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ECONOMIC ADJUSTMENT AND DISTRIBUTIONAL CHANGE: INCOME INEQUALITY IN AUSTRALIA IN THE EIGHTIES

by Peter Saunders

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Abstract

This paper reviews a range of evidence on the developments in inequality and poverty in Australia during the 1980s. It begins by describing the policy context against which those developments occurred, focusing initially on an account of the main features of wage, tax and transfer policies. This is followed by an overview of economic performance in Australia compared with the OECD region as a whole, and a more detailed account of specific labour market developments. Several aspects of the trends in income inequality are then described, including the change in mean incomes, in aggregate and by income unit type, as well as distributional measures of the change in the degree of inequality of gross income, net income and equivalent net individual income. A decomposition of overall income inequality by income unit type and according to the number of earners in the unit reveals that inequality within groups contributed more to overall inequality than inequality between groups, and that the change in within-group inequality dominated the change in between-group inequality over the period. Finally, the paper uses the Henderson poverty line framework to estimate the trend in relative poverty, both before and after housing costs. The sensitivity of these estimates to variations in the level of the poverty line is then explored, this revealing that the estimated rise in poverty does not depend upon the use of a specific income benchmark to measure poverty.

1 Introduction

The 1970s saw the demise of Keynesian demand management policies and the end of full employment. Emphasis was given instead in the 1980s to the need to reduce inflation, cut public expenditure and lower taxes in the belief that this would create incentives and allow a less regulated private sector to prosper. The evidence shows that almost all OECD countries reduced the level of government expenditure relative to GDP, particularly after 1985 (Saunders, 1993a) although tax receipts continued to rise relative to GDP in the majority of cases (Oxley and Martin, 1991). The reduction of trade barriers and deregulation of capital and exchange markets encouraged the search for new technologies designed to increase productivity and improve international competitiveness. These changes were embraced by some countries and imposed on others. The emergence of the EEC as a major trading block, for example, had seen Australia deprived of much of its traditional market for agricultural exports which, in combination with fluctuating commodity prices, forced it to seek new trading relationships and diversify its range of tradeable goods.

The consequences of these changes for income distribution received relatively little attention during the extended world recovery of 1983-90 when most economies experienced rates of growth which were well above post-oil shock expectations. The onset of world recession in 1990 and its persistence have forced the issues of unemployment, inequality and poverty back on to the policy agenda. Yet the delays involved in collecting and analysing reliable data on the distributional dimensions of performance mean that, even now, the effects of the recession on inequality remain for the most part unknown. Advances in data quality and analytical technique have made it easy to identify and monitor trends in inequality, but these tend to lag far behind what is currently happening. They have, however, facilitated the development of more accurate accounts of how the structure of inequality has been changing in the past and the role of various factors in the process of change.

The research that is available reveals a widespread, though not universal, trend towards increasing income inequality in the 1980s. In a recent review of this work, Atkinson (1993) concludes as follows:

> The results cited cover only a selection of countries, but they are sufficient to demonstrate the risks in making any generalisation about the world-wide pattern of change in income inequality. A number of countries have experienced a rise in income inequality over the 1980s, but in others there has been no increase, or a fall. This in turn suggests that, while common economic forces have undoubtably been at work, we have also to look at national factors, and particularly national policies, in seeking an explanation of changes in inequality. (Atkinson, 1993: 23)

One of the countries which Atkinson identified as having little change in inequality was Australia, at least for the period up to the mid-1980s. With the availability of more recent data, we can now ascertain whether this has continued beyond then.

With this in mind, the current paper brings together a range of recent research on trends in inequality in Australia during the 1980s. Its main aim is primarily descriptive rather than explanatory in any causal sense, emphasis being given to the identification of the role of various factors in determining changes in income distribution. The analysis adopts a similar framework to that used by researchers in other countries, thereby allowing common trends and differences to be more easily identified, this being the first stage in the search for an explanation (or range of explanations) for what has been taking place.

Research on inequality needs to be placed in a context if it is to be most valuable. With this in mind, Section 2 of the paper describes several key features of, and changes in, the Australian tax-transfer system and outlines the major changes in the labour market during the 1980s. This is followed in Section 3 with a range of evidence on changes in income distribution between 1981-82 and 1989-90. The use of this particular time period is determined by the availability of unit record data on household incomes collected and released by the Australian Bureau of Statistics (ABS). An attempt will also be made to review developments over this period against a background of both shorter-run cyclical movements in inequality and the longer-run distributional trend. Section 4 discusses research on the incidence of poverty, focusing in particular on the sensitivity of research results to some of the methods used to measure poverty and on the role of housing costs. The main conclusions of the analysis are summarised in Section 5.

2 The Policy and Labour Market Context

The processes generating and redistributing incomes in Australia have several unique features as compared with those of most other OECD countries. Amongst the most important of these are its centralised system of wage determination, a social security system financed from general revenue and paying flat-rate means-tested benefits, and a tax system which relies heavily on personal income taxation but raises total revenue which, in relation to GDP, is at a relatively low level by international standards. These features, it has been argued, have ensured that the distribution of wage income in Australia is relatively equal and that the tax-transfer system redistributes income effectively given the low level of taxes and transfers. However, while the comparative research evidence indicates that there is truth in both propositions (Bradbury, 1993; Green, Coder and Ryscavage, 1992; Mitchell, 1991), other evidence from the Luxembourg Income Study (LIS) database indicates that the resulting Australian income distribution is still not particularly equal when compared with other countries (Saunders and Hobbes, 1988: Saunders, Stott and Hobbes, 1991).

During the 1980s, wage, tax and transfer policies further strengthened those features which have traditionally been regarded as uniquely Australian. A cornerstone of economic policy since the election of the Australian Labor Party (ALP) to government in 1983 has been the Accord, a corporatist-style incomes policy agreed between the government and the trade union movement. The Accord is a social compact, being designed to achieve wage restraint in exchange for increased social wage provisions in health and social security and, increasingly, occupational pension coverage, as well as a commitment to reform the tax system so as to improve horizontal and vertical equity. Linked to the wage determination aspects of the Accord has been the move to greatly increase the targeting of social security payments, mainly by tightening eligibility conditions and benefit administration (Saunders, 1991a) but also by the introduction of such measures as a benefit assets test in addition to the traditional income test. The only wide-ranging universal payment in the system - family allowance - became subject to both income and assets tests and the introduction and extension of income-tested family benefits for all low income families saw the system of family income support become increasingly selective.

These moves to tighten eligibility and reduce entitlements have resulted in considerable savings to the social security budget, amounting by 1990-91 to about A$1.4 billion or 6 per cent of total outlays according to one recent estimate (Whiteford, 1992; p.34). Changes to age pension eligibility alone have seen the proportion of the aged population receiving an age pension decline from around 75 per cent at the beginning of the decade to 58 per cent by 1990 (ABS, 1992; Table 6.3.5).[1] At the same time, these and other restrictions have been accompanied by increased scope and generosity of payments to certain groups, mainly families with children and social security recipients in the private rental sector.

Changes to income taxation have seen the nominal rate schedule becoming flatter, as the top marginal rate has been reduced in stages from 60 per cent to 48 per cent, the first rate coming down from 30 per cent to 21 per cent and rates in between falling commensurately. These reduced rates have been slightly offset by the introduction of a levy (currently 1.4 per cent of taxable income) to finance the national health scheme (Medicare) introduced in 1984. A system of dividend imputation has also been introduced. At the same time, there have been significant moves to broaden the personal tax base, specifically through the introduction of a capital gains tax and a fringe benefits tax. These changes have not, however, seen a reduction in the overall reliance on income taxation. Indeed, the ratio of personal income tax revenue to both total Commonwealth government tax revenue and to GDP were virtually the same in 1990-91 as they were a decade before.

Although the overall success of the Accord in achieving its basic objectives of non-inflationary growth and improvements in equity and social justice remains in dispute, it has proved to be a resilient policy framework, having been re-negotiated several times since 1983. In that time, the ALP Government has been re-elected to office four times (more than ever before); the latest being in March this year despite the record level of unemployment currently being experienced in Australia. As noted earlier,

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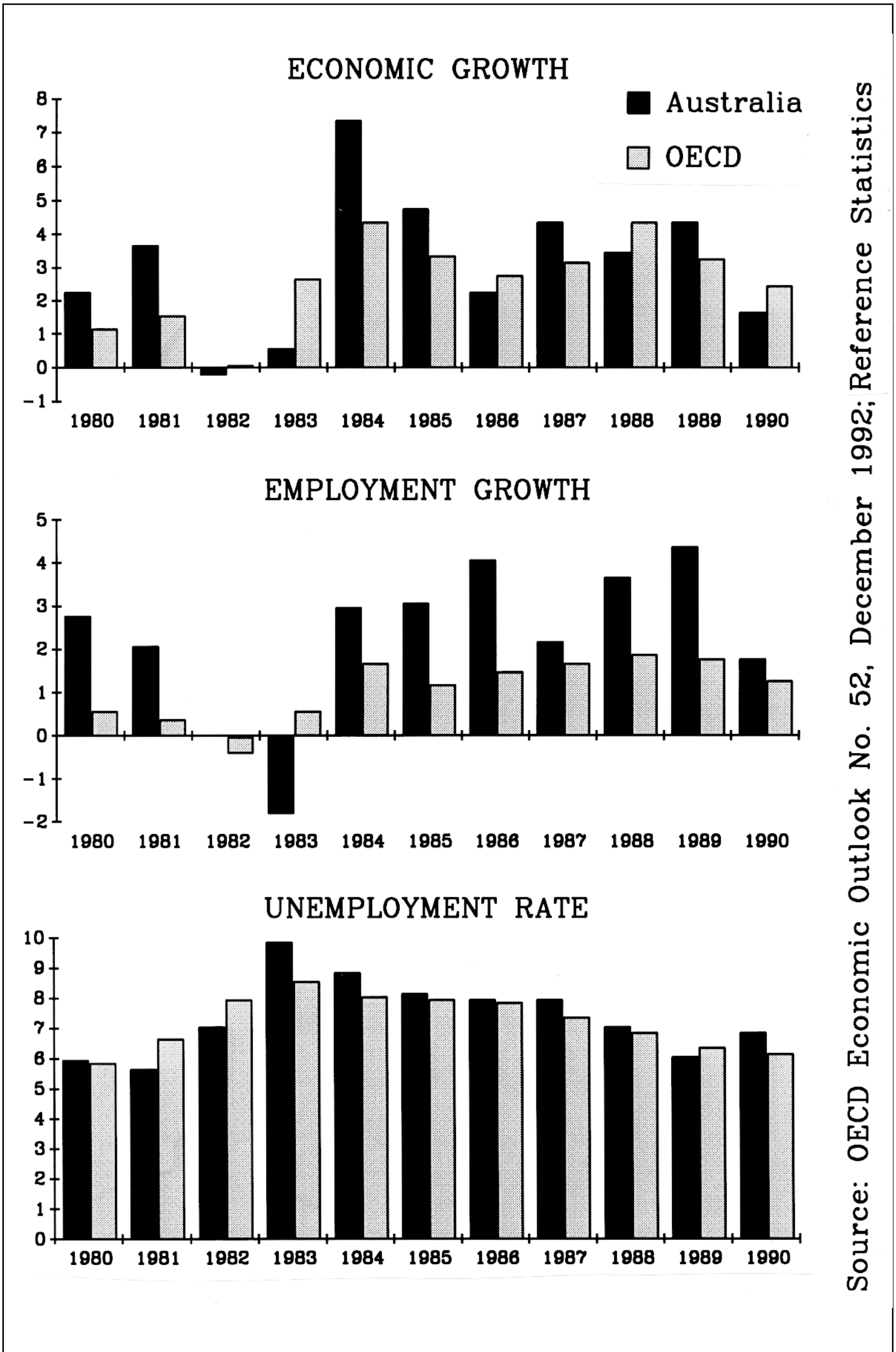
1 These estimates exclude those individuals over pension age who are in receipt of service and other veterans' pensions paid through the Department of Veterans' Affairs.

the focus of this paper is on the period to the end of the 1980s when the current recession was only just beginning to emerge. It is in fact difficult to comment with any authority on trends in inequality and poverty beyond 1989-90 (the Australian financial year commences on 1 July) because the latest household income survey data relate to that year. The analysis which follows makes no explicit attempt to attribute causation, either to the Accord or to other policy or exogenous changes. It is nonetheless instructive to begin with an overview of economic and labour market trends in the 1980s, as these set the scene for the distributional analysis which comes later.

Figure 1 compares three dimensions of Australia's economic performance in the 1980s with that achieved in the OECD region as a whole. In relative terms, Australia's economic performance, was generally good, with the notable exception of the recession years 1982, 1983 and 1990. Over the decade as a whole, economic growth in Australia averaged 3.2 per cent a year compared with an average OECD growth rate of 2.7 per cent. Between 1984 and 1989, growth in Australia was even higher, at 4.5 per cent a year, compared with the OECD figure of 3.6 per cent.

That economic growth translated into a growth in employment which was also impressive by international standards, as Figure 1 illustrates. Over the decade as a whole, the level of employment in Australia grew by 2.3 per cent a year, more than twice the OECD average of 1.1 per cent, despite the greater severity of both Australian recessions. Between 1983 and 1989, Australia's employment record was even more impressive, employment increasing by 3.4 per cent a year compared with 1.2 per cent in the OECD as a whole. It is difficult to avoid the conclusion that the Accord played a major role in this context, a view for which there is support from labour market research. One study, for example, provides a conservative estimate that the Accord generated an extra 310,000 jobs between 1983 and 1989 as a result of its effects on structural wage relationships, although the authors note that the effect could be as large as half a million (Chapman, Dowrick and Junankar, 1991; p.41). Despite this, the lower panel of Figure 1 shows that the growth in employment had relatively little impact on the level of unemployment. The decline in unemployment in Australia from 9.9 per

Figure 1: Economic Growth and Unemployment in Australia and the OECD, 1980-1990



cent to 6.1 per cent between 1983 and 1989 was larger than in the OECD as a whole, yet Australia's unemployment rate was still higher in 1990 than in 1980 - both in absolute terms (Table 1) and relative to the OECD unemployment rate (Figure 1).

Employment trends over the decade are provided in more detail in Table 2 and illustrated in Figure 2. Between 1980 and 1990, total employment increased by 1.64 million or over 26 per cent. Almost 58 per cent of these additional jobs were full-time, but the prevalence of part-time jobs increased, from 16 per cent of all jobs in 1980 to over 21 per cent in 1990. Female employment increased by 985 thousand, this representing 60 per cent of total employment growth, while employment amongst married women rose by 646 thousand and accounted for almost 40 per cent of the overall growth in employment, virtually the same as the growth in male employment. These developments thus saw the continuation of two longer-term labour market trends which other countries have also been experiencing: the increasing importance of part-time work and the growth in the labour force attachment of married women.

The increased employment of married women led to major changes in the employment status of family members. These developments saw the number of married couple families where both partners were employed increase from 39 per cent of all couple families in 1980 to almost 49 per cent by 1990 (Table 3). The percentage of couples with only one partner in employment declined by even more than this, while the percentage with neither partner in employment rose slightly from 18 per cent to almost 22 per cent. Even between 1983 and 1989, when employment was growing most rapidly, the number of families with neither partner in employment continued to rise, both absolutely and as a percentage of all couples. Some of these no-earner families will have been over pension eligibility age while others will contain those who have retired early, whether by choice or not. One thus needs to be cautious when interpreting the trends shown in Table 3, although it is clear that many of the jobs created over the period were taken by individuals in couple families where there was already one person employed. This in turn helps to explain why the decline in unemployment was so modest despite the strong growth in employment.

Table 1: Unemployment in the 1980s

	Males		All Females		Married Females		Persons	
Year (June)	Numbers (`000)	Rate (%)	Numbers (`000)	Rate (%)	Numbers (`000)	Rate (%)	Numbers (`000)	Rate (%)
1980	210.3	5.0	199.0	8.0	71.1	5.0	409.3	6.1
1981	182.5	4.3	171.2	6.8	65.2	4.5	353.7	5.2
1982	240.6	5.6	211.0	8.2	77.0	5.3	451.6	6.6
1983	424.5	9.8	268.7	10.3	105.5	7.0	693.2	10.0
1984	374.3	8.5	258.1	9.5	100.1	6.4	632.5	8.9
1985	365.8	8.2	241.8	8.6	96.1	6.0	607.6	8.4
1986	321.3	7.0	242.5	8.1	100.4	5.7	563.8	7.4
1987	353.3	7.6	249.8	8.1	100.7	5.5	603.1	7.8
1988	316.2	6.7	252.9	7.9	101.2	5.3	569.1	7.2
1989	260.5	5.4	216.9	6.4	90.0	4.5	477.4	5.8
1990	298.7	6.0	243.0	6.9	100.2	4.8	541.8	6.4

Source: dXEcon Data

These changes have important consequences for, and may in part result from, changes in income distribution, where the family (or some variant thereof) rather than the individual is the normal unit of analysis. Before proceeding to investigate these, another feature of labour market developments which needs to be considered relates to the changing structure of employment opportunities. In a recent study Gregory (1993) investigates this issue using data from the annual survey of the distribution of weekly earnings conducted each May. The analysis begins by using data on the earnings distribution of full-time adult male non-managerial employees in May 1976 to construct earnings quintiles and quintile cut-offs expressed relative to median earnings in that year. These relative quintile cut-offs were then applied to median earnings in each survey between 1976 and 1990 and the growth in employment falling into each category was estimated. The results are summarised in Table 4.

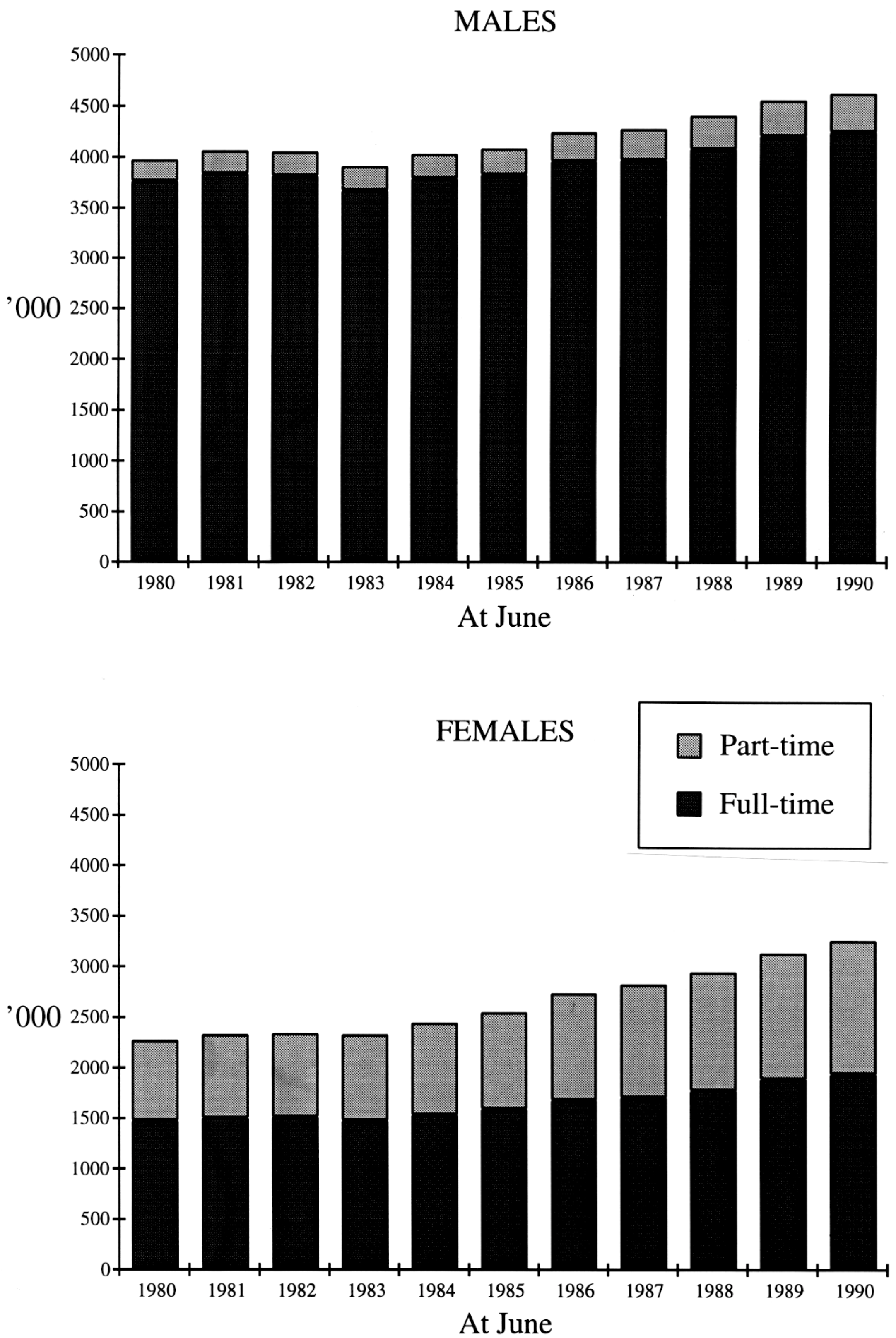
It needs to be emphasised that the quintiles shown in Table 4 are not the same as those normally employed in distributional studies, because it is the quintile cut-offs (expressed relative to median earnings) that are held constant over time, not the percentage of the population falling into each quintile. In interpreting the estimates in Table 4, Gregory begins by noting

Table 2: Employment Growth in the 1980s (Thousands)

At June	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Males											
Full-time	3779.4	3851.9	3831.0	3684.3	3800.6	3840.2	3973.6	3985.7	4098.6	4222.4	4265.5
Part-time	204.9	222.5	233.9	240.2	244.6	258.1	284.3	305.5	319.9	348.2	373.8
Total	3984.3	4074.4	4064.9	3924.5	4045.3	4098.3	4257.9	4291.2	4418.4	4570.6	4639.2
All Females											
Full-time	1489.6	1512.8	1526.1	1489.0	1543.3	1604.8	1690.5	1720.1	1784.7	1902.9	1950.9
Part-time	796.0	826.7	823.2	853.0	910.4	956.2	1059.4	1117.6	1175.1	1246.9	1319.9
Total	2285.6	2339.6	2349.3	2342.0	2453.8	2561.0	2749.8	2837.7	2959.8	3149.9	3270.8
Married Females											
Full-time	755.9	751.0	762.1	756.0	785.9	801.4	884.3	905.4	960.6	1013.7	1063.9
Part-time	600.4	621.6	614.3	636.1	667.7	712.5	782.2	820.6	858.1	892.2	938.0
Total	1356.2	1372.5	1376.5	1392.0	1453.6	1513.9	1666.5	1726.0	1818.7	1906.0	2001.9
Persons											
Full-time	5269.0	5364.7	5357.1	5173.3	5344.0	5445.0	5664.0	5705.8	5883.3	6125.3	6216.4
Part-time	1000.9	1049.2	1057.1	1093.2	1155.1	1214.3	1343.6	1423.1	1495.0	1595.1	1693.6
Total	6269.9	6413.9	6414.3	6266.5	6499.0	6659.4	7007.7	7128.9	7378.3	7720.5	7910.0

Source: dXEcon Data

Figure 2: Employment Growth in the 1980s



Source: Table 1

Table 3: Employment Status of Partners in Married Couple Families (Number of Families)[(a)(b)]

Year	Neither Partner Employed (`000)	(%)	One Partner Employed (`000)	(%)	Both Partners Employed (`000)	(%)	Total (`000)	(%)
1980	601.1	(18.0)	1430.0	(42.7)	1316.7	(39.3)	3347.8	(100)
1981	642.5	(19.0)	1433.4	(42.3)	1313.8	(38.8)	3389.7	(100)
1982	699.5	(20.2)	1430.8	(41.3)	1336.0	(38.5)	3466.3	(100)
1983	762.9	(22.2)	1385.9	(40.4)	1280.4	(37.3)	3429.2	(100)
1984	730.1	(21.2)	1368.8	(39.8)	1341.3	(39.0)	3440.2	(100)
1985	774.6	(22.3)	1300.9	(37.4)	1405.1	(40.4)	3480.6	(100)
1986	779.1	(22.1)	1226.1	(34.8)	1519.7	(43.1)	3524.9	(100)
1987	804.5	(22.6)	1183.5	(33.2)	1576.3	(44.2)	3564.3	(100)
1988	822.2	(22.5)	1183.2	(32.3)	1654.8	(45.2)	3660.2	(100)
1989	823.8	(22.1)	1159.7	(31.1)	1745.5	(46.8)	3729.0	(100)
1990	825.2	(21.6)	1129.1	(29.6)	1858.0	(48.7)	3812.3	(100)

Notes: (a) Families are defined to comprise two or more related persons resident in the same household.
(b) The figures for 1980 and 1982 to 1985 refer to July, the others to June.

Source: *Labour Force Status and Other Characteristics of Families, Australia*, Catalogue No. 6224.0, Australia Bureau of Statistics, Canberra: various issues.

Table 4: Employment Growth by Earnings Quintile, 1976-1990(Thousands)[(a)]

Quintile	Male Employees	Female Employees	Public Sector	Private Sector	All Employees
Lowest	176	114	111	178	**983**
Second	-51	24	29	-60	**4**
Third	-82	54	-4	-25	**10**
Fourth	15	104	89	30	**139**
Highest	94	50	35	117	**243**
Total	**152**	**347**	**260**	**240**	**1379**

Note: a) Full-time, non-managerial employees only.

Source: Gregory, 1993, Table 1.

that if male full-time non-managerial employment had kept pace with population growth over the period, there would have been an overall employment growth of 31 per cent, and if this growth had been evenly distributed the increase in employment in each quintile would have been about 129 thousand. In fact, actual employment growth in the middle three quintiles declined by 118 thousand, equivalent to a loss of 505 thousand jobs relative to the job growth expected if employment had kept pace with population growth and had been distributed evenly.

Table 4 reveals that, for male employees, practically all of the net job growth occurred in the top and bottom quintiles, particularly in the bottom quintile. A similar, though less marked, pattern is also apparent for females and the substantial decline in middle-paying jobs is also apparent in both the public and private sectors. The growth of jobs in the highest quintile in the public sector is well below that in the private sector, an effect which Gregory attributes to the Accord. Overall, however, Gregory concludes that the Accord had little effect on retarding the growing dispersion of earnings in either the public or private sectors. Further analysis revealed that the extent of the widening dispersion of earnings in Australia was very similar to that experienced in the United States over the same period and that, as a consequence, there was no trend towards convergence in the earnings distributions in the two countries. A consequence of the disappearance of middle-pay jobs has been that displaced workers have taken the low-paying jobs which were previously occupied by the least skilled workers. This, Gregory argues, implies that low-paying jobs are now occupied by more highly productive employees (who previously occupied middle-pay jobs) making it even harder for displaced unskilled workers to regain employment and thus adding to the problems of long-term unemployment.

In summary, the labour market trends discussed above indicate significant developments on both the supply and demand sides of the labour market which could, in principle, have led to an increase in inequality in Australia over the 1980s despite the policy context described earlier. The first is the increased prevalence of married women's labour force participation and the growing importance of two-earner couples. The second is the disappearance of middle-paying jobs and the concentration of job growth in the lowest and highest paid positions. Before considering how these have affected the distribution of income, it is instructive to review developments in selected aggregate income components.

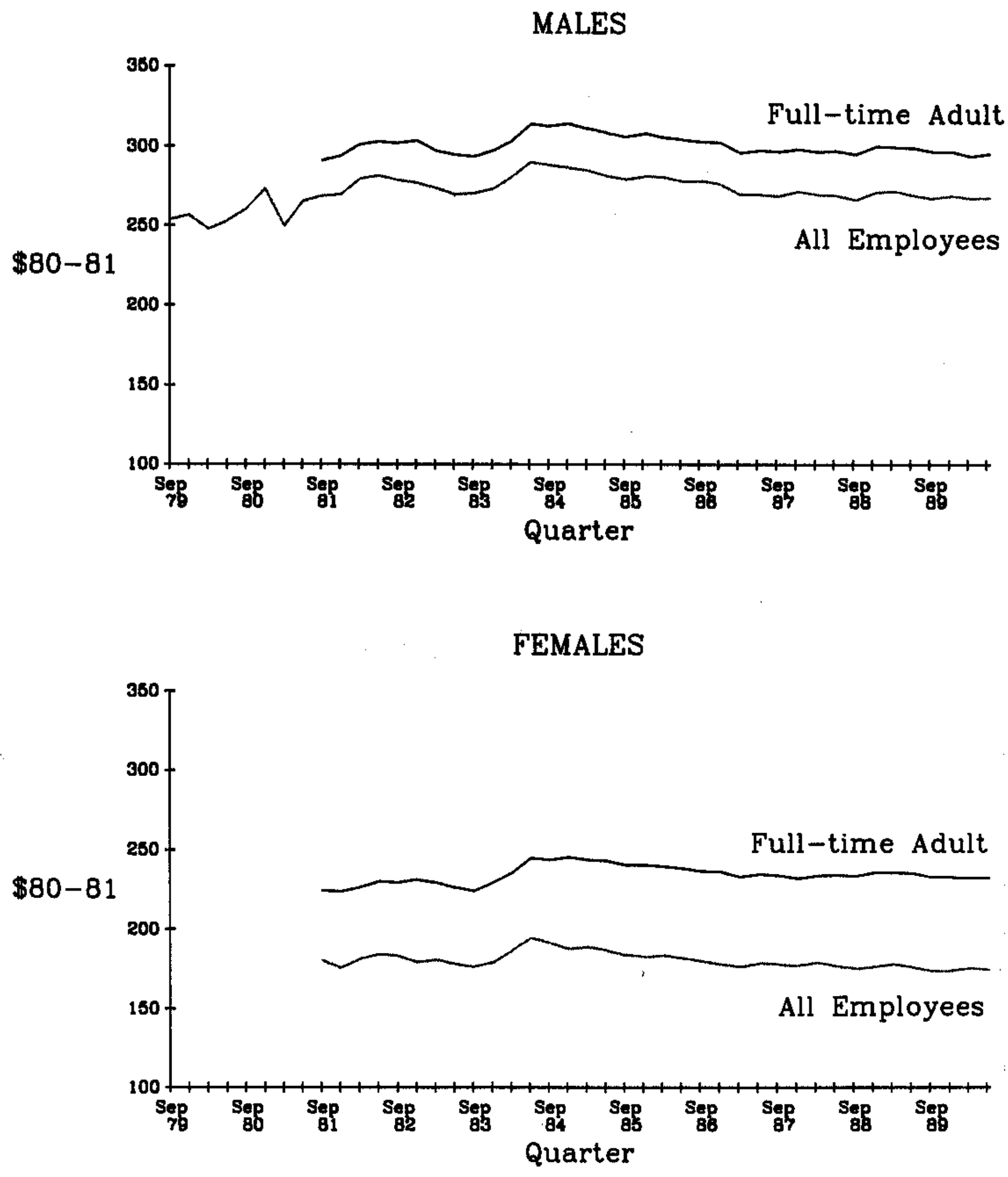
Earnings trends over the 1980s are summarised in Figure 3. These reveal the extent to which earnings growth has been constrained under the Accord. Between the March quarter of 1983 (when the Accord first came into operation) and the June quarter of 1990, average male earnings fell by around 2.0 per cent in real terms, while real average female earnings fell by 3.4 per cent. These partly reflected the change in the composition of employment towards more part-time work (Table 1) although there was still a slight decline (less than 0.5 per cent) in average earnings for full-time male employees but a slight increase (1.5 per cent) for full-time females. That real earnings could have been so constrained during a period of rapid employment growth is evidence of the impact of the Accord process on wage outcomes, this being made possible by Australia's centralised wage determination system.

Of more interest in the context of income distribution and living standards is Figure 4 which shows movements in real household disposable income per capita (HDYC) over the decade. This is a more comprehensive (National Accounts based) income measure which takes account of the growth in employment, the increased contribution of married women's earnings to household income, as well as the role of other non-wage incomes and the impact of income tax payments. The HDYC measure is also of particular interest as it has been used to adjust the poverty line in most Australian poverty research (see Section 4 below). Movements in real HDYC follow a marked cyclical pattern but the overall trend is clearly upward. Over the period as a whole, real HDYC rose by 13.3 per cent, while the increase after March 1983 was 11.7 per cent. On this measure, therefore, the growth in the economy (Figure 1) translated into higher average living standards, even though real earnings remained fairly static (Figure 3).

3 Trends in Income Inequality

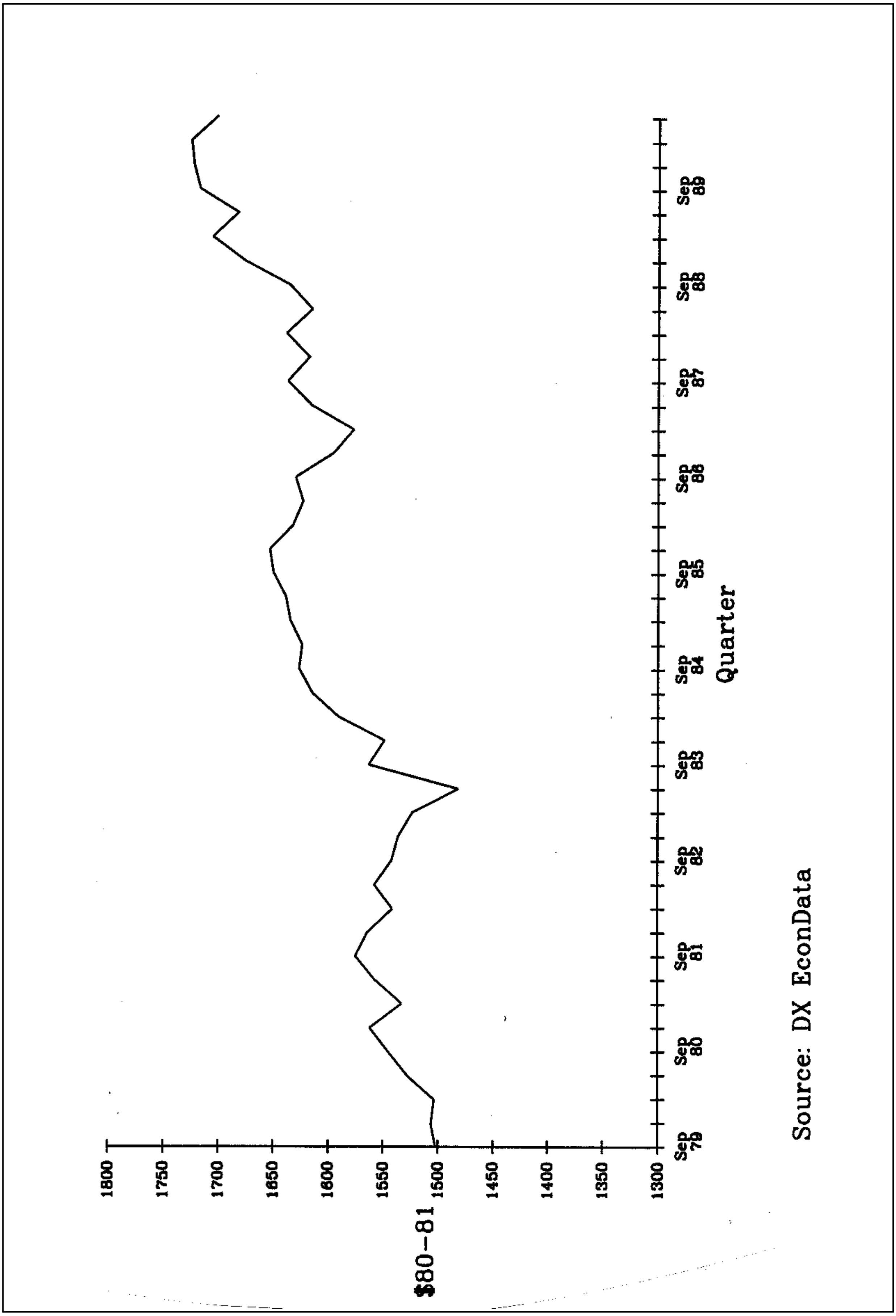
The data used in this and the following Section to describe trends in inequality and relative poverty in Australia in the 1980s are contained on the unit record files released by the ABS and based on the household income

Figure 3: Trends in Real Weekly Earnings



Source: DX EconData

Figure 4: Trends in Real Household Disposable Income Per Capita



surveys undertaken in 1982 and 1990. The income data refer to the financial years 1981-82 and 1989-90. One advantage of these particular years is that they both represent approximately the same point in the business cycle - just before the onset of recession which led to a rapid rise in unemployment (Figure 1). It needs to be emphasised, however, that comparisons based on two points in time can be misleading if considerable variation took place in the intervening period. This issue will be returned to further below.

Considerable effort has been made to ensure consistency in the data by, for example, re-coding negative incomes to zero, and checks have been made wherever possible to ensure that the results conform with those published by the ABS itself. However, despite these efforts it must be acknowledged that perfect consistency of concept and definition is an ideal which should be strived for but will never be achieved in practice. Not only do statistical agencies themselves change their definitions, but even were definitional consistency to be achieved, problems would still arise as a consequence of other changes which will impact on data of this kind to an unknowable degree.

It has already been noted, for example, that both a capital gains tax and a fringe benefits tax, as well as a system of dividend imputation, were introduced in the mid-1980s. By closing existing tax loopholes, these tax measures are likely to have led to behavioural changes which may well have impacted upon the measurement and scope of income as recorded in income surveys. Indeed, such behavioural changes were an important part of the motivation for the introduction of such tax reforms in the first place. In the case of the fringe benefits tax, for example, the removal of the tax advantage of such noncash employment-related provisions over monetarised payments may have caused some `cashing-out' of these noncash benefits in the form of higher wages and salaries. This will in turn have led to an increase in recorded wage incomes (most likely concentrated in the higher income ranges) which reflect behavioural and reporting adjustments in response to the introduction of a more comprehensive tax base. What shows up as an increase in inequality of pre-tax cash income may thus more accurately reflect a decline in inequality of post-tax income, more broadly defined.[2] It is not possible to gauge the magnitude of these effects, but their existence and likely impact should be kept in mind when interpreting the results.

Another issue relates to the calculation of personal tax payments. The file based on the 1981-82 income survey contains no information on tax payments and these had to be imputed from the tax laws. In the later survey, tax information was imputed by the ABS itself prior to release of the unit record file. Finally, there are likely to be errors in the data itself. These have emerged as researchers have increasingly relied upon the files for ever more sophisticated analyses. Where errors have been discovered, particularly on the most recent file, these have generally been conveyed to the ABS who has investigated and, where appropriate, corrected them. As a consequence, the data file for 1989-90 from which the following estimates have been derived is the fourth version of the file for that year released by the ABS. A similar process of data correction has not been followed with the earlier files which may thus contain errors. Again, this needs to be borne in mind when assessing the results or, more accurately, the estimates which follow.

3.1 Income Shares

Table 5 presents estimates of how the overall income distribution changed between 1981-82 and 1989-90 using the three income concepts now used most extensively in the distributional literature (O'Higgins, Schmaus and Stephenson, 1990; Saunders, 1992c). The basic unit of analysis underlying Table 5 is the ABS income unit concept which corresponds broadly to that used for the determination of social security entitlements. An income unit comprises single people, sole parents and married couples (*de jure* or *de facto*) with or without dependent children. Dependent children are unmarried persons living with their parents and either aged under 15 (under 16 in 1989-90) or full-time students aged 15 to 20 (16 to 20 in 1989-90).

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2 Atkinson (1993) has recently noted that the reductions in marginal tax rates at higher income levels may also have caused a larger proportion of remuneration at the higher levels to appear in the statistics. It is also possible that introduction of the fringe benefits tax may have `legitimised' fringe benefits and caused them to become a more acceptable, and hence more important, form of remuneration.

Table 5: The Distributions of Gross Income, Net Income and Net Equivalent Income In Australia, 1981-82 and 1989-90 (Decile Shares)

Decile	Gross Income	Net Income	Equivalent Net Income(a)
		1981-82	
Lowest	1.8	2.2	3.2
Second	2.9	3.6	5.5
Third	4.3	5.1	6.6
Fourth	5.7	6.4	7.6
Fifth	7.5	7.9	8.6
Sixth	9.2	9.6	9.6
Seventh	11.2	11.4	10.8
Eighth	13.6	13.6	12.5
Ninth	17.2	16.6	14.8
Highest	26.7	23.7	20.9
Gini coefficient	0.40	0.35	0.27
Coefficient of variation	0.78	0.65	0.52
		1989-90	
Lowest	1.6	2.0	3.0
Second	2.8	3.4	5.3
Third	3.9	4.7	6.4
Fourth	5.2	6.1	7.3
Fifth	6.8	7.6	8.3
Sixth	8.7	9.1	9.4
Seventh	10.8	11.0	10.8
Eighth	13.5	13.5	12.5
Ninth	17.4	16.9	14.8
Highest	29.5	25.7	22.4
Gini coefficient	0.43	0.38	0.29
Coefficient of variation	0.92	0.75	0.61

Note: (a) Individual weighting is used in constructing this distribution.

Sources: *1981-82 Income and Housing Survey* and *1990 Survey of Income and Housing Costs and Amenities;* unit record files.

Young people who do not fit this definition of being dependent are treated as separate income units. In deriving the estimates shown in the third column of Table 5, equivalent income has been distributed to all individuals in each income unit and the aggregation has been based on individual weightings, making the individual the focus of analysis.

In both years, the estimates in Table 5 indicate that net income is more equally distributed than gross income, and that the distribution of individual equivalent net income is more equal still.[3,4] Using individual weights and adjusting for differences in need through the use of an equivalence scale has a far bigger impact on income inequality in both years than the progressivity of personal income taxes. For all three income measures, the Lorenz curve for 1989-90 lies wholly outside of that for 1981-82. All three distributions thus indicate more inequality in 1989-90 than in 1981-82, the most substantial change occuring in the highest decile, particularly in relation to its share of gross income. On the basis of the Gini coefficient, the degree of inequality increased by 10.7 per cent (gross income), 8.6 per cent (net income), and 7.4 per cent (equivalent net income). These increases in inequality are considerable over what is a relatively short period. They were such that the estimated distribution of net income in 1989-90 was only slightly more equal than the distribution of gross income was in 1981-82. The personal tax system (as well as the transfer system) thus continued to turn back the tide of inequality, but the tide itself was growing steadily stronger.

Table 6 utilises the same data to explore how inequality between income unit types rather than between income classes has changed.[5] The income unit definitions employed are:[6]

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3 The decile share estimates of the income unit gross income distribution shown in Table 5 conform very closely - always within 0.1 of a percentage point - to those recently published by ABS itself (ABS, 1992; Table 6.1.1).

4 The equivalence scales used to derive the distribution of equivalent income are discussed in more detail in the following Section and in the Appendix.

5 No meaning can be attached to the absolute dollar amounts of equivalent income shown in Table 6, as these depend upon the income unit type against which the equivalence scales are benchmarked. Comparisons over time or ordinal comparisons in a particular year are, however, meaningful.

6 The age of eligibility for age pension in Australia is 65 for males and 60 for females.

Single, aged	=	males aged 65 and over and females aged 60 and over.
Single, non-aged	=	males under 65 and females aged under 60.
Aged couples	=	childless couples where the male is aged 65 or over.
Non-aged couples	=	childless couples where the male is aged under 65.
Sole parents	=	single adults with at least one dependent child.
Couples with children	=	couples with at least one dependent child.

The main changes in demographic composition over the period were the increased prevalence of non-aged couples without children and the offsetting decline in couples with children. There was also a slight increase in the proportion of aged income units, particularly aged couples. Overall, mean gross income increased in real terms by 4.8 per cent, while real net income and real net equivalent income both rose by about 3.0 per cent. Average living standards thus rose overall, but not for each income unit type.

The group which experienced the largest increase in real income (and the largest increase in its income share) is non-aged couples without children. Aged income units and sole parents broadly maintained their income shares, whilst the main losers in relative terms were single non-aged people (whose income share declined by between 1 and 2 percentage points) and couples with children (whose share declined by between 3 and 4 percentage points). It is important to emphasise, however, that couples with children also declined in size relative to other income unit types, so that their declining overall income share is consistent with substantial improvements in real mean incomes. In fact, the mean income of couples with children increased by much the same amount as the mean income of couples without children. This analysis suggests that the higher incomes associated with the growth in employment described earlier benefited couples to a far greater extent than either single people or sole parents. For all six income unit types, shown in Table 6 the real increase (decrease) in mean net income between 1981-82 and 1989-90 was smaller (larger) than the increase in mean gross income, confirming the increased significance of personal taxation (when combined with the Medicare levy) despite the reductions in nominal tax rates.

Table 6 focuses on how overall inequality changed between different income unit types. We turn now to a more formal decomposition of inequality within and between these income unit types. Given the

Table 6: Income Inequality Between Income Unit Types

Income Unit Type	Percentage of all Income Units	Gross Income Mean[a] ($89-90)	Gross Income Share (%)	Net Income Mean[a] ($89-90)	Net Income Share (%)	Equivalent Net Income Mean[a] ($89-90)	Equivalent Net Income Share (%)
1981-82							
Single, aged	10.7	10660	4.0	9740	4.6	26220	8.3
Single, non-aged	33.1	19740	22.9	15800	22.9	37450	36.7
Couple, aged	6.7	20600	4.8	18240	5.3	30420	6.0
Couple, non-aged	15.3	40650	21.8	31900	21.4	42630	19.3
Sole parent	4.2	16200	2.4	14380	2.6	20510	2.5
Couples with children	30.0	42130	44.2	32890	43.2	30580	27.1
1989-90							
Single, aged	10.8	11060	4.0	9970	4.6	25920	8.2
Single, non-aged	32.8	19700	21.6	15590	21.8	36210	34.8
Couple, aged	7.6	22010	5.6	19240	6.3	31650	7.1
Couple, non-aged	17.8	44120	26.2	33800	25.6	43900	22.9
Sole parent	4.6	16120	2.5	14280	2.8	19730	2.6
Couples with children	26.4	45520	40.2	34710	39.0	31580	24.4

Note: a) Mean incomes for both years are expressed in 1989-90 prices by adjusting by movements in the Consumer Price Index.

Sources: See Table 5.

significant changes in the employment status of family members (Table 3) the analysis will also be undertaken for groups defined according to the number of earners (ie. individuals with a positive income from earnings, including from self-employment) in the income unit. The groups defined for this purpose were; aged income units with no earners, non-aged income units with no earners, non-aged units with one earner and non-aged units with two or more earners. The inequality measure used, following Cowell (1984) and Jenkins (1992), is half the squared coefficient of variation ($CV^2/2$), which is a member of the generalised entropy family of inequality measures (I_α) discussed by Shorrocks (1984) for the case where $\alpha = 2$. Members of the I_α family have the appealing property that overall inequality in a population can be additively decomposed into a weighted sum of inequality within each of a number of mutually exclusive and exhaustive sub-groups in the population and a between-group inequality term based on the mean incomes and sizes of the sub-groups (Jenkins, 1991).[7]

The results from the application of this method to private (market) income, gross income and net income in each year are presented in Table 7.[8] These results indicate that inequality increased between 1981-82 and 1989-90 by about 30 per cent in the case of private income, by 35 per cent for gross income and by 35 per cent for net income.[9] Interestingly, the tax-transfer system performed the same overall redistributive task in both years, the degree of inequality of net income being just below half (49 per cent) of that of private income in both 1981-82 and 1989-90. The decompositions also reveal a fairly consistent story, one which is similar to that indicated by the recent decomposition analysis undertaken by Jenkins (1992) for the United Kingdom between 1971 and 1986.

For all three income concepts, both years and both groupings, the within-group inequality term is larger than the between-group term.[10] The between-group term is, however, a larger proportion of the within-group

Table 7: Within-Group and Between-Group Inequality: Decomposition of $CV^2/2$

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7 This and other properties of $CV^2/2$ and of other inequality measures are discussed in Jenkins (1991).

8 Private income is equal to gross income minus income from government cash benefits.

9 The inequality measure being used here is sensitive to changes at the top of the distribution which, given the results in Table 5, explains why these changes are so large.

10 This finding is supported by results from the decomposition analysis based on data from the Household Expenditure Surveys of 1984 and 1988-89 undertaken by Raskall and McHutchison (1992).

Income Concept and Year	Within-Group Inequality	Between-Group Inequality	Aggregate Inequality
GROUPS DEFINED BY INCOME UNIT TYPE			
Private Income			
1981-82	0.301	0.138	0.439
1989-90	0.421	0.148	0.569
Gross Income			
1981-82	0.221	0.093	0.313
1989-90	0.317	0.104	0.421
Net Income			
1981-82	0.136	0.080	0.217
1989-90	0.192	0.089	0.281
GROUPS DEFINED BY THE NUMBER OF EARNERS			
Private Income			
1981-82	0.242	0.196	0.439
1989-90	0.346	0.222	0.569
Gross Income			
1981-82	0.195	0.119	0.313
1989-90	0.278	0.144	0.421
Net Income			
1981-82	0.119	0.098	0.217
1989-90	0.164	0.117	0.281

Sources: See Table 5.

term when the groups are defined by the number of earners rather than when the groups are defined by income unit type. For the income unit type decomposition, the size of the within-group term relative to the between-group term is smaller for net income than for private income in both years. When the decomposition is based on the number of earners the within-group term is approximately the same size relative to the between-group term for both private and net income in both years. For both decompositions, the within-group effect increased over time, to the extent that the relative importance of the within-group and between-group effects for net income in 1989-90 were much the same as they were for private income in 1981-82. That the between-group inequality term is larger (in relative terms) when the decomposition is based on the number of earners indicates that differences in the number of earners in families played more of a role in shaping the structure of income inequality in the 1980s than differences in the economic fortunes of different income unit types.

With regard to changes in inequality, whichever decomposition is considered the change in within-group inequality dominates the change in between-group inequality. When the groups are defined by income unit type, the former explains 92 per cent of the aggregate change in private income inequality, 89 per cent of the change in gross income inequality, and 87 per cent of the change in net income inequality. When the decomposition is based on the number of earners in the unit, the within-group changes still dominate, although they decline in relative size somewhat, their contribution to the overall change being 80 per cent (private income), 77 per cent (gross income) and 70 per cent (net income). Whichever decomposition is used, the size of the change in the between-group term is larger for gross income than for private income, and larger again for net income.

Income inequality thus increased both within and between groups, however defined, and increased both before transfers, after transfers and after transfers and taxes combined. The fact that the relative importance of changes in between-group inequality is greater when the decomposition is undertaken according to the number of earners rather than by income unit type confirms the earlier impression that a good deal of the explanation of the change in inequality lies in labour market developments, the types of new jobs created and the characteristics of those who took them.[11]

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11 In a recent study Saunders (1993b) shows that the earnings of wives in married couple families with husbands aged 25 to 54 reduced family income inequality in both 1981-82 and 1989-90 and that changes in the contribution of wives' earnings to family income did not cause increased inequality of family incomes between the two years.

Increased earnings inequality was, however, not the only factor causing the greater disparity of private incomes. If, for example, the analysis is restricted to aged income units only - where earnings are of only minor significance - the changes in income inequality between 1981-82 and 1989-90 are of similar magnitude to those for the whole population shown in Table 5. This suggests that unearned income, particularly interest income in the wake of high interest rates, played an important role in widening income disparities in the latter half of the decade. To go beyond such broad generalisations regarding the relative importance of this and other proximate causes of inequality would require a far more thorough analysis than has been undertaken here. What does seem clear, however, is that not all of the explanation of increasing inequality can be attributed to changes in the labour market. Furthermore, no comprehensive account of how inequality has evolved in the 1980s in Australia can ignore the role of the tax-transfer system and how it has changed over time.

The results discussed so far in this Section establish quite clearly that income inequality in Australia was more pronounced in 1989-90 than in 1981-82. This finding does not, of course, imply a uni-directional increase in inequality over the period, nor does it say anything about the impact of the government policies described earlier. In relation to the latter, the investigation of impact effects requires the specification of a counterfactual and this has not been attempted. Even were such an exercise attempted, problems would arise because the observed changes in inequality in any particular period will partly reflect the impact of past policies, while current policies are likely to have an impact which extends beyond the period. Any conclusion that ALP policies have caused, or even contributed to, the observed increase in inequality would thus be premature and cannot be supported by the evidence presented here.[12]

In order to establish what may have happened to inequality (and living standards) in the years between 1981-82 and 1989-90, two possible approaches suggest themselves.[13] The first approach involves simulating

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12 Harding and Mitchell (1992) consider more explicitly the role of government tax and transfer policies in the context of changes in poverty and inequality in the 1980s.

13 There was an income survey undertaken in 1986 which provides information for 1985-86 but even this does not allow shorter-run movements to be identified.

the distributional effects of labour market, demographic, social security, other income and income tax changes through the development of a microsimulation model designed specifically for this purpose. Such a model has been developed in recent years by my colleagues at the Social Policy Research Centre, their results being presented in a number of studies (Bradbury, Doyle and Whiteford, 1990; Bradbury, 1992; Bradbury and Doyle, 1992; Saunders, 1991b). While it would not be appropriate to place undue emphasis on any single result - in part because the model itself has been continually revised and improved, but also because the model still does not always predict actual outcomes that accurately - broad trend indications are likely to be more reliable.

Amongst the most significant of these in the current context is the finding that a comparison of the simulated distributions of net income in 1983-84 and 1989-90 reveals an ambiguous trend in inequality, with the income shares of the first, second and fifth quintiles increasing at the expense of those of the third and fourth quintiles (Bradbury, 1992, Table 4.5).[14] This result, when combined with the actual distributional changes described earlier, suggests that much of the observed increase in inequality between 1981-82 and 1989-90 may actually have occurred between 1981-82 and 1983-84 and if so was almost certainly associated with the recession and the rise in unemployment which accompanied it (Figure 1; Table 1).

The second approach is more direct but also more aggregate and less complex. It involves using regression analysis to estimate the relationship between unemployment (and other macroeconomic variables) and income distribution as has been done in a number of recent studies.[15] A recent application of this method to Australian data revealed a significant impact of unemployment on income inequality, at least among families containing more than one person (Saunders, 1992a). When the regression results were used to estimate the impact of the current recession in Australia, they indicated an increase in inequality between 1989-90 and 1991-92 of a similar order of magnitude to that which took place between 1981-82 and

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14 The analysis undertaken by Bradbury and Doyle excludes all self-employed income units. However, the same broad result holds if the self-employed are included.

15 Blinder and Esaki (1978), Blank and Blinder (1986), Nolan (1988) and Bjorklund (1991).

1989-90. The regression results thus confirm the microsimulation results in suggesting that inequality will vary in the short-run in response to changing cyclical conditions in the economy.[16]

Changes in inequality within a particular period, as opposed to between the two points in time which span it, are thus likely to reflect macroeconomic developments as well as changes in redistributive programs. This has two important implications. The first is that any conclusions which are drawn about the redistributive impact of tax-transfer policies (as opposed to tax-transfer programs) must be qualified by reference to how cyclical conditions have varied. The second is that the recession which began in 1990 is very likely to have further exacerbated the trend towards increasing inequality, possibly by a considerable amount.[17]

Having discussed short-run variations in inequality, what of the longer-run trend? Income distribution comparisons over long periods of time are hampered by the lack of reliable data and results for earlier years which can be replicated with any accuracy using more recent data. Such studies as have been undertaken in Australia have tended to suggest a considerable reduction in inequality amongst male income recipients between 1914-15 and 1968-69 (Jones, 1975) and between 1932-33 and 1980-81 (McLean and Richardson, 1986). Saunders (1992b) has recently used the income survey data for 1989-90 to replicate a study of the distribution of individual incomes in 1942-43 undertaken by Brown (1957). Given the difficulties involved in such an exercise, combined with the fact that 1942-43 was a highly unusual year, the outcomes need to be interpreted vary cautiously. The results, summarised in Table 8, are remarkable in that they indicate that the overall change in gross income inequality between 1942-43 and 1989-90 was very small. The only significant changes took place within the top

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16 The results also indicate that the size and composition of the effects of unemployment on inequality between 1989-90 and 1991-92 derived from the microsimulation and regression methods are broadly similar (Saunders, 1992a, pp.18-19).

17 Saunders (1992a; Table 3) estimates that the rise in unemployment among families (i.e. excluding single people) between 1989-90 and 1991-92 caused the Gini coefficient to increase from 0.36 to 0.39, or by over 8 per cent.

Table 8: Estimates of the Distribution of Individual Gross Incomes (Decile Shares)

Decile	1942-43	1981-82	1989-90
Lowest	2.3	2.4	2.4
Second	2.7	3.2	3.2
Third	4.3	4.1	4.0
Fourth	5.7	5.6	5.4
Fifth	7.6	7.6	7.3
Sixth	8.6	9.7	9.2
Seventh	11.1	11.5	11.0
Eighth	12.2	13.6	13.2
Ninth	14.3	16.5	16.3
Highest	31.2	25.7	28.1
Gini coefficient	**0.41**	**0.38**	**0.40**

Source: Saunders, 1992b, Tables 2 and 4.

three deciles, the share of the highest decile declining and those of the two deciles below it increasing commensurately. The decline in the Gini coefficient from 0.41 to 0.40 seems miniscule when placed alongside the enormous increase in the size and scope of social security programs over the period.

An implication is that the expansion of these programs (which are known to be vertically redistributive) has been accompanied by growing inequality of private income, this being the only obvious explanation for the absence of any significant reduction in gross income inequality.[18] Perhaps of more significance, Table 8 indicates that the increase in inequality between 1981-82 and 1989-90, when assessed on the same basis as the methods used to derive the 1942-43 estimates, is considerable when viewed in this longer-term perspective. In terms of both the change in the Gini coefficient and the upward redistribution in favour of those in the highest decile, the period from 1981-82 to 1989-90 appears to have reversed much of the

18 One of the factors likely to have contributed to this is associated with increased unemployment. Being in the midst of the war effort, 1942-43 was a year of full (if not over-full) employment, with an unemployment rate of 1 per cent. In contrast, the average unemployment rate during 1989-90 was 6.2 per cent.

redistributive change which occurred over the previous forty years.[19] The 1980s was thus a decade when the change in inequality in Australia was significant, not only absolutely, but also when viewed in a longer-term historical context.

4 Relative Poverty

Research on poverty in Australia dates back to the mid-1960s, most of it adopting the measurement framework developed by the Commission of Inquiry into Poverty which reported in 1975 (Commission of Inquiry into Poverty, 1975). That framework focuses on income poverty using a poverty line proposed by the Commission and named after its Chairman - the Henderson poverty line. The line was initially set (in 1966) equal to the level of the minimum wage plus family benefits for a one-earner couple with two children. Being an explicitly relative poverty standard, the line was subsequently adjusted by the Poverty Commission in line with movements in average weekly earnings. Since the early-1980s it has been adjusted by movements in household disposable income per capita to reflect both a broader income concept and so that the poverty standard is linked to after-tax income, the same basis as that on which poverty status is itself determined.

In the absence of any reliable Australian equivalence scales, those used in the Henderson poverty line were derived from the 1954 Family Budget Standards produced by the Budget Standard Service of the Community Council of Greater New York. These scales are rather complex, varying not only with the number of adults and children in the unit, but also with their age and workforce status and the total number of people in the household within which each unit is living. Details are provided in the Appendix. The equivalence scales, along with the various other elements of the Henderson poverty line, have been subject to on-going criticism and researchers are currently engaged in reviewing these with a view to proposing a range of specific amendments. The basic Henderson poverty line will, however, be used here to measure changes in poverty, although some sensitivity analysis will also be undertaken.

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19 There is evidence (Raskall, 1993) that the trend towards increasing inequality in Australia began in the mid-1970s.

The data used to measure poverty is that used in the previous Section to analyse income inequality. Following the Poverty Commission, two groups are omitted from the analysis, juveniles living in the parental home and self-employed income units, on the grounds that income as measured in income surveys provides an imperfect indicator of financial well-being in these cases.[20] Application of the Henderson poverty line framework produces the results shown in Table 9. Estimates are provided of poverty both before and after housing costs. The latter are derived by subtracting housing costs in the form of mortgage and loan repayments, rent and local government property rates from net income and comparing the resulting figure with a poverty line which excludes the housing cost element (see Appendix).[21]

The results indicate an increase in poverty both before and after housing costs, in aggregate and for each separate income unit type. In both years, poverty after housing costs is about one percentage point lower than poverty before housing costs. Sole parent families have the highest poverty rates, over four times as high as the overall rate in 1981-82 and three and a half times as high in 1989-90. Poverty is generally much higher in units with only one adult present than it is among couples. The large increase in poverty among the single aged reflects the fact that the level of the age pension on which most of this group rely is close to the Henderson poverty line, making head-count poverty estimates sensitive to relatively small changes in either the poverty line or the level of the pension (an issue explored further below). The increase in poverty among aged couples is much lower, even though both the single aged and aged couples received virtually identical pension increases over the period. In any one year, poverty rates after housing costs are lower for most (but not all) groups. Housing costs have a large impact on poverty rates amongst the aged,

Table 9: Poverty Rates Before and After Housing Costs (Percentages)

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20 The self-employed are defined here as income units with either any income from self-employment during the survey period or who were self-employed at the time of the survey. Juveniles are single people aged under 20 (in 1981-82) or under 21 (in 1989-90) who are living with other family members.

21 The other element of household costs - fuel and power expenses - are not deducted when estimating poverty after housing costs.

	Before Housing Costs		After Housing Costs	
Income Unit Type	1981 - 82	1989 - 90	1981 - 82	1989 - 90
Single, aged	10.1	27.4	6.0	8.1
Single, non-aged	12.0	17.0	12.1	19.0
Couple, aged	5.2	6.8	3.9	4.8
Couple, non-aged	3.4	6.3	2.8	5.8
Sole parent	43.8	57.5	38.3	54.4
Couples with children	7.1	10.4	7.4	14.4
Total	**10.2**	**16.4**	**9.4**	**15.0**

Sources: See Table 5.

reflecting the high incidence of home ownership amongst the elderly in Australia. In contrast, for non-aged income units poverty rates after housing costs are higher than poverty before housing costs, and the increase in poverty between 1981-82 and 1989-90 is more pronounced.

Although the before housing costs and after housing costs poverty estimates in Table 9 reveal the same general picture, housing costs themselves have varied considerably over the period. There are a number of reasons for this, among the most significant being the impact of high interest rates on mortgage interest payments (which are not deductible for personal taxpayers in Australia). Other notable factors include the considerable increases in social security payments to private renters in the latter half of the 1980s, and the tendency for rents in government housing (which are determined by State governments) to be adjusted towards market rates and then, through a system of rebates, held at a fixed proportion of gross income. There have also been substantial changes in the composition of those in any specific tenure situation, particularly government renters where increased priority has been given to sole parents and other social security recipients.

These factors are likely to have had different effects on the immediate living standards of those in different housing tenures, an issue explored in

Table 10. This reveals that while mean net income rose in real terms in almost all cases, mean net income after housing costs fell in real terms between 1981-82 and 1989-90 for all groups except outright owners. Many in this group are elderly, who will have benefited from the increase in interest rates on their savings without having to incur higher mortgage repayments.[22] The decline in real after housing costs net income was greatest for those in public housing, although this largely reflects the compositional change referred to earlier. Owner-occupiers were another group whose mean income after housing costs fell in real terms, although this group was acquiring an asset which attracts extremely favourable treatment in the tax-transfer system, owner-occupied housing being excluded from both the capital gains tax and from the assets test on social security benefits.[23] Despite these longer-term advantages, higher interest rates in the short run cut into spending power by raising mortgage repayments. Overall, Table 10 shows that housing costs had a considerable immediate impact on changes in the living standards of most Australian families over the decade.

Table 11 addresses the sensitivity of the estimates of poverty before housing costs to the level at which the poverty line is set.[24] The aggregate results are illustrated in Figure 5 and those for each income unit type in Figures 6 to 11. These results indicate that varying the level at which the poverty line is set does not markedly alter any of the major conclusions based on the Henderson poverty line shown in Table 9. It is clear, however, that a large proportion of the population in both years were on the margins of poverty, with incomes less than 20 per cent above the poverty line. The dominance result established by Atkinson (1987) indicates that for each poverty line

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22 Beginning in March 1991, the government introduced a `deeming' rate of interest on pensioners' cash and deposits in banks and similar institutions. The `deemed' interest earnt on these balances,rather than actual interest income, is used to determine pension entitlement under the income test.

23 There is also no taxation of imputed rental income in Australia, although there has been in the past.

24 A similar analysis based on poverty after housing costs produces the same broad conclusions.

Table 10: Net Incomes After Housing Costs by Housing Tenure ($1989-90)

Housing Tenure	Net Income 1981-82 ($)	Net Income 1989-90 ($)	Net Income Increase (%)	Net Income minus Housing Costs 1981-82 ($)	Net Income minus Housing Costs 1989-90 ($)	Net Income minus Housing Costs Increase (%)
Outright owner	22570	24740	9.6	21800	23720	8.8
Owner-purchaser	32440	33490	3.2	25940	24010	-7.4
Private renter	20170	20800	3.1	15330	15150	-1.2
Government renter	17690	14490	-18.1	14400	11490	-20.2
Other(a)	15490	16070	3.7	14860	13660	-8.1

Note: a) Other includes boarders and those living rent-free.

Table 11: Sensitivity Analysis of the Level and Changes in Poverty Before Housing Costs, 1981-82 to 1989-90 (Percentages in Poverty)

Poverty Line as a Proportion of the Standard Line (P):

Income Unit Type	0.5P	0.8P	0.9P	1.0P	1.1P	1.2P	1.5P	2.0P
1981-82								
Single, aged	1.5	2.8	3.9	10.1	26.8	40.4	61.0	82.8
Single, non-aged	3.4	6.9	9.1	12.0	14.4	16.7	24.1	37.1
Couple, aged	0.3	3.1	3.9	5.2	6.7	11.6	53.0	79.4
Couple, non-aged	0.8	2.2	2.6	3.4	4.5	7.7	14.8	29.4
Sole parent	4.8	20.6	32.1	43.8	53.4	60.2	72.8	89.2
Couples with children	0.6	2.5	4.6	7.1	9.7	13.2	28.9	63.3
Total	**1.9**	**4.9**	**7.0**	**10.2**	**14.7**	**19.4**	**33.6**	**54.8**
1989-90								
Single, aged	2.8	6.0	11.0	27.4	41.2	51.9	71.3	87.5
Single, non-aged	4.2	9.5	13.1	17.0	19.9	23.2	33.0	48.1
Couple, aged	1.5	3.8	4.9	6.8	11.4	24.8	59.6	83.1
Couple, non-aged	0.8	2.8	4.0	6.2	8.5	10.9	20.6	38.7
Sole parent	9.0	33.9	45.9	57.2	63.1	68.7	80.7	93.1
Couples with children	1.6	5.1	7.4	10.4	14.8	21.0	42.2	71.5
Total	**2.9**	**7.7**	**11.1**	**16.4**	**21.3**	**27.2**	**43.3**	**62.9**

Sources: See Table 5.

Figure 5: Poverty in 1981-82 and 1989-90: Sensitivity Analysis for all Income Units

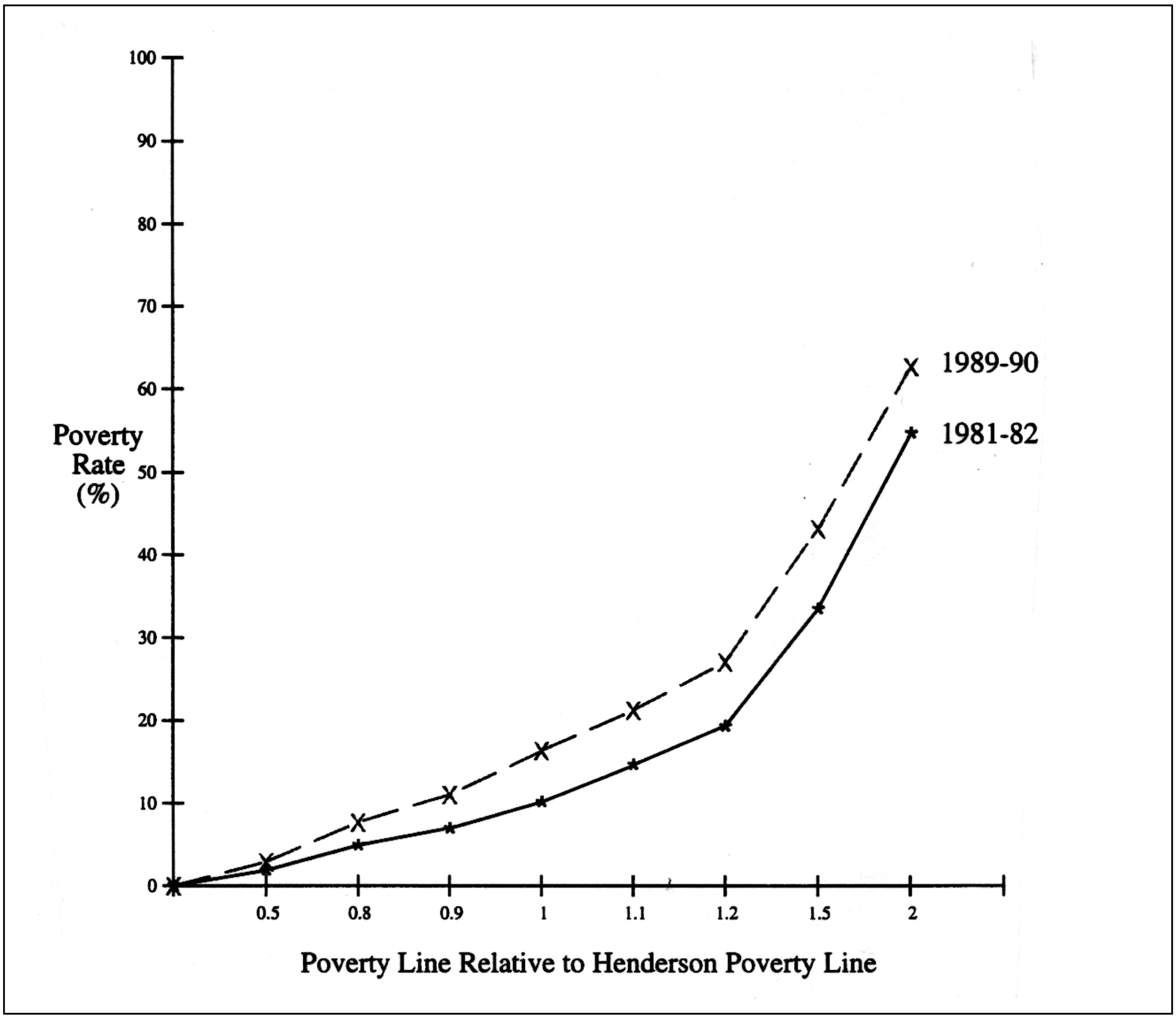


Figure 6: Poverty in 1981-82 and 1989-90: Sensitivity Analysis for Single Aged Income Units

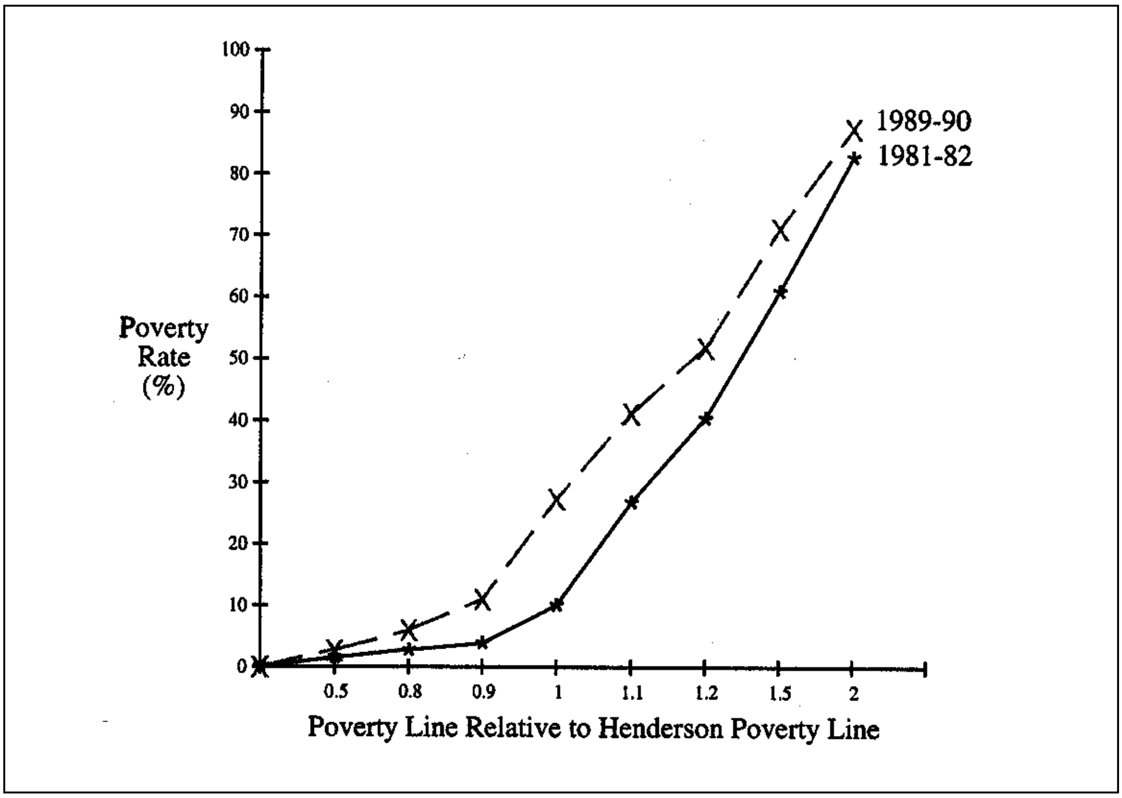


Figure 7: Poverty in 1981-82 and 1989-90: Sensitivity Analysis for Single Non-aged Income Units

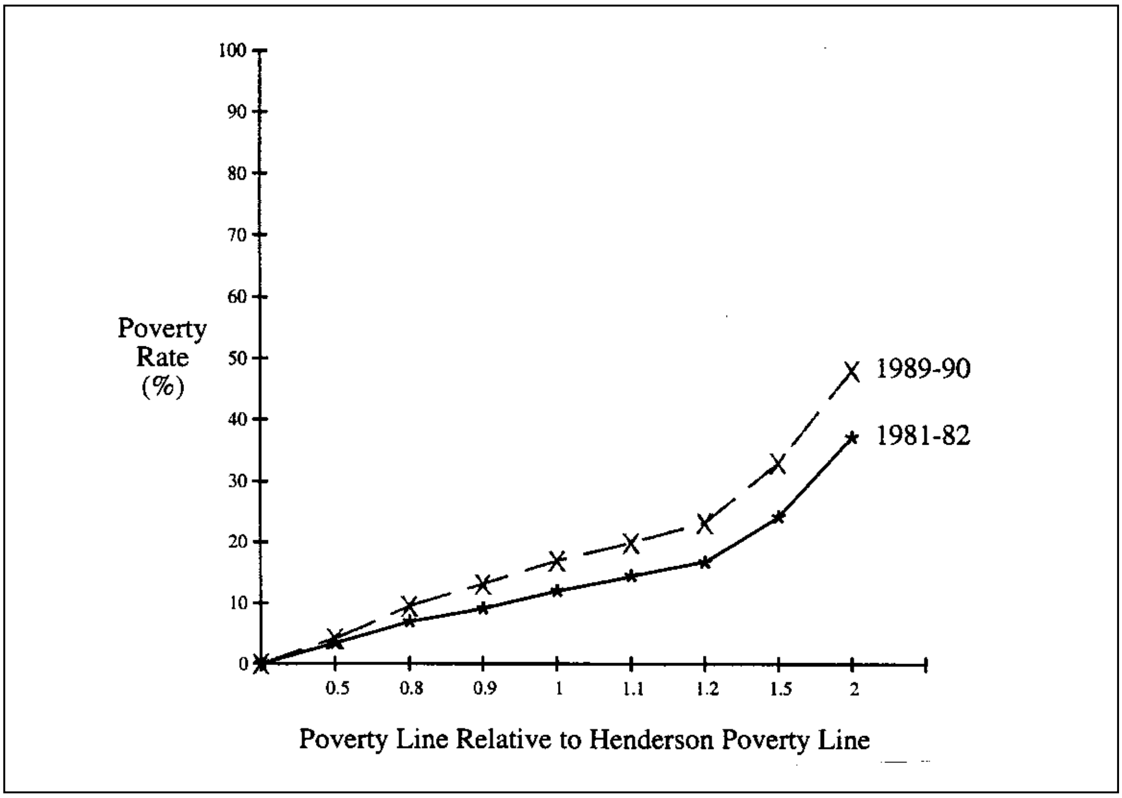


Figure 8: Poverty in 1981-82 and 1989-90: Sensitivity Analysis for Aged Couple Income Units

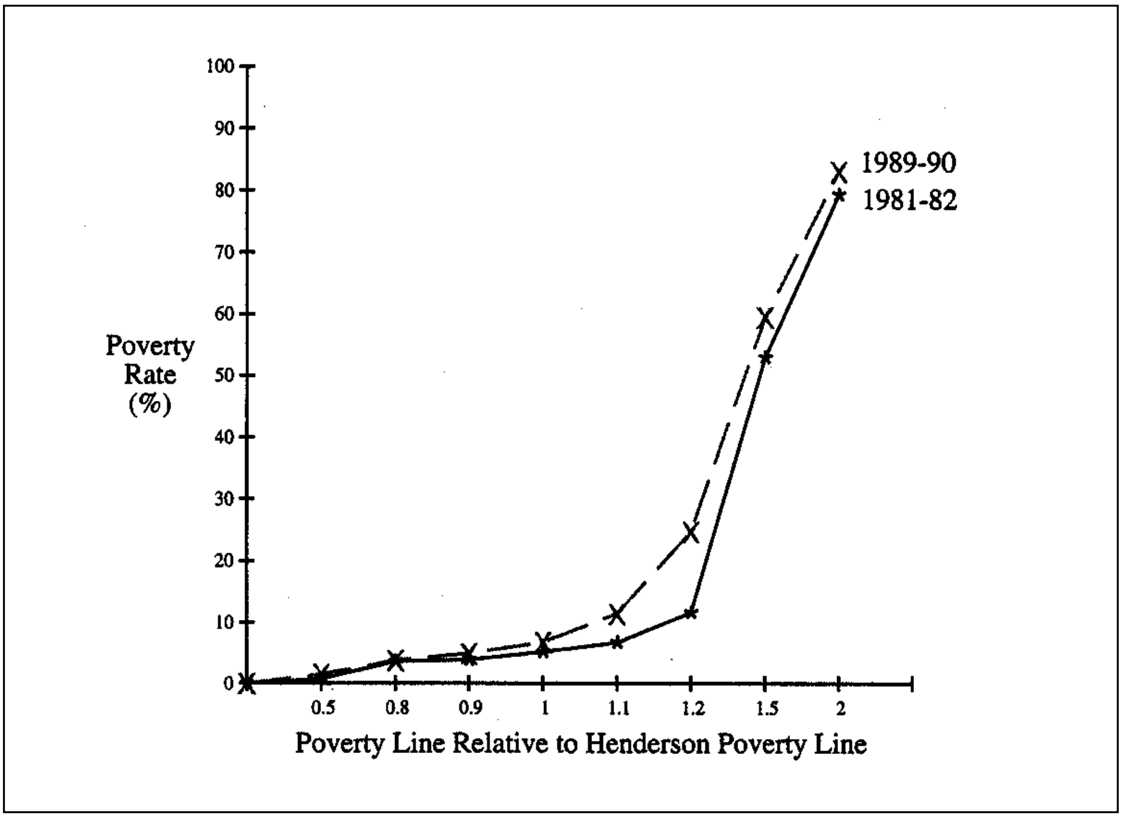


Figure 9: Poverty in 1981-82 and 1989-90: Sensitivity Analysis for Non-aged Couple Income Units

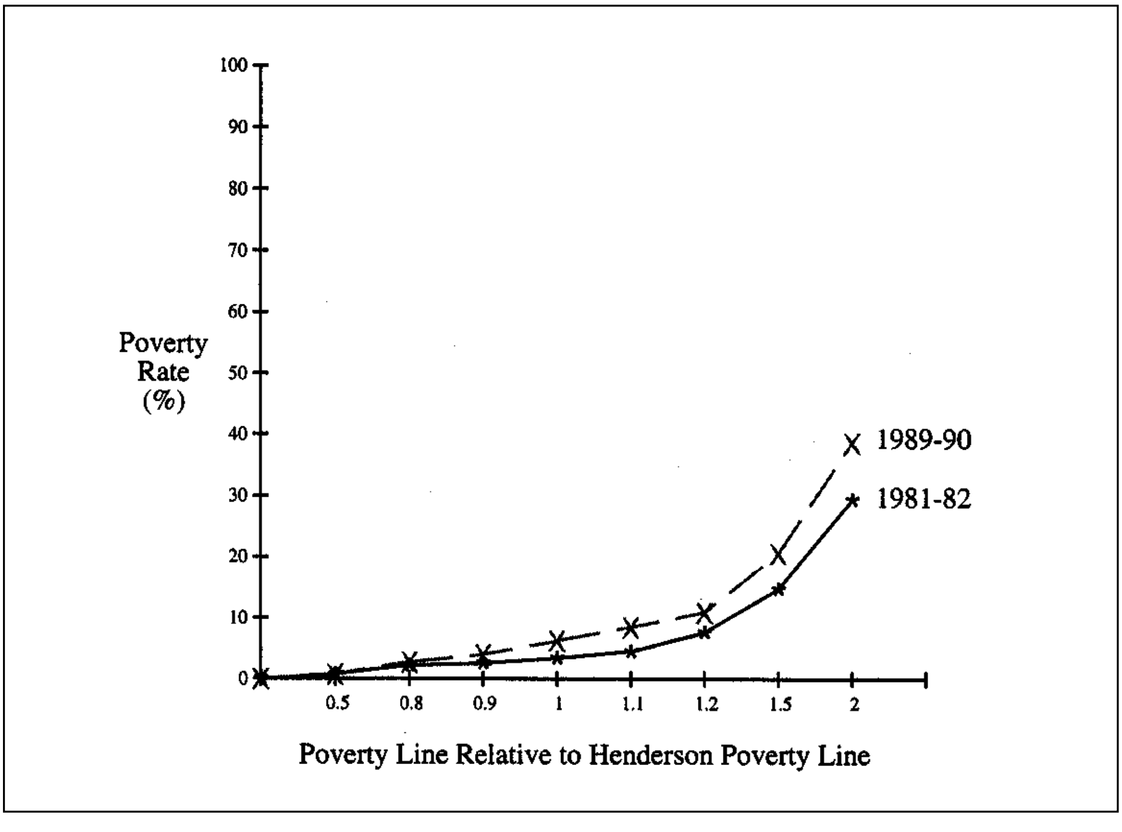


Figure 10: Poverty in 1981-82 and 1989-90: Sensitivity Analysis for Sole Parent Income Units

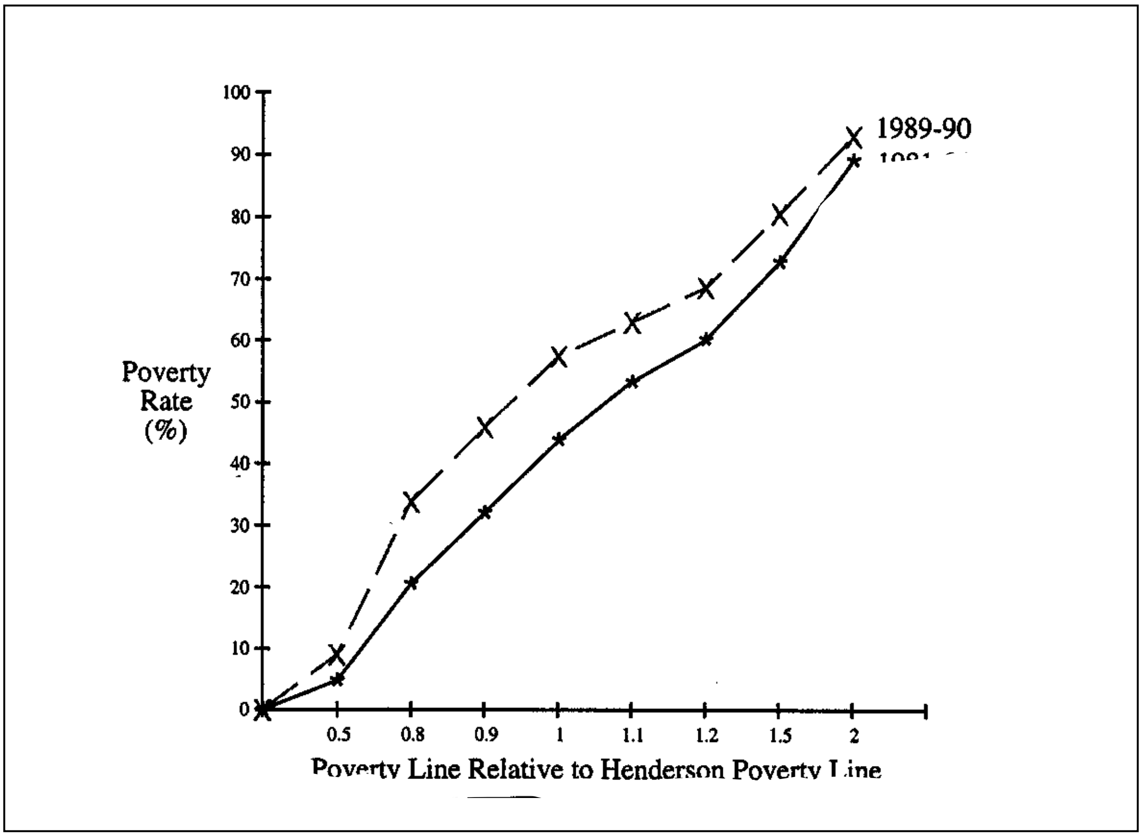
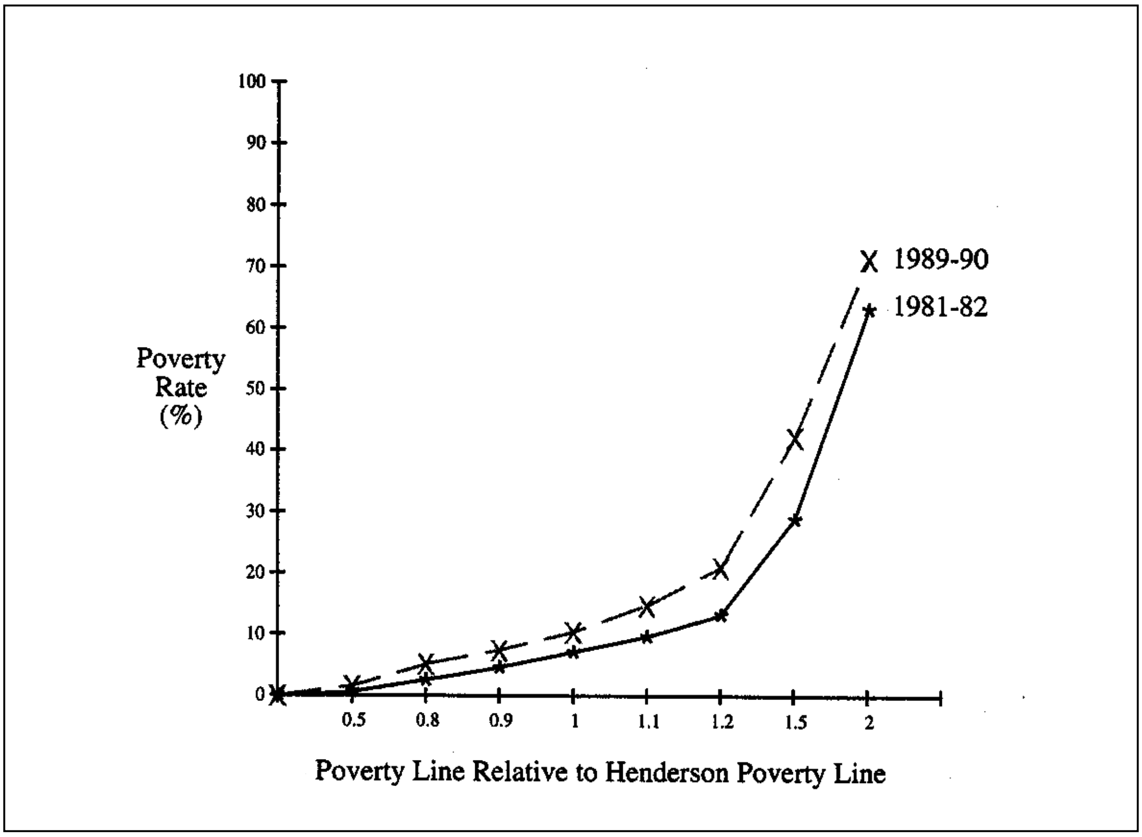


Figure 11: Poverty in 1981-82 and 1989-90: Sensitivity Analysis for Couples with Children Income Units



shown in Table 11, (i.e. from half the Henderson line to twice the Henderson line) poverty increased between 1981-82 and 1989-90, in aggregate and for each separate income unit type.

The degree of sensitivity is more pronounced for some groups than for others, although the broad structure of poverty is not particularly sensitive to where the poverty line is set. Precisely where the poverty line is set does, however, have an important impact on the poverty rate of the single elderly and, to a lesser extent, of aged couples also and these in turn influence the structure of poverty. Poverty amongst income units with one adult is always well above poverty amongst couples, and sole parents always have the highest poverty rates. These results hold constant the equivalence scales which reflect differences in need and further analysis of this issue is warranted, along the lines pursued in the study undertaken by Bradbury and Saunders (1990). Aside from this, it appears that conclusions about the level composition and changes in poverty in Australia are robust with respect to the level of the poverty line within a fairly broad range of income.

One final aspect of the results in Table 11 is worth drawing attention to. As noted earlier, the poverty line on which these results are based has been adjusted over time in line with movements in estimates of household disposable income per capita (HDYC) based on the National Accounts and population statistics. However, the National Accounts estimate of HDYC itself increased by 10.1 per cent in real terms between 1981-82 and 1989-90 (Figure 4) reflecting the growth in the economy over the period (Figure 1).[25] It is also significant that the data on the income survey unit record files considerably underestimate HDYC, by around 18 per cent in 1981-82 and by 20 per cent in 1989-90. Because this downward bias increased over the period, the increase in real HDYC based on the income survey data is somewhat less (7.2 per cent) than the 10.1 per cent increase in the National Accounts measure.

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25 It is also worth noting that the HDYC series is itself subject to considerable revision along with the National Accounts estimates of household disposable income. Such revisions have been shown by Edwards and Whiteford (1988) to be as great as 5 per cent which, as Table 11 indicates, can have a significant impact on estimates of poverty for a particular year, as well as on the estimated change in poverty between two years.

If the poverty line had been held constant in real terms over the period, by 1989-90 it would have been only 90.8 per cent (= 1/1.101) of the HDYC-adjusted line underlying the results in Tables 9 and 11. Table 11 can, however, be readily used to gauge how poverty would have changed if the poverty line had been held fixed in real terms between 1981-82 and 1989-90 by comparing the 1981-82 estimates in Table 11 based on the 1.0P poverty line with the 1989-90 estimates based on the 0.9P poverty line. Such a comparison still shows a slight increase in the overall poverty rate, from 10.2 per cent to 11.1 per cent, and an increase in poverty for all groups except aged couples.[26] Thus it is difficult to escape the conclusion that poverty in Australia increased over the period, unless one is prepared to abandon the Henderson framework entirely.[27]

5 Summary and Conclusions

The 1980s saw a combination of two factors in Australia which might have been expected to lead to reductions in both income inequality and poverty. The first was the existence for much of the decade of a government committed to equity and social justice. The second was the performance of the economy, at least between 1983 and 1989 which, whilst not spectacular relative to that achieved in the 1950s and 1960s, was moderately successful particularly in terms of employment growth. The latter thus provided the economic basis for the attainment of redistributive goals, whilst the former opened up the political avenues to achieve them. The Accord provided the broad policy framework which brought the two together in a manner which had been absent in Australia since the late-1940s.

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26 The approximate impact on the poverty estimates of the underestimation of HDYC in the income survey data can be gauged from Table 11 by considering the estimates based on the) 0.8P poverty line.

27 In a recent study, Harding and Mitchell (1992) estimate a decline in poverty from 11.0 per cent in 1981-82 to 9.5 per cent in 1989-90 using a poverty line based on half median equivalent income, the OECD equivalence scales, and a somewhat different income unit definition to that employed here. In combination with the results in Figures 5 to 11, their results suggest that estimates of poverty in Australia are more sensitive to such issues as how families are defined and which equivalence scales are used than they are (within rather broad limits) to where the basic poverty standard itself is set.

Against this background, the contextual description in Section 2 of the paper reveals that the growth in employment after 1983 took place when the labour force participation of married women was also increasing rapidly. The result was only a modest decline in unemployment (when assessed against the extent of employment growth) and a rapid increase in the size and relative importance of two-earner families. The results in Sections 3 and 4 reveal a considerable increase in income inequality between 1981-82 and 1989-90 - most of it occuring within rather than between socioeconomic groups - and a rise in relative poverty. Both findings seem robust and not the result of the specific techniques used to measure them. Although no formal analysis of the issue has been attempted, it appears that high interest rates have exacerbated inequality and poverty by greatly increasing the incomes of those with financial assets, while at the same time raising housing costs considerably for many others.

No attempt has been made to assess the effectiveness of government tax-transfer policies on inequality and poverty, an exercise which is far more conceptually and analytically complex than that attempted here. Such analysis might well reveal an optimistic assessment of the impact of government redistributive policies, which could be set alongside the somewhat disappointing distributional outcomes actually experienced.

Appendix: The Henderson Equivalence Scales

The Henderson equivalence scales are those prepared by the Budget Standard Service of New York in 1954. At the time that the Poverty Commission was undertaking its work, the results of an expenditure survey undertaken (in 1976) by the Australian Bureau of Statistics were not available. In their absence, the New York scales were used, these being regarded as; `... the best data available on relative expenditure patterns' (Commission of Inquiry into Poverty, 1975; p. 13). Despite extensive criticism of the relevance of the 1954 New York Budget Standards to contemporary Australia, plus the fact that Australian research on equivalence scales is now available (Binh and Whiteford, 1990), the original scales are still part of the Henderson poverty line framework.

The scales are complex and vary in considerable detail with the gender and age of individual income unit members, whether the adults are in work or not (work being defined as in a full-time job or looking for full-time work), whether people live alone or with others, and the total number of people who live in the household in which the income unit is residing. There are thus two separate elements of the equivalence scales, a `standard cost' for each individual in the unit and a `housing cost' component which is dependent upon total household size. The latter comprises direct housing costs in the form of mortgage interest, rent and government taxes and charges and indirect housing-related costs in the form of expenditures on fuel and power.

Table A.1 illustrates the relativities in the Henderson equivalence scales for a range of income unit types. The scales differ greatly according to whether adults in the income unit are in work or not, this difference being greater than those according to age or gender, and about the same as the implied cost of the first child. Generally, the cost of the first child is about 20 per cent of the cost of a single adult living alone, the relative cost of each subsequent child rising to around 30 per cent.

Table A.1: The Henderson Equivalence Scale Relativities

Income Unit Type[a]	Individual Standard Costs/Points	Housing, Fuel and Power Costs/Points	Total Costs/Points	Relative Scale
Single adult (M40W)	20.80	17.00	37.80	1.00
Couple (M40W; S40W)	39.70	20.00	59.70	1.58
Couple (M40W; S40H)	29.70	20.00	49.70	1.31
Couple plus one child	34.78	22.50	57.28	1.52
Couple two children	43.26	25.00	68.26	1.81
Couple three children	51.74	27.50	79.24	2.10
Sole parent (F40W) plus one child	25.48	20.00	45.48	1.20
Sole parent (F40H) plus one child	17.83	20.00	37.83	1.00
Sole parent (F40H) two children	26.31	22.50	48.81	1.29

Note: (a) KEY: M40W = male, aged under 40, in work
S40W = female spouse, aged under 40, in work
S40H = female spouse, aged under 40, at home (ie. not in work).
F40W = female, aged under 40, in work.
F40H = female, aged under 40, at home.

Couples with children are assumed to comprise one working spouse and one spouse at home. The first child in each case is assumed to be male and aged under 6, and each subsequent child is assumed to be male and aged between 6 and 15. Each income unit is assumed to be living by itself.

Source: Commission of Inquiry into Poverty, 1975, Appendix F, pp. 354-356.

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