

Poverty and Inequality Dynamics in South Africa: Post-apartheid Developments in the Light of the Long-Run Legacy

Murray Leibbrandt, Ingrid Woolard & Christopher Woolard
Southern Africa Labour & Development Research Unit, University of Cape Town, South Africa

Draft, 3 January 2007

Prepared for the IPC- DRCLAS workshop,
Brasilia 11-13 January 2007

I Introduction

South Africa has a long and infamous history of high inequality with an overbearing racial footprint to this inequality. Many have seen the emergence and persistence of this inequality to be the major unifying theme of the country's twentieth century economic history. Certainly, this is the key context to understanding why the issue of inequality has continued to dominate the post-apartheid landscape. There are two indicators of the post-apartheid political economy that have attracted special attention in this regard. The first is whether the evolving character of the post-apartheid economy and the policy efforts of the post-apartheid government have been able to start to lower these very high aggregate levels of inequality. Then, there is the related question of the composition of this inequality; specifically, whether the blunt racial footprint undergirding this inequality would start to grey and be replaced by new social strata and more subtle socio-economic dynamics.

Historically, the profiling and measurement of poverty have formed sub-themes of this broader inequality discussion. Under apartheid and even earlier the relegation of the majority of the population in non-white racial groups to the bottom of the income and wealth distributions in the country cleanly mapped onto their total dominance of poverty incidence and shares from at least the 1940s onwards. Showing this to be the case and illuminating clearly the poverty inducing features of apartheid policies were central tasks of many social scientists. While such evidence was widely aired in the international anti-apartheid circles, at best there was only grudging acceptance internally.

The next section of this paper describes inequality and poverty trends in South Africa over the long-run. Census data provides the primary data for such comparisons. The focus is on aggregate indicators and also on racial shares. One other dimension is worthy of mention. The very name apartheid indicates the importance of race-based geography and race-based policy. Although formal policies of spatial separation by race are long gone, a lingering legacy remains in the contemporary prominence: the rural-urban marker of inequality and poverty. From a policy point of view the inheritance of huge group of poorly endowed and marginalized rural poor has greatly increased the difficulty and the costs of post-apartheid social delivery and effective poverty alleviation.

However, while aggregate descriptions of poverty and inequality provide important context, they do little more than hint at the complex forces underlying and driving socio-economic development. In terms of inequality dynamics these same economic forces relegate some households and individuals to the bottom of the distribution and others to better-off sections of the distribution of well-being. Of course, a large part of the contention and subtlety about the relationship between inequality and poverty resides in the fact that this is not necessarily the case for poverty. Even under apartheid when the labour market was explicitly rationing high-skill and high wage jobs to whites and low wage and low skill jobs to non-whites, in periods of strong economic growth there was dissent about whether this uncontroversially unequal growth path was improving or worsening poverty.

Two key mechanisms were involved in these debates and still continue to dominate debates over the relationship between inequality and growth. The first is the employment and remuneration behaviour of the labour market. Strong positive employment and real wage responses to economic growth are the major poverty alleviating forces emanating from the performance of the private sector economy. The second mechanism is the fiscal resources that growth puts in the hands of the state for active social policy and poverty alleviation. Recently there has been renewed recognition as to the usefulness of serious interrogation of the redistributionist regimes that were part of pre- and post-apartheid governments. Section III presents some of the recent debates around changes in poverty and inequality over the last decade. Section IV presents and discusses a set of inequality decompositions by income source using data from the start of the post apartheid period and then over the course of the post-apartheid period. In this instance we are particularly interested in the contributions to inequality of wage income and state transfer income coming into households. An understanding of the changing importance of these two income sources serves as useful bridge into a more detailed discussion of the post-apartheid performance of the labour market (Section V) and the role of the social expenditure and welfare policy (Section VI). Section VII re-emphasises the major points from the preceding sections and concludes.

II A long run-empirical picture of changes in inequality and poverty by race

As noted in the introduction above, the twentieth century history of South Africa is such that inequality and poverty and, in particular, their changing racial profiles have been of special interest. There are few data series that allow us to present a very long-run empirical picture. Van der Berg et al. (2001), however, derive a series of estimates of the per capita incomes of the different race groups since 1917. These are presented in Table 1. Owing to the variety of income/expenditure concepts used and the data deficiencies inherent in all the surveys, these figures should not be interpreted too finely. It is still possible, however, to draw some broad conclusions as to movements in per capita income from these data. Three key points emerge from the two sections of the table. Looking at the top section of the table, it can be seen that average real incomes have been rising for all groups. The mean per capita income of the poorest group – Africans – reached a plausible (in 1995 income terms) poverty line around 1970 and has doubled since but, as will be seen later, even today many members of this group are still in poverty. Second, the relative ratios presented in the bottom section of the table show the presence and persistence of stark average income gaps by race over the course of the twentieth century. The fact that these gaps pre-date apartheid indicates that

they are the product of a very long-run development trajectory of the South African economy. This is important context to the fact that these differences have been stubbornly persistent over the post-apartheid period of the last decade. Finally, the fact that the average ratio is low and declines over the long-run is a result of the fact that the white group is a declining minority of the population with its decline corresponding to an increase in the share of the African population. The white population share moved below ten percent of the population by 2000 and the African share edged up to 80 percent of the population over the same period. Thus, aggregate income dynamics in the economy will be increasingly driven by the dynamics within the African group.

Underlying these trends are some of the subtle analytic issues connecting household level poverty and the growth and employment performance of labour market. For example, in the high-growth 1960s the African/White income gap actually increased, because skills scarcity, exacerbated by the industrial colour bar, led to a premium being paid on the wages of relatively skilled White workers. In the early 1970s, the shift in economic power and to a lesser degree changing skill profiles narrowed the wage gap and thereby the income gap. Thereafter, the impact on the income gap of the continued narrowing of the wage gap was partly counteracted by growing unemployment amongst those with the least skills and education.¹ Economic growth best translates into a reduction of the inter-group income gap when the racial wage gap narrows and there is sufficient growth of employment.

As can be seen from the table, the major recent distributional trends are the gradual narrowing of the African/White income gap. We show later that this is concurrent with the widening income gap among Africans, mainly due to differential access to formal employment. While some benefited from a doubling of their real wages in the past two decades, unemployment, which affects mainly the poorly educated, has also increased. Unemployment and therefore also income inequality have strong geographic dimensions, with insiders being largely urban and outsiders rural. A strong rise in the income of Indians has improved their position considerably, but due to their small numbers they play a minor role in the broader picture of inequality in South Africa.

¹ The narrowing income gap indicated by the last surveys may in part be the result of a better capturing of non-formal incomes in the two most recent surveys.

Table 1: A compilation of estimates of annual per capita personal income by race group in 1995-Rand and relative to White levels, 1917-1995

Year	White	Coloured	Asian	African	Average
Per capita income in constant 1995-Rand:					
1917	R9 369	R2 061	R2 075	R849	R2 829
1924	R9 931	R1 986	R1 931	R788	R2 966
1936	R13 773	R2 151	R3 185	R1 048	R3 842
1946	R18 820	R3 068	R4 328	R1 671	R5 417
1956	R21 861	R3 698	R4 780	R1 883	R6 123
1959	R22 683	R3 568	R3 876	R1 746	R6 061
1960	R22 389	R3 568	R3 828	R1 815	R6 006
1970	R32 799	R5 684	R6 630	R2 246	R7 986
1975	R35 757	R6 945	R9 095	R3 075	R9 102
1980	R34 655	R6 623	R8 821	R2 931	R8 472
1987	R32 854	R6 862	R9 910	R2 781	R7 643
1993	R33 326	R6 445	R14 006	R3 637	R8 013
1995	R34 689	R6 931	R16 793	R4 678	R9 013
Relative per capita personal incomes (% of White level):					
1917	100	22.0	22.1	9.1	30.2
1924	100	20.0	19.4	7.9	29.9
1936	100	15.6	23.1	7.6	27.9
1946	100	16.3	23.0	8.9	28.8
1956	100	16.9	21.9	8.6	28.0
1959	100	15.7	17.1	7.7	26.7
1960	100	15.9	17.1	8.1	26.8
1970	100	17.3	20.2	6.8	24.3
1975	100	19.4	25.4	8.6	25.5
1980	100	19.1	25.5	8.5	24.4
1987	100	20.9	30.2	8.5	23.3
1993	100	19.3	42.0	10.9	24.0
1995	100	20.0	48.4	13.5	26.0

Source: Van der Berg et al. (2001) and own calculations

An important empirical tradition in tracking longer-run South African inequality and poverty changes has made use of records of personal income collected in the national censuses of 1970, 1991, 1996 and 2001 (McGrath (1983), Whiteford & McGrath (1994), Whiteford & van Seventer (2000), Leibbrandt et al. (2006), Simkins (2005)). Table 2 illustrates this tradition by presenting a comparison by Whiteford & van Seventer (2000) of inequality results using a set of Gini coefficient estimates from 1975, 1991 and 1996 census data. We have added estimates from Leibbrandt et al. for the 1996 and 2001 censuses. The national Gini coefficients are very high by international standards, illustrating just how high the levels of inequality are that underlie the average figures presented in Table 1. Then, we see the Gini coefficients for each race show a widening of inequality within each group between 1975 and 1996 and is particularly acute for Africans. For Whiteford & van Seventer, these intra-racial dynamics correspond to a measured inequality at the national level that remained high but stable over the period 1975 to 1996. The Leibbrandt et al. (2006) estimates go on to show that this national inequality remained high and even took a turn for the worse in the period 1996-2001. As regards racial inequality, between 1996 and 2001, inequality within each race group continued to increase. The Gini coefficients for each population group in both 1996 and 2001 are highest for the African group and lowest for the white group. Recent work by Hoogeveen & Özler (2004) comparing expenditure data from the 1995 and 2000 national Income and Expenditure Surveys supports these trends. Their

reported Gini coefficients are notably lower than those derived by us using census data. In each case, however, their Gini coefficients increase between 1995 and 2000.

Table 2: Comparisons of inequality from 1975 to 2001 using the Gini coefficient

	1975	1991	1996	1996	2001
	Whiteford & Van Seventer			Leibbrandt et al.	
African	0.47	0.62	0.66	0.62	0.66
Coloured	0.51	0.52	0.56	0.53	0.60
Indian/Asian	0.45	0.49	0.52	0.48	0.56
White	0.36	0.46	0.50	0.44	0.51
National	0.68	0.68	0.69	0.68	0.73

Sources: Whiteford & Van Seventer (2000) using 1975, 1991 and 1996 census data; Leibbrandt *et al* (2006) using 1996 and 2001 census data: Statistics South Africa.

The Theil index is another well-known measure of inequality. It has the desirable property of allowing national inequality to be decomposed into a contribution due to inequality within groups and a contribution due to inequality between groups.² This is a particularly interesting exercise given that we are reporting an increase in inequality within each group as well as in aggregate inequality. As discussed by Borhat et al. (2000), the strong between-group component of inequality has always been the starkest marker of apartheid-driven inequality in South Africa. That said, Table 3 reproduces the findings of Whiteford & Van Seventer (2000) based on the Theil decomposition to show a declining share of between-group inequality over the period 1975 to 1996. The table also records between- and within-group shares of inequality for 1996 and 2001 from Leibbrandt et al. (2006). These shares show a continuation of the decline in the between-group component over this recent period. In addition, using expenditure data from the 1995 and 2000 Income and Expenditure Surveys, Hoogeveen & Özler (2004) do a similar decomposition and also find a decline in between-group inequality from 1995 to 2000. Thus, the finding of recent declines in between-group inequality seems to be sound.

Table 3: Inequality comparisons within and between population groups, using the Theil index

	1975	1991	1996	1996	2001
	Whiteford & Van Seventer			Leibbrandt et al.	
Within-group Inequality	38%	58%	67%	57%	60%
Between-group Inequality	62%	42%	33%	43%	40%
Total inequality	100%	100%	100%	100%	100%

Sources: Whiteford & Van Seventer (2000) using 1975, 1991 and 1996 census data; Leibbrandt et al. (2006) own calculations using Census 1996, 2001: Statistics South Africa.

In the following three tables, we explore some additional dimensions of the racial composition of the South African income distribution. In Table 4, we report on income and population shares for

² See Borhat et al. (2000) for a full explanation of such decompositions as well as a benchmarking against international results.

each group from 1970 to 2001. The results from 1970 to 1996 are from Whiteford & Van Seventer (2000) and show that the share of income for the African group rises strongly from a very low base relative to population over the period 1970 to 1996. This corresponds to declining shares of income and population for the white group over the same period.

The table includes the estimates of Leibbrandt et al. (2006) for 1996 and 2001. These show that the share of total income for Africans did not increase any further over this period. Rather, the white income share increased slightly. The lack of growth in the share of income attributed to Africans is striking when taking into account the growth of the total share of the African population. The slight growth in the share of white income is accompanied by a decrease in the population share of the white group. All in all, the 1996 and 2001 results suggest a break in the trend from 1970 to 1996.

Table 4: Income and population shares, 1970–2001

	Share of total income						Share of population					
	1970	1980	1991	1996	1996	2001	1970	1980	1991	1996	1996	2001
	Whiteford & Van Seventer				Leibbrandt et al.		Whiteford & Van Seventer estimates				Leibbrandt et al.	
African	19.8%	24.9%	29.9%	35.7%	38%	38%	70.1%	72.4%	75.2%	76.2%	78%	80%
White	71.2%	65.0%	59.5%	51.9%	47%	48%	17.0%	15.5%	13.5%	12.6%	11%	9%
Coloured	6.7%	7.2%	6.8%	7.9%	9%	9%	9.4%	9.3%	8.7%	8.6%	9%	9%
Indian/ Asian	2.4%	3.0%	3.8%	4.5%	5%	6%	2.9%	2.8%	2.6%	2.6%	3%	3%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Sources: Whiteford & Van Seventer (2000) using 1970, 1975, 1980, 1991 and 1996 census data; Leibbrandt et al. (2006) own calculations using Census 1996, 2001: Statistics South Africa.

Note: Totals may not add up to 100% due to rounding.

We explore this further in Table 5, which reports on the ratios between mean white per capita income and the mean per capita income of other groups from 1970 to 2001. These ratios are known as disparity ratios. White per capita income increased from nine times higher than African income in 1996 to 11 times higher in 2001. This is a break in the trend from 1970 to 1996, which showed the disparity decreasing over these years. The disparity between coloured and white incomes also increased between 1996 and 2001, while the disparity ratio with Indians/Asians remained constant. Thus, as with the movement of income shares by group, the movement of the disparity ratios between 1996 and 2001 contrasts with the decreasing inequality between 1970 and 1996.

Table 5: Disparity ratios: White to other population groups

	1970	1980	1991	1996	1996	2001
	Whiteford & Van Seventer estimates				Leibbrandt et al.	
African	15.0	12.9	11.1	8.8	9.0	11.2
Coloured	6.0	5.3	5.7	4.5	4.3	5.3
Indian/Asian	5.1	3.9	3.0	2.3	2.3	2.4

Sources: Whiteford & Van Seventer (2000) using 1970, 1980, 1991 and 1996 census data; Leibbrandt et al. (2006) own calculations using Census 1996, 2001: Statistics South Africa.

These last tables strongly signal the persistence of racial difference within an environment of increased intra-racial inequality. Table 6 explores this a little further by looking at the racial composition of income deciles in 1996 and in 2001. It shows that the percentage of Africans in the upper six deciles has increased between 1996 and 2001, with a marked increase of 7 per cent in the second highest decile since 1996. The share of African incomes in the lower deciles remains fairly constant over the period. Thus, this picture helps to explain some of the widening inequality within the African population, as shown earlier in our presentation of the changes in the Gini coefficients between 1996 and 2001.

Table 6: Population-group composition of per capita income deciles, 1996–2001

Decile	African		White		Coloured		Indian/Asian	
	1996	2001	1996	2001	1996	2001	1996	2001
1	97%	96%	0.4%	0.3%	3%	4%	0.2%	0.2%
2	95%	95%	1%	0.3%	4%	5%	0.4%	0.4%
3	93%	92%	1%	1%	6%	7%	0.4%	1%
4	89%	90%	1%	1%	10%	9%	1%	1%
5	84%	85%	2%	1%	13%	12%	2%	1%
6	79%	81%	3%	2%	15%	14%	3%	2%
7	72%	74%	5%	6%	18%	16%	5%	4%
8	63%	63%	12%	12%	17%	17%	7%	8%
9	43%	50%	35%	30%	14%	13%	8%	8%
10	21%	23%	67%	63%	6%	7%	5%	7%

Sources: Leibbrandt et al. (2006) calculations using Census 1996, 2001: Statistics South Africa.

The shares of whites in the bottom eight deciles remain constant between 1996 and 2001, with a decrease in the shares of the upper two deciles. The shares of coloureds and Indians/Asians in all deciles remain fairly constant over the period. These group shares help to make it clear that the increase in the white share of income over the 1996–2001 period and the increase in the white/African disparity ratio were being driven by a few very high-earning whites at the top of the distribution. The general trend is still one in which there is notable upward mobility of Africans into the top sections of the income distribution. At the same time, there is no real evidence of downward mobility of whites, especially not into the lowest few deciles.

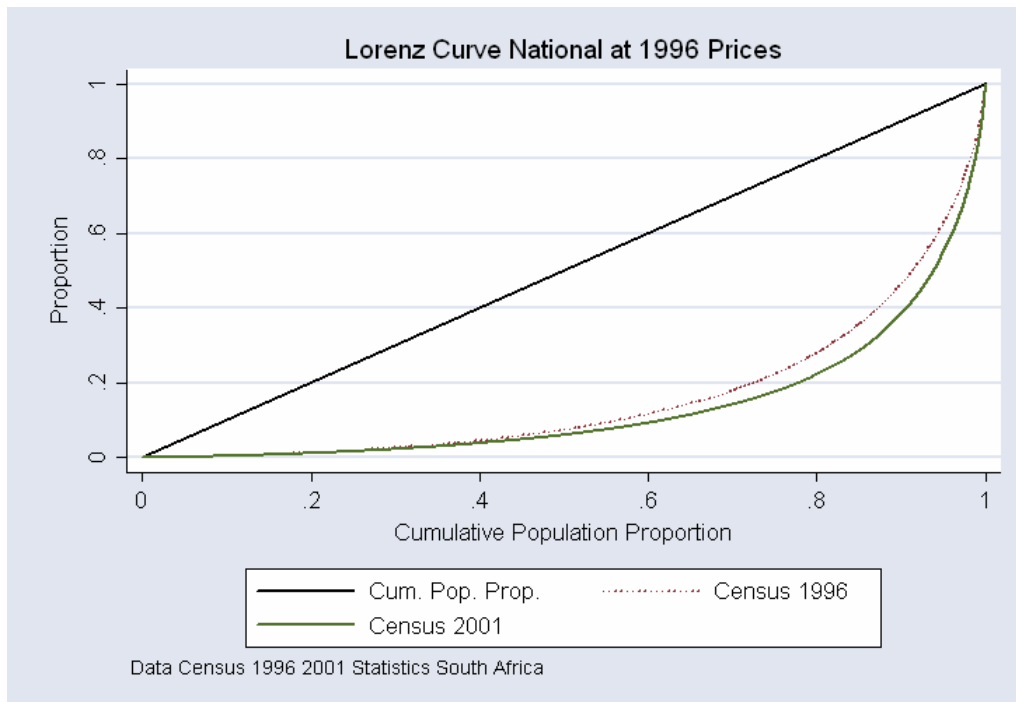
It is essential to look for as many sources of confirmation for these inequality trends as one can find because the income data in the census is far from ideal (Cronje & Budlender, 2004). A lot of work and assumptions are necessary to get the data sets into shape for comparative analysis. In

particular, a number of key data decisions had to be taken in order to ensure that the data were comparable over time and analysis was comparable with the work of others. There are detailed discussions of all of these data issues in Ardington et al. (2006) and the appendices of Leibbrandt et al. (2006). Suffice to say here that all of the trends that we report are born out by extensive sensitivity analysis of the census data.

Having made these appropriate cautionary points about the data it is also appropriate to ensure that results are not driven by a particular choice of an inequality index or poverty index. Fortunately, the contemporary literature on inequality and poverty dominance provides graphical methods to tell when results are definitive and robust across measures and when they are not.³ This is a very useful way of presenting and discussing poverty. However, before we move to poverty we first show that the 1996 and 2001 inequality picture that we presented above is solid.

Figure 1, shows Lorenz curves for the national distribution of per capita incomes for both 1996 and 2001. As the 2001 Lorenz curve lies below the 1996 curve, the figure shows a clear widening of inequality between 1996 and 2001. If Lorenz curves cross, then the changes in the income distribution are too complex to make definitive statements about inequality increasing or decreasing. In this case, the 2001 Lorenz curve is always below the 1996 curve, which implies that the finding of increased inequality between 1996 and 2001 is sound.

Figure 1: National Lorenz curves at 1996 prices for Census 1996 and 2001

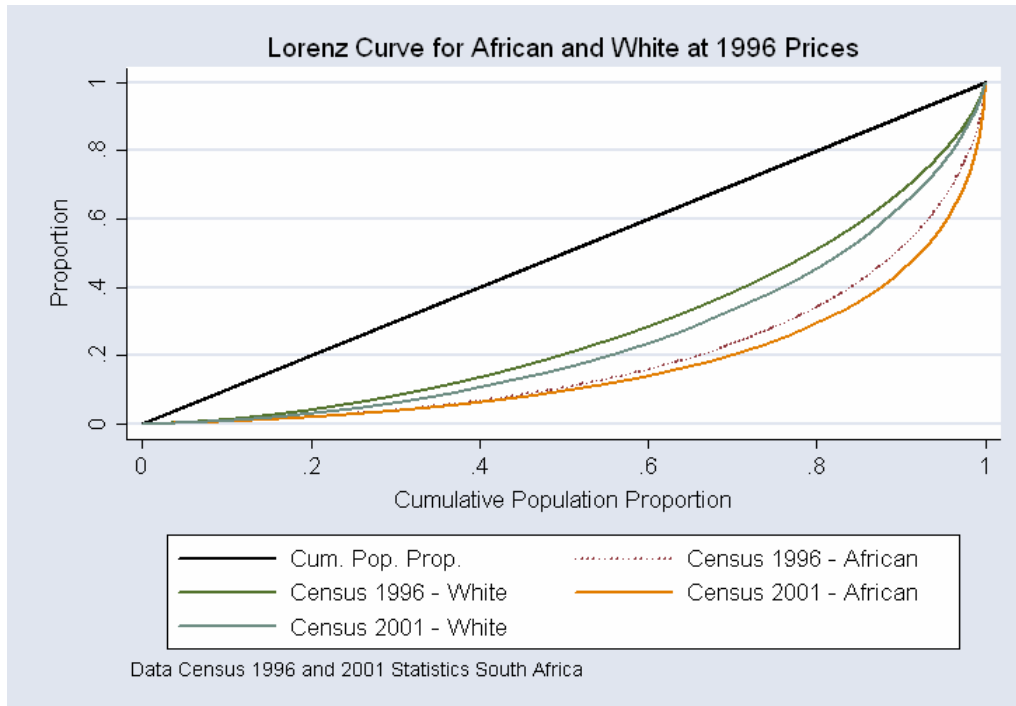


Next, in order to use Lorenz curves to compare changes in inequality for different groups over the 1996 to 2001 period, it is necessary to plot these Lorenz curves for both years on the same diagram. This is done in Figure 2 for only two racial groups – African and white. The Lorenz

³ See Bhorat et al. 2001 for reviews of the inequality and the poverty literature and applications to South Africa using 1995 data.

curves confirm our earlier finding that African inequality is greater than white inequality. The curves go further to show that inequality increased for both groups between 1996 and 2001. Given that the Lorenz curves do not cross in any of the above figures, all of these trends are unambiguous and are not dependent on the choice of a particular inequality measure. Any acceptable inequality measure will reveal the same pattern of increasing inequality over time and the same ranking of inequality by group.

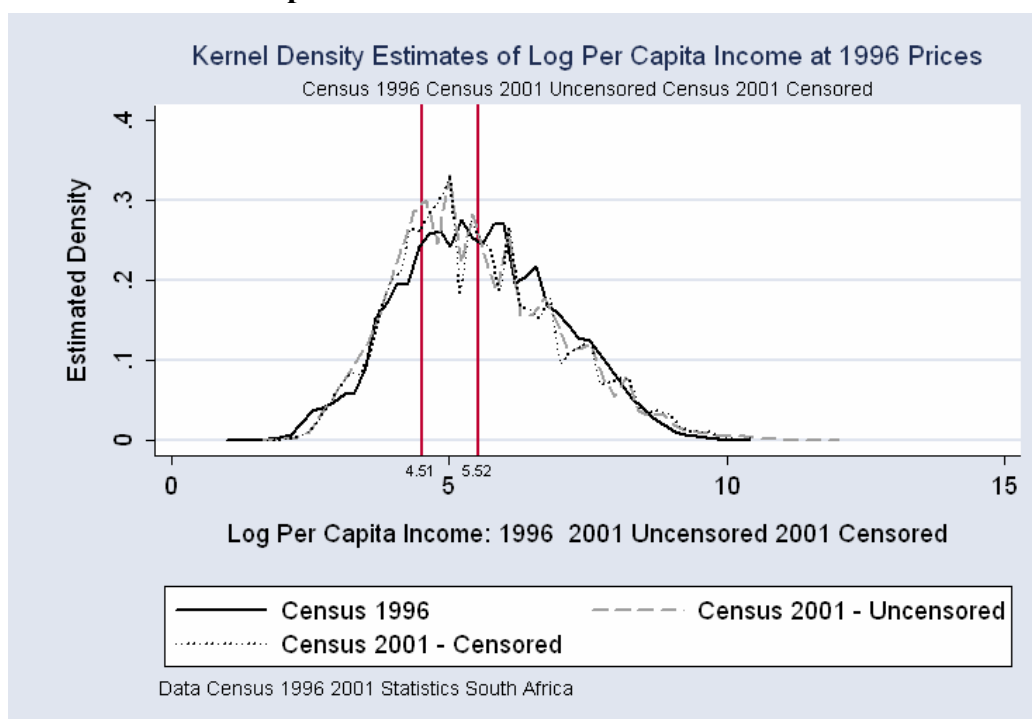
Figure 2: Lorenz curves for the African and white groups at 1996 prices for Census 1996 and 2001



This section has focused on changes in inequality at the national level and by population group. The increases in inequality that we have detailed are supported by increased inequality across the rural/urban divide. We do not, however, dwell on these two dimensions of changing inequality. Rather, we give rural/urban situation more detailed attention in the poverty analysis that follows. As a bridge into the poverty analysis, Figure 3 gives an aggregate snapshot of the change in per capita incomes in South Africa between 1996 and 2001, with 2001 incomes deflated to their 1996 equivalents for comparability purposes⁴. There are two plots for 2001. The 2001 distribution is plotted including all the top income brackets as they are found in the 2001 data as well as with the top brackets collapsed into a 1996 equivalent top band. It is clear from the figure that this censoring of the 1996 distribution does indeed narrow 2001 inequality.

⁴ In order to keep the distribution within a narrower range without altering its shape, the graph plots the log of per capita income rather than per capita income itself. When taking logarithms we exclude all of the zero earning households.

Figure 3: A distributional plot of South African incomes in 1996 and 2001



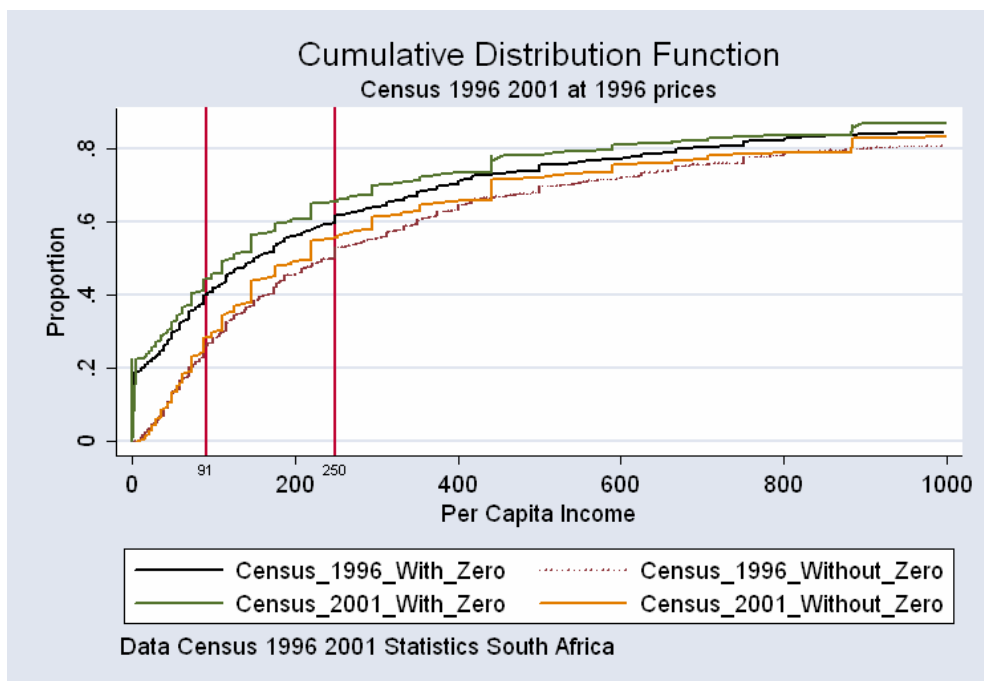
Even with the censored data, the 2001 plot lies above the 1996 plot at the top end of the income distribution. This suggests that the top end of the 2001 distribution contains a greater share of the population than it did in 1996. Thus, there is some evidence of improved real incomes at the top end. Apart from this group at the top, the 2001 distribution evidences a leftward shift, implying decreased real incomes for the rest of the distribution. This is particularly pronounced in the middle and lower-middle sections of the distribution, with the situation at the bottom looking largely unchanged. In this paper we show that the net effect of all of these changes is an unambiguous increase in inequality from 1996 to 2001.

The two vertical lines drawn on the figure represent the two poverty lines that we use for the poverty analysis using census data. The lower line is a \$2 per day poverty line, which is widely used for international poverty comparisons. The upper line is a R250 per person per month (in 1996 Rands) poverty line, which was first suggested in the poverty-mapping work of Statistics South Africa (2000). The leftward shift of incomes in the middle and lower-middle areas of the 2001 distribution suggests a slight but unambiguous increase in measured poverty between 1996 and 2001.

We now present a brief analysis of poverty that confirms this finding. Here we focus exclusively on ‘money-metric’ poverty – that is, we focus on the amount of money income available to households to purchase the goods and services they require. Clearly, the experience of poverty is not exclusively about an absence of income and, later, we look at the advances that have been made in terms of other aspects of living standards such as access to clean water, decent housing and electrification. Despite general agreement that it is important to know what has happened to poverty levels since the end of apartheid, there is surprisingly little information currently available. We present the trends that emerge from a comparison of the 1996 and 2001 censuses.

Unfortunately, the fact that the censuses collected income data in income bands that are not really comparable beyond 1996 and 2001 makes longer run poverty comparisons too perilous. At the national level, the key figure is presented below in Figure 4. In this figure, we make real income comparisons between 1996 and 2001 by deflating the 2001 distribution to 1996 equivalents. We then graph a series of cumulative distribution functions (CDFs) for these comparable 1996 and 2001 incomes. In Figure 4, the 2001 CDF graphs lie above the 1996 CDF graphs at all points and this tells us that measured poverty worsened between 1996 and 2001 at any poverty line. The magnitude of such worsening, however, is very sensitive to a number of assumptions. First, the fact that the ‘with zero’ graphs jump upwards shows how influential the distinction is between including and excluding the zero-income households from the analysis. As mentioned in the introduction, we generally exclude zero-income households from the analysis in this paper, under the assumption that income in these households is mis-measured. The exclusion of zero-income households, however, clearly has a large impact on the measurement of poverty, given that we are dropping the ostensibly poorest observations from the data-set. Moreover, as we saw earlier, a higher percentage of the 2001 households report zero earnings. Thus, the inclusion of these households virtually guarantees that measured poverty will have worsened between 1996 and 2001.

Figure 4: National cumulative distribution functions at 1996 prices



The graphs that exclude the zero-income households show that the percentage of households earning less than or equal to the \$2 per day poverty line is very similar for 1996 and 2001. By the R250 (1996 Rands) poverty line, there are more poor people in 2001 than in 1996. This evidence suggests that poverty worsened between 1996 and 2001 but that this worsening is not acute for the poorest of the poor.

Table 7 shows this more precisely for the non-zero household case. Two poverty measures are used at the two poverty lines. The first is the headcount ratio – that is the number of the poor as a

percentage of the total population at each poverty line. This headcount ratio increases from 1996 to 2001 for both poverty lines. The actual value of the headcount ratio can be read off Figure 5 as it corresponds exactly to the value on the vertical axis where the poverty line cuts the CDF graph for each year. Thus, it can be seen that the low poverty line (\$2 per day/R91 per month) cuts the 1996 graph at 26 per cent and cuts the 2001 graph (in 1996 real income terms) at 28 per cent.

The second measure, the poverty gap ratio, records the average household's proportionate shortfall from the poverty line. For example, using R250 per person per month, the 1996 Census poverty gap ratio is 0.30. This means that the average household has an income that falls 30 per cent (0.30) short of this poverty line. In other words, the average household requires an additional R75 (0.30 x R250) for each of its members in order for that household to be classified as non-poor. This gap rises to 0.32 in 2001, reflecting the increase in measured poverty.

Table 7: National poverty levels, 1996 and 2001

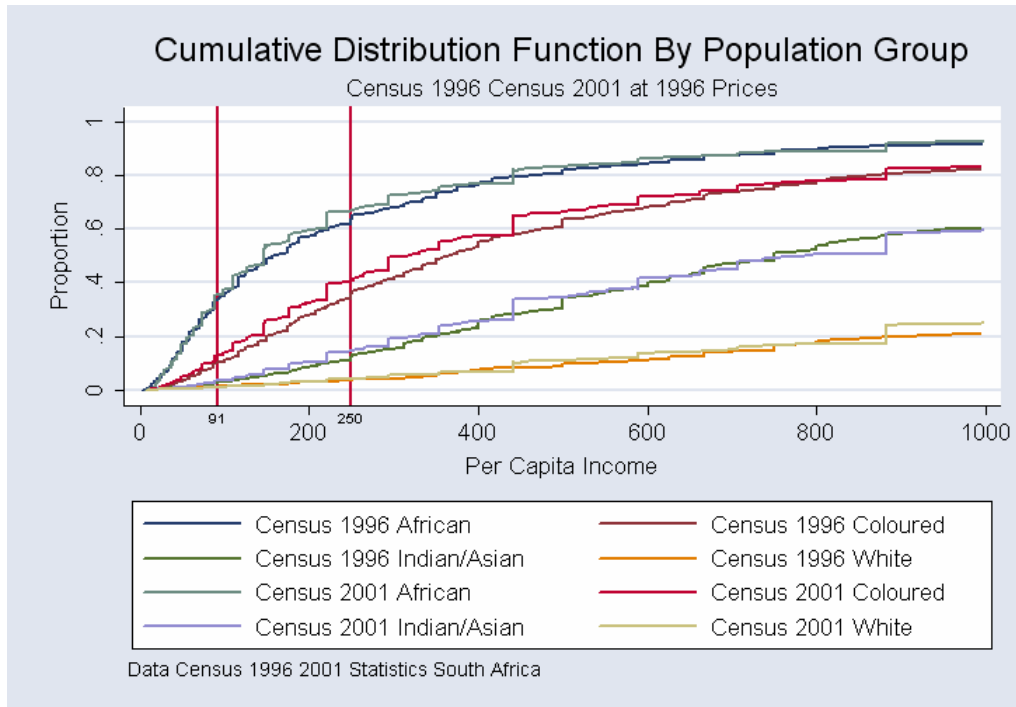
	Headcount	Poverty gap ratio	Headcount	Poverty gap ratio
	1996		2001	
\$2 per day	0.26	0.11	0.28	0.11
R250 (1996) per month	0.50	0.30	0.55	0.32

Source: Leibbrandt et al. (2006) calculations using 1996 and 2001 census data, Statistics South Africa.

The next CDF plot (Figure 5) allows us to examine poverty rankings by population group in both 1996 and 2001, as well as how poverty changed for each group from 1996 to 2001. This plot excludes all zero-income households. Looking exclusively at either the 1996 CDF plots by group or the 2001 CDF plots by group, a robust poverty ranking emerges. At any poverty line, Africans are very much poorer than coloureds, who are very much poorer than Indians/Asians, who are poorer than whites. The gaps between these graphs show the yawning differences between the groups in terms of absolute income levels. For example, the graphs stop at R1 000 per capita per month. More than 90 per cent, 80 per cent and 60 per cent of Africans, coloureds and Indians/Asians, respectively, have this real monthly income or less. The equivalent proportion of whites is just over 20 per cent.

This same CDF graphs show that measured poverty increased for Africans, coloureds and Indians/Asians, especially in the range between the two poverty lines. The increase in coloured poverty is especially stark. White poverty appears to be unchanged.

Figure 5: Cumulative distribution functions at 1996 prices by population group



Given that these CDF plots do not cross at low income levels, the poverty rankings and changes over time are unambiguous and will be reflected in any acceptable poverty measure. Table 8 assesses this by measuring poverty for each population group in 1996 and 2001, using both the headcount poverty measure and the poverty gap ratio. These poverty measures confirm the group rankings of poverty and the large group differences in measured poverty at either poverty line. They also confirm that there were only small increases in poverty between 1996 and 2001 for Africans and coloureds when measured at the low poverty line (\$2 per day) but fairly large increases in poverty for these two groups and the Indian/Asian group when the higher poverty line (R250) is used.

Table 8: Poverty levels by population group

	Headcount	Poverty gap ratio	Headcount	Poverty gap ratio
Poverty line	1996		2001	
\$2 per day				
African	0.34	0.14	0.35	0.14
Coloured	0.10	0.03	0.13	0.04
Indian/Asian	0.03	0.01	0.03	0.01
White	0.01	0.00	0.01	0.00
R250 (1996)				
African	0.62	0.38	0.67	0.39
Coloured	0.34	0.16	0.41	0.19
Indian/Asian	0.11	0.05	0.14	0.06
White	0.03	0.02	0.04	0.02

Source: Leibbrandt et al. (2006) calculations using Census 1996, 2001: Statistics South Africa.

One of the strengths of the headcount ratio and the poverty gap ratio as measures of poverty is that they can both be used to generate poverty shares to complement the poverty rates such as those reflected in Table 8 above. These poverty shares are derived by weighting the poverty rates of each subgroup (population groups in this case) by the share of the population that belongs to each subgroup. These poverty shares are shown in Table 9. We have already seen that the African group has by far the highest poverty rates. When this is combined with their dominant population share, the result is the overwhelming African poverty shares that are reflected in Table 9. One subtlety reflected in the table is that this African share is higher for the poverty gap ratio than for the headcount ratio. This is due to the fact that the poverty gap ratio accounts for how far a person's income is below the poverty line and not merely whether or not the person is poor. The African poor are over-represented in the poorest of the poor group, and the poverty gap ratio reflects this as a higher percentage of poverty.

Table 9: Poverty shares by population group

	Headcount	Poverty gap ratio	Headcount	Poverty gap ratio
Poverty line	1996		2001	
\$2 per day				
African	0.95	0.96	0.95	0.95
Coloured	0.04	0.03	0.05	0.04
Indian/Asian	0.00	0.00	0.00	0.00
White	0.01	0.00	0.00	0.00
R250 (1996)				
African	0.91	0.93	0.91	0.93
Coloured	0.07	0.06	0.08	0.06
Indian/Asian	0.01	0.00	0.01	0.01
White	0.01	0.01	0.01	0.01

Source: Leibbrandt et al. (2006) calculations using Census 1996, 2001: Statistics South Africa.

We complete our discussion of income poverty by comparing rural and urban poverty. The rural-urban divide cuts across population group and province. Figure 6 shows that rural poverty rates are substantially higher than urban poverty rates (regardless of the poverty line we choose). The graph also demonstrates that poverty rates unambiguously increased in urban areas over the between census period, while this cannot be unequivocally concluded for rural areas.

Table 10 confirms that at the two poverty lines that we use throughout this paper, poverty in both rural and urban areas increased over the 1996 to 2001 period. This increase is marked at the higher poverty line. The increase in urban poverty resonates with our earlier finding that poverty increased in Gauteng and in the Western Cape. In this context it is interesting to note that poverty also increased in KwaZulu-Natal.

Figure 6: Urban and rural cumulative distribution functions at 1996 prices, Census 1996 and 2001

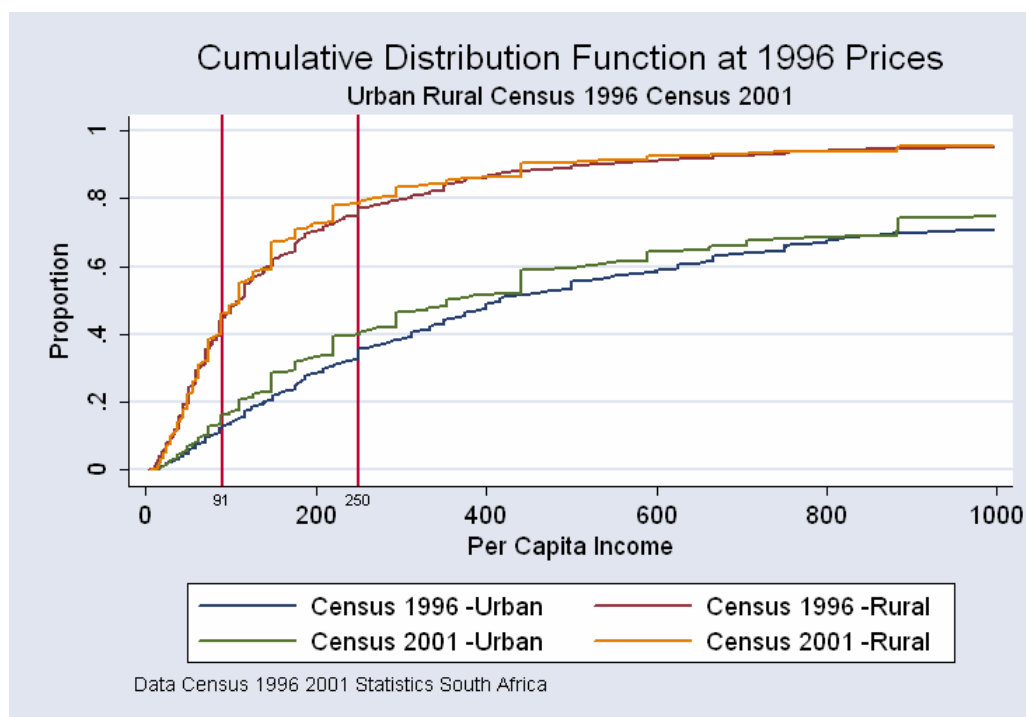


Table 10: Urban and rural poverty levels

	Headcount	Poverty gap ratio	Headcount	Poverty gap ratio
Poverty line	1996		2001	
\$2 per day				
Urban	0.13	0.05	0.16	0.06
Rural	0.45	0.19	0.46	0.19
R250 (1996)				
Urban	0.36	0.17	0.40	0.21
Rural	0.75	0.48	0.79	0.49

Source: Leibbrandt et al. (2006) calculations using Census 1996, 2001: Statistics South Africa.

Table 11 throws further light on this issue. While a much higher proportion of the rural population are poor, the proportion of the poor who are in rural areas is declining. Using the higher poverty line, 38 per cent of the poor were in urban areas in 1996, whereas 44 per cent of the poor were in urban areas in 2001. This is to be expected, given that a significant amount of rural to urban migration occurred over the period.

Table 11: Urban and rural poverty shares

	Headcount	Poverty gap ratio	Headcount	Poverty gap ratio
Poverty line	1996		2001	
\$2 per day				
Urban	0.29	0.28	0.34	0.32
Rural	0.71	0.72	0.66	0.68
R250 (1996)				
Urban	0.38	0.34	0.43	0.39
Rural	0.62	0.66	0.57	0.61

Sources: Own calculations for 1996 and 2001, using Census 1996, 2001: Statistics South Africa.

III Shades of Grey: Some Recent Debates over Inequality and Poverty Trends

In order to give a longer-run perspective on changes in inequality and poverty the previous section made use of census data going back to 1970. Since 1993, researchers have been able to access information from a number of national sample surveys and have used these to complement census-based analyses and to provide alternative estimates of inequality and poverty. The data sets have thrown up differences in measured levels and changes of inequality and poverty and this has promoted debates about the incidence and severity of the changes in well-being in post-apartheid South Africa. In this section we briefly present these studies and to draw out some key points for the rest of the paper. We use a detailed review by Woolard & Woolard (forthcoming) as our major source.

The inequality picture can be quickly dealt with as nearly all of this work (Simkins (2004), Fedderke et al. (2003), Hoogeveen & Özler (2004), Van der Berg et al. (2005)) supports the picture coming out of the census data of increasing intra-race inequality and high and perhaps increasing aggregate inequality. The exception is May & Woolard (2005) whose work was based on per capita expenditure. Table 12 shows a representative set of estimates of the Gini coefficient, based on the 2004 General Household Survey. This makes two useful points. First it cautions that while the actual magnitudes of the inequality measures that come from household sample surveys and especially those that use expenditure data are very high by international standards, they are much lower than the census estimates presented in the previous section of this paper. The results also confirm that the greatest inequality is within the African population and lowest within the White population.

Table 12 Gini coefficients by race and location, 2004

	African	Coloured	Indian/Asian	White	Total
Rural	0.43	0.38	-	0.37	0.51
Urban	0.53	0.45	0.43	0.36	0.56
Overall	0.51	0.47	0.43	0.36	0.59

Source: Own calculations on 2004 General Household Survey, Statistics South Africa.

The poverty trends are more contentious. There are a series of studies that have found an increase in poverty. Using the results of the 1995 and 2000 Income and Expenditure Surveys (IES), Statistics South Africa found that average incomes declined and poverty increased between 1995 and 2000 (Statistics South Africa, 2002). The average annual per capita income in 1995 was reported to be R12 135 (adjusted to 2000 prices) in comparison with a per capita income of R11 755 per annum reported in 2000. Using a refined version of these data, Hooegeveen & Özler (2004) estimate that 12.6m South Africans were living on less than PPP\$1 per day⁵ in 1995 compared to 14.4m in 2000 and that 22.9m South Africans were living on less than PPP\$2 per day in 1995 rising to 25.2m in 2000. The direction of these findings accords with the census based analysis that we presented. However, the measured increase in poverty is more acute than that found using the census. Simkins (2004) performed analysis on the 1995 and 2000 IES surveys as well as the 1996 and 2001 censuses. Using a poverty line set at household income of R800 per month, he finds that poverty worsened slightly over the period, rising from 29% in 1995 to 34% in 2000.

On the other hand, the UNDP (2004), Van der Berg & Louw (2003) and Van der Berg et al. (2005) find that poverty has stabilized or declined in the post-apartheid period. The UNDP works with 3 poverty lines: the international \$PPP1 and \$PPP2 a day lines, as well as a national poverty line set at R354 in 1995 Rands in line with the UNDP's estimated cost of satisfying minimum dietary requirements. Contrasting General Household Survey (GHS) data for 2002 with the IES 1995 and using the national poverty line, the report finds that the proportion of people living in poverty fell from 51.1 per cent to 48.5 per cent over the period (UNDP 2004: 41). However, the absolute number of people living in poverty by this measure increased from 20.2 million to 21.9 million as a result of population growth. The poverty headcount ratio using the \$2 a day poverty line also decreased slightly (from 24.2% to 23.8%), although disturbingly the headcount ratio for the most extreme poverty – measured on the basis of the \$1 a day line – increased from 9.4% to 10.5% (UNDP 2003: 41).

The UNDP reports that while the extent of poverty appears to have declined slightly, the depth of poverty (measured by the poverty gap) increased, particularly when using lower poverty lines. Van der Berg and Louw (2004) analyse post-apartheid income distribution using the IES datasets for 1995 and 2000. They note, however, that current household income rose over the period, which is inconsistent with the decline in household incomes observed by using the IES survey data. Accordingly, the authors calculate mean incomes for each race group using national accounts and other sources of data, and then apply these to the intra-group distributions of income contained in the IES datasets. Setting the poverty line at R250 per month in 2000 Rand, Van der Berg and Louw (2004: 567) find that the poverty headcount ratio stabilised or even declined slightly between 1995 and 2000, although the number of people living in poverty increased due to population growth.

Following on from this work, Van der Berg et al. (2005) combine data for intra-group distributions of income with the data for inter-group distributions of income. Datasets from the All Media and Products Survey (AMPS) series are employed for this purpose as this enables the

⁵ For international comparisons, the World Bank promotes the notion of “\$1 a day” as an international money metric threshold which can be adjusted for *purchasing power parity* (PPP). In this study, \$PPP1 was taken to be equivalent to R87 in 2000 prices.

analysis to be extended to 2004. Once racial distributions are obtained using the AMPS data, the per capita means are adjusted in line with inter-racial per capita means arrived at using National Accounts data. In other words, the entire income distribution for each race group is shifted in line with “reliable” per capita mean incomes.

Table 13 shows the results they obtained. They find that the poverty rate rose between 1993 and 2000 and then fell quite dramatically between 2000 and 2004. In addition per capita real incomes of individuals in the poorest two quintiles rose by more than 30 per cent during 2000-2004. While this rise may at first seem implausibly large, it should be borne in mind that this period coincides with a large increase in social grants. Van der Berg et al. point out that the total income received by the poorest two quintiles in 2000 amounted to R27 billion and that government subsequently increased its annual social grant payment bill by R22 billion (in constant 2000 Rand terms). As most of which would have been received by individuals in the bottom two quintiles of the income distribution there is a strong prior expectation of some improvement in the incomes of the poor and a strong increase is plausible.

Table 13: Selected indicators of poverty, assuming poverty line of R3000 per capita per year (in constant 2000 prices)

	1993	2000	2004
Average per capita income in quintile 1	R855	R866	R1 185
Average per capita income in quintile 2	R2 162	R2 086	R2 770
% of population that is poor	40.6	41.3	33.2
Number of poor	16.2m	18.5m	15.4m

Source: Van der Berg et al. (2005).

Meth (2006b) constructs an income variable from the information in the 2004 General Household Survey and the Labour Force Survey and uses it to argue strongly against the methodology and the findings of this paper by Van der Berg et al. (2005). At the end of the day he agrees that the poverty rate has declined since 2000 and that this is driven by social grant payments. As his estimates still place 18 to 20 million South Africans in poverty in 2004, he nevertheless insists that this is a small decline and not one to trumpet as a clear sign success of anti-poverty policies in the post-apartheid era.

In the light of all of this literature there does seem to be something of a consensus around the direction of post-apartheid inequality and poverty trends even if there are disagreements about the precise levels at any point in time. Aggregate inequality has remained stubbornly high and perhaps even increased. This is being driven by increasing intra-race inequality. In the adjustments to South African society accompanying the advent of the post-apartheid era, such dynamism is not unexpected and not necessarily bad. The high level of inequality, however, at the advent of the post-apartheid era does add an ominous note to this trend and given the skewed distribution of human and physical assets that undergirds this, it is not surprising that there was not been a dramatic improvement in money-metric poverty over the early years of the post-apartheid period. More recent years have witnessed stronger gains on poverty.

One of the useful features of the interchange between Meth and Van der Berg et al. is that it has highlighted the importance of the social grant system as a social safety net in South Africa. The

importance of the state old age pension has been recognized from the outset of the post-apartheid period and the demonstrable impact of the child support grant in the last six years is notable. This takes the dry empirical picture a little closer to the real application of post-apartheid policy in South Africa and is important enough for us to devote a later section of this paper to the further exploration of the link between these grants and household-level poverty and inequality.

Another sense in which our money-metric review has been unfair to the mechanisms and achievements of post-apartheid policy is that it ignores a literature (Leibbrandt et al., 2006, Bhorat et al., 2006 and Woolard & Woolard, forthcoming) showing substantial improvements in access to services such as housing, water and electricity over the post apartheid period. These improvements started from the early years of the post-apartheid period and therefore preceded the improvements in money metric poverty.

The contrast between the strong growth performance of the South African economy over the post-apartheid period and the poverty and inequality performance over the same period have made it very clear that there is not automatic link between good macro-policy and strong macro-economic performance and improved poverty and inequality outcomes. There is awareness in South Africa that economic growth creates possibilities for the private sector to make inroads into poverty and inequality. However our experience also tells us that we are not realizing these possibilities.

The next section of the paper undertakes an decomposition of income inequality by income source for the year 2000 in order to re-emphasise the importance of the labour market (and social grants) in understanding South African inequality. The following section then probes the connection between household inequality and poverty and the labour market. This is followed by the section probing the impact to social grants.

IV Decomposing Inequality

In this section, we begin with a decomposition of the Gini coefficient by income sources.⁶ The decomposition highlights those income sources that are dominating the distribution of income. For the purposes of this paper, we decompose income into remittances, wage income (including self-employment), state transfers (“grants”) and capital income (such as dividends, interest, rent income, imputed rent from residing in own dwelling and private pensions.

The key aspects of the method can be summarised as follows. If South African society is represented as n households deriving income from K different sources (i.e. K different income components), then Shorrocks (1983) shows that the Gini coefficient (G) for the distribution of total income within the group can be derived as:

$$G = \sum_{k=1}^K R_k G_k S_k \quad \text{where:}$$

⁶ The literature in Gini decompositions starts with Pyatt (1976). For a clear description of this specific application see Shorrocks (1983) and Lerman and Yitzhaki (1994).

S_k is the share of source k of income in total group income (i.e. $S_k = \mu_k / \mu$),

G_k is the Gini coefficient measuring the inequality in the distribution of income component k within the group, and

R_k is the Gini correlation of income from source k with total income.⁷

This equation reveals that the effect of source k income on total income inequality can be broken down into three components; the share of income component k in total income (captured by the term S_k), the inequality within the sample of income from source k (as measured by G_k); and the correlation between source k income and total income (as measured by R_k). The larger the product of these three components, the greater the contribution of income from source k to total income inequality. However, it must be noted that whilst S_k and G_k are always positive and less than one, R_k can fall anywhere on the interval $[-1,1]$. When R_k is less than zero, income from source k is negatively correlated with total income and thus serves to lower the overall Gini measure for the sample.

Tables 14 and 15 present the results of this decomposition for the total South African sample using the most recent comprehensive income data, namely the 2000 Income and Expenditure Survey (IES). A few illustrative features of the tables will be highlighted. It can be seen that wage income (including self-employment income) has a dominant share of income (72%) but makes an even larger contribution to inequality (87%). The reason for this is the high R of .95, implying that a household's rank in the distribution of wage income is strongly correlated with that household's rank in the distribution of total income.

As shown by Lerman and Yitzhaki (1994), the Gini coefficient for a particular income source (G_k) is driven by the inequality among those earning income from that source (G_A) and the proportion of households who have positive income from that source (P_k), or, more accurately, *the proportion of households with no access* to a particular income source ($1 - P_k$). Thus, it can be seen that:

$$G_{\text{wage}} = P_{\text{wage}} G_A + (1 - P_{\text{wage}}) = (0.72)(0.64) + (1 - 0.72) = 0.46 + 0.28 = 0.74$$

This takes the analysis part of the way to apportioning the "blame" for Gini inequality into two parts; the inequality amongst earners and the inequality between those with some wage income and those with none. It would appear that more than one-third of what is ostensibly "wage inequality" is attributable to the 28% of households with zero wage income.

In 2000, state transfers accounted for 6% of income but, according to this analysis, made almost no (positive or negative) contribution to inequality. This very low contribution to inequality (of only 1%) arises because of the low correlation ($R = .16$) between the rank ordering of remittance income as well as the low Gini coefficient (0.37) for state transfers. In 2000, state transfers were heavily concentrated in the middle of the distribution – access to an Old Age Pension or Disability Grant was sufficient to lift most households out of the bottom quintile, while the means tests for these grants excluded households at the top end of the distribution.

⁷ R_k is a form of rank correlation coefficient as it measures the extent to which the relationship between Y_k (the income from source k) and the cumulative rank distribution of total income coincides with the relationship between Y_k and its own cumulative rank distribution.

The last column of Table 1 shows the effects of a 1% increase in a particular income component. It can be seen that a change in state transfers or remittances will decrease the Gini while an increase in wages or capital income will aggravate inequality. The components which increase inequality correlate highly with total income rankings (i.e. R_k is high), which implies that an increase in these sources will primarily benefit the better off and thus raise the Gini.⁸

⁸ The sum of the absolute changes in the Gini coefficient is zero. This follows because increasing all components of income by 1% has no effect on the income distribution and therefore no effect on the Gini.

Table 14 Decomposition of Total National Income by Income Sources, 2000

Income source	Percentage of households receiving income source (100* P_k)	Mean monthly income from source	Percentage share in total income (S_k)	Gini for income source for households receiving such income (G'_k)	Gini for income source for all households (G_k)	Gini correlation with total income rankings (R_k)	Contribution to Gini coefficient of total income ($S_k G_k R_k$)	Percentage share in overall Gini	Percentage change in Gini for 1% change in component
Remittances	41.1%	R 165.42	5.1%	0.605	0.837	0.113	0.005	0.7%	-0.044%
Capital income	24.9%	R 311.02	9.6%	0.795	0.949	0.772	0.070	10.9%	0.013%
State transfers	24.1%	R 177.85	5.5%	0.365	0.847	0.156	0.007	1.1%	-0.044%
Wage and self-employment income	72.4%	R 2,579.20	79.8%	0.640	0.740	0.953	0.562	87.2%	0.074%
Total		R 3,233.48	100.0%		0.645		0.645	100.0%	0.000%

Table 15 Contribution of recipients and non-recipients to inequality, 2000

Income source	Percentage of households receiving income from source k (P_k) (1)	Percentage contribution to G_k from positive earners of source k ($P_k * G'_k / G_k$) (2)	Contribution to G_k from zero earners of source k ($(100 - P_k) / G_k$) (3)	Percentage share in overall Gini (4)	Percentage contribution to overall Gini from non-earners of source k (3)*(4) (5)
Remittances	41.1%	29.7%	0.589	0.7%	0.4%
Capital income	24.9%	20.9%	0.751	10.9%	8.2%
State transfers	24.1%	10.4%	0.759	1.1%	0.9%
Combined wage and self-employment income	72.4%	62.7%	0.276	87.2%	24.1%
Total				100.0%	33.6%

To better understand the mechanism whereby wage employment affects inequality, we make use of a second decomposition technique to unpack this specific component of household income. We begin by recognizing that household labour market income depends on three factors, namely, the number of “potential workers” (that is, household members of working age), the number of household members that are actually employed and the earnings of these workers. Glewwe (1986) uses the log-variance to decompose household earnings into these three components. Employing a slight modification of Glewwe’s technique, earnings per adult equivalent can be expressed as:

$$\frac{W}{hhs\text{ize}} = \frac{L_p}{hhs\text{ize}} \cdot \frac{L_w}{L_p} \cdot \frac{W}{L_w}$$

where W is labour market income, $hhs\text{ize}$ is household size, L_p is the potential number of workers (defined here as the number of persons aged 15-64) and L_w is the number of people actually employed.

Taking the natural logarithm of both sides of the equation above and calculating the variance gives:

$$\begin{aligned} \text{var}\left[\ln\left(\frac{W}{hhs\text{ize}}\right)\right] &= \text{var}\left[\ln\left(\frac{L_p}{hhs\text{ize}}\right)\right] + \text{var}\left[\ln\left(\frac{L_w}{L_p}\right)\right] + \text{var}\left[\ln\left(\frac{W}{L_w}\right)\right] + 2 \times \text{cov}\left[\ln\left(\frac{L_p}{hhs\text{ize}}\right), \ln\left(\frac{L_w}{L_p}\right)\right] \\ &\quad + 2 \times \text{cov}\left[\ln\left(\frac{L_p}{hhs\text{ize}}\right), \ln\left(\frac{W}{L_w}\right)\right] + 2 \times \text{cov}\left[\ln\left(\frac{L_w}{L_p}\right), \ln\left(\frac{W}{L_w}\right)\right] \end{aligned}$$

The contribution of each of the first three terms on the right-hand-side can be thought of as the contribution of household composition (the number of persons of working age), access to employment and wages, respectively.

Table 16: Decomposition of shared household earnings, LFS 2005

	Variances			Covariances		
	$\ln\left(\frac{L_p}{hhs\text{ize}}\right)$	$\ln\left(\frac{L_w}{L_p}\right)$	$\ln\left(\frac{W}{L_w}\right)$	$\left[\ln\left(\frac{L_p}{hhs\text{ize}}\right), \ln\left(\frac{L_w}{L_p}\right)\right]$	$\left[\ln\left(\frac{L_p}{hhs\text{ize}}\right), \ln\left(\frac{W}{L_w}\right)\right]$	$\left[\ln\left(\frac{L_w}{L_p}\right), \ln\left(\frac{W}{L_w}\right)\right]$
All households	0.146 (7.4%)	0.250 (12.6%)	1.374 (69.4%)	0.023 (2.4%)	0.043 (4.4%)	0.037 (3.6%)
White	0.113 (9.5%)	0.150 (12.6%)	1.084 (90.7%)	-0.007 (-1.2%)	-0.010 (-1.6%)	-0.060 (-10.0%)
African	0.155 (8.7%)	0.268 (15.0%)	1.155 (64.8%)	0.034 (3.8%)	0.047 (5.2%)	0.023 (2.6%)

Source: own calculations based on 2005 LFS, Statistics South Africa. Percentage contribution to earnings inequality is shown in parentheses.

Table 16 reveals that most of the inequality in shared household earnings is the result of unequal wage incomes, rather than the fraction of household members that are of working

age or who are actually working. Nevertheless, joblessness has a significant effect on household wage inequality. This is particularly true in African households. While this decomposition tackles the issue from a different perspective to that of the income source decomposition above, the results support a general conclusion of high wage inequality being a product of a considerable wage dispersion coupled with unequal access to employment opportunities.

V Poverty and the Labour Market

Table 17 provides a bridge between the above inequality analysis and a poverty analysis by detailing a series of key labour market rates by per capita expenditure quintiles. In the lower quintiles, participation rates are very low and unemployment rates are staggering high – taken together, this implies extremely low rates of employment among the poor. The table further shows that the average worker in the top quintile earns 16 times as much as the average worker in the lowest quintile. Thus, the table powerfully demonstrates the relationship between household poverty and the labour market.

Table 17: Labour market characteristics by quintile, 2005

Quintile	Labour force participation rate	Unemployment rate	% of adults that are working	Median individual wage of the employed (2005 prices pm)
1 st (bottom)	34%	68%	11%	R 280
2 nd	37%	50%	19%	R 500
3 rd	46%	34%	31%	R 800
4 th	62%	18%	51%	R 1200
5 th (top)	76%	7%	70%	R 4500

Source: own calculations on 2005 GHS data. Quintiles contain equal numbers of individuals and are based on per capita expenditure⁹

In order to better understand the labour market context we go on to discuss the disparate trends in participation, employment and unemployment by race and educational attainment, the unequal burden of unemployment across households and trends in wage income.

Table 18 reveals a legacy of the apartheid era in that Africans have worse labour market outcomes than the other groups. Coloured and Indians also had worse outcomes than whites. In 1995, the labour force participation of Africans was only 45.9%, their employment rate was 36.7%, and their unemployment rate was 20.1%. All the other groups have participation rates above 60% and unemployment rates that are substantially lower. The unemployment of coloureds was 13.8%, Indians 9.3% and whites 3.3%. Since

⁹ In all tables that make use of quintiles or deciles from the General Household Survey, we replace household expenditure with household wages + household income from grants if the latter exceeds the former. We do this because household expenditures are grossly under-reported in the GHS (see Meth, 2006).

1995, all groups have increased their labour market participation, but they have not increased their employment rates – indeed coloured and Indians saw slight decreases. All population groups experienced increased unemployment rates. Africans increased participation rates by approximately 10 percentage points from 1995 to 2005 and their unemployment rate increased by about 50%. Clearly, many of the new entrants to the labour market were not finding jobs. Coloureds and Indians increased their participation rates by only about 3 percentage points and yet unemployment rates about doubled. Finally, the unemployment rate for whites, while small, rose by about 50%. Thus, all racial groups are performing worse in terms of employment than they were a decade ago.

Table 18: Participation, Employment and Unemployment by Race (%)

Year	African			Coloured		
	Participation	Employment	Unemployment	Participation	Employment	Unemployment
1995	45.9	36.7	20.1	64.2	55.3	13.8
1997	43.5	31.3	28.0	60.8	50.9	16.3
1999	51.1	35.4	30.6	67.1	56.1	16.4
2001	56.1	35.6	36.7	67.2	52.2	22.4
2003	53.6	35.4	34.0	65.8	51.4	21.8
2005	54.2	36.9	31.9	65.4	52.3	20.0
Year	Indian			White		
	Participation	Employment	Unemployment	Participation	Employment	Unemployment
1995	60.1	54.4	9.3	68.6	66.4	3.3
1997	57.6	51.2	11.1	64.8	61.9	4.6
1999	64.6	53.5	17.3	71.3	67.1	5.9
2001	67.0	53.4	20.3	72.0	66.9	7.0
2003	63.8	52.7	17.4	71.3	67.3	5.5
2005	63.9	52.0	18.7	70.3	66.7	5.1

Source: own calculations based on 1995, 1997 and 1999 OHS and September 2001, September 2003 and September 2005 LFS, Statistics South Africa

Notes: All statistics are for population 16 to 64 years old.

One of the most important distortions of apartheid for South Africa's long-term development path is skewed access to education by race. As it turns out, the demand for labour patterns have been particularly punitive of this distortion. Since 1970, there has been significant structural change in the demand for labour. The primary sector (agriculture and mining) was shedding labour throughout the period while financial services, wholesale and retail trade and community, social & personal services increased employment (Bhorat et al., 2000). Thus, the sectoral composition of employment changed substantially in South Africa. Agriculture went from 33 percent of total employment to only 11 percent while wholesale and retail trade increased from 9 to 25 percent and employment in the financial sector also increased substantially: from 3 to 11 percent.

As can be seen on Table 19 below, this altered the composition of employment in terms of educational attainment, favouring more skilled workers. Displaced workers from

agriculture and mining are often unable to relocate to other areas where jobs might be available, so they make up a large share of discouraged workers in rural areas. We return to this changing demand for skills in our conclusion as it has profound implications for every aspect of policy.

Table 19: Evolution of relative employment by education level (%)

Education Level	1970	1995	2000	2005
None	38	7	7	5
Some Primary	31	20	24	18
Some Secondary	23	31	30	29
Complete Secondary	6	24	21	29
Tertiary	1	17	18	18

Sources: Banerjee et al., based on Census 1970, OHS 1995 and LFS September 2000 and March 2005

As members of a household tend to have similar levels of education to each other and they all dwell in places that are well or badly located relative to regional labour markets, there tends to be a strong household pattern to unemployment. Table 20 shows that in 2005 slightly over 50% of the unemployed lived in households where someone is employed; another 11% of the unemployed lived in households which received remittances from an absent household member. This is largely related to the migrant labour system created by apartheid era restrictions on movements. Thus about 62% of the unemployed are able to depend on labour income from a present (or absent) household member and about 38% of all unemployed live in households with no connection to the labour market whatsoever. The disconnection from the labour market for the unemployed has increased over time. In 1993 some 60% lived in a household with a working member, 20% in households with remittances, and only 20% had no connection to the labour market (see Klasen & Woolard, 2001).

Table 21 presents the household-level analysis, showing the distribution of the employed and unemployed among households. The table shows that, despite high unemployment, the majority of households (58%) contain no unemployed person¹⁰. 28% of households contain one unemployed person, and 13% contain 2 or 3 unemployed members, suggesting that these households are severely burdened by the presence of unemployed members. The table also shows that 24% of households receive neither labour income nor remittances and are thus disconnected from the labour market. Particularly worrying is that about half of the households with 2 or more unemployed members belong to that category of households disconnected from the labour market. Trends over time show that the burden of unemployment has increased on many households. The share of households containing not a single unemployed person has fallen from 70% in 1993 (Klasen & Woolard, 2001) to 57% in 2005, and, correspondingly, the shares of households with one, two, three, or more unemployed have all increased by 40-50% in that time period.

¹⁰ Given the racial differences in unemployment rates and the near absence of interracial households, most White and Indian, and a large share of Coloured households are among this group of households.

The two analyses suggest four findings. First, the unemployed are relatively widely distributed across households, certainly much more widely than in rich countries (e.g. OECD, 1998). In the South African context, this is particularly surprising given that, due to racial differences in unemployment, White households (and, to a lesser extent, Indian households) are largely insulated from the burden of unemployment¹¹. This implies that among African households, the burden of unemployment is particularly widely dispersed, with nearly 50% of households housing at least one unemployed person, and quite a few more than one.

Second, the most important source of resources for the unemployed are labour incomes of other household members, either directly from working household members or indirectly via remittances from absent household members¹². Third, the burden of unemployment on the unemployed and the households hosting them has increased over time. The share of unemployed living in households with no connection to the labour market has markedly increased over time, as has the share of households containing an unemployed person. Lastly, the burden is apportioned unequally. A minority of households, many of which have little connection to the labour market themselves, house a majority of unemployed and thus carry a disproportionate burden, while the majority of households are not affected.

How do the unemployed survive in households without labour market connections? Table 20 shows that the majority of those households receive social grants (which we discuss later). Thus the public safety net complements the private safety net and plays a large role in the support of the unemployed, despite the fact that the direct beneficiaries of social assistance are the elderly, the disabled and children.

Table 20: Labour Market Connections of Unemployed Individuals ('000)

	1997	2005
Number of employed	%	%
No-one employed, no remittances, no grants	11.8	13.2
No-one employed, no remittances, grants	17.5	24.7
No-one employed, remittances	21.3	11.2
1 employed	35.8	39.4
2-3 employed	12.6	10.9
4+ employed	0.9	0.6
Total	100.0	100.0

Source: Statistics South Africa, 1997 and 2005

¹¹ 90% of White and 75% of Indian households did not contain an unemployed person in 2004.

¹² As shown in Table 2, the role of remittances as a source of income has decreased over time which is related to the slow dismantling of the legacy of apartheid-era spatial policies that previously had restricted access of non-working family members to urban areas.

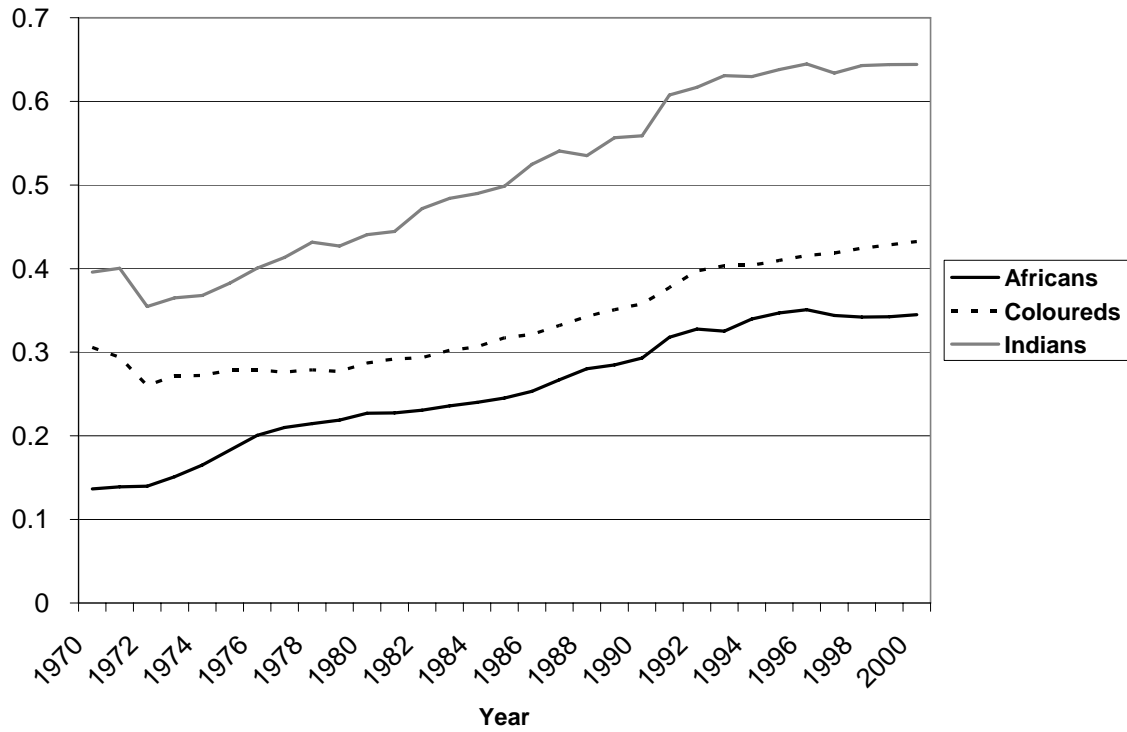
Table 21: The Number of Employed and Unemployed among Adults in Households

Number of employed	Number of unemployed				
	0	1	2-3	4+	Total
No-one employed, no remittances, no grants	3.0	4.0	1.6	0.2	8.8
No-one employed, no remittances, grants	6.8	4.3	4.1	0.5	15.7
No-one employed, remittances	3.1	3.3	1.5	0.1	8.0
1 employed	28.2	13.2	4.1	0.6	46.1
2-3 employed	16.0	3.0	1.5	0.2	20.5
4+ employed	0.6	0.2	0.1	0.0	0.9
Total	57.6	28.0	12.8	1.6	100.0

Source: own calculations using September 2004 Labour Force Survey, Statistics South Africa

Our earlier inequality decomposition by income source showed that both the zero earning households and the inequality of household wage income for those households that have such income are important drivers of overall inequality. We have given attention to the zero-earners above. Now we need to present some material on wage trends. Figure 7 shows that over the long-term there has been considerable convergence in the wages of different race groups. Since the late 1990s, however, there has been little change in the average ratio of African to white wages. Africans continue to be over-represented in lower skilled occupations where wages have grown more slowly than for higher skilled categories.

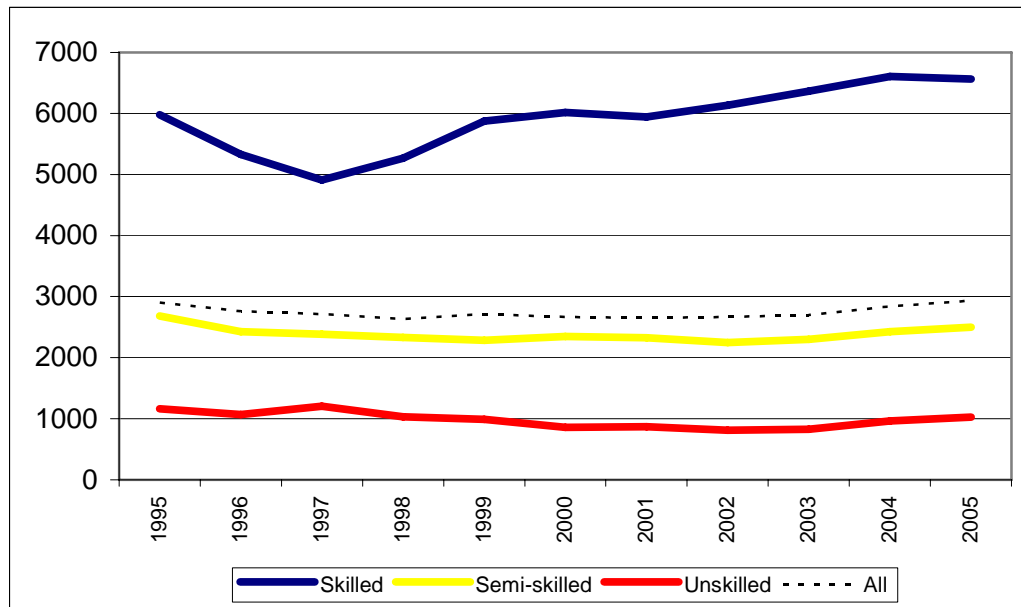
Figure 7: Wage levels by race, as a proportion of White wages



Source: Burger (2004) and van der Berg & Louw (2003)

Figure 8 shows the tremendous difference in wages between unskilled and skilled labour even within the formal economy. It also clearly demonstrates that there has been no convergence between the wages of lower versus higher skill categories since the mid-1990s.

Figure 8: Average formal sector real monthly earnings, by skill level: 1995-2005



Source: Burger & Yu, 2006

It is clear from Figures 7 and 8 that even if the developments in the 1980s and over the post-apartheid period removed the vestiges of formal wage discrimination by race, lingering differences by race in education and skill levels and difference in the demand for labour by skill continue to ensure stark racial differences in earnings.

VI Description of Social Assistance Grants in South Africa

Our earlier discussions of poverty money metric poverty and our income source decompositions showed how important grants are for many households in South Africa. The extensive network of social grants is central to anti-poverty policy in South Africa. Therefore it is worthwhile to spell out the development of this system in some detail. We do this in this section of the paper. We go on to show the broader impacts on poverty and then tease out some of the more subtle behavioural effects that have emerged from a range of evaluation studies.

The South African social security system is surprisingly developed for a middle income developing country (Van der Merwe, 1996), a fact that can be ascribed to the way that the system developed under apartheid as a welfare state for whites and was then expanded under social and political pressure to incorporate other groups (Van der Berg, 1997).

Social pensions were instituted in 1928 for whites and coloureds not covered by occupational retirement insurance, subject to age criteria and a means test to ensure that only the needy were targeted. The white population dependent on social pensions remained relatively small despite an increasingly liberal means test, as occupational retirement insurance covered the more affluent. In 1943, take-up rates amongst the

elderly were 40 per cent for whites and 56 per cent for coloureds (van der Berg, 1999). By that year, only 4 per cent of all social assistance spending was on Africans (mainly targeted relief and pensions for the blind), 1 per cent for Indians and 16 per cent for coloureds (ibid.).

In 1944 the Smuts government that immediately preceded the first apartheid government extended social old-age pensions to Africans (Van der Merwe, 1996: 378), though benefit levels were less than one tenth of those of whites and the means test far more stringent. By 1958 and well into the apartheid era, Africans already composed 60 per cent of the 347 000 social old-age pensioners, although they received only 19 per cent of old-age pension spending (van der Berg, 1999). By 1978, after their numbers had grown by 5 per cent a year for two decades, Africans made up 70 per cent of the 770 000 pensioners and received 43 per cent of pensions. By 1990 this latter proportion had increased to 67 per cent (ibid.). The 1992 Social Assistance Act finally did away with all discriminatory provisions.

To the present day, the OAP is available to women at the age of 60 years and to men at the age of 65 years. It is subject to a means test which is based on the income and assets of the applicant plus, if the applicant is married, the income and assets of the spouse. The means test is based on a formula which differs for single and married people and which is based on the grant amount at the time. Unlike the CSG, which is paid at a flat rate, the OAP and disability grant have a sliding scale at the upper end of income eligibility where the amount of the grant is progressively reduced for each additional rand of income. At the time of writing the maximum amount of the grant is R840, and this maximum is received by the overwhelming majority of beneficiaries.

Around the time of the Second World War, other forms of social assistance also expanded. In 1936 and 1937, grants for respectively the blind and the disabled were instituted, but these were initially confined to whites and coloureds and only extended to other groups in 1946 (Kruger, 1992).

Social assistance changed little in terms of its basic structure up to the 1970s. The system remained dominated by means-tested, non-contributory old age pensions and disability pensions with discrimination between the different race groups in terms of access to the grants and the levels of benefits. Substantial progress was, however, made during the period after 1970 in removing racial discrimination from these two programmes. This equalisation resulted in increased access and real benefit levels for Africans and reduced real levels of benefits for white pensioners. This placed South Africa in the somewhat surprising situation that, even at the time of the transition to democratic rule, it possessed a substantial system of cash transfers with wide coverage of the population. This important role of cash social assistance is fairly exceptional compared to most other middle-income countries (see Lund 1993, Van der Berg 1997 and Case & Deaton 1996).

These reforms did not extend to the third most important component of state transfer payments, namely State Maintenance Grants. The State Maintenance Grant was available to a parent or guardian living with a child under eighteen years of age if the applicant was

unmarried, widowed or separated; had been deserted by their spouse for more than six months; had a spouse who received a social grant or had been declared unfit to work for more than six months; or had a spouse who was in prison, a drug treatment centre or similar institution for more than six months. Applicants had to prove that they had made efforts to apply for private maintenance from the other parent but been unsuccessful in doing so. There were several conditions attached to receipt of the grant, including ensuring that school-age children were in school. There were limitations not only on non-parents' receipt of the grant, but also on eligibility in respect of children born outside of marriage. As a result of significant differences in both rules and how the rules were applied, very few African children and their caregivers received the grant. In some African areas, there were simply no grants for the caregivers (Budlender & Woolard, 2006). Overall, coloured and Indian recipients were over-represented as most whites who satisfied other conditions did not pass the means test: in 1990, only 0.2% of African children were in receipt of maintenance grants, while 1.5% of white children, 4.0% of Indian children and 4.8% of coloured children received the grant (Kruger, 1998) It became apparent in the mid-1990s that providing equal access to maintenance grant benefits would have severe fiscal implications given poverty levels and household structures, with simulations based on household survey data predicting a more than twenty-fold increase in expenditures (Haarman & Haarman, 1996).

In December of 1995, the democratically elected government of South Africa established the Lund Committee in order to evaluate the existing system of state support and to explore new alternative policy options targeting children and families. The report of the Committee recommended a new strategy to replace the existing state maintenance grant. This strategy included a child-linked grant with a lower monetary value than that of the State Maintenance Grant, but targeted at a wider group of beneficiaries, particularly those living in the most disadvantaged areas: rural areas and informal settlements.

The Child Support Grant (CSG) was introduced in April 1998, at a level of R100 per month for each child younger than seven years of age. The money was to be paid to the primary care giver of the child. Applicants for the grant were required to pass a means test (based on household income), produce certain documents, and demonstrate efforts to secure funds from other sources. The strict nature of the requirements prevented many genuine care-givers of in-need children from applying for the grant, and, as is detailed below, in June 1999 the rules were changed.

When the Child Support Grant (CSG) was introduced it was intended to cover the poorest 30% of children and was means-tested, i.e. the child had to be residing in a household with a household income below a certain threshold. The threshold was set at R800 for children living in urban areas and at R1100 for those living in rural areas or in informal settlements. In 1999, due to a low take-up rate, the Department of Welfare altered the income test from a household based measure to one which considered only the income of the primary caregiver plus that of his/her spouse (net of other state transfers). The means test has remained unchanged in nominal terms since 1998, despite the fact that the

Consumer Price Index rose 45% between April 1998 and June 2005. About half of age-eligible children are currently in receipt of the grant.¹³

The government has increased the age limit for eligibility in recent years. In April 2003 the age limit was raised to nine years old and a year later this was increased to eleven years. In April 2005 the age limit was raised to fourteen.

When the CSG was introduced, it included several conditionalities. Applicants were initially expected to participate in “development programmes” and to have proof that the children for whom they were applying were immunised. The requirement in respect of development programmes was dropped after it became obvious that such programmes simply did not exist in many areas. The requirement in respect of immunisation was dropped out of recognition that it often discriminated against children who were already disadvantaged in terms of access to services.

There are two other child grants which have been in existence since the CSG was established and which still exist. Both have seen marked increases in take-up over recent years. This can be partly attributed to an increase in general awareness of grants, but is also related to the HIV/AIDS pandemic as both grants are used in some cases to provide for children affected or infected by AIDS.

The foster child grant (FCG) is paid to those who have gone through a court process to become registered as foster parents of the child. The grant is intended for children up to the age of 18 years “in need of care” and who are not receiving such care from their biological parents. This includes children who are abused as well as children in trouble with the law. The grant is not primarily intended to deal with poverty, and thus has no means test except if the child has independent income, for example in the form of a trust. The FCG is, however, currently being proposed – including at times by the Department and Minister of Social Development – as the appropriate grant for children orphaned by HIV/AIDS, even though these children are arguably more in need of money than in need of “care” in the sense intended by the grant (Meintjes et al., 2003). Because the grant is several times larger than the CSG, there is a clear incentive to caregivers to choose the FCG over the CSG if they have the opportunity to do so. The significant difference between the two amounts is a legacy of the haphazard way in which the grant system came into being. The Lund Committee was aware of this problem when it deliberated, but could not propose a higher amount for the CSG if it was to keep within the budget limit in its terms of reference and also did not want to recommend lowering of the amount of the FCG.

The care dependency grant (CDG) is given to caregivers of children who are severely disabled to the extent that they need full-time care. Thus, if such care were not available in the home, they would need to be institutionalised. The grant is available for children from one to 18 years.

¹³ In September 2004 there were slightly over 7 million children aged 0 to 6 in South Africa. Administrative data from the SOCPEN system of the Department of Social Development indicates that 3.54 million of them were receiving the CSG.

The disability grant is the other large grant in terms of take-up. It is intended for disabled persons over the age of eighteen but below the age at which they would be eligible for the OAP. The means test is the same as for the OAP. The main criterion is that the person should be disabled to the extent that they are unable to support themselves. Permanent grants are awarded to those who are permanently disabled. Temporary grants are awarded for a shorter period, for example six months, to those who are expected to regain the ability to support themselves. Numbers for the disability grant have increased significantly over recent years, partly as a result of the HIV/AIDS pandemic. For example, permanent disability grant numbers increased from 399,924 in October 2001 to 970,143 in September 2004, while temporary disability grant numbers increased from 233,015 to 375,476 over the same period. Numbers have more recently levelled off, partly as a result of measures taken to prevent fraud.

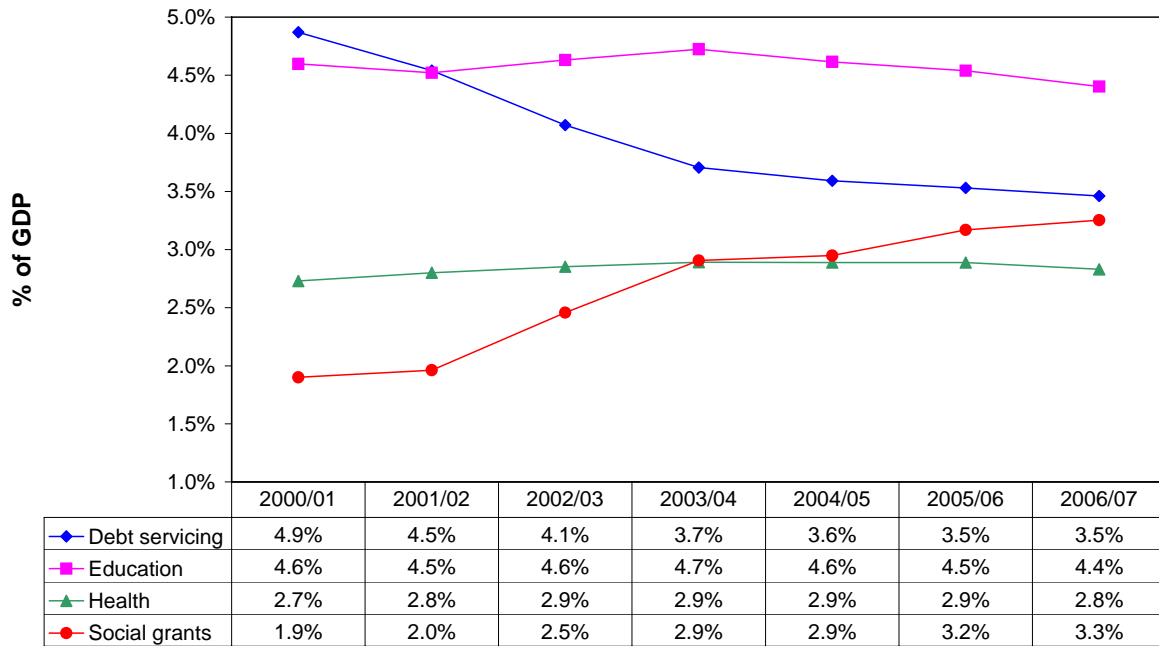
The war veterans' grant is paid to those who served the country militarily in early and mid-20th century wars. There are thus few remaining recipients. In February 2006 fewer than 3,000 people were receiving the grant. Finally, a temporary grant-in-aid can be paid to those in distress, for example those who are waiting for the application for another grant to be approved. In February 2006, 26,528 people received grants-in-aid.

In sum then, we have unpacked the extensive network of grants that make up the social security system in South Africa. Some aspects of this system were inherited from the pre-democratic era. However, the post-apartheid state has been very active in reforming and adding to this system. The 2006 budget allocates a total of R61.5 bn for 2006/07 for the social security transfers and administration programme of the national Department of Social Development (National Treasury, 2006: 398). Of this amount, R57.7 bn is for social assistance transfers, i.e. the money actually transferred to individuals.

Figure 9 shows the rapid increase in spending on social assistance over the last few years. While spending on education and health have remained fairly constant in real terms, social assistance (excluding administration) now consumes 3.3% of GDP, up from 1.9% in 2000/01.¹⁴

¹⁴ Debt servicing is included in the figure to show that the increases in spending on social assistance have not been funded via additional borrowing.

Figure 9: Debt servicing and social spending as proportion of GDP, 2000/01-2006/07



Source: GDP figures from South African Reserve Bank (2005); expenditure items from National Treasury (2005)

By February 2006, 10.9 million people were benefiting from social grants. Of these, 2.1 million were receiving old age pensions, 1.3 million were receiving disability grants and 7.0 million children were benefiting from child support grants.

Given this extensive reach and the importance of these grants in the budget, it is important to establish that they grants do have strong anti-poverty impacts. Table 22 shows the percentage of households that report that social grants are their main source of income. Prior to the introduction of the Child Support Grant, the major sources of grant income were the Old Age Pension and the Disability Grant. Because the value of these grants is large (roughly twice median per capita income), access to either of these grants was sufficient to raise the per capita income of all but the largest households out of the bottom quintile. Consequently, in the 2002 data it can be observed that grants were twice as likely to be the main source of income in the second and third quintile than in the bottom quintile. By 2005, however, the Child Support Grant (of much lower monetary value than the Old Age Pension or Disability Grant) was reaching more than 9 million children in about 5 million households. In spite of the low value of this new grant, by 2005 we observe a substantial number of households in the bottom decile reporting grant income as their main source of income.

Table 22: Percentage of households reporting grants as their main source of income, by quintile

Quintile	2002	2003	2004	2005
1	16.1	16.9	21.4	39.6
2	31.4	36.1	44.0	49.5
3	31.1	34.0	42.2	38.1
4	18.1	19.5	16.7	14.3
5	4.4	4.2	3.5	2.8
Total	18.2	19.6	21.5	28.9

Source: Own calculations using 2002, 2003, 2004 and 2005 General Household Surveys, Statistics South Africa.

The rapid roll-out of the Child Support Grant from 2000 onwards is clearly discerned in Table 23. Whereas in 1997 just under one-third of households were receiving a grant, by 2005 this percentage had risen to more than half. Most significantly, the percentage of households in the bottom quintile with access to social assistance rose from 16% to 67% between 1997 and 2005.

Table 23: Percentage of households reporting any income from grants

Quintile	1997	2002	2003	2004	2005
1	15.9	32.0	31.7	40.2	66.7
2	54.0	55.8	50.9	71.2	79.8
3	46.7	51.6	53.2	67.1	73.9
4	33.8	33.2	34.8	35.8	44.8
5	14.0	11.3	7.9	8.8	11.9
Total	32.9	36.8	32.0	38.6	55.4

Source: Own calculations using 1997 October Household Survey and 2002, 2003, 2004 and 2005 General Household Surveys, Statistics South Africa.

Clearly Tables 22 and 23 make up a very telling broad-brush picture. Precise impact evaluation is a much more precise endeavour. A number of qualitative and quantitative studies have pointed to the importance of the grants, beyond the direct monetary impact they have on poorer households. Now we briefly review some of this evidence. One of the facts making this evidence particularly interesting is that these grants are all non-conditional cash transfers.

Samson et al.'s (2004) report, commissioned by the national Department of Social Development, investigates the social and economic impact of the various grants in reducing poverty and promoting health, education, housing and "vital services". It also examines the impact on labour market participation and labour productivity, and the resultant impact on savings, consumption and composition of aggregate demand. The study finds that South Africa's system of social security successfully reduces poverty using a range of different methodologies and poverty lines. The authors suggest that the greatest further poverty reducing potential lies with the progressive extension of the CSG to older age groups.

In order to make this review as useful as possible for this paper, we do not review studies of each grant. Rather, we focus on two key poverty-related outcomes; education and health. There is a more extensive literature.

Impact on education

In a relatively early paper which describes the functioning of the then social welfare system in “white” South Africa and the various homelands, Lund (1993) notes that the OAP was generally regarded as a household asset in the three-generational households that were common in rural areas. Pensions were thus reported to be used for educational expenses, among others. May et al. (1998), reporting on the findings of South Africa’s participatory poverty assessment (PPA), noted that the grant system for children was performing poorly, with negative effects on both children and (single) mothers. Pensions were reported to be an important source of support for grandchildren, many of whom were living apart from their parents. Case and Deaton (1998), using data from the 1993 Project for the Study of Living Standards and Development (PSLSD), find that pension income is spent like other income, but expenditure patterns differ for different types of household. Households with elderly members tend to spend less on transport and more on schooling than other households.

There are also a range of smaller, area- or organisation-specific studies with similar findings. Ardington (1998), reporting on a follow-up survey of 75 households in the magisterial district of Nkandla in Kwazulu-Natal found that 83% of pension-age members of these households received an OAP. The OAP thus reached 56% of households because some households contained multiple pensioners. Because of the severe limitations of other forms of support, pension money was used for payment of school fees, transport and most of the food purchases, among others.

HelpAge International’s (1996) report reflects the findings of needs assessment of old people (mainly or primarily OAP recipients) living in the Shihimu area of Limpopo¹⁵, using participatory rapid appraisal techniques. On average, households were said to spend about a quarter of their income on food, with female-headed households spending more on food than male-headed households. Other major expenses were reported to include schooling and pocket money.

Samson et al. (2001) have as their primary focus the relationship between social security and school enrolment among school-age children. The 2001 paper argues that pension income can increase school enrolments in two ways. The first is by assisting with covering school-related costs. The second is by reducing the opportunity cost of having the child in school instead of contributing to household income. The authors find a positive and statistically significant effect of government pension transfers on school attendance rates, which is strongest among the poorest households. The effects are especially strong for school-age girls.

¹⁵ Called Northern Province in 1996

Case and Ardington (2006) investigate whether having a pensioner in the household reduces the negative impact of maternal orphanhood on schooling. They find that having a female pensioner mitigates the impact in respect of enrolment and progression, but does not do so in respect of school-related expenses. Having a male pensioner in the household has a significant negative effect on progression, and a negative, but not significant, effect on enrolment and school-related expenditure.

Case et al. (2006) use data collected through the longitudinal demographic surveillance system (DSS) of the Africa Centre for Health and Population Studies in the Umkhanyakude District of KwaZulu-Natal. In 2002, a module on child grants formed part of the instrument administered to the 11,000 African households in the area. At that point approximately a third of all age-eligible resident children were benefiting from the CSG. The longitudinal nature of the DSS allowed the authors to examine the impact on children's enrolment one year later. Of the 3,614 households reporting a grant, 94% reported receiving a CSG. Of the total of 12,865 resident children under the age of 7, 3,754 were receiving a CSG at the time of the survey. Grant recipient children were more likely than others to be paternal orphans, and the status of many fathers was unknown. In respect of schooling, the authors first measure the association between CSG receipt in 2002 and school enrolment in 2003 and 2004 for children who were age-eligible for the CSG in 2002 and old enough to be enrolled in 2003 and 2004. Receipt of the CSG results in 8.1 percentage point increase in school enrolment among 6-year olds, and 1.8 percentage points among 7 year olds when compared with non-recipient households. This result occurs despite the fact that recipient households tend to be poorer than other households. The authors suggest several possible reasons for this pattern. Firstly, the CSG may improve children's health and nutrition, and thus school-readiness. Secondly, the CSG, by increasing income, might allow the household to afford fees, uniform and other school-related expenses. Thirdly, it is possible that PCGs who are eager enough to apply for the CSG might also be those most eager to enrol their children in school (c.f. Agüero et al., 2006). Case and Ardington test this possibility by using older maternal siblings as a control group. They find that these children are less likely than average to be enrolled, thus contradicting the hypothesis that higher enrolment simply reflects more eager (or "efficient") mothers.

Boler & Timaeus (2006) find that the CSG helps to mitigate the negative educational impact of orphanhood on older children (those aged 13-16) despite the fact that the grant was only available to children under ten years at the time their survey data was collected.

Hamoudi & Thomas' (2005) examination of the impact of the pension on educational attainment of children is based on the 1998 Demographic and Health Survey. They look at children aged 6-19, and estimate total years of schooling based on current or last grade. The regressions control for sex and age of the child, number of males and females in the household by age, and ownership of assets. Overall, the authors find that pension income has a greater beneficial impact on girls' education than boys' education. This accords with results of earlier analyses (such as Duflo, 2000), but adds the nuance that for older children (aged 13-19), a male pension tends to increase education among boys and decrease education among girls, whereas a female pension has little effect on either.

Among younger children (aged 6-12), female pension has a positive effect on girls and negative or zero effect on boys. Further analysis shows that overall boys aged 6-15 who are co-resident with their mothers are further ahead in school than those who are not. Boys living in pension households, however, are likely to have gone less far in education if they are co-resident with mothers. The same pattern is found among girls, although not as marked.

The authors then explore these patterns further using KwaZulu-Natal Income Dynamics Study (KIDS) data from 1993 and 1998. They find that, after controlling for age and sex, children aged 6-19 in 1993 who five years later were co-resident with a pension-eligible individual already in 1993 had a quarter of a year more schooling, on average, than those who would not be co-resident.

Impact on health

There are several studies which focus on the health impact of grants. Case (2001a) investigates the impact of OAPs on health status. Analysis is based on a 1999 stratified random sample of 300 households in the Langeberg health district of the Western Cape. This district includes a mix of African, white and coloured households. The study finds that OAP income is pooled in 84% of households. Where income is not pooled, beneficial health impacts are experienced only by the pensioner. Where income is pooled, children's height is found to increase, suggesting a beneficial impact beyond the pensioner. The study suggests that this impact works partly through improved sanitation, partly through improved nutritional status, and partly through reduction in psychosocial stress.

Case (2001b) is based on the same dataset as the previous study and focuses on much the same topic. The study finds that the presence of a pensioner is associated with an increase of about five centimetres of children's height for age after controlling for a range of household and individual factors. This is equivalent to about half a year's growth for children aged zero to six.

Duflo (2000) examines the extent to which allocating resources to women rather than to men affects the distributional outcome and, in particular, investments in children. The study uses the 1993 PSLSD data, and focuses on children aged 6-60 months. More than a quarter of African children of this age are found to live in the same household as an OAP recipient. The impact on children is measured through weight for height (identified as a flow measure) and height for age (identified as a stock measure). The presence of a woman eligible for the OAP results in an increase of 1.19 standard deviations for girls in weight for height, but no significant increase for boys. There is also no significant effect on either girls or boys of having a male of eligible age in the household. With height for age, too, there is an increase for girls where pensions are received by women, this time of 1.16 standard deviations. Again there is no apparent effect for boys or when pensions are received by men. Lund (in Gender Research Project, 2005) notes that she and others have not seen a similar distinction between male and female children to that reported by Duflo.

A small study of 30 households in the Mount Frere area of the Eastern Cape (Sogaula et al., 2002; Chopra et al., 2002) examines the situation of households with a child who had been admitted to hospital as a result of severe malnutrition. Virtually all 30 households contained a member who should have been eligible for a grant, but only 16 were receiving a grant. Most who were eligible for the OAP were receiving it, as well as half of those eligible for a disability grant (DG), but take-up for the CSG was extremely low. Overall, the study finds that grants play an important role in supporting families affected by a crisis generated by chronic illness.

Agüero et al. (2006) use data from the KwaZulu-Natal Income Dynamics Study (KIDS) to test whether receipt of the CSG during the first 36 months of a child's life has an impact on child health as measured by standardised height for age (HAZ). This variable is considered of interest for its own value and also as a proxy for other positive outcomes for children. The authors find that children who have received the CSG during the first three years of their life are likely to have significantly higher height-for-age than those who have not.

The authors then take the analysis further by estimating the impact of this increased height on adult wages. The authors caution that the latter calculations, in particular, are based on many assumptions that need further refinement. For example, they are based on data from Brazil relating to males. Nevertheless, this rough assessment suggests that the CSG gives a rate of return of between 160% and 230%. The paper is important for the discussion of conditionality, in that conditions in respect of grants in other countries often require that the child be taken to health and education services. This paper demonstrates that the CSG results in health benefits even without any health conditionalities, thus achieving a benefit without the added administrative cost implied by conditionalities.

The paper is also innovative in using a continuous rather than simple yes/no variable as a measure of CSG receipt. The continuous variable measures the length of time that the child has benefited from the CSG. The analysis is further refined by controlling for the "eagerness" of the caregiver, as measured by the delay between the time when the child became eligible and the time of application for the grant. This avoids the confounding effects that could occur if improvements in health are a result of general diligence of the caregiver rather than simply the CSG. After controlling for eagerness, the simple binary analysis reveals no noticeable impact of the CSG on HAZ. However, once the variable is treated as continuous, a clear relationship emerges where the child has benefited from the CSG for at least half of the 36 first months of its life.

The authors note that because the CSG originally targeted children from birth to age 7, it would be unlikely to have a noticeable impact on the stock of education. They note that this is especially unlikely in that other research suggests that transfer programmes have most impact on school attendance during the transition from primary to middle and middle to high school.

Yamauchi (2005) uses data from all three rounds of KIDS to explore the effect of early childhood nutrition on schooling inputs and outcomes, using height-for-age z-score from

the 1993 and 1998 rounds as a measure of health capital and nutritional status, and schooling decisions and outcome data from the 2004 round. The analysis suggests that an improvement in child health significantly lowers the age for starting school, increases the grade reached, and decreases grade repetition at the early stage of schooling. The effect lessens at the primary-secondary transition stage. Good nutrition is also positively correlated with mathematics scores.

VII Conclusion

This paper began by gathering the evidence to show that the long-run development trajectory in South Africa has been one that has generated a very high inequality society with a strong racial component to this inequality. The bottom half of the income distribution was reserved for black South Africans and, at any of a wide range of poverty lines, poverty was dominated by these black South Africans. Historically this was the result of active racial privileging and discrimination in state policy. Even without the direct racial interventions in the labour market such as the reservation of jobs that took place under apartheid, the racial biases in determining where people were allowed to live and in the education, health and social services policy matrix would have created a workforce with racially skewed human capital and spatial characteristics. The intersections between such a workforce and a strong and growing private sector economy can only perpetuate racial divides in who gets jobs, in what kind of jobs people get and in what people get paid. This is almost a prototype model of inequality-perpetuating growth.

Unfortunately such spatial and human capital legacies leave a very long-run footprint and these processes are hard to reverse. They should not have been expected to disappear at the dawning of the post-apartheid period and we drew on the large pool of post-1993 survey data to show that they have continued to exert an influence on our post-development path. It is not just the case that the 12 years since the democratic transition is not enough time for these factors to work their ways out of South African society. It is a much more dynamic and daunting process than this.

One of the themes of this paper has been to show that many of the overt racial prescriptions in the labour market and in social policy were deracialising in complicated ways for at least two decades before 1994. From the 1960s when the policy of denying skills to black South African began to constrain our economic performance there was a loosening of blunt job reservation. From the 1980s with the rise of the non-racial trade union movement formal wage discrimination by race was removed and there was a long period of rising real wages for unskilled workers. Also in the 1980s the pass laws that managed the movement of non-white groups into and out of white areas were repealed. Finally, we spent some time in the paper summarising the interesting history of South Africa's social grant system with a particular emphasis on how the state old age pension and each social grant diluted the racial biases in their allocation rules and in the levels of the grants.

All of these processes were responsible for the observed decline in the importance of between-race inequality and the increased importance of within-race inequality that started in the 1970s and has continued through to the present. For each of South Africa's racial groups within-race inequality has risen very sharply and this has been strong enough to stop South Africa's aggregate inequality from falling and to keep it right at the top of the world inequality tables. While the between-race component of inequality has fallen, it is still remarkably high by international norms. The bottom deciles of the income distribution and the poverty profile is still dominated by Africans.

We spent a lot of time teasing out the reasons for this persistence in the post-apartheid period as this goes to the detail of the contemporary growth, inequality and poverty nexus. Our discussion of the social grant system showed that the post-apartheid government has aggressively increased real expenditure and share of the budget on system. Even if a number of key components of this system were in place before 1994 we showed that social grants policy should have had a large poverty impact. They are well targeted at the poor. Our income source decompositions show that having access to these grants moves households out of the bottom deciles of the income distribution and into the second and third deciles. Our poverty review showed that, although there is some contention about actual magnitudes, there seems to be agreement that it is the roll-out of the child support grant that is the major reason for the fall in poverty since 2000.

However one of the central points that we have sought to emphasise in this paper is that the operation of the labour market has made effective policy making much harder for the post-apartheid government. Developments preceding 1994 were such that even at that stage there were two key drivers of household inequality; namely, the (rising) share of zero earners (unemployment) in the labour market and the actual inequality in labour market earnings for those that have a job. Our income source decompositions showed that this situation was more acute by 2000. This reveals a pervasive poverty issue. Unemployment is a strong marker of poverty in and of itself. However, at the household level a substantial share of the unemployed are connected to some labour market based income support through the wages and remittance income of other household members. Yet, these individuals are likely to be the more poorly remunerated earners from households that are at the lower ends of the income distribution.

This serves to highlight two key labour market questions. How do people get employed and what determines earnings? For both of these issues location and education are key. The shift in the demand for labour towards higher skilled labour has increased the importance of these factors in recent years. Thus, things have become harder for those South Africans whose poverty traps them in rural areas receiving inferior education. It is obvious that state education policy is a key intervention in breaking this cycle. Yet a labour market that has been evolving in such a way places ever higher demands on state education policy. The post-apartheid government has thrown substantial resources at the education system and benefit incidence studies (van der Berg (2006) have shown that these resources are strongly targeted at those at the bottom of the income distribution. The impact of this policy is evidenced by rapidly increasing average years of education. These increases have been particularly impressive for Africans with average years rising

from about 7 years (primary schooling) in 1993 to about ten years now. However, over the same period, the skill demands in the labour market have seen the returns to education fall for all education levels below complete secondary (12 years).

Thus, there have been demonstrable policy successes but these have not led to improved outcomes or prospects for any but the best educated young South Africans. Rather there is a rising tide of youth unemployment. Moreover, these labour market developments place a premium on a rising quality of education with strong literacy and numeracy. Not only is government being asked to put more teachers, school managers and class rooms all over the country, but these teachers and school managers are being required to be better than ever before. This is a tall order.

Poor Africans living in rural areas are worst hit by these interactions and there are many that argue that the social grant system should be extended to focus directly on the rural unemployed who remain uncovered by other grants. While economic growth has supported the sustainability of the growth the grants system, surely we cannot be arguing for permanent support (social welfare) for these unemployed. Many of the unemployed are young school leavers and while they clearly need some sort of social safety net or temporary social insurance, the longer term goal has to be directed at assimilation into the labour market.

In like manner, we presented a fair amount of evidence showing that the existing grant system seems to be promoting desirable education and health behaviours. This is true even though these grants are unconditional. Yet, the ultimate return to these good behaviours is an ability to become a productive citizen in the country. Again this turns on a more virtuous interaction with the labour market than we currently witness.

References

- Agüero, J., Carter, M. & Woolard, I. (2006). "The Impact of Unconditional Cash Transfers on Nutrition: the South African Child Support Grant." SALDRU Working paper. Cape Town: University of Cape Town.
- Ardington E. (1998). Nkandla Revisited: A longitudinal study of the strategies adopted to alleviate poverty in a rural community. Rural Urban Studies Working Paper No. 16. Centre for Social and Development Studies, University of Natal, Durban.
- Ardington, C., Lam, D. Leibbrandt, M. & Welch, M. (2005) "The Sensitivity of Estimates of Post-Apartheid Changes in South African Poverty and Inequality to Key Data Imputations". CSSR Working Paper 05/106, February.
- Ardington, E. & Lund, F. (1994). "Pensions and development: the social security system as a complementary track to programmes of reconstruction and development". Mimeograph. Centre for Social Development Studies: Durban.
- Atkinson, AB (1970) On the measurement of inequality, *Journal of Economic Theory*, 2: 244–63.
- Babita, M., Demombynes, G., Makhatha, N., Ozler, B., (2002). "Estimated Poverty and Inequality Measures in South Africa: A Disaggregated Map for 1996". Unpublished manuscript.
- Banerjee, A., Galiani, S., Levinsohn, J. & Woolard, I. (2006). Why Has Unemployment Risen in the New South Africa? CID Working Paper 134. Harvard University.
- Bhorat, H, Leibbrandt, M & Woolard, I (2000) Understanding contemporary household inequality in South Africa, *Studies in Economics and Econometrics*, 24(3), 31–52.
- Bhorat, H., Naidoo, P. & van der Westhuizen, C. (2006) Shifts in Non-income Welfare in South Africa, 1993-2004. DPRU Conference Paper. 18-20 October, Johannesburg.
- Blackorby, C, Donaldson, D & Auersperg, M (1981) A new procedure for the measurement of inequality within and between population subgroups, *Canadian Journal of Economics*, XIV, 665–85.
- Boler T & Timæus I. (2006). Father figures: why fathers and cash grants matter in responding to the impact of AIDS on education. Centre for Population Studies, London School of Hygiene and Tropical Medicine. Powerpoint presentation
- Budlender, D. & Woolard, I. (2006) The impact of the South African child support and old age grants on children's schooling and work. Study prepared for: International Programme on the Elimination of Child Labour International Labour Office

Burger, R. & Yu, D. (2006) Constructing an Earnings Series for South Africa from the Household Surveys: 1995-2005. Labour Market Frontiers 8. Pretoria: South African Reserve Bank.

Casale, D., Muller, C. & Posel, D. (2005). "Two Million New Jobs: A Reconsideration of the Rise in Employment in South Africa, 1995-2003." DPRU Working Paper 05/97, Development Policy Research Unit, Cape Town.

Case A. (2001). Does Money Protect Health Status? Evidence from South African Pensions. NBER Working Paper 8495

Case A & Ardington C. (2006) The impact of parental death on school outcomes: Longitudinal evidence from South Africa. *Demography*.

Case, A. & Deaton, A. (1996) "Large cash transfers to the Elderly in South Africa". NBER Working Paper 5572. NBER: Cambridge, MA.

Case A, Hosegood V & Lund F. (2005) "The reach and impact of Child Support Grants: evidence from KwaZulu-Natal." *Development Southern Africa* 22(4): 467-482.

Central Statistical Service (1996) Census 1996 10% sample. Pretoria: Statistics South Africa.

Cowell, FA (1995) *Measuring inequality* (2nd edition). Hemel Hempstead: Prentice-Hall/Harvester-Wheatsheaf.

Cronje, M & Budlender, D (2004) Comparing Census 1996 and Census 2001: An operational perspective, *Southern African Journal of Demography*, 9(1): 67-89.

Devey, R., Skinner, C. & Valodia, I. (2003) "Informal Economy Employment Data in South Africa: A Critical Analysis." Paper presented at the TIPS and DPRU Forum, 8 - 10 September 2003, Johannesburg.

Duflo E. (2000) Grandmothers and Granddaughters: Old Age Pension and Intrad-Household Allocation in South Africa. NBER Working Paper 8061.

Fedderke, J.W., Manga, J., and Pirouz F. (2003) *Challenging Cassandra: Household and Per Capita Household Income Distribution in the October Household Surveys 1995-1999: Income and Expenditure Surveys 1995 & 2000 and the Labour Force Survey 2000*. Unpublished mimeograph, University of the Witwatersrand.

Foster, JE, Greer, J & Thorbecke, E (1984) A class of decomposable poverty indices, *Econometrica*, 52, 761-766.

Glewwe, P. (1986) The distribution of income in Sri Lanka in 1969-70 and 1980-81: a decomposition analysis. *Journal of Development Economics*, No. 24: 255-274.

Haarman, C. and Haarman, D. (1996) A contribution towards a new family support system in South Africa. Report for the Lund Committee on Child and Family Support.

Hamoudi A & Thomas D. (2005) Pension Income and the Well-Being of Children and Grandchildren: New Evidence from South Africa. California Center for Population Research On-Line Working Paper Series.

Hoogeveen, JG & Özler, B (2006). Poverty and inequality in post-apartheid South Africa: 1995-2000. In Borhat, H. and Kanbur, R. *Poverty and Policy in Post-Apartheid South Africa*. Cape Town, HSRC Press.

Jenkins, SP (1991) The measurement of income inequality. In Osberg, L (ed.) *Economic inequality and poverty: International perspectives*. Armonk, NY: ME Sharpe.

Jenkins, SP (1995) Accounting for inequality trends: Decomposition analyses for the UK, 1971–86, *Economica*, 62, 29–63.

Jenkins, SP (1997) Trends in real income in Britain: A microeconomic analysis, *Empirical Economics*, 22, 483–500.

Jensen R. (2002) Do private transfers ‘displace’ the benefits of public transfers? Evidence from South Africa. *Journal of Public Economics*.

Kruger, J.J. (1992). State provision of social security: some theoretical, comparative and historical perspectives with reference to South Africa. Masters thesis. Stellenbosch: University of Stellenbosch

Leibbrandt, M., Poswell, L., Naidoo, P. & Welch, M. (2006) “Measuring Recent Changes in South African Inequality and Poverty Using 1996 and 2001 Census Data” in Borhat, H. and Kanbur, R. (eds) *Poverty and Policy in Post-Apartheid South Africa*. Pretoria: HSRC Press.

Leibbrandt, M. & Woolard, I. 2001. “Labour Market and Household Income Inequality in South Africa”. Paper presented at the DPRU/FES conference, November 2001.

Lerman, R., and Shlomo Y. (1994). "Effect of Marginal Changes in Income Sources on U.S. Income Inequality," *Public Finance Quarterly*, 22:4, 1.

Little, R.J. and Rubin, D.B. (2000) *Statistical Analysis with Missing Data*, Wiley, New York.

Lohr, S.L. (1999) *Sampling: Design and Analysis*, Pacific Grove: Brooks/Cole Publishing Company.

Lund, F.J. (1993) State social benefits in South Africa. *International Social Security Review* 46(1): 5-25

May, J. and Woolard, I. (2005) *The State of Underdevelopment in South Africa, 1995-2005*, paper prepared for the Development Bank of Southern Africa, 27p.

McGrath, M.D. (1983) "Inequality in the Size Distribution of Personal Income in South Africa in Selected Years Over the Period from 1945 to 1980", Unpublished PhD. Dissertation, University of Natal Durban.

Meth, C. (2006a). *Half Measures: the ANC's Unemployment and Poverty Reduction Targets*. In Borat, H. and Kanbur, R. 2006 *Poverty and Policy in Post-Apartheid South Africa*. Pretoria: HSRC.

Meth, C. (2006b) "What was the poverty headcount in 2004 and how does it compare to recent estimates by van der Berg et al?" SALDRU Working Paper 01/2006. School of Economics, University of Cape Town.

Meth, C & Dias, R (2004) *Increases in poverty in South Africa, 1999-2002*. *Development Southern Africa* 21(1): 59-85.

National Treasury (2004), *Intergovernmental Fiscal Review*. Pretoria: Government Printer.

National Treasury (2005). *Budget Review 2005*. Pretoria: Government Printer.

Pyatt, Graham, (1976) "On the Interpretation and Disaggregation of Gini Coefficients," *Economic Journal*, 86, June 1976, 243-55.

Raghunathan, T.E., Lepkowski, J.M., van Hoewyk, J. & Solenberger, P. (2001) "A Multivariate Technique for Multiply Imputing Missing Values Using a Sequence of Regression Models." *Survey Methodology* 27(1) 85-95.

Rubin, D.B. (1987) *Multiple Imputation for Nonresponse in Surveys*, Wiley, New York.
Sen, AK (1976) Real national income, *Review of Economic Studies*, 43, 19-39.

Samson M, Babson O, Haarman C, Haarman D, Khathi G, MacQuene K & van Niekerk I. (2001). *The Impact of Social Security on School Enrolment in South Africa*. Research Paper No. 25. Economic Policy Research Institute: Cape Town.

Samson M, Lee U, Ndlebe A, MacQuene K, van Niekerk I, Gandhi V, Harigaya T & Abrahams C. (2004) *The Social and Economic Impact of South Africa's Social Security System*. Commissioned by the Directorate: Finance and Economics, Department of Social Development, Pretoria.

Shorrocks, AF (1984) Inequality decomposition by population subgroups, *Econometrica*, 52, 1369–88.

Simkins, C (2004) “What happened to the distribution of income in South Africa between 1995 and 2001?” Unpublished draft. [Online.] Available: www.sarpn.org

Simkins, C. (2005) “What Happened To The Distribution Of Income In South Africa Between 1995 And 2001?”. Unpublished paper. University of the Witwatersrand.

Statistics South Africa (1995) Income and Expenditure Survey 1995, Pretoria: Statistics South Africa.

Statistics South Africa (1996) Census 1996 10% Sample, Pretoria: Statistics South Africa.

Statistics South Africa (1997) Consumer Price Index (CPI), Statistical Release P0141.4 Statistics South Africa, Pretoria.

Statistics South Africa. (1998) The People of South Africa. Population Census, 1996. Census in Brief. Report No. 03-01-11 (1996), Pretoria: Statistics South Africa.

Statistics South Africa (1999) The People of South Africa. Population Census, 1996. Primary Tables: The Country as a whole. Report No. 03-01-19 (1996), Pretoria: Statistics South Africa.

Statistics South Africa (2000) Income and Expenditure Survey 2000, Pretoria: Statistics South Africa.

Statistics South Africa (2000) Measuring poverty in South Africa. Pretoria: Statistics South Africa.

Statistics South Africa (2001a) Census 2001 10% Sample, Pretoria: Statistics South Africa.

Statistics South Africa (2001b) “Consumer Price Index (CPI)” Statistical Release P0141.1. October 2001 Pretoria: Statistics South Africa.

Statistics South Africa (2001a) Consumer Price Index (CPI), Statistical Reslease P0141.4. Pretoria: Statistics South Africa.

Statistics South Africa (2001b) General Household Survey, 2001. Pretoria: Statistics South Africa.

Statistics South Africa (2002) Earning and spending in South Africa. Selected findings and comparisons from the income and expenditure surveys of October 1995 and October 2000. Pretoria: Statistics South Africa.

Statistics South Africa (2003) General Household Survey, 2003. Pretoria: Statistics South Africa.

Statistics South Africa (2004) General Household Survey, 2004. Pretoria: Statistics South Africa.

Statistics South Africa (2005a) General Household Survey, 2005. Pretoria: Statistics South Africa.

Statistics South Africa (2005b) Mid-year Population Estimates, South Africa 2005, Statistical Release P0302. Pretoria: Statistics South Africa.

Statistics South Africa (2006) Mid-year Population Estimates, South Africa 2006, Statistical Release P0302. Pretoria: Statistics South Africa.

United Nations Development Program (2003) Human Development Report South Africa. Pretoria: UNDP, South Africa.

United Nations Development Program (2004) South Africa Human Development Report 2003: The Challenge of Sustainable Development. UNDP South Africa: Oxford University Press.

United Nations Statistical Division (2005) Millenium Development Goals Database www.un.org/millenniumgoals.

Van Buuren, S., Boshuizen, H.C. & Knook, D.L. (1999) "Multiple Imputation of Missing Blood Pressure Covariates in Survival Analysis" *Statistics in Medicine* 18 pp. 981-694.

Van der Berg, S. (1994) Issues in South African social security. Commissioned paper prepared for the World Bank. Mimeo. Washington, D.C.

Van der Berg, S. (1997) South African social security under apartheid and beyond. *Development Southern Africa* 14(4), October: 481-503.

Van der Berg, S. (1999) Social Policy to address Poverty. DPRU Working Paper 99/30. Cape Town: University of Cape Town.

Van der Berg, S. (2006) Public Spending and the poor in the transition to democracy. In Bhorat, H. and Kanbur, R. 2006 *Poverty and Policy in Post-Apartheid South Africa*. Pretoria: HSRC.

Van der Berg, S., Borat, H. & Leibbrandt, M. (2001) Introduction. In Borat, H., Leibbrandt, M., Maziya, M., Van der Berg, S. and Woolard, I. (eds.) *Fighting Poverty: Labour Markets and Inequality in South Africa*. Cape Town: UCT Press pp. 1-20.

Van der Berg, S. & Louw, M (2004) Changing patterns of South African income distribution: Towards time series estimates of distribution and poverty. *South African Journal of Economics* 72(3): 546-572.

Van der Berg, S., Burger, R., Burger, R. Louw, M. & Yu, D. (2005) Trends in Poverty and Inequality since the Political Transition. A report prepared for the Office of the President. Department of Economics, University of Stellenbosch.

Van der Merwe, T. (1996) *Bestaansbeveiliging: 'n Ekonomiese perspektief*. D.Litt. et Phil Thesis. Pretoria: University of South Africa (UNISA)

Whiteford, A.C. & McGrath, M.D. (1994) *Distribution of Income in South Africa*, Pretoria: Human Sciences Research Council.

Whiteford, AC & Van Seventer, DE (2000) South Africa's changing income distribution in the 1990s, *Journal of Studies in Economics and Econometrics*, 24(3): 7–30.

World Bank (2003) *World Development Indicators*. Washington, USA.

Woolard, I. and Woolard, C. (forthcoming). The Social and Human Development Context. In Kraak, A. (ed.) *HRD Review 2007*. HSRC Press: Pretoria.

Yamauchi F. (2005) *Early Childhood Nutrition, Schooling and Within-sibling Inequality in a Dynamic Context: Evidence from South Africa*. International Food Policy Research Institute: Washington DC.