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**A Growing Gap? Trends in Economic Wellbeing at
the Top of the Spectrum in Australia**

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Abstract

This study shows that there has been rapid change in many of the characteristics of households in the top decile group of the Australian income distribution over the decade to 2005-06. Compared to ten years earlier, the heads of households at the top of the income spectrum are now very much more likely to hold tertiary degrees, be in white collar jobs, be employees, and be home purchasers with a mortgage (rather than outright home owners). They are also likely to be childless and to draw an increasing proportion of their total income from investments. The impact of structural population ageing is now showing up clearly in the composition of the top decile, with a 50 per cent increase in the proportion of top decile household heads that are aged 60 years and over compared with ten years earlier.

While the tightly targeted Australian cash transfer system became even more tightly targeted over the 10 years, with a commensurate decline in the proportion of cash transfers accruing to the top decile, changes in the income tax system favoured high income earners. The average tax rate (showing income tax paid as a percentage of gross income) declined from 29.4 per cent for top decile households in 1995-96 to 25.8 per cent by 2005-06. This was a sharper fall than that notched up by the average Australian household, whose average tax rate fell from 19.6 per cent to 18.3 per cent over the same 10 year period. This shift in the income tax burden away from taxpayers at the top of the income spectrum and towards the remainder of Australia was also confirmed by examining trends in the disposable incomes of a range of 'typical' Australian families. Overall, the slightly faster growth in the 'market' or 'private' incomes of the top decile, allied with the decline in their share of the tax take, resulted in the share of national income accruing to the top decile group increasing over the ten years to 2005-06.

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General caveat

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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

There have been numerous studies in Australia of poverty, financial disadvantage and income inequality over the past decade. From 1995-96 to 2005-06, the Gini coefficient for equivalent disposable household income (person-weighted) increased from 0.296 to 0.307, causing the Australian Bureau of Statistics to conclude that income inequality appears to have risen somewhat, though not 'significantly' (ABS 2007). Over the decade, poverty has also risen slightly, although the actual rates depend on the choice of equivalence scale and poverty line (Saunders and Bradbury, 2006; Harding et al, 2001). While the lower end of the income distribution is repeatedly scrutinised, however, relatively little attention has been paid to the top end of the income spectrum (Leigh, 2009).

The Howard Liberal government was in power from 1996 to late 2007. Over the past ten years or so under the coalition government, there was continuous change in tax and income support policies. One of the most notable features was the sharp increases in the top marginal income tax threshold, up from \$50,000 in 1996-97 to \$95,000 in 2005-06, to \$150,000 in 2006-07 (and \$180,000 from July 2008) (Table 1). Further down the taxable income scales, rather than across-the-board increases in the tax free threshold, the government favoured 'quarantining' increases in the tax free threshold to low income groups and to senior Australians, via income-tested tax rebates termed the Low Income Tax Offset and the Senior Australians Tax Offset (SATO). The SATO was relatively generous and, in 2005-06, for example, an aged couple could receive up to \$62,126 in taxable income before stop being eligible for this offset. At this same income level, a non-aged two income couple without children would have been paying almost \$10,360 a year in income tax (if each of them earned half of the \$62,126).

Another particularly notable trend was the expansion of income-tested cash transfers to families with children, known as Family Tax Benefit Parts A and B. (Part B was essentially paid only to sole parent families or to single earner couple families, while Part A depended upon the combined income of all parents). Figure 1 illustrates how rising real payment rates for Family Tax Benefit Part A, allied with a liberalised income test, extended assistance up to families whose total income reached around twice average weekly earnings.

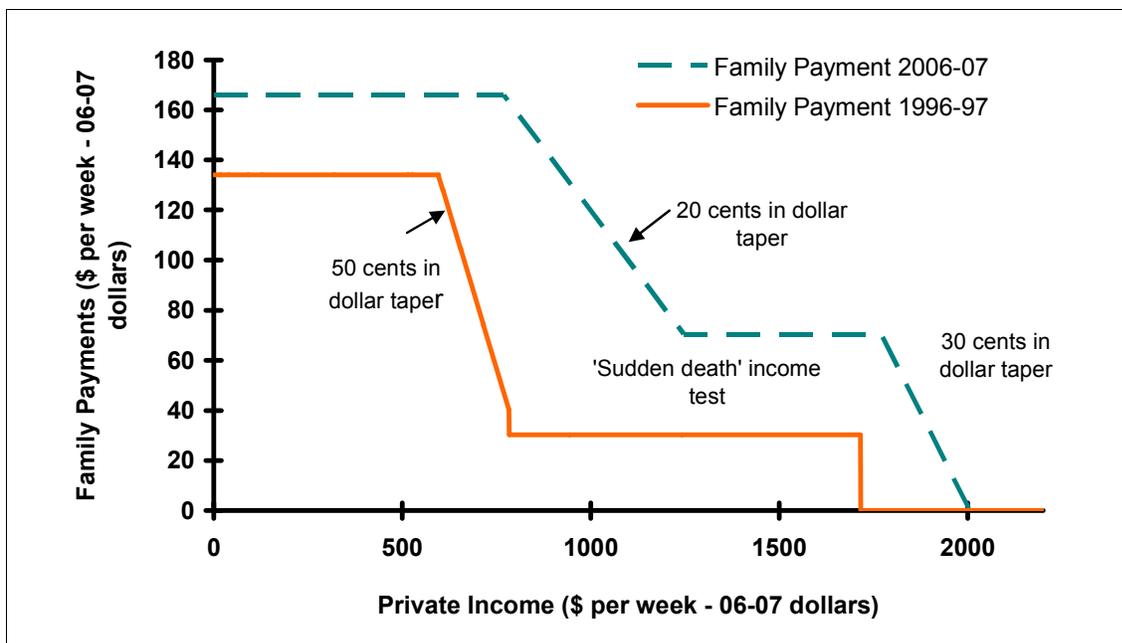
The changes to the tax-transfer system occurred against a backdrop of strong economic growth and falling unemployment. The unemployment rate fell from 8.5 in July 1996 to 4.8 per cent in July 2006. Average weekly earnings increased sharply and, through a series of 'carrot and stick' measures, welfare recipients were encouraged to enter a tight labour market (Lim-Applegate, 2004, p. 26; Harding et al, 2005).

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Table 1 Income tax schedules, 1996-97, 2005-06, 2006-07 and 2010-11

1996-97		2005-06		2006-07		2010-11	
Income	Rate	Income	Rate	Income	Rate	Income	Rate
0-5,400	0.0	0-6,000	0.0	0-6,000	0.0	0-6,000	0.0
5,401-20,700	0.20	6,001-21,600	0.15	6,001-25,000	0.15	6,001-37,000	0.15
20,701-38,000	0.34	21,601-63,000	0.30	25,001-75,000	0.30	37,001-80,000	0.30
38,001-50,000	0.43	63,001-95,000	0.42	75,001-150,000	0.40	80,001-180,000	0.37
50,001+	0.47	95,001+	0.47	150,001+	0.45	180,001+	0.45

Figure 1 Comparison of cash assistance to a couple with two children, 1996-97 and 2006-07



Note: The figure compares the amount of assistance received by couples with two children aged 4 and 10 at different levels of private income. Both private incomes and the amount of family payments received are expressed in 2006-07 dollars, so the real amount and extent of assistance can be readily compared. The graph does not include cash transfers and tax rebates provided only to single income families (today called Family Tax Benefit Part B). Rather, it contrasts what is today called Family Tax Benefit Part A with the 1996-97 equivalent. Source: Harding et al (2006a, p. 4).

So how did all these changes affect different income groups in Australia? This paper examines the characteristics of the top 10 per cent of the income spectrum in Australia and looks at trends in their income and other characteristics over the 10 year period spanning 1995-96 to 2005-06 (with this latter year representing the latest

available income survey data from the Australian Bureau of Statistics – ABS). Section 2 outlines the data and methodology used in the study. Section 3 looks at the characteristics of those in the top decile, and contrasts such factors as their highest educational qualifications, age of head of the household and number of children with those of the average Australian household. Section 4 examines trends in the incomes of the top decile, again contrasting this with results for all Australian households. Section 5 supplements the overall trends presented earlier with estimates of the disposable incomes of selected typical family types in 1995-95 and 2006-07 – and also forecasts forward to 2010-11 to look at the impact of known tax-transfer changes during the next few years. Section 6 provides some international comparative estimates, based on ‘richness’ indexes. Finally, Section 7 concludes the paper.

2 Data and methodology

The data used in this analysis are from the confidentialised unit record files released by the ABS from the Surveys of Income and Housing Costs for 1995-96 and 2005-06. The income unit used in this study is the household. The equivalence scale used was the modified OECD equivalence scale, giving a value of 1 to the first adult in the household, 0.5 to second and subsequent adults and 0.3 to each dependent child. For this calculation, a dependent child was defined as a child aged less than 15.

The allocation of an individual and their household to an income decile was based on the equivalent disposable (after-income-tax) income of the household, weighted by the number of persons living in the household. (For this purpose, each child was given a weight of one, as was each adult). After all individuals in the survey were ranked by their equivalent disposable household income, they were then assigned to the relevant income deciles, so that each decile contains 10 per cent of the Australian population.¹ The decile groups are thus for persons rather than households. The top decile thus consists of the 10 per cent of Australians living in the most affluent households.

¹ Only Australians living in private dwellings are within scope for the survey and thus for this study. Those living in non-private dwellings - such as boarding schools, prisons and aged care homes - are excluded from the study.

3 Characteristics of the top decile

The following tables contrast trends among all Australian households with those of top decile households, so it can be easily seen where the fortunes of the top decile have diverged from mainstream Australia. Some of the most significant changes are taking place against the backdrop of structural population ageing in Australia. Between 1946 and 1964 Australia experienced a huge baby boom, in the aftermath of World War 2. Since then there has been a sharp fall in fertility rates, allied with increases in life expectancy as a result of improvements in health technology and practices. As a result, Australia's population is ageing rapidly, with the proportion of the population aged 65 years and over projected to increase from just under 14 per cent today to 25 per cent by 2047 (Treasury, 2007). This structural population ageing, allied with the usual lifecycle trend of higher income and wealth being typically associated with the later working years, is resulting in older generations becoming progressively more important at the top end of the income spectrum.

Looking at the top decile first, Table 2 shows that 'baby boomer' households are the single largest age group represented at the top of the income tree. In 2005-06, almost two in every five top decile households (39.1 per cent) were headed by a person aged 45 to 59 years, up 1.4 percentage points on the comparable 1995-96 estimate of 37.7 per cent. Even more interestingly, the last decade has seen the emergence of a growing number of affluent older Australians. This has been reflected in the 4.0 percentage point increase in the proportion of top decile households headed by a person aged 60 years or more (up from 8.1 to 12.2 per cent of all top decile households). Today, more than one in every 10 top decile households is headed by an older Australian. These trends have pushed younger generations down the income spectrum, with a 5.1 percentage point fall in the proportion of top decile households headed by a Gen X or Gen Y (that is, aged 30 to 44 years and 15 to 29 years respectively).

The impact of population ageing is also evident in the results for *all* Australian households, shown in the left hand columns of Table 2. Thus, the decade to 2005-06 resulted in an increasing share of all households being headed by a person aged 45 years and over and a declining share being headed by a person aged less than 44 years. While this was partly due to population ageing, we also know that younger Australians have been finding it increasingly difficult to leave the parental home, presumably at least partly in response to the sharp deterioration in housing affordability in Australia during the past decade (Tanton et al, 2007). For example, in 2004, one-fifth of 25 to 29 year olds were still living at home with their parents, up from 12 per cent 15 years earlier (Cassells and Harding, 2007, p. 9). This delay in setting up their own independent households is therefore another factor underlying

the declining proportion of households headed by Australians aged less than 30 years.

There were also pronounced changes in family composition over the 10 years to 2005-06. Moving again to top decile households, the 'baby bust' and structural population ageing were two of the factors underlying the sharp increase in childless households at the top of the income spectrum. Couples without children made up 41.6 per cent of all top decile households in 2005-06, up 3.7 percentage points since 1995-96 (Table 2). Similarly, single person households rose by 1.8 percentage points over the decade, to make up 18.7 per cent of all top decile households by 2005-06. For Australia as a whole, couples with children were a gradually disappearing breed, with almost a four percentage point fall in the representation of this type of family (down from 33.2 per cent in 1995-96 to 26.3 per cent in 2005-06). But, intriguingly, at the top end of the income spectrum, couples with children slightly increased their representation (from 21.1 to 23.6 per cent of all top decile households). Many such households will have two income earners, both on professional incomes. For Australia as a whole, sole parent families continued to slightly increase their share of all households over the decade – but very few such sole parent households made it into the top decile.

Moving now to the number of children within households, and focussing first on the results for all Australian households, Table 2 provides more evidence of the rise of childless households in Australia. Today, two-thirds of all households have no children living under their roof. At the same time, large families are becoming rarer, with a 2.2 percentage point decline between 1995-96 and 2005-06 in the proportion of households containing three or more children.

At the top end of town, the proportion of childless households is even greater – at three-quarters of all top decile households. However, while there are many more childless households at the top of the income distribution, the trend movement is the opposite for that for Australia on average. That is, the proportion of childless households in the top decile has actually declined by 2.3 percentage points over the decade and the proportion of top decile households with two and three children has grown. Given the earlier evidence about baby boomers in their peak working years increasing their representation in the top decile, this suggests that there now more baby boomer parents in the top decile whose children are refusing to leave the family nest while they undertake full-time studies (and are thus still counted as 'dependent children' in Table 2).

The number of earners within households is also shown in Table 2 and, again focussing first on the results for all Australian households, there were modest increases in the proportion of all households with two or more earners over the 10 years to 2005-06. During the 1980s and early 1990s in Australia, strong growth in the

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proportion of married mothers taking paid work was one of the factors resulting in sharp increases in the number of two income families (including at the top of the income distribution) (Harding, 1997, p. 352). There is evidence that this trend is now slowing, with much lower growth in the labour force participation rates of females in their 30s and 40s in the past decade compared with the ten years to 1995 (Kelly et al, 2005, p. 9). Table 3 reinforces this, showing only a 1.4 percentage point increase in the proportion of two earner households between 1995-96 and 2005-06. For top decile households, the proportion of two earner households was stable over the decade, while there was a decline in the proportion of 'three or more' earner households. This latter figure is probably correlated with the demise of group and 'other' households from the top of the income spectrum, with such households often having multiple earners.

The other interesting trend revealed in Table 3 is the change in 'no-earner' households across Australia, with the proportion declining by 2.1 percentage points to settle at 29.0 per cent by 2005-06. This reflects ten years of strong economic growth and declining unemployment – and may also be a product of the welfare reforms enacted by the Liberal government which were designed to encourage welfare recipients to take jobs (Lim-Applegate, 2004). Yet, defying this national trend, at the top of the income distribution there has been growth in the proportion of households containing no earners, presumably reflecting the rise in the proportion of affluent older Australians in the top decile.

The next two panels in Table 2 shed further light on labour market-related characteristics. Examining the outcomes for all Australian households first, the long-term rise of the services sector and the demise of manufacturing are reflected in the changes in the professions of household heads over the decade, with the proportion of heads in white collar jobs growing by 8.8 percentage points to 31.8 per cent of the total and the proportion in grey collar jobs up by 3.2 percentage points to 14.3 per cent. Just over one-fifth of household heads were in blue collar jobs in 2005-06, down from around one-quarter a decade earlier. The results for the top decile are starkly different to the average profile for Australians. Almost three-quarters of top decile households are headed by a white collar worker and this proportion has jumped sharply from only 51.9 per cent in 1995-96. The surge in white collar workers at the top of the distribution means that they have displaced grey and blue collar workers, whose incomes used to be sufficiently high to propel them to the top of the distribution.

Table 2: Characteristics of households, 1995-96 and 2005-06

Variables	All Australian households			Households in top decile		
	1995-96	2005-06	% change	1995-96	2005-06	% change
Age of reference person						
15-29 yrs	13.2	12.3	-0.9	14.5	12.0	-2.5
30-44 yrs	34.2	31.5	-2.7	39.7	36.7	-2.9
45-59 yrs	26.9	29.6	2.7	37.7	39.1	1.4
60+ yrs	25.7	26.6	0.9	8.1	12.2	4.0
Family composition of household						
Lone person	22.9	25.7	2.7	16.9	18.7	1.8
Sole parent	6.3	6.8	0.5	1.0	1.4	0.4
Couple only	24.6	27.3	2.7	38.0	41.6	3.7
Couple with children	30.2	26.3	-3.9	21.1	23.6	2.4
Group	4.3	3.0	-1.3	8.6	4.5	-4.1
Other	11.7	11.0	-0.7	14.4	10.3	-4.1
Number of children in household						
0	62.5	66.2	3.7	77.3	75.1	-2.3
1	13.4	13.2	-0.1	12.7	12.3	-0.4
2	15.5	14.1	-1.4	7.6	9.0	1.5
3	6.5	4.9	-1.6	1.6	2.9	1.4
4+	2.2	1.6	-0.6	0.9	0.7	-0.2
Number of earners in household						
None	31.0	29.0	-2.1	2.2	4.2	2.1
One	30.6	31.5	0.9	25.3	26.5	1.2
Two	31.2	32.5	1.4	57.8	57.7	-0.1
Three or more	7.3	7.0	-0.3	14.8	11.6	-3.2
Profession of reference person						
White	23.0	31.8	8.8	51.9	73.4	21.5
Grey	11.2	14.3	3.2	13.3	6.5	-6.8
Blue	25.3	21.9	-3.4	19.0	15.2	-3.8
NA/NAD	40.6	32.0	-8.5	15.8	4.9	-10.9
Employment status of reference person						
Employee	49.6	60.9	11.3	72.5	87.7	15.2
Employer	3.5	1.9	-1.5	5.2	3.6	-1.6
Self-employed	9.0	5.3	-3.7	6.9	4.5	-2.4
Other	37.9	31.8	-6.1	15.4	4.3	-11.1
Highest qualification of reference person in household						
Bachelor or above	12.6	20.6	8.0	32.2	49.7	17.5
Diploma	8.6	8.7	0.0	11.1	9.7	-1.4
Certificate	24.0	25.9	1.9	20.3	19.1	-1.2
No higher education	54.8	44.9	-9.9	36.5	21.5	-15.0
Tenure type of household						
Owner	42.8	34.3	-8.5	34.7	27.9	-6.8
Buyer	28.1	35.0	6.9	43.0	50.4	7.4
Renter	26.9	28.5	1.6	20.6	20.2	-0.4
Other	2.2	2.2	0.0	1.7	1.5	-0.2

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Table 2 (continued)

Variables	All Australian households			Households in top decile		
	1995-96	2005-06	% change	1995-96	2005-06	% change
State/Territory of residence of household						
New South Wales	33.7	32.4	-1.3	39.6	37.2	-2.4
Victoria	24.9	25.1	0.2	21.1	23.4	2.3
Queensland	17.8	19.5	1.7	14.7	17.6	2.9
South Australia	8.7	8.1	-0.6	6.9	5.6	-1.3
Western Australia	9.8	10.2	0.4	11.1	10.8	-0.3
Tasmania	2.8	2.5	-0.3	2.4	1.3	-1.1
NT /ACT	2.4	2.3	-0.1	4.2	4.0	-0.2

Note: Re the *family composition* categories: 'Group' households are unrelated individuals sharing accommodation. 'Other' family households are multiple family households with or without dependent children or couples with non-dependent children. As "other" families can also have children, the proportion of households with no children is slightly different from that proportion calculated from the composition of household figures. Re the *earners* categories: An 'earner' is defined as a person (excluding dependent children) who receives income from wages or salaries; who is engaged in their own business or partnership, or is a silent partner in a business or partnership. Re the *profession* categories: 'White collar' refers to managers, professionals and associate professionals; 'grey collar' includes advanced, intermediate and elementary clerical; and 'blue collar' means tradespeople and labourers. 'Not classified or not stated' includes those who did not specify profession or there was not enough information. Re the *tenure type* categories: 'Other' tenure type includes rent free. Re the definition of *children*: "children" in Table 2 means "dependent children" i.e. all persons aged under 15 years and people aged 15-24 years who are full-time students, have a parent in the household and do not have a partner or child of their own in the household. Re the *employment status* categories: 'Other' includes those who are unemployed or not in the labour force.

These labour market shifts are also reflected in the 'employment status' panel in Table 2, with nine in every 10 top decile households now being headed by an employee – up from around seven in every 10 a decade earlier. Only a relatively small number of employers and self-employed make it to the top of the income distribution.

A related area where there has been sweeping change over the past decade is in the attainment of tertiary qualifications. For Australia as a whole, the proportion of household heads with a bachelor's degree or better increased from around 13 to almost 21 per cent in the ten years to 2005-06. But the pace of change at the top of the income spectrum has been much more rapid than this, with half of all top decile household heads possessing tertiary qualifications in 2005-06, up by around 18 percentage points on the level prevailing in 1995-96. Conversely, the proportion of top decile household heads with no higher education has plummeted, almost halving to reach 21.5 per cent by 2005-06. Looking more broadly, Australia as a whole is also clearly upskilling, with a substantial fall in the proportion of all Australian household heads with no higher educational qualifications during the 10 years (Table 2).

Australians have always aspired to the great Australian dream of home ownership. Table 2 also presents some evidence of trends in home ownership over the 10 years

to 2005-06, providing hints that for many the dream has turned into a nightmare. The proportion of Australian households buying or owning their own home has remained steady at about 70 per cent – a relatively high figure by international standards. But the major change during the past decade has been the decline in the proportion of households owning their home outright (down almost 9 percentage points to 34.3 per cent in 2005-06). Instead, Australians have continued to sign on to the home ownership dream but an increasing proportion is now grappling with heavy mortgage commitments – and, in particular, those who have bought a home during the past three years (Tanton et al, 2008, p. 14).

The right hand columns in Table 2 indicate that those at the top end of the income distribution have not been immune from this trend, with half of all top decile households now being home purchasers, up from 43 per cent in 1995-96. Interestingly, top decile households are less likely to be outright home owners than Australians generally: while 34.3 per cent of all Australian households own their home outright, only 27.9 per cent of top decile households do so. This points to the strong correlation between age and outright home ownership, with older Australians being under-represented at the top end of the income distribution. (Thus, even though their representation at the top end has increased during recent years, as discussed earlier, older Australians still remain more likely to be on lower incomes).

Finally, another important emerging trend in Australia has been the development of the ‘two-speed economy’, with strong demand for resources from China and other countries creating a mining boom in the resource rich States of Queensland, Western Australia and the Northern Territory. The older and more established cities in Australia, such as Sydney, Melbourne and Adelaide, have been lagging behind (Vu et al, 2008). The final panel in Table 2 suggests that Queenslanders have become somewhat more likely to make it into the top decile of the income distribution, while households resident in New South Wales, South Australia and Tasmania have become less likely. Victoria’s share of all households remained stable in the 10 years to 2005-06 (Table 2), and other research has shown that average household incomes within Victoria increased more slowly between 2001 and 2006 than the average incomes of households living within Queensland, Western Australia and the Northern Territory (Vu et al, 2008, p. 15). Despite this, Table 2 suggests that relatively more top decile households came from Victoria in 2005-06 than in 1995-96, indicating that a segment of Victorian households have still managed to prosper during this period.

4 Income trends for the top decile

The top decile group in Australia in 2005-06 received an estimated 30.2 per cent share of the total private (market) incomes received by Australian households (Table 3). This was the same share as a decade earlier in 1995-96. Within this private income category, the top decile's share of total wages and salaries remained almost unchanged. However, there was a spectacular shift in the magnitude of investment income, with the top decile in 2005-06 receiving just under 60 per cent of all investment income accruing to households. This was up from only a 36.6 per cent share of all investment income in 1995-96. This rising investment income was offset, however, by falling business income so that, overall, the top decile's share of total gross household income remained reasonably stable, at 26.9 per cent in 2005-06 (up marginally from 26.5 per cent in 1995-96).

Previous studies have pointed to Australia's progressive income tax structure, with the Australian income tax system producing relatively redistributive outcomes when compared with some other countries (Harding et al, 2006b, 2007; Papadimitriou, 2006). However, Table 3 indicates that, despite the marginal increase in their share of gross income, the top decile's share of total income tax paid declined from 39.7 per cent in 1995-96 to 37.8 per cent in 2005-06. This suggests that the income tax system became less redistributive over this period, presumably at least in part due to the sharp increases in the taxable income threshold at which the top marginal tax rate cuts in (as seen in Table 1). As a result, the higher gross incomes of the top decile, allied with a lower share of tax accruing to the Taxation Office, together resulted in the top decile increasing their share of equivalent disposable income in Australia, up from 24.3 per cent in 1995-96 to 25.3 per cent in 2005-06.

The above results deal with households, showing the share of income accruing to households in the top decile. Internationally, income distribution analysts typically focus on the person as the unit of analysis (Brewer et al, 2006, Forster and d'Ercole, 2005), thus showing the share of all equivalent disposable household income accruing to persons in the top decile (this is known as 'person-weighting', rather than 'household weighting', as was done above). The idea behind person-weighting is that household size may vary systematically across the income spectrum, so that a slightly different impression may be gained about how income is distributed when looking at persons rather than households. Table 4 also presents this preferred international measure, showing that the share of equivalent disposable household income received by the top decile of Australians increased from 22.0 per cent in 1995-96 to 23.6 per cent in 2005-06. Thus, whether a person or household weighted measure is used, the conclusion remains the same: the top decile increased their income share over the decade to 2005-06.

The lower panel in Table 3 also examines the incomes of the top decile in a slightly different way, showing the contribution made by different income sources to the total gross income of the top decile. The most striking change evident here is again the changing profile of investment income. In 2005-06, investment income (from interest, dividends and property rental) made up 9.7 per cent of the total gross income of the top decile, up from 5.5 per cent in 1995-96. Overall, presumably partly as a result of structural population ageing and the appearance of affluent older Australians in the top decile, the top decile is shifting away from reliance on wages and salaries and moving towards gains from investment income and other income (including superannuation). Despite this slight shift, however, it is clear that wages and salaries retain their position as the key income source for top decile households.

Table 3 Share of various income measures received by the top decile and contribution of income sources to gross income of top decile, 1995-96 and 2005-06

Measure	Year		Year	
	1995-96	2005-06	1995-96	2005-06
	Household weighted		Person weighted	
Per cent of total Australian 'cake'				
Private income	30.2	30.2	26.3	27.3
Wage income	28.9	28.0	24.7	24.8
Business income	42.8	34.9	37.4	31.6
Investment income	36.6	58.9	38.9	62.3
Cash transfers	1.6	1.0	2.1	1.2
Gross income	26.5	26.9	23.4	24.6
Disposable income	23.2	24.4	20.5	22.4
Income tax paid	39.7	37.8	35.1	34.3
Equivalent disposable income	24.3	25.3	22.0	23.6
Components of gross household income - %				
Wages and salary	81.7	79.5	-	-
Business	10.1	8.0	-	-
Investment	5.5	9.7	-	-
Other	1.9	2.4	-	-
Cash transfers	0.8	0.4	-	-
Total gross income	100.0	100.0	-	-

Note: For the upper part of the table, the 'share of cake' means the proportion of the relevant income source that is received by top decile households. For example, top decile households in 2005-06 received 28.0 per cent of all the wage and salary income paid to all Australian households. For the lower part of the table, the percentage shares relate to the proportion of total gross income that the different income sources comprise. 'Other' income consists of "other regular sources (excluding superannuation)", and "income from superannuation/annuity/allocated pension".

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Another notable feature in Table 3 is the slight decline in the share of cash transfers² accruing to the top decile (from 1.6 to 1.0 per cent of total Australian cash transfers), suggesting that the Australian income support and family payments system became even more tightly targeted over the decade, confirming Australia's position as the most targeted welfare system in the OECD (Whiteford, 2005).

In Table 4, various income items of an average household in the top income decile are reported, along with those of the average Australian household for the two years 1995-96 and 2005-06. The values for 1995-96 have been further inflated by using the change in the Consumer Price Index between 1995-96 and 2005-06 (151.65/118.73), so as to enable a comparison in 'real' dollars. For all income items, with the exception of business income and cash transfers, top decile households experienced higher rates of growth than the average Australian household. For both the top decile and the average Australian household, disposable income increased at a higher rate than gross income indicating that, over the years, the tax liabilities of households lessened. Nevertheless, top decile households experienced much larger growth in their equivalent disposable incomes – up 44.5 per cent compared with 34.2 per cent for the average Australian household. This again confirms the earlier observation that the changes in tax policies over the decade appear to have benefited the top decile group more than the average Australian household. This is also underlined by the fall in the average tax rate of top decile households, down from 29.4 per cent in 1995-96 to 25.8 per cent in 2005-06 (a sharper fall than that apparent for the average Australian household).

Wage and salary income for both the top decile and the average household appear to have increased at a very similar rate. The most interesting point from the table, however, is the big reduction in the absolute value of income from business for the top decile households (-5.8 per cent), in comparison with an increase of 11.2 per cent for the average Australian household. Business income is no longer an important source of income for the most affluent households. On the other hand, as noted earlier, investment income has been the fastest growing component of household income for both the top decile and the average Australian household – a rise of 209 and 85 per cent respectively.

As expected, cash transfers do not account for a large share of the gross income of top decile households. On average, a top decile household only received \$19.80 per week from government cash transfers in 1995-96 and, 10 years later, this had fallen by 26 per cent to settle at \$14.70 a week (both expressed in 2005-06 dollars). On the other hand, the average Australian household in 2005-06 was pocketing more in

² Cash transfers refer to all cash welfare payments that households receive from the federal government. It includes different types of pensions, allowances, family payments and supplementary payments to these main payments.

family and welfare payment than 10 years earlier, with a 12.1 per cent increase for the average Australian household (from \$133 to \$149 a week).

The redistributive impact of the Australian tax-transfer system is also again clearly apparent. While the *private* incomes of the top decile are almost three times higher than those of the average household, their *disposable* incomes (after the operation of the tax-transfer system) are only 2.3 times higher.

Table 4 Average incomes by source for the average Australian household and for top decile households, 1995-96 and 2005-06

Average weekly household income (\$)	1995-96		2005-06	Change over decade	
	At 1995-96 prices	At 2005-06 prices	At 2005-06 prices	Percentage change (%)	Dollar change (\$)
Top decile households					
Private income	1,938.2	2,475.6	3,337.2	34.8	861.6
Wage income	1,532.7	1,957.7	2,510.1	28.2	552.4
Business income	264.1	337.3	317.8	-5.8	-19.5
Investment income	107.4	137.1	424.0	209.2	286.9
Cash transfers	15.5	19.8	14.7	-26.0	-5.1
Gross income	1,953.7	2,495.4	3,351.9	34.3	856.5
Income tax paid	574.6	733.9	863.6	17.7	129.7
Disposable income	1,379.1	1,761.4	2,488.3	41.3	726.8
Equivalent disposable income (Hhold-weighted)	827.3	1056.7	1526.7	44.5	470.0
Equivalent disposable income (person-weighted)	816.9	1,043.4	1,518.3	45.5	474.9
Average tax rate	29.4	-	25.8	-	-
All Australian households					
Private income	697.1	890.4	1,154.5	29.7	264.2
Wage income	575.3	734.8	936.7	27.5	201.9
Business income	66.9	85.5	95.1	11.2	9.6
Investment income	31.8	40.6	75.2	85.2	34.6
Cash transfers	104.1	133.0	149.1	12.1	16.1
Gross income	801.2	1,023.3	1,303.7	27.4	280.3
Income tax paid	156.9	200.4	238.7	19.1	38.3
Disposable income	644.3	822.9	1,065.0	29.4	242.1
Equivalent disposable income (Hhold-weighted)	368.7	471.0	631.9	34.2	160.9
Equivalent disposable income (person-weighted)	371.3	474.2	644.6	35.9	170.4
Average tax rate	19.6	-	18.3	-	-

Note: The average tax is calculated as ratio of average income tax paid to average gross income. For example the average tax rate of 29.4 per cent of the top decile households in 1995-96 was derived by dividing the average income tax paid of \$574.6 by the gross income of \$1,953.7.

5 Impact of tax-transfer changes

Analysis of the comparative fortunes of the top decile (and other sub-groups within the population) is always made more complicated by rapid changes in the composition of the top decile (as discussed in section 3). To shed additional light on the redistributive impact of the tax-transfer system during the Howard years, this section examines changes in the disposable income of illustrative 'hypothetical' family types during these years.

This section of the paper relies on the use of NATSEM's STINMOD model, Australia's best-established static microsimulation model of Australia's income tax and transfer system.³ The model's base data comes from comprehensive surveys of income and housing costs for several thousand Australian households, conducted regularly by the ABS. Using the latest version of STINMOD – STINMOD07 – disposable income is determined for a number of hypothetical households on several private income scenarios for the 2010-2011 financial year.⁴ These disposable incomes are then compared with the disposable incomes of these households at the equivalent amounts of private income for the setting of 2006-07, (also determined by using STINMOD07), and for the setting of 1995-96 (determined by using the STINMOD95 version). Depending on the circumstance of each household, the level of private income (which is the income from wages and salary; business income; investment income etc) is used in the calculation of any tax liability or any welfare payment of the household. Private income has been set at a lower bound of either 0 or 0.5 AWE and up to 4 times of the average weekly earnings (AWE) of a male full time worker in Australia at these three points in time. AWE is calculated by the ABS to be \$664.28 for 1995-96 and \$1,020.63 for 2006-07 (and projected by NATSEM to be \$1,242.1 for the 2010-11 financial year). The amount of disposable income received (at 2006-07) prices for these households at the relevant private income points for these years are presented in Table 5.

Analysis of the results for *single person households* is always useful for isolating the impacts of changes in the income tax system, without any complicating changes in the family-related assistance delivered through the tax or cash transfer systems. The results in Table 5 indicate that the net effect of the changes to the income tax system were to deliver higher percentage increases to those single taxpayers on twice average weekly earnings and above over the 1995-96 to 2006-07 period. For example,

³ For more details on STINMOD, please see NATSEM website at www.natsem.canberra.edu.au

⁴ The results for 2010-11 include the income tax changes announced by the new government during the election campaign, but do not include any changes announced in the May 2008 budget (e.g. the changes to the Medicare levy or Family Tax Benefit Part B).

single taxpayers on twice average weekly earnings in 2006-07 (around Aust\$106,000 a year) enjoyed a 23.8 per cent increase in their disposable income between 1995-96 and 2006-07. This was appreciably higher than the 17.3 per cent increase attained by comparable single taxpayers on average weekly earnings.

The low percentage increases for single persons with no private income of their own are also notable. Under the STINMOD model, such persons are assumed to be eligible for Newstart Allowance (i.e. income support for the unemployed in Australia). The level of this payment has been indexed by the Consumer Price Index in recent years (rather than by the more rapidly moving Average Weekly Earnings, which the age pension is indexed to) – and the very modest increase shown for a single person with no private income clearly illustrates how the ‘dole’ for single people has declined in value relative to incomes for the rest of the community.

This conclusion is reinforced by the second panel in Table 5, which shows the outcomes for a *single age pensioner* during the same period. In this case, the single pensioner with no private income of their own notched up a 15.6 per cent increase in disposable income over the 11 years to 2006-07. As noted above, this was largely due to indexing such pensions to Average Weekly Earnings. The largest winners during the Howard era were, however, age pensioners with some private resources of their own. For example, age pensioners whose private incomes reached half of average weekly earnings (around Aust\$26,500 a year) recorded increases in disposable income of 32.2 per cent over the 11 years to 2005-06. This was due to the generous increases in the Senior Australian Tax Offset, as well as to the pension indexation arrangements noted above.⁵

Moving to the fourth panel in Table 5, for *couples with two children*, the impact of the liberalisation of cash assistance to families with children is clearly apparent for couples whose incomes are less than twice average weekly earnings. For example, a two income couple with two children earning average weekly earnings enjoyed a 28.5 per cent increase in their disposable income over the 1995-96 to 2005-06 period. This compared with only an 18.1 per cent increase for a couple with exactly the same characteristics but with no children. However, at twice average weekly earnings and above, the outcomes for couples with and without children are exactly the same: this is because Family Tax Benefit ceases just before twice average weekly earnings, so all such higher income couples, both with and without children, face the same tax-

⁵ It should be noted that this percentage increase only applies to senior Australians whose age pension is not reduced at all by the assets test (the Australian pension is both asset-tested *and* income-tested). However, the general point about senior Australians being key beneficiaries from the Howard years would still apply. It should also be noted that, from September 2007, the assets-test taper rate was halved. However, this liberalisation is not reflected in the 2006-07 results above (which both precede the change and do not include the impact of any assets tests).

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transfer regime. Overall, therefore, while couples with two children and incomes of twice average weekly earnings and above benefited from the structural changes in the tax-transfer system during the Howard years, this was entirely due to the large income tax cuts rather than to the changes in family assistance. Table 5 makes it very clear how much the family assistance changes were designed to help middle income families with incomes around average weekly earnings (often known in the media as the 'Howard battlers').

Progressing finally to *sole parents*, at least in terms of the payment structures embedded within the tax-transfer system, most such families did well during the 11 years to 2006-07. Sole parents benefited from the expansion of assistance to single income families (Family Tax Benefit Part B), as well as from the increases in Family Tax Benefit Part A. In addition, those who remained within the 'pension' net benefited from the more generous pension income test and indexation arrangements.

However, sole parents were also affected from July 2006 onwards by stricter 'Welfare to Work' provisions, which required new entrants to the system with older children to get jobs and to go onto Newstart Allowance rather than the more generous pension system (Harding et al, 2005). The impact of these changes is apparent in the 2006-07 estimates presented in Table 5, because our sole parent is assumed to have children aged 8 and 10 years and thus be placed on Newstart Allowance rather than the sole parent pension (known as Parenting Payment Single). As a result, while a sole parent with earnings of 50 per cent of average weekly earnings was able to still receive some pension in 1995-96, in 2006-07 a similar level of earnings was sufficient to move them off welfare entirely. As a result, such sole parents with modest part-time earnings notched up only an 11.5 per cent increase in disposable income over the 11 years to 2006-07.

While this summarises the impact of changes in the structure of the tax-transfer system upon different types of families between 1995-96 and 2006-07, at a more general level, families with incomes of twice average weekly earnings and above generally did better than welfare recipients and those on lower incomes.

Table 5: Disposable income trends, 1995-96, 2006-07 and 2010-11

Household Income - pw	Disposable income pw, 2006-07 price			Percentage changes		
	1995-96	2006-07	2010-11	1995-96 to 2006-07	1995-96 to 2010-11	2006-07 to 2010-11
Single person						
0.0 of AWE	204.1	209.9	209.4	2.8	2.6	-0.3
0.5 of AWE	373.8	449.4	508.9	20.2	36.1	13.2
1.0 of AWE	663.8	778.4	872.0	17.3	31.4	12.0
2.0 of AWE	1,137.0	1,407.4	1,567.9	23.8	37.9	11.4
3.0 of AWE	1,586.7	1,985.4	2,228.0	25.1	40.4	12.2
4.0 of AWE	2,036.5	2,521.2	2,817.4	23.8	38.3	11.7
Single age pensioner						
0.0 of AWE	224.3	259.4	285.1	15.6	27.1	9.9
0.5 of AWE	409.4	541.3	602.7	32.2	47.2	11.3
Couple without children						
0.5 of AWE	524.3	597.9	632.7	14.0	20.7	5.8
1.0 of AWE	740.9	875.0	995.9	18.1	34.4	13.8
1.5 of AWE	1,037.0	1,238.1	1,391.2	19.4	34.1	12.4
2.0 of AWE	1,310.4	1,560.5	1,749.2	19.1	33.5	12.1
3.0 of AWE	1,799.7	2,184.7	2,439.5	21.4	35.6	11.7
4.0 of AWE	2,269.6	2,805.3	3,135.8	23.6	38.2	11.8
Couple with 2 children						
0.5 of AWE	646.7	774.6	839.1	19.8	29.7	8.3
1.0 of AWE	770.7	990.8	1,117.1	28.5	44.9	12.8
1.5 of AWE	1,066.9	1,308.4	1,475.2	22.6	38.3	12.7
2.0 of AWE	1,310.4	1,560.5	1,749.2	19.1	33.5	12.1
3.0 of AWE	1,799.7	2,184.7	2,439.5	21.4	35.6	11.7
4.0 of AWE	2,269.6	2,805.3	3,135.8	23.6	38.2	11.8
Sole parent with 2 children						
0.0 of AWE	370.1	444.3	468.4	20.1	26.6	5.4
0.5 of AWE	602.2	671.4	756.7	11.5	25.7	12.7
1.0 of AWE	723.1	952.6	1,052.9	31.7	45.6	10.5
2.0 of AWE	1,166.5	1,455.7	1,616.5	24.8	38.6	11.0

Note: The income of each type of family is total family disposable income. For the couple families, it is assumed that the husband earns 67 per cent and the wife earns 33 per cent of total private income. Regarding the age, the single person is 25 years old; the single aged pensioner is 70 years old; the couple (both working with no children) are both 30 years old; the couple (both working with two children) are both 35 years old and the first child is 10 and the second child is 8 years old; sole parent (with two children) is 35 years old and the first child is 10 and the second child is 8 years old. Any assets tests are not included in these simulations (because of a lack of information on the ABS surveys which form the base data of STINMOD about wealth holdings).

Table 5 also shows the expected changes in disposable income for the hypothetical families between 2006-07 and 2010-11. These changes reflect the tax cuts announced by the new Federal government for this forthcoming period. Except for those who earn no or very low taxable incomes, the change in disposable income at other private income levels for all groups appears to be relatively stable – mostly between 10 to 13 per cent. In addition, the change tends to be slightly smaller at higher private income levels than at middle income levels.

6 An international comparative perspective

Over the past decade, 'richness' studies have flourished, particularly among European countries (Peichl et al 2006, Murphy et al 2007). Peichl, Schaefer and Scheicher (2006) proposed a new method of calculating the richness index, which is called $R(\alpha)$, besides the traditional measure of the richness head count ratio (which is conceptually similar to the poverty head count ratio). Given the many similarities in social and economic structure between many of the EU countries and Australia, it is interesting to compare the richness of Australia with that of EU countries.

In this study, the two richness measures – Head Count Ratio R_{HC} , and Richness Index $R(\alpha)$ are calculated using the same methodology as suggested by Peichl et al (2006). To enable the comparison, the total disposable income of households was first equivalised using the modified OECD scale (i.e. 1 - for the first adult; 0.5 - for the second and subsequent adults; and 0.3 for each child). The median of these equivalent household disposable incomes was then calculated using person weights. The value of this median was found to be \$564.26 per week. The richness line was then calculated as twice the value of that median (i.e. \$1,128.52 per week). Each household's equivalent disposable income was then compared with that richness line to determine whether the household belongs to the 'rich' group – and the gap between its equivalent disposable income and the richness line was calculated. The number of households belonging to the rich group and the ratio between the gap of the household and its equivalent disposable income were then aggregated, using household weights. These numbers were then compared with total weighted Australian households to calculate the head count ratio and the richness index $R(\alpha)$ at $\alpha = 1$ and $\alpha = 2$.

Using the survey data from 2005-06, the Richness Head Count Ratio for Australia was found to be 8.97 per cent. Compared with the Richness Head Count Ratios of 15 EU countries as reported in the paper by Peichl et al and reproduced in Table 5, this value of the Richness Head Count Ratio is in the mid range (5.28-13.34 per cent), but marginally smaller than the average of the Head Count Ratios of all 15 EU countries (9.22 per cent). This means that, as a proportion of total households, Australia has a slightly smaller proportion of rich households compared with the average proportion for the 15 EU countries. This offers limited support for Australians' perceptions of their country as being relatively equal and the 'land of the fair go'.

Regarding the richness index, at $\alpha = 1$, the richness index $R(\alpha = 1)$ is 1.98 per cent. This value is also at the mid range of the richness index of those 15 EU countries, which ranges from 0.57 to 3.8 per cent. However, it is slightly higher than the average index of all 15 EU countries (1.51 per cent). At $\alpha = 2$, the richness index $R(\alpha = 2)$ is 0.72 per cent. Once again, this value is at the mid range of the index of those 15 EU countries

(0.17-1.37 per cent). It is, however, significantly higher than the average value of all 15 EU countries, which is 0.47 per cent. This suggests that, even though Australia has a similar proportion of rich households as the average for the EU 15 countries, the incomes of these Australian rich households are well above the richness line compared with the European rich households.

It is important to note, nevertheless, that these results are not absolutely comparable because the results from Peichl et al (2006) were calculated using 2000 data while the results for this paper were calculated using 2005-06 data.⁶

Table 5 Richness measures for Australia and selected other European countries

Country	Richness Head Count	R($\alpha = 1$)	R($\alpha = 2$)
Australia	8.97	1.98	0.72
Austria	6.50	0.97	0.25
Belgium	9.96	1.43	0.47
Denmark	5.28	0.57	0.17
Finland	8.59	0.94	0.29
France	8.28	1.24	0.34
Germany	6.60	1.29	0.41
Greece	12.08	2.28	0.66
Ireland	12.03	1.49	0.44
Italy	7.96	1.26	0.38
Luxembourg	9.32	1.29	0.36
Netherlands	7.10	1.04	0.30
Portugal	13.34	3.80	1.37
Spain	11.85	2.26	0.68
Sweden	6.72	0.82	0.24
United Kingdom	12.62	2.00	0.63
EU-15 Average	9.22	1.51	0.47

Note: the results for all countries except for Australia are reprinted from Peichl et al (2006). The Australian results are the authors' calculations. The Richness Head Count is the proportion of households within each country with incomes above twice median income. The other two Richness indices can be envisaged as the converse of the Atkinson index and other comparable inequality indices, in that they ascribe an increasing weight (or importance) to households whose incomes are further and further above the richness head count line.

⁶ We are very grateful to Andreas Piechl for explaining the exact implementation of their richness measures in a series of personal communications.

7 Conclusion

This study has shown that there has been rapid change in many of the characteristics of households in the top decile group of the Australian income distribution over the decade to 2005-06. Compared to ten years earlier, the heads of households at the top of the income spectrum are now very much more likely to hold tertiary degrees, be in white collar jobs, be employees, and be home purchasers with a mortgage (rather than outright home owners). They are also likely to be childless and to draw an increasing proportion of their total income from investments. The impact of structural population ageing is now showing up clearly in the composition of the top decile, with a 50 per cent increase in the proportion of top decile household heads that are aged 60 years and over compared with ten years earlier.

While the tightly targeted Australian cash transfer system became even more tightly targeted over the 10 years, with a commensurate decline in the proportion of cash transfers accruing to the top decile, changes in the income tax system favoured high income earners. The average tax rate (showing income tax paid as a percentage of gross income) declined from 29.4 per cent for top decile households in 1995-96 to 25.8 per cent by 2005-06. This was a sharper fall than that notched up by the average Australian household, whose average tax rate fell from 19.6 per cent to 18.3 per cent over the same 10 year period. This shift in the income tax burden away from taxpayers at the top of the income spectrum and towards the remainder of Australia was also confirmed by examining trends in the disposable incomes of a range of 'typical' Australian families. Overall, the slightly faster growth in the 'market' or 'private' incomes of the top decile, allied with the decline in their share of the tax take, resulted in the share of national income accruing to the top decile group increasing over the ten years to 2005-06.

A comparison of 'richness' indicators for Australia and 15 European Union countries suggested that Australia was close to the EU average in the proportion of households with incomes that were above twice median income for the country. However, there was some suggestion that Australia might have relatively more households who were well above this 'richness' threshold, in comparison to the EU average.

References

- Australian Bureau of Statistics, 2007, *Household Income and Its Distribution, Australia, 2005-06*, Cat. No. 6523.0. ABS, Canberra.
- Atkinson, A. B., Rainwater, L., and Smeeding, T. M. 1995, Income distribution in OECD countries, evidence from the Luxembourg Income Study. OECD Social Policy Studies no. 18. Paris: France: OECD (Organisation for Economic Co-operation and Development).
- Brewer, M., Goodman, A., Myck, M., Shaw, J., and Shephard, A. 2004, *Poverty and inequality in Britain: 2004*. IFS Commentaries no. 96, London: The Institute for Fiscal Studies. Retrieved 14 June, 2006, from <http://www.ifs.org.uk/comms/comm96.pdf>
- Cassells, R. and Harding, A. 2007. 'Generation whY', *AMP.NATSEM Income and Wealth Report* Number 17, July.
- Forster, M., and d'Ercole, M. 2005, Income distribution and poverty in OECD countries in the second half of the 1990s. OECD Social, Employment and Migration Working Papers, no. 22. Paris: Directorate for Employment, Labour and Social Affairs.
- Harding, A., 1997, 'The Suffering Middle: Trends in Income Inequality in Australia 1982 to 1993/94', *Australian Economic Review*, 30(4), December, pp. 341-58
- Harding, A, Lloyd, R, Greenwell, H, 2001, *Financial Disadvantage in Australia 1900 to 2000: The persistence of poverty in a decade of growth*. The Smith Family, Camperdown, NSW, November 2001 (available from www.natsem.canberra.edu.au).
- Harding, A, Vu, Q.N, Percival, R & Beer, G, 2005, 'Welfare-to-Work Reforms: Impact on Sole Parents', *Agenda*, Volume 12, Number 3, pp 195-210. Available at http://www.natsem.canberra.edu.au/publications/papers/jas/2005/2005_001.pdf
- Harding, A., Payne, A, Vu Q N and Percival, P., 2006a, 'Trends in Effective Marginal Tax Rates, 1996-97 to 2006-07', *AMP NATSEM Income and Wealth Report*, Issue 14, September. (available at www.amp.com.au/ampnatsemreports)
- Harding, A., Lloyd, R., and Warren, N. 2006b, The distribution of taxes and government benefits in Australia. In D. B. Papadimitriou (Ed), *The distributional effects of government spending and taxation*: 176-201. Basingstoke, Hampshire: Palgrave Macmillan.
- Harding, A, N Warren and R Lloyd, 2007, 'Beyond Conventional Measures of Income: Including Indirect Benefits and Taxes' In John Mickelwright and Stephen Jenkins (eds), *Inequality and Poverty Re-examined*, Oxford University Press, London.
- Kelly, S., Bolton, T. and Harding, A., 2005, "May the Force be With You: The Changing Face of the Australian Labour Force 1985-2005", *AMP NATSEM Income and Wealth Report*, Issue 12, November (available at www.amp.com.au)

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- Kelly, S. and Harding, A., 2007, 'Baby Boomers - doing it for themselves', AMP.NATSEM Income and Wealth Report, Issue 16, March. (available at www.amp.com.au)
- Leigh, A, 2009, 'Top Incomes', in W. Salverda, B. Nolan, and T. Smeeding (eds),, *The Oxford Handbook of Economic Inequality*,(forthcoming). Available from <http://econrsss.anu.edu.au/~aleigh/pdf/TopIncomesOUP.pdf>
- Lim-Applegate, H., 2004, 'Early Retirement: the role of Mature Age Allowance', Paper presented to the Australian Labour Market Research Workshop, University of Western Australia, Perth, 6-7 December 2004. Available at http://www.natsem.canberra.edu.au/publications/papers/cps/cp04/2004_014/cp2004_014.pdf
- Murphy, B., Roberts, P., and Wolfson, M. 2007, *A profile of high-income Canadians - 1982 to 2004*. Income Research Paper Series, Statistics Canada. Available at <http://www.statcan.ca/english/research/75F0002MIE/75F0002MIE2007006.pdf>
- Papadimitriou, D. B. (Ed), 2006, *The distributional effects of government spending and taxation*. Basingstoke, Hampshire: Palgrave Macmillan
- Peichl, A., Schaefer, T. and Scheicher, C. 2006 , *Measuring Richness and Poverty – A micro data application to Germany and the EU-15*, CPE discussion paper 06-11, University of Cologne.
- Saunders, P. and Bradbury, B. 2006 , 'Monitoring trends in poverty and income distribution: data, methodology and measurement'. *Economic Record*, Vol 82 (258), 341-364.
- Tanton, R., Nepal, B., and Harding, A., 2008, 'Wherever I Lay My Debt, That's My Home: Trends in Housing Affordability and Housing Stress, 1995-96 to 2005-06', AMP.NATSEM *Income and Wealth Report* , Number 19, March 2008.
- Treasury 2007, 'Intergenerational Report 2007', Commonwealth Treasury of Australia, Canberra (available from www.treasury.gov.au/igr)
- Vu, QN, Harding, A, Tanton, R., and Vidyattama, Y, 2008, 'Advance Australia Fair? Trends in Small Area Socio-Economic Inequality 2001 to 2006', AMP.NATSEM *Income and Wealth Report* , Number 20, July 2008.
- Whiteford, P. 2005, *The welfare expenditure debate: "economic myths of the left and the right" revisited*, Paper presented at the Australian Social Policy Conference, Sydney. Available from www.sprc.unsw.edu.au/ASPC2005/papers/Paper7.pdf