al, 2001, p. 9). The same study found that the proportion of all dependent children living in jobless households rose from 11.4 per cent in 1990 to 15.0 per cent in 1997.

At the same time there has been a widening of earnings differentials between workers at the top and bottom of the income distribution (Borland and Kennedy, 1998). And this has been allied with the rise of two income couples, often without children, prompted by the sharp increases in the labour force participation rates of married women and the explosion of part-time jobs. Borland et al thus point to 'the growing polarisation of households into work rich and work poor, with many couples having access to several jobs and working long hours in total, while and increasing proportion of couples have little or no work' (2001, p. 4).

At the same time, the characteristics of households in the bottom income decile appear to have changed substantially over the 1990s. Analysis of the HES data suggested that the proportion of the bottom decile where either the head or the spouse was self-employed remained constant between 1988-89 and 1998-99, at 19 per cent (Harding and Greenwell, 2001). However, the proportion of bottom decile households who were older Australians (defined as those households with a head aged 65 years or more) increased steadily across the three surveys, from 19 per cent in 1988-89 to 24 per cent in 1998-99.

The average number of dependent children in bottom decile households dropped rapidly from 1.45 in 1988-89 to 1.06 in 1998-99 – a drop about four times greater than the 0.1 drop apparent for all households. So, relatively speaking, children moved out of the bottom decile. To some extent, these children were replaced by adults. If we look just at the population who are not dependent children, then the average number per household fell by 0.03 between 1988-89 and 1998-99. But the picture for the bottom decile was very different, with the average number of adults increasing by 0.04.

The story for the number of earners is a little more complex. Suppose we look at the average number of earners in each household, thus including both full and part-time earners. For all Australian households considered together, the average number of earners fell by 0.03 between 1988-89 and 1998-99. The only deciles for which the average number of earners increased were deciles 1, 8 and 10. This same trend is reflected in both average wage and salary income and average earned income received by the bottom decile. While average wage and salary income received by bottom decile households fell by \$13 a week from 1988-89 to 1998-99, this was still a much better outcome than the \$58 to \$85 per week losses sustained by deciles 2 to 4. Similarly, while earned income (i.e. including self-employment income) fell by \$26 a week, this was again very different to the \$77 to \$98 losses of deciles 2 to 4. (Average real 'earned' and 'wage and salary' income increased during this decade for all households, so the losses of the bottom half of the distribution were more than outweighed by the gains of the top half.)

Finally, average government cash benefits received by the bottom decile fell by \$5.60 per week between 1988-89 and 1998-99. This was in sharp contrast to the average increases in government cash benefits for deciles 2, 3 and 4, which ranged from \$76 to \$102 a week. (All dollars here are March 2001 dollars – that is, they have been indexed by the CPI to March 2001).

So, although further exploration is needed, this suggests a significant change in the composition of the bottom decile, with social security dependent families with children moving out, and couples and singles without children and often in low wage full-time or part-time employment moving in. This suggests that perhaps the bottom decile contains more of the working poor without children than it did at the beginning of the 1990s.

3 Spatial inequality

The income inequality trends reported in the previous section are *national* trends, that do not differentiate between those living in different areas of Australia. Whether

there has been an increase in spatial inequality has also been a subject of great interest in Australia, particularly after the early success of the One Nation political party focussed attention upon the fortunes of rural and regional Australia (Pappas, 2001).

The key source of regional information is the five yearly national Census, with early results from the latest 2001 Census being expected later this year. A recent analysis using the 1991 and 1996 Census data (with some adjustments made by NATSEM) suggested growing spatial inequality in Australia, finding a large and growing gap between the incomes of those Australians living in the capital cities and those living in the rest of Australia. The incomes of metropolitan residents increased at about double the rate of those living in major urban centres and regional and rural towns in the five years to 1996 (Lloyd et al, 2000). However, people living in rural areas (not rural towns) enjoyed by far the strongest income increase between 1991 and 1996, reflecting strong agricultural prices over that period.

The picture for regions aggregated across Australia hides the very different experiences of particular States and regions. Income inequality between regions becomes more apparent when the States and Territories are analysed separately. While incomes grew strongly in Sydney and Melbourne between 1991 and 1996, the growth was not as strong in most other areas of New South Wales and Victoria. Both Western Australia and Queensland had strong growth in most regions. In rural South Australia and Tasmania incomes increased substantially, but in other areas of both States real incomes were stagnant or even declined. Overall, South Australia and Tasmania were the only States and Territories where average real incomes declined in the five years to 1996 (Lloyd et al, 2000). These results mirrored those found by the Department of Family and Community Services (1999).

Not only did the income gaps between regions increase in the 1990s, income inequality within regions also increased (see Table 2). The proportion of households in the middle income ranges declined while the proportions in the high and low income ranges rose – evidence again of the hollowing out of ‘the middle’ found in other income distribution studies.

Non-metropolitan areas had a much higher proportion of low income households than did the capital cities and a lower proportion of high income households. The proportion of low income households grew more slowly in the capital cities than in the rest of Australia (except rural areas) during the 1991–96 period, while the proportion of high income households grew more rapidly.

Table 2 Proportion of households with income in given ranges, by region, 1991 and 1996

Income group	Capital cities	Major urban areas	Regional towns	Rural towns	Rural areas	All regions
	%	%	%	%	%	%
Low (under \$15 600)						
1991	18.2	22.3	24.2	27.1	22.9	20.2
1996	20.0	25.0	26.7	30.0	23.3	22.1
Lower middle (\$15 600–36 400)						
1991	31.5	36.0	38.9	43.1	41.3	34.3
1996	30.8	34.7	37.6	40.8	39.9	33.3
Upper middle (\$36 400–78 000)						
1991	37.7	33.7	31.2	26.2	29.3	35.2
1996	35.4	31.7	29.2	25.2	29.4	33.2
High (over \$78 000)						
1991	12.6	8.0	5.7	3.6	6.6	10.3
1996	13.9	8.6	6.5	4.1	7.4	11.3

Source: Lloyd et al, 2000.

An analysis of high and low income local government areas suggested that spatial income inequality increased in Australia between 1991 and 1996. Average household income grew strongly in the most affluent LGAs and declined in the poorest LGAs. Between 1986 and 1996 the share of income received by the 10 per cent of the population living in the most affluent LGAs increased sharply from 13.7 to 15 per cent of the total income pie, while the share of total income received by the bottom 70 per cent declined (Table 3).

Table 3 Share of total equivalent gross household income received by each decile of Australians, 1986 to 1996

Decile	1986	1991	1996
	%	%	%
1 (bottom)	7.44	7.46	7.35
2	8.28	8.17	8.07
3	8.86	8.62	8.49
4	9.17	8.98	8.92
5	9.48	9.36	9.28
6	9.86	9.69	9.60
7	10.41	10.11	10.20
8	10.85	10.81	10.94
9	11.95	12.10	12.19
10 (top)	13.70	14.70	14.96

Note: Individuals were ranked by the equivalent gross household income of the LGA in which they lived.

Data source: Lloyd et al, 2000.

Another possible way of looking at spatial income inequality trends is to use taxation statistics by postcode published by the Australian Taxation Office. Such statistics have been under-utilised by researchers, partly because they only deal with taxpayers who paid income tax (so that very low income earners are excluded from the scope of the statistics). Nonetheless, they provide useful complementary insights to the Census data.

A recent study looking at the five years to 1998-99 also suggested rising spatial inequalities, with average taxable income increasing most rapidly among the 10 per cent of taxpayers living in the most affluent postcodes (Table 4). Thus, while average taxable income rose by 25 per cent over the five years for the top decile, it rose by only 16 per cent for the bottom decile. Although covering a later time period and using a different data source, these estimates are also consistent with growing spatial income inequalities. In other words, it looks as though the income gulf between poor and rich suburbs widened in Australia in the 1990s.

Table 4: Change in average taxable income for taxpayers ranked by the taxable income of their postcodes, 1994-95 to 1998-99

	Deciles of taxpayers, ranked by the taxable income of their postcode									
	Bottom 10%	2	3	4	5	6	7	8	9	Top 10%
1994-95	\$23,399	\$25,092	\$26,136	\$27,025	\$27,822	\$28,646	\$29,723	\$31,050	\$33,170	\$41,652
1998-99	\$27,183	\$29,063	\$30,395	\$31,506	\$32,541	\$33,626	\$34,973	\$36,841	\$39,980	\$52,017
Dollar change	\$3,785	\$3,971	\$4,259	\$4,480	\$4,719	\$4,980	\$5,250	\$5,791	\$6,810	\$10,364
Percentage change	16%	16%	16%	17%	17%	17%	18%	19%	21%	25%

Note: These dollars are not adjusted for inflation or household type (using an equivalence scale).

Source: Harding et al (2002a)

4 Wealth Inequality

While income is a flow, wealth is a stock. Both are important when considering the economic position of Australians. Two Australians with similar incomes might be in very different positions if one owns no assets but the other has substantial assets to draw upon if and when they are in need.

4.1 Methodology

Wealth inequality has received much less attention in the Australian debate on inequality, but this is due at least in part to the lack of good data on wealth (which contrasts sharply with the ready availability of income data). The ABS national income surveys provide details of only one type of wealth – the respondent's estimate of the value of their home and the amount of mortgage outstanding on that home. The surveys do not directly provide estimates of the value of other wealth sources, but instead report the *income* received from such wealth sources (such as interest, rent and dividends). This information has been used by NATSEM to impute estimated wealth holdings for each of the families contained within the survey. For 1986 this utilised the methodology mapped out by Baekgaard (1998) with some later minor adjustments. For 1998 the methodology is described in Kelly (2001). The wealth sources included comprise own home, shares, cash, investment properties, own business and accumulated value of superannuation. Other sources, such as consumer durables and cars, are not included. The discounted future value of the government age pension is also not included within estimates of private wealth holdings.

It must be emphasised that imputing the estimated value of wealth holdings using such capitation methods, whilst a technique frequently employed by researchers in this field (Dilnot, 1990), is nonetheless subject to some degree of uncertainty. In addition, there may be issues of comparability between the 1986 and 1997-98 Income Surveys (Harding et al, 2002b). With these caveats in mind, a recent study by Kelly examined trends in wealth inequality over the 1986 to 1998 period (Kelly, 2001).

4.2 Results

The study showed that while superannuation and home equity are reasonably widely distributed across the entire adult population, this is not true for all assets. Shares are particularly concentrated, with 86 per cent being owned by the wealthiest 10 percent of families (see Table 5). Rental properties, cash deposits and business assets are also highly concentrated in the hands of the rich. The proportions owned by the richest ten percent are 62, 60 and 50 per cent respectively. The end result of

this concentration is that the wealthiest one-tenth of Australian families has an estimated 45 per cent of total household wealth and the top half has 93 per cent of total household wealth. The bottom half of families have only seven percent. Clearly one of the major conclusions, as also found in previous studies, is that wealth is much more unequally distributed than income.

Kelly also examined whether the concentration of wealth had changed over the 1986 to 1998 period, by calculating Gini coefficients for overall wealth and selected assets in 1986 and 1998. The overall wealth figures showed that there had been no change in the distribution of wealth, with the Gini co-efficient being 0.64 in both years (Row 1 in Table 6). This was despite increases in the concentration of wealth held as interest bearing deposits, home equity and net business assets (Rows 3, 4 and 5).

A significant decrease in the concentration of superannuation (Row 6) offset rising inequality in other forms of wealth. Superannuation in 1986 was generally only available to government employees and those employed in some large white-collar industries. This is reflected in the high Gini coefficient for 1986 superannuation of 0.83. Since 1986 two initiatives have greatly increased the coverage of superannuation. The first was the introduction of award-based superannuation in 1986 and second was the introduction in 1992 of the Superannuation Guarantee (SG). The SG extended superannuation cover to almost all employees. The impact of this widespread coverage and consequent wealth accumulation is reflected in the lower Gini coefficient of 0.67 for 1998. If superannuation is removed from the overall wealth calculation, then wealth inequality increased sharply, rising from 0.67 in 1986 to 0.70 in 1998 (Row 2). In summary, the key reason that overall wealth inequality did not increase in the twelve years to 1998 was the Superannuation Guarantee, which offset growing inequality in many other forms of wealth.

Table 5 Estimated Proportion of Income Unit Wealth, by Type of Asset and Wealth Percentile, Australia, June 1998

Decile or Percentile	Proportion of Income Units	Interest Bearing Deposits (%)	Shares and Other Investments (%)	Home (net) (%)	Rental Properties (net) (%)	Business (net) (%)	Super (%)	Wealth (net) (%)
1 st	10	0	0	0	0	0	0	0
2 nd	10	1	0	0	0	0	1	0
3 rd	10	1	0	0	0	0	3	1
4 th	10	2	1	1	0	0	6	2
5 th	10	3	1	4	2	2	7	4
6 th	10	4	1	8	5	3	8	6
7 th	10	6	2	13	6	5	9	9
8 th	10	9	3	16	9	13	14	13
9 th	10	15	6	22	18	27	18	20
10 th	10	60	86	36	62	50	34	45
91-95	5	14	10	15	16	22	12	15
96-99	4	21	25	15	24	27	16	18
100	1	25	52	6	22	2	6	12
Total	100	100	100	100	100	100	100	100

Source: Kelly, 2001

Note: Columns may not sum correctly due to rounding. Note also that the deciles are not the same as in previous tables. In this table income units have been ranked by their wealth, rather than their income. 'Net' means after subtracting mortgages and loans.

Table 6 Estimated Gini Coefficients for Wealth, Australia, 1986 and 1998

Row		1986	1998
1	Wealth (net)	.64	.64
2	Wealth (excluding superannuation)	.67	.70
3	Interest Bearing Deposits	.88	.90
4	Housing (net)	.66	.69
5	Business (net)	.91	.93
6	Superannuation	.83	.67
7	Shares and Other Investments	.99	.98
8	Rental Properties (total value)	.94	.94

Sources: Kelly 2001 and Baekgaard, 1998

5 Conclusions

Looking first at national income inequality, while the results from the two sets of ABS data examined differ in some respects some clear conclusions still emerge. First, income inequality has increased over the course of the 1990s, although it is not entirely clear whether that increase occurred primarily in the first or the second half of the decade. However, all of the inequality measures used suggested growing income inequality for the decade as a whole.

There has been strong growth in incomes at the top end of the income spectrum. Growth in incomes has been slower at the middle and the bottom of the income spectrum. As a result, the gap between the top and the middle, and between the top and the bottom, has increased during the 1990s. There has been a decline in the share of the total income cake going to the bottom 10 per cent and the middle 20 per cent of Australians. This has been offset by the increase in the share of total income going to the top 20 per cent of Australians.

It is not entirely clear how middle Australia has been faring relative to those on the lowest incomes. The Income Surveys suggest that the middle and the bottom have experienced comparable income increases over the course of the 1990s, so that the

relative gap between the incomes of the two groups has remained constant. The Expenditure Surveys paint a different picture and suggest that middle incomes have increased more rapidly than the incomes of those at the bottom of the income spectrum.

There is also some evidence of growing spatial income inequalities, perhaps suggesting an increasing gulf between poor and rich suburbs. Two separate studies using two different types of data both suggested that the most affluent geographic areas had experienced the highest increases in income.

Moving to wealth, the most recent available estimates indicated that there had been no change in the overall concentration of wealth between 1986 and 1998. However, this relatively optimistic conclusion was entirely due to the rapid spread of superannuation to lower income groups over those years, driven by introduction of the compulsory Superannuation Guarantee levied upon employers on behalf of their employees. Such superannuation will help to improve the living standards of those employees upon their retirement in later decades, but might not have the immediate impact upon living standards of some other forms of wealth holding. If superannuation is excluded from the picture, then the inequality of wealth increased sharply over the years to 1998.

Overall therefore, there appears to be increasing evidence that Australians are growing apart. At the national level, income inequality increased during the 1990s. Spatial income inequality also appears to have increased. The concentration of non-superannuation wealth also increased over the 1986 to 1998 period.

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