

# State Transfers, Poverty and Inequality of Income in South Africa: A Fifteen Year Review

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## ***Abstract***

State transfer in the form of social grants can be useful not only in ameliorating the inequality-inducing effects of growth, when articulated correctly; it may also usher in human capital investments at the micro-level and inclusive growth outcomes in the larger economy. Using Income and Expenditure Surveys (IESs), and the standard measures of poverty and inequality in a serial analysis, I assess the importance and policy implications of South Africa's systems of social grants on income in the past 15-years. Cross-entropy adjustments are implemented on each year's sampling weights to ensure intertemporal consistency, as well as attempted item matching of the income variables to ensure definitional comparability in the series. Growth Incidence Curve (GIC) is used to assess the nature of growth, as well as identifying the impact of social grants on household's income dynamics for the period under review. The results show that State Transfers in the form of social grants has become a structural necessity in household's income composition, especially the poor. Hence, innovations around social transfer policies involving developmental drivers- such as education, employment, and public saving schemes - may be helpful in bringing about growths with more inclusive potentials.

Keywords: Social Transfers, Income, Growth Incidence Curve (GIC), Poverty and Inequality.

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## 1. Introduction

The economic history of South Africa in the post-apartheid era is arguably one of the most worth investigating chapters for understanding the interactions between economic growth, poverty, and inequality. This is in part because despite a few negative shocks caused by the 2008 global recession, the country experienced its unprecedented, 67 quarters (nearly 17 years) of growths between the periods 1994 to 2011 end, with the average annualised quarterly increase in real GDP at 3.2 percent. However, studies in the literature have shown troubling signs of severe mal-distribution in the growth-dividends, as inequality in the country soared without an end during this period.

Bhorat and Vander Westhuizen (2011) investigated the social welfare impact of growths in the pre-recession period using per capita household expenditure as the measure of welfare. They found that headcount poverty had declined between 1995 and 2005, with larger decreases at the lower levels of poverty lines. Evidence on the changes in income inequality however, showed that South Africa had not only experienced an increase in the levels of inequality in the country, but it had possibly become the most unequal society in the world (Bhorat, Vander Westhuizen and Jacobs, 2009; Leibbrandt, Woolard, Fin and Argent, 2009). In sum, the changes in welfare suggest that while individuals at the top-end of the distribution had profited the most from the post-apartheid growth benefits; those at the bottom-end were mainly supported by systems of social transfer programmes and safety nets: the growth in South Africa during this period was neither pro-poor nor inclusive.

The aim of this paper is threefold: Firstly, to carry on the tradition of monitoring closely the overall changes in, and the interactions between growth on income poverty, and inequality. More specifically, I extend the poverty and inequality profile-series to a fifteen-year overview by using the quinquennial, nationally representative: Income and Expenditure Surveys (IES) of 1995 to 2010/11. Secondly, the impact of the South African Government's provision of social grants on indicators of welfare as poverty and inequality - especially of the poor is examined. Thirdly, using the results derived in the previous sections, I discuss the inclusive-potentials in linking development drivers such as education, employment, and public savings schemes, with social grants in promoting sustainable, future, inclusive growth.

The paper is organized as follows: Section 2 discusses the data issues encountered and the subsequent adjustments made preparing the cross-sectional datasets of the IESs into an intertemporally comparable, repeated dataset for serial analysis. Using the newly derived dataset as base then, section 3 provides an overview of the shifts in income poverty and inequality for the period from 1995 to 2010/11. In section 4, the relationship between economic growth, poverty, and inequality is explored, by estimating how the changes in individuals' income compared relatively across levels of the income percentiles. Section 5 focuses on the poverty and inequality impacts of state social assistance. More specifically, I examine the significant impact caused by the provision of social grants to balance the distribution of growth-dividends. Section 6 discusses in general the possibility of connecting the structural role played by the social grants, with some of the developmental drivers such as education, employment, and public saving schemes. Section 7 concludes.

## 2. Data Construction: Ensuring Time-Series Consistency in Estimates of Survey Data

The dataset used for this paper is a consolidated dataset called the Post-apartheid Income and Expenditure Series (or PIES for short), developed by me at the Development Policy Research Unit (DPRU), University of Cape Town. At the time of writing, it contains all four IESs: 1995, 2000, 2005/06, and 2010/11. For the purpose of this paper, I shall only focus on two major issues about the dataset and the corresponding adjustments necessary for using it in a serial analysis<sup>1</sup>.

The nationally representative, Income and Expenditure Survey (IES) of South Africa is a sampled survey used mainly for constructing the consumption basket weights for the Consumer Price Index (CPI) (StatsSA, 2012). It is the single most sophisticated source of information available on household income and expenditure compositions in South Africa. The survey is repeated quinquennially, which grants us four data points in a series to map out the trends for the growth-poverty and inequality interactions in the country between 1995 and 2010/11.

However, there are two major identified issues faced for conducting serial analysis using the IESs. First is the definitional comparability of the recorded item values over time. More specifically, there needs to be a match between the changed item classifications of STC and COICOP in the surveys. The second major challenge is turning the inherently cross-sectional nature of the survey with considerable serial noise and weakness in terms of consistency, into an intertemporally consistent sequence of estimates.

### 2.1. Part I: Matching the STC and COICOP Item Specifications

The issue of intertemporal comparability in the item specifications begins with the changing of the data collection method. Previously, in the 1995 and 2000 IESs, the survey used the recall method, which involves a single questionnaire administered to a selected household sample, and the interviewees would be asked to recall the income and expenditure patterns of the household in the past month (or year, depending on the item categories). Due to the limit of only one site visit, the categorization in items needs to be post-purchased, hence item based classification of STC is more appropriate. Since IES 2005 however, the survey added the use of the diary method on certain categories of expenditures<sup>2</sup> to the original recall method, where subjects were asked to keep a diary for real-time value entries. This allows multiple site visits, gathering information about household's daily acquisition allows the surveyor to exercise quality checks on the diary entries and categorize the items in more details, and hence the COICOP item specification is implemented.

The subtle differences in the different item classifications, if compared directly, should result in spurious shocks in the derived estimate sequence, especially given our limited power of observations of only four observations over time. Observed shifts in household's welfare may simply mean that some compared items are missing or allocated elsewhere in the survey. It is based on the subjective judgements whether to discard or incorporate general items in the broader calculation. For instance, new item categories such as telecommunications and modern electronics that only appeared in later surveys clearly should not be discarded, as they stand for important transitions in household's expenditure basket of modern goods and substitutes. Removed items and "other" categories on the other hand, are much more complicated and

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<sup>1</sup> For more information about the PIES, please refer to the PIES's metadata document for details. The original, individual IES datasets are publically available upon request from the national statistical agency: Statistics South Africa (StatsSA)

<sup>2</sup> Items such as food, etc....

difficult to decide. Despite this, some categories are compatible almost exactly in the different survey years.

Due to these considerations, simple direct comparisons between survey aggregates over time are simply impossible. Previous similar attempts in matching the different item specifications mostly used the “match by elimination” approach, where items are matched to a target item specification and any unmatched items are removed either partially or completely. Although this approach may yield a philosophically more accurate and comparable estimates over time, it forces the conclusions drawn from these estimates into an infinite digression of which estimate is the true one. Furthermore, the “strictness” in matching these items by elimination also compels the analysis to construct these custom poverty lines for estimating poverty, imposing partiality on the drawn conclusions. Finally, most matches so far have been done simply by comparing the item descriptions in the item classification’s code lists, which is blatantly inadequate. It is found that some items were recorded as secondary or even tertiary items as subsidiary or related items in certain categories and not described in the code lists.

I therefore, adopted a different approach; I matched the item classifications of STC and COICOP exhaustively – in the questionnaires. In other words, I matched the like-items according to the questions in the survey questionnaires, and when required, I created an “other” category where unmatched items are allocated but not removed. This approach has three major advantages over the previous method of matching by elimination: Firstly, it leaves no item values uncounted in the all-items aggregate, and that the estimated series will be comparable irrespective of the way in which the items are dissected and grouped. Secondly, having the exhaustive common definition of aggregate means no alternative poverty line is required. Finally, and perhaps most crucially, this approach allows flexibility in the use of different aggregate estimates, since the unmatched information remains still in the dataset. Even if the derived estimate is stripped of some items in the calculation, the user could clearly specify what those removed items are (see later on the difference between the “broad” and “narrow” definitions of income used in the paper).

## 2.2. Part II: Cross-Entropy Weights

The other major issue in the dataset is the consistency issue, more specifically, on the sampling weights of the estimates. Weights serve as an important projecting tool for the sampled observations by putting justified emphases, inflating it to the calibrated population size. The auxiliary population data used for the calibration can be updated, and the weights post-stratified from time to time to improve the accuracy and timeliness of the projected population estimates.

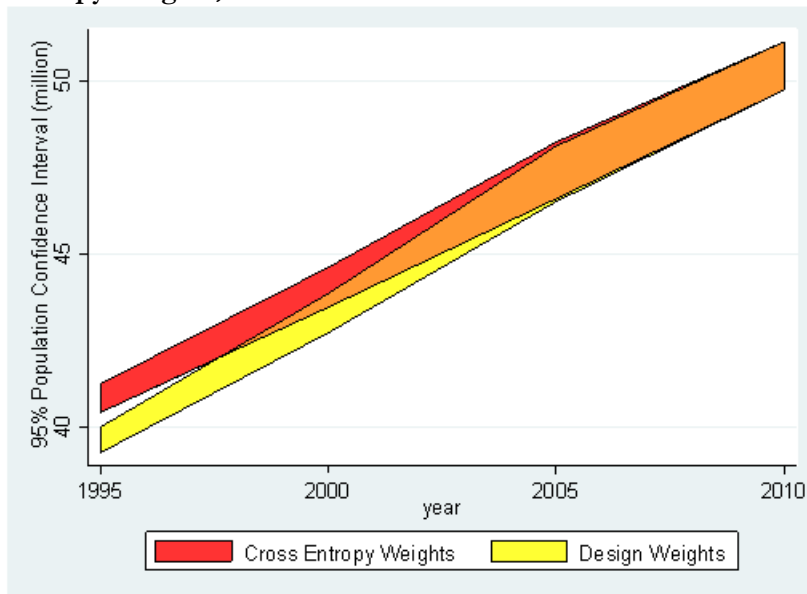
**Table 1: Survey Structures for 1995, 2000, 2005 and 2010**

	<b>IES1995</b>	<b>IES2000</b>	<b>IES2005</b>	<b>IES2010</b>
<b>Master frame</b>	Census 1991	Census 1996	Census 2001	Census 2001
<b>Linkage</b>	OHS 1995	LFS2000 September	None	None
<b>Household Sample Size</b>	29 582	26 263	21 144	25 328

Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations  
Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010

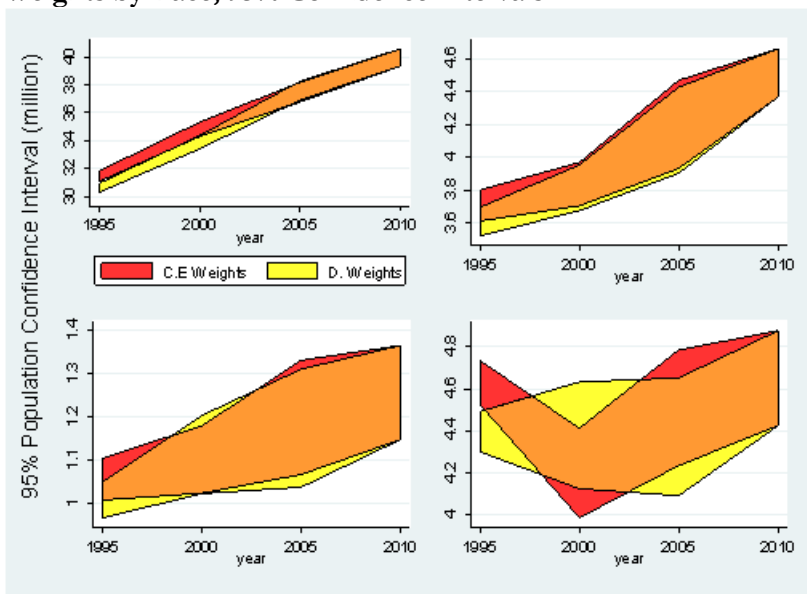
There are considerable inconsistency issues in the original design weights of the IES’s as each is based on the master sampling frames of the Census data available at the time. As Table 1 suggests, some of the sampling frames used are as outdated as a decade apart from the actual IESs, which means there may be considerable noise in the derived estimates over time.

**Figure 1: Comparison of Population Confidence Intervals between Design Weights and Cross-Entropy Weights, 95% Confidence Intervals**



Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations  
 Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010

**Figure 2: Comparison of Population Estimates between Design Weights and Cross-Entropy Weights by Race, 95% Confidence Intervals**



Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations  
 Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010

For the PIES, I used the cross-entropy estimation technique to post-stratify the weights, and calibrated the population estimates according to the Actuarial Society of South Africa (ASSA) population model, as proposed by Nicola Brandson (2008). Essentially, it preserves the survey design by selecting the new weights to be as similar to the original weights as possible, while simultaneously meeting the consistency restrictions posed by the newer, more reliable census/auxiliary datasets. The cross-entropy estimation technique ultimately upgrades the smoothness of the series by maximizing the entropy-function and likelihood maximize at the margins. (For more details, see Nicola Brandson, 2008 and the Metadata document for the PIES)

While cross-entropy weights are calculated for the three earlier IESs of 1995 2000 and 2005, unfortunately for IES 2010 at the time of writing, the survey is still undergoing modifications and still need to be reweighted to the latest Census 2010/11. Figure 1 presents the comparison in the 95% confidence intervals between the derived population estimates using the cross-entropy weights and the sampling design weights in the data series. Clearly, in terms of series, the cross-entropy weights project a smoother series than the original sampling weights. At the aggregate, the population estimate between the two weights is significantly different from its competitor only in the 1995 IES, where cross-entropy weights projected the total population to be roughly 40.8 million – closer to the census results 1996. The original sampling design weight only projected 39.6 million individuals for that year.

Comparison between the population aggregates using the two weights by race groups is shown in Figure 2. It is clear that there is discernible difference in the population estimates between the two different weights for the African and White groups. The difference in estimates for African group's population was significant until the IES 2000. White group's population estimate in the data series shows that only in IES 1995 was there any difference in terms of the population estimates. However, it should be underscored that there is clearly a tremendous amount of noise in the series for the white population estimate.



### 3. New Evidence: Poverty and Inequality Profiles in post-apartheid South Africa

Using the newly derived datasets described above as base, the purpose of this section is to present an overview of the poverty and inequality dynamics of South African for the post-apartheid era. The derived poverty indicators are based on the standard Foster, Greer and Thorbecke class of poverty measures (Foster et al, 1984); or commonly referred to in the literature as the “poverty-line approach”. In terms of the choice of the poverty lines, I utilised the two, official national poverty thresholds of poverty: the R577 and R416<sup>3</sup>, per person, per month at March 2009 prices, as the upper and lower bounds of subsistent levels of livelihoods. The unit of measure for individual’s welfare, as represented by the per capita household income<sup>4</sup>, was calculated by taking total household income divided by the number of members in the household, and then inflated back to represent the population using the cross-entropy, person-level weights. The standard measures of poverty and inequality with reference to the chosen poverty lines, should give us a sense of the 15-year period trend, our goal is to evaluate the South African experience of the relationship between growth, poverty and inequality. These results shall also serve as first-step in understanding the impact of the South African Government’s provision of social grants on income poverty and inequality.

For analysing sustainable forms of income versus other forms of income items, I created two separate definitions of measuring welfare as income: the “broad” definition and the “narrow” definition. In general, the broad definition of income incorporates all available sources of income, including income from sales of assets, donations, temporary grants, gratuities and so on. The narrow definition of income however, is made up of regular income from work/hobbies, grants and investment incomes. The point demonstrated here is that the items included in the narrow definition of income are those income items that are more sustainable, hence appropriate for investigating the “long-term” poverty for the households, whereas the broad definition is inclusive of other, less sustainable sources of income. Detailed description of the difference between the two definitions of income is attached in Appendix 1.

Although here I used per capita household income as measure for welfare, which is total household income averaged by the household size, it is common practice in the poverty analysis realm that private consumption expenditure be used as a more appropriate measure of welfare. This is due to three main reasons: Firstly, consumption expenditure as an outcome indicator is more accurate in reflecting person’s well-being through his/her abilities to consume, whereas income is merely an element of the budget that allows consumption. Secondly, in transitional economies, income-flow may be erratic and unreliable as a welfare measure due to the disaggregated-majority markets. Indeed, in agrarian societies and informal sectors, where large portions of income are not monetized, income would certainly not be an accurate measure for welfare. Thirdly, Consumption expenditure also reflects better as the household’s ability to access goods and services, hence, their standards of living, whereas income only stands as a proxy or potential to consume (World Bank 2012).

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<sup>3</sup> Both the upper-bound and lower-bound poverty lines of R577 and R416 in March 2009 prices per person per month is made of the food poverty line (R350 in March 2009 prices) and the average amount derived from the non-food component of households. This is also the same poverty line used in the national statistical releases such as the Living Condition Survey (LCS) 2009 and other publications.

<sup>4</sup> or more specifically, household income averaged by the household size Although it is typical in the literature to use this per capita household income as unit of welfare to measure poverty and inequality of individuals, however, it should be noted that this is the result of limitations in the data.

However, here I emphasize that the purpose of the paper is to analyse the impact of government's provision of social grants and assistances on individual's welfare. Data of which is only available in the income section of the IESs. In addition, as discussed above, the methodologies used to collect and record data on household consumption has been changed dramatically since 2005. Hence, from the perspective of constructing a longer, consistent series, the structure of the survey questionnaires should be as similar as possible. After matching both the income and expenditure sections of the surveys, it is found that questions about income in the IESs are relatively more compatible than the expenditure side on two accounts. First, the collection method for all four years of income data remained recall method throughout, as opposed to a combination of recall and diary method on the expenditure side. Secondly, the item specifications are less in income than expenditure, hence leaving less room for errors.

### 3.1. Changes in Income Poverty: 1995-2010

Table 2 presents the displacements in the headcount poverty rate and the poverty gap ratio, using broad definition of per capita income for the fifteen-year period since 1995. At the aggregate, the estimates for the upper poverty line suggest that income poverty in South Africa increased from 46.0 percent in 1995 to nearly 52.7 during its first five years of democracy. Income poverty then decreased at a consistent and statistically significant rate of 2.7 percent per every five years, to 47.3 percent in 2010. Therefore, between the period of 1995 and 2010, South Africa's aggregate income poverty as measure by the headcount index at the upper-bound poverty line of R577 a month experienced a statistically insignificant change of less than two percentage points from 46.0 to 47.3 in headcount poverty.

**Table 2: Income (Broad) Poverty Displacements by Race of Household Head: 1995-2010**

	Headcount Rate (%)				Poverty Gape Ratio (%)			
	1995	2000	2005	2010	1995	2000	2005	2010
<b>R577 a month poverty line (March 2009 prices)</b>								
<b>African</b>	55.4	62.5	59.0	55.6	27.6	31.6	29.3	<b>29.9</b>
<b>Coloured</b>	33.1	31.3	29.2	<b>26.5</b>	12.6	12.0	11.4	11.7
<b>Indian/Asian</b>	4.3	8.3	16.1	8.1	1.8	2.7	6.6	<b>4.9</b>
<b>White</b>	1.8	2.7	2.0	<b>6.8</b>	1.0	1.9	1.1	<b>4.1</b>
<b>Total</b>	46.0	52.7	49.9	47.3	22.6	26.3	24.4	<b>25.3</b>
<b>R416 a month poverty line (March 2009 prices)</b>								
<b>African</b>	42.7	49.6	46.2	<b>45.0</b>	19.1	22.0	20.1	<b>21.9</b>
<b>Coloured</b>	20.7	19.9	18.1	17.9	7.1	6.6	6.8	7.7
<b>Indian/Asian</b>	2.8	4.4	10.7	<b>7.5</b>	1.1	1.3	4.4	<b>3.8</b>
<b>White</b>	1.3	2.5	1.8	<b>4.4</b>	0.8	1.6	0.8	<b>3.6</b>
<b>Total</b>	35.0	41.3	38.6	<b>37.9</b>	15.5	18.2	16.7	<b>18.5</b>

Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations

- Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010  
 2. Highlighted means statistically significant at the 95% confidence interval of the five-year change, bolded and underscored numbers are statistically significant over the fifteen-year change.

By race, it is clear that individuals living in African and Coloured headed households have remained by far, the most deprived members of society in South Africa. Over the years, Africans showed a continuous trend in poverty as their headcount increased from 55.4 percent in 1995 to almost 62.5 percent in 2000, before declining at an averaged 3.5 percent per every five years. In 2010, at least one in two Africans (55.6 percent) in South Africa were still considered poor by the upper poverty line of R577 per person, per month. Hence, like the aggregate headcount, Africans experienced effectively no change in headcount during the period under review. Interestingly, Coloured headed households since the advent of democracy had experienced consistent improvement in welfare from poverty level at 33.1 percent to 26.5

percent. Although this decline is not distinguishable across the quinquennial survey, it is statistically significant across the fifteen-year period.

Perhaps in stark contrast to the somewhat modest stationarity of poverty rate over time is the poverty headcount for White headed households, whose poverty rate jumped from 1.8 percent in 1995 to nearly four times larger at 6.8 percent, fifteen years later. This change is both statistically significant between the five-year, as well as the 15-year period. However, I note that earlier in the section on population estimate using weights showed that estimates for the white population is extremely noisy in terms of consistency.

The poverty gap ratio at the same poverty line shows that both at the aggregate, and by race, there have been a deterioration of relative poverty. African households in particular experienced a significant increase in relative poverty from 27.6 to 29.9 percent; White households from 1.0 to 4.1 percent and Asians from 1.8 to 4.9 percent. All except Coloured headed households, whose poverty gap remained at roughly 11.7 percent. At the aggregate, relative poverty increased from 22.6 percent to 25.3 percent and the increase is statistically significant at the five percent level.

At the lower poverty line of R416 per person, per month: African, Asian and White households all experienced significant increase in poverty rates over the 15-year period with aggregate poverty climbed from 35.0 percent to 37.9 percent (2.0 percentage points in difference).

One of the most worrying signs here, given South Africa's socio-economic history of apartheid is that fifteen years into democracy, not only individuals living in African headed households did not experience a significant improvement in their poverty headcount rate, its poor however, are getting relatively poorer. Furthermore, it should be noted that individuals living in African headed households are by far the worst off members of society, whether by poverty headcount or poverty gap ratio, of all racial groups. Simply put, at least half of Africans are classified as poor at the upper poverty line of R577 per person, per month, and 45.0 percent at the R416 line. Meanwhile, just more than a quarter of Coloureds are considered poor, and Asian and White headed households not even a tenth of which are living in classified deprivation. Similar contrasting deductions can be illustrated in all other categories of poverty measures and poverty lines, suggestive of the fact that South Africa's first decade and a half of democracy has continued to grovel in poverty-stricken majority, especially the African group.

There may also be some disturbing signs of manifestation of poverty lurking in other race groups as well, as all measures of poverty for all race groups have increased, saved the members living in Coloured headed households. However, I should note that this surprise increase is first in the series and could be attributed by a variety of reasons ranging from recession to framing of the questions about income items in the questionnaire<sup>5</sup>.

Table 3 presents the Headcount and poverty-gap ratio displacements for the series, using the narrow definition of income as unit of measurement for welfare. Since the narrow definition excludes categories that in terms of its definition, are "irregular" (e.g. income from sale of assets, donations etc.), the estimates here can be interpreted as the "long-term" measures of poverty. Interestingly, the majority of the significances for poverty headcount and poverty-gap ratio in the 15-year shifts started to dissipate, and the magnitude of change diminished. In particular, White headed households at the lower poverty line, the poverty headcount shift for the 15-year period went from being statistically significant using the broad definition of income, to insignificant under the narrow definition. In addition, most of the changes in

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<sup>5</sup> In 2010, It is possible that when interviewees were asked about capital income in the broad way, rather than the specific way, they tend to understate the amount of capital gains.

poverty for the 15-year period at the aggregate are too statistically insignificant once the income variable is stripped of these “irregular incomes”.

**Table 3: Income (Narrow) Poverty Displacements by Race of Household Head: 1995-2010**

	Headcount Rate (%)				Poverty Gape Ratio (%)			
	1995	2000	2005	2010	1995	2000	2005	2010
<b>R577 a month poverty line (March 2009 prices)</b>								
<b>African</b>	58.9	70.0	61.8	57.0	31.8	42.1	32.1	<b>31.6</b>
<b>Coloured</b>	35.2	38.2	30.9	<b>27.5</b>	14.3	17.1	12.4	12.6
<b>Indian/Asian</b>	6.2	14.1	18.8	8.5	3.1	7.2	8.1	5.0
<b>White</b>	3.1	7.4	2.4	<b>7.0</b>	2.0	6.0	1.2	<b>4.3</b>
<b>Total</b>	49.1	59.8	52.3	48.6	26.1	35.6	26.8	26.7
<b>R416 a month poverty line (March 2009 prices)</b>								
<b>African</b>	47.0	59.8	49.6	46.8	23.5	33.1	22.9	23.6
<b>Coloured</b>	22.8	26.2	19.3	<b>18.9</b>	8.6	11.2	7.6	8.5
<b>Indian/Asian</b>	4.6	10.8	12.3	7.5	2.3	5.1	5.5	3.9
<b>White</b>	2.3	7.0	2.0	4.6	1.7	5.5	0.9	<b>3.7</b>
<b>Total</b>	38.7	50.5	41.4	<b>39.5</b>	19.1	27.8	19.0	19.9

Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations

Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010

2. Highlighted means statistically significant at the 95% confidence interval of the five-year change, bolded and underscored numbers are statistically significant over the fifteen-year change.

It should be noted that these varying results between the broad and narrow definitions of income, by simply stripping some arbitrary income items, does not constitute a license to overhaul income as a measure for welfare. It does suggest, however, that item classification and matching of them in the surveys play an important role in procuring a better and more accurate indicator of poverty and later, inequality.

Poverty results by race in Table 3 however, show a clearer trend emerges when the narrow definition of income is utilized as measure of welfare. Despite the tenuous improvements in welfare for female-headed households, it should be noted that irrespective of time, income definition, and poverty line used, individuals in this household group continued to remain as the more vulnerable group than their counterpart living in households headed by males. More specifically, there are nearly twice as large in proportion of headed by female who are living in classified poverty than males at both upper- and lower-poverty lines. In terms of severity, households headed by female are far deeper entrenched in poverty than the opposite sex.

**Table 4: Income (Broad) Poverty Displacements by Gender of Household Head: 1995-2010**

	Headcount Rate (%)				Poverty Gap Ratio (%)			
	1995	2000	2005	2010	1995	2000	2005	2010
<b>R577 a month poverty line (March 2009 prices)</b>								
<b>Male</b>	38.1	42.2	37.8	<b>35.8</b>	17.6	20.2	17.5	18.1
<b>Female</b>	63.7	68.5	65.7	62.7	33.8	35.6	33.5	34.9
<b>Total</b>	46.0	52.7	49.9	47.3	22.6	26.3	24.4	<b>25.3</b>
<b>R416 a month poverty line (March 2009 prices)</b>								
<b>Male</b>	27.9	31.7	27.6	27.1	11.5	13.6	11.6	12.8
<b>Female</b>	50.9	55.8	53.1	52.2	24.5	25.0	23.3	26.1
<b>Total</b>	35.0	41.3	38.6	<b>37.9</b>	15.5	18.2	16.7	<b>18.5</b>

Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations

Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010

2. Highlighted means statistically significant at the 95% confidence interval of the five-year change, bolded and underscored numbers are statistically significant over the fifteen-year change.

Table 4 suggest that only households headed by male experienced significant decline in poverty, as represented by the headcount, between the period 1995 to 2010. During the first five-years of democracy, the series for headcount indicate sudden deterioration welfare, irrespective of gender and poverty line. The proportion of male-headed households living under the upper poverty line decreased from 38.1 percent to 35.8 percent over the 15-year period. However, households headed by females witnessed no significant changes in their headcount, nor poverty gap ratio during the period under review.

Table 5 shows that both male- and female-headed households witnessed significant decline in poverty headcounts over the 15-year period using narrow definition of income. In 1995, 40.7 percent of individuals living in male-headed households were classified as poor, while female had 67.9 percent at the upper poverty line. Fifteen years later, the same poverty headcounts declined to 36.7 and 64.3 percent for male and female-headed households, respectively. Interestingly, whereas increased levels of poverty gap for female-headed households under the broad-definition of income showed no differentiable improvement, under the narrow definition, there are obvious signs of improvement, irrespective of the poverty line used.

**Table 5: Income (Narrow) Poverty Displacements by Gender of Household Head: 1995-2010**

	Headcount Rate (%)				Poverty Gap Ratio (%)			
	1995	2000	2005	2010	1995	2000	2005	2010
<b>R577 a month poverty line (March 2009 prices)</b>								
<b>Male</b>	40.7	49.0	39.8	<b><u>36.7</u></b>	20.2	28.0	19.3	19.0
<b>Female</b>	67.9	76.2	68.7	<b><u>64.3</u></b>	39.4	47.0	36.9	<b><u>36.9</u></b>
<b>Total</b>	49.1	59.8	52.3	48.6	26.1	35.6	26.8	26.7
<b>R416 a month poverty line (March 2009 prices)</b>								
<b>Male</b>	30.8	39.9	29.5	<b><u>28.3</u></b>	14.1	21.6	13.2	13.6
<b>Female</b>	56.4	66.6	57.2	54.3	30.4	37.2	26.6	<b><u>28.2</u></b>
<b>Total</b>	38.7	50.5	41.4	<b><u>39.5</u></b>	19.1	27.8	19.0	19.9

Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations  
 Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010

However, a clearer trend emerges when the narrow definition of income is utilized as measure of welfare. Despite the tenuous improvements in welfare for female-headed households, it should be noted that irrespective of time, income definition, and poverty line used, individuals in this household group continued to remain as the more vulnerable group than their counterpart living in households headed by males. More specifically, there are nearly twice as large in proportion of headed by female who are living in classified poverty than males at both upper- and lower- poverty lines. In terms of severity, households headed by female are far deeper entrenched in poverty than the opposite sex.

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**Table 6: Income (Broad) Poverty Displacements by Education of Household Head: 1995-2010**

	Headcount Rate (%)				Poverty Gape Ratio (%)			
	1995	2000	2005	2010	1995	2000	2005	2010
<b>R577 a month poverty line (March 2009 prices)</b>								
<b>No Schooling</b>	76.2	82.1	80.2	76.1	40.5	44.9	41.3	39.4
<b>Primary (Grade 1-6)</b>	65.7	70.4	69.3	66.0	32.8	36.3	34.0	35.1
<b>Secondary without matric (Grade 7-12)</b>	38.2	46.4	45.8	<b>47.2</b>	16.9	20.8	22.0	<b>25.5</b>
<b>Secondary with Matric (Grade 12)</b>	8.3	13.7	17.0	<b>19.2</b>	3.3	5.9	7.3	<b>10.6</b>
<b>Degree/Higher Education</b>	0.4	2.6	1.5	<b>7.9</b>	0.1	1.2	0.4	<b>4.4</b>
<b>R416 a month poverty line (March 2009 prices)</b>								
<b>No Schooling</b>	62.3	70.1	66.0	62.0	29.1	32.6	28.9	27.8
<b>Primary (Grade 1-6)</b>	51.3	56.9	53.1	53.2	22.6	25.4	23.2	<b>25.5</b>
<b>Secondary without matric (Grade 7-12)</b>	26.4	33.3	34.8	<b>37.5</b>	10.9	13.4	14.8	<b>18.9</b>
<b>Secondary with Matric (Grade 12)</b>	4.9	8.8	11.5	<b>15.0</b>	2.0	3.8	4.7	<b>8.1</b>
<b>Degree/Higher Education</b>	0.2	2.0	0.5	<b>5.7</b>	0.1	0.8	0.1	<b>3.6</b>

Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations

Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010

2. Highlighted means statistically significant at the 95% confidence interval of the five-year change, bolded and underscored numbers are statistically significant over the fifteen-year change.

Poverty in South Africa is well known to be intimately linked with the ability to secure a stable income and individual employability. Employability in turn, is demonstrated to be influenced by the skill and educational attainment of the individual. Table 6 demonstrates this fact by showing the poverty headcount and poverty gap by education of the household head. The first striking feature in the data is that as expected, individuals living in households headed by someone without any schooling have the highest incidence of poverty headcount. The poverty headcount for these households is as high as 82.1 percent at the higher poverty line. In contrast, those residing in households headed by someone with some form of educational attainment are relatively better off. The incidence of poverty is consistently differentiable across different levels of educational attainment of the household head to almost zero proportion of individual living in classified poverty if it is headed by household head with a degree or higher education. Poverty gap ratio also exhibits the same feature: households with educated household-head are far less deprived. The significance of influence by level of educational attainment on poverty is differentiable irrespective of the survey year or measures of poverty.

Across time, perhaps a worrying sign is that poverty rates for households are relatively sticky at lower levels of education, while households with higher levels of education faced significant increase in poverty. At the R577 line, households with no schooling or primary schooling faced no significant change in

poverty during the 15-year period since 1995, while households with secondary, with/without matric and a degree, have all witnessed significant increase in their poverty headcount. Relative poverty for these households exhibits similar trends as the poverty headcount: higher levels of education reduces the chances of living poverty; poverty increased at the margins for households headed by individuals with secondary schooling and above.

Perhaps a worrying sign in the data is that households with a degree and above in 2010 had a dramatic increase in all measures of poverty than there were in 1995. This could be the consequence of 3 reasons, among others: Firstly, the dataset could be suffering from empty-cell problems, where the information in the sample for these households are biased to the extent that weights cannot adjust. It has also been well documented in the IESs that these households often have non-response in the dataset, and lacking in sample size. Secondly, the classification of “degree/higher education” is too broad and unable to account for subtle yet significant difference in terms of industries, therefore, there may be some “lumping effect” in the category. Thirdly, albeit the series has only four data points in them; the evidence that supports these possible causes for an increase in poverty for households with received degree/higher education is the non-structural and volatile trends of the poverty series.

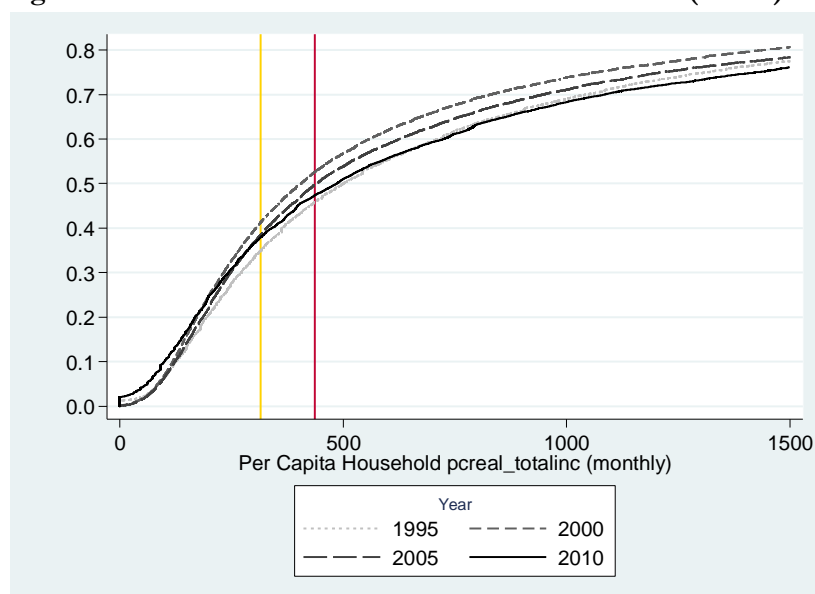
### **3.2. Poverty Displacements without Arbitrary Poverty Lines**

The poverty estimates presented above, although useful in presenting the changes in poverty, however, only shows the state of poverty near and around the point of the chosen poverty line. In other words, it shows limited information about the sensitivity of the poverty estimates, even with the multiple, upper- and lower- poverty lines. This may leave out some crucial information about the distribution of the poor’s income; especially given the distribution for household per capita income in South Africa is heavily right-tailed. As nearly half of the population are living below the official upper poverty line of R577 per person, per month.

Hence, a more robust method of examining the changing status of the living standard across individuals is by plotting the cumulative distribution functions (CDFs) of per capita income. Essentially, it removes dependence of the estimate on a chosen poverty line by taking the sample as a whole, and plots the cumulative proportion of all individuals with a monthly per capita income value of less than or equal to the corresponding value in an ascending scale on the horizontal axis. From this graphical presentation, the gradient of the CDF represents the sensitivity of the poverty measures: The steeper the gradient of the CDF, the higher density of individuals lie on the corresponding levels of per capita household expenditure and hence, the more sensitive the poverty measure around that level of income. Conversely, the flatter the CDF, more scant the proportion of people reside in that respective per capita expenditure level. In a timid manner, the gradient of the CDF being larger than one also indicates the severity of the unequal distribution of standard of living in the society.

Figure 3 shows the CDFs for individuals with a level of per capita income of less than R1500 per month in South Africa for all four years of the survey. Below roughly R750, the graph confirms that the CDF of income in 2010 is slightly higher than in 1995. However, the poverty rates in 2010 may have been lower than 1995 had the poverty lines chosen lie somewhere above R750, where the two CDFs cross each other. Hence, it is clear that the first order dominance does not hold for the period between 1995 and 2010 in terms of CDFs. The changes in poverty without specific poverty lines suggest that whilst there was a marginal increase in poverty at or below approximately R750 a month, beyond which, poverty levels fell marginally or did not change for the period under review.

**Figure 3: Cumulative Distribution Function of Income (Broad) for South Africa, 1995 – 2010**



Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations  
 Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010

The gradients of the two CDFs also suggest that inequality at the lower end of the distribution is slightly higher in 2010 than in 1995, and it reversed after the point of intersection, confirming our earlier results that the poor is getting poorer. Figure A 1 in the appendix confirms the same result with CDFs using narrow definition of income.

### 3.3. Changes in South Africa's Two-tier Economy: 1995 to 2010

The changes in real annual income deciles by major race groups from 1995 to 2010 are presented in Table 7. The results show that irrespective of race and even at the aggregate, the average annual incomes have increased during the 15-year period under review, albeit at various rates. The group that experienced the highest rate of increase was the Coloured, at 72.6 percent growth in their real annual income.

When broken down by decile, it is clear that the distribution of income has become more dispersed over the period, resulting in a polarization of incomes at an increasing speed. More specifically, while those earning at the top deciles experienced growths in income, those at the bottom deciles, deteriorated. The rate of dispersion in real income is almost identical for all race groups alike, although much more pronounced among Africans. More specifically, While Coloured and White groups witnessed decline in income for up to 1<sup>st</sup> and 3<sup>rd</sup> deciles of income, respectively, African group saw negative growths in income of up to the 6<sup>th</sup> decile. Surprisingly, for White headed households, there was a large decline of 61.4 percent in mean income at the first decile. While this decline accounts for the surprise increase in the poverty measures earlier, this significant decrease could be the result of two factors.

Firstly, in the second half of 2008, South Africa experienced its first recession since the advent of democracy, with the economy contracting at averaged annualized 3.3 percent for three quarters. The recovery that followed since the crisis remained sluggish and unimpressive at annualized 2.8 percent. However, the impact of the global crisis on the South African labour market was much more severe, with total employment declining from approximately 14 million in the fourth quarter of 2008 to 13.3 million in the corresponding quarter of 2009 (Bhorat et. al. 2009). Job losses persisted throughout and even after the crisis period, with the broad unemployment rate increased from 26.6 percent in 2008Q4 to 32.3 percent in 2010Q4. Evidence from different sources such as the CCMA indicated that this was led by large-scale retrenchments in the formal sectors, and the impact is not immune to even higher earning



workers. It is therefore, suggestive that the increase in the levels of White (and Asian) poverty could in part be the result of the job losses or at least, forced mobility experienced in semi-skilled/skilled formal sector workers. In the meantime, the expansion in the social grant system that targets those at the aggregate bottom decile was still intact, which explains why in relative terms, Africans' first decile income households were to a certain degree shielded against the labour market impact of the recession.

**Table 7: Changes in Real annual Mean per Capita Income (2005 prices) by Income Decile: 1995 to 2010**

Decile	Aggregate			African			Coloured			White		
	1995	2010	Change	1995	2010	Change	1995	2010	Change	1995	2010	Change
1 <sup>st</sup>	921	622	-32.5	810	557	-31.3	1708	1444	-15.5	9915	3822	-61.4
2 <sup>nd</sup>	1924	1631	-15.2	1680	1437	-14.5	3217	3263	1.4	20635	14495	-29.8
3 <sup>rd</sup>	2787	2454	-12.0	2368	2117	-10.6	4279	5067	18.4	27548	27001	-2.0
4 <sup>th</sup>	3812	3451	-9.5	3108	2858	-8.1	5490	7170	30.6	34463	39916	15.8
5 <sup>th</sup>	5122	4873	-4.9	4017	3810	-5.2	6950	9430	35.7	41695	53805	29.0
6 <sup>th</sup>	7155	7077	-1.1	5224	5168	-1.1	8847	12523	41.5	49737	66307	33.3
7 <sup>th</sup>	10275	10533	2.5	7089	7309	3.1	11198	17170	53.3	59715	78454	31.4
8 <sup>th</sup>	16017	17309	8.1	9970	10782	8.1	15065	24619	63.4	73003	98458	34.9
9 <sup>th</sup>	28348	33488	18.1	15484	18424	19.0	21725	39569	82.1	96830	135623	40.1
10 <sup>th</sup>	83805	104606	24.8	40485	56501	39.6	47385	97023	104.8	219921	245067	11.4
<b>Total</b>	<b>16011</b>	<b>18602</b>	<b>16.2</b>	<b>9016</b>	<b>10893</b>	<b>20.8</b>	<b>12563</b>	<b>21687</b>	<b>72.6</b>	<b>63264</b>	<b>76177</b>	<b>20.4</b>

Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations

Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010

Despite these results, it is noteworthy that in 1995, the first income decile for the whites is equivalent to roughly 7<sup>th</sup> to 8<sup>th</sup> decile of income for Africans, and 5<sup>th</sup> to 6<sup>th</sup> decile in 2010. On the other hand, the 10<sup>th</sup> decile of White's income remained roughly 5-6 times the multiple to the African's 10<sup>th</sup> income decile. In sum then, although there may be some indication that the so-called "two-tier" economy in terms of income by race is ending, however, the main force behind this is largely attributed by the devastating labour market impact of the recession, rather than the upliftment, if any, from the 17 years of economic growth.

### 3.4. Inequality

The existing empirical findings in the literature based on post-apartheid data have pointed to a sharp rise in the Gini coefficient, using various measures of income and expenditure linearly across different years or surveys. Bhorat and Van der Westhuizen (2011) found that the Gini coefficient, calculated using per capita expenditure estimates from the 1995 and 2005/05 IES, increased from 0.64 to 0.69 in 2005. Leibbrandt, et.al. (2009) found, using per capita income in the LSMS household survey and the NIDS 2008 dataset that the Gini coefficient increased from 0.66 in 1993 to 0.70 in 2008. Hence, results have all shown that post-apartheid South Africa that was once, one of the most unequal countries in the world had possibly become the most unequal.

Table 8 presents the evolution of Gini Coefficients in South Africa between the period 1995 and 2010. From the linear point of view, between 1995 and 2010, the level of inequality seemed to follow in harmony with the trend in the literature: Inequality in South Africa has indeed, risen to astonishing heights. However, taking all four data points of inequality together, the data seem to suggest that inequality in South Africa has increased, from 0.658 in 1995, but reached its zenith at 0.714 in 2005 and declined marginally to 0.696 in 2010. This last turning point was neither statistically significant nor in absolute terms, lower than the inequality level in 1995, however, it may be a tenuous sign of reverse in the upward trend of inequality in South Africa.

**Table 8: Shifts in Income (Broad) Inequality: Gini Coefficients for 1995, 2000, 2005 and 2010**

	1995	2000	2005	2010
<b>Total</b>	0.658	0.701	0.714	<b>0.696</b>
<b>by Gender</b>				
<b>Male</b>	0.641	0.689	0.693	<b>0.667</b>
<b>Female</b>	0.618	0.637	0.689	<b>0.678</b>
<b>by Race</b>				
<b>African</b>	0.577	0.609	0.614	<b>0.645</b>
<b>Coloured</b>	0.501	0.542	0.591	<b>0.588</b>
<b>Indian/Asian</b>	0.465	0.500	0.551	0.522
<b>White</b>	0.445	0.506	0.510	0.469
<b>by Education</b>				
<b>No Schooling</b>	0.475	0.476	0.476	0.484
<b>Primary (Grade 1-6)</b>	0.493	0.516	0.509	<b>0.554</b>
<b>Secondary without matric (Grade 7-12)</b>	0.556	0.579	0.604	<b>0.625</b>
<b>Secondary with Matric (Grade 12)</b>	0.502	0.561	0.598	<b>0.569</b>
<b>Degree/Higher Education</b>	0.465	0.507	0.500	0.464

Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations

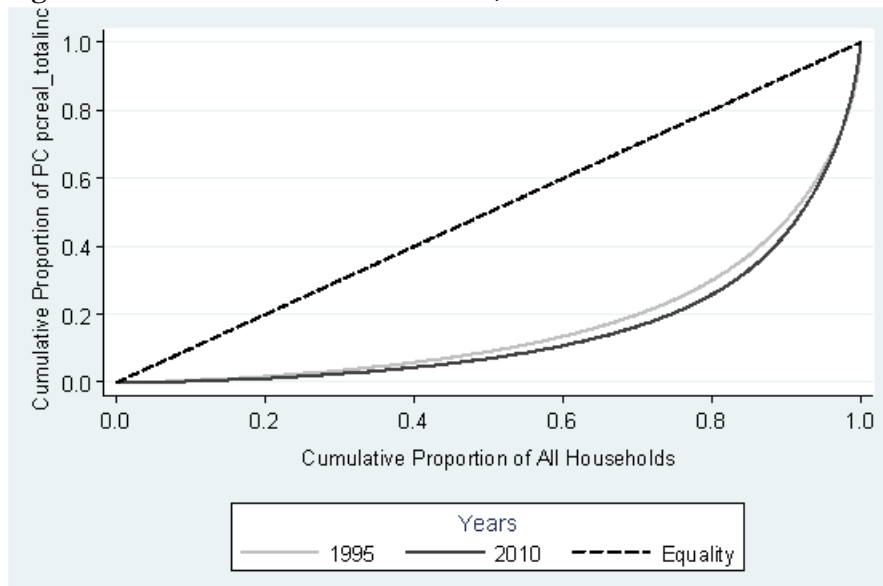
- Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010  
 2. Highlighted means statistically significant at the 95% confidence interval of the five-year change, bolded and underscored numbers are statistically significant over the fifteen-year change.

Results on within-gender inequality show that It is disappointing to find that African headed households experienced an increase in inequality in the last period between 2005 and 2010, from 0.614 to 0.667 for males and from 0.618 t 0.689 for females in 2010, respectively. Results for inequality using the narrow definition of income are presented in Appendix, Table A 2.

By race, the data shows statistically significant increases in inequality between 1995 and 2010 for individuals living in African, as well as Coloured headed households. Unlike the inequality at the aggregate and other race groups, African households witnessed a persistent increase in inequality, increasing steadily from 0.577 to 0.645 between 1995 and 2010. In the last five years between 2005 and 2010, there was even a statistically significant increase in inequality for individuals living under African-headed households. The only groups that did not experience any discernible changes in inequality were the Asians and Whites for the 15-year period under review.

In terms of within-education inequality, the Gini coefficients between different levels of schooling stood largely the same. The only significant changes were in households with Primary or Secondary schooling, with or without matric, as the inequality levels for these groups increased over the fifteen-year period.

**Figure 4: Lorenz Curve for South Africa, 1995 and 2010**



Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations  
Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010

The Lorenz curve for South Africa in Figure 4 confirms that between 1995 and 2010, inequality at the national level has indeed increased, as the 2010 curve lies further away from the line representing perfect equality.

In sum then, the levels of per capita income inequality in South Africa have increased significantly in the absolute term over the fifteen-year period, with Africans having the highest level of within inequality amongst all other groups. In conjunction with the results shown in Table 7 however, it is clear that the increasing polarization of per capita income is not exclusive to certain race groups, but across the entire nation. In a sense, the South African economy since the advent of democracy has slowly recovered from legacy of racial disparity, however, the consistent widening of income between the rich and the poor may indicate a distressing sign of exclusivity based on the income-class and class struggle.

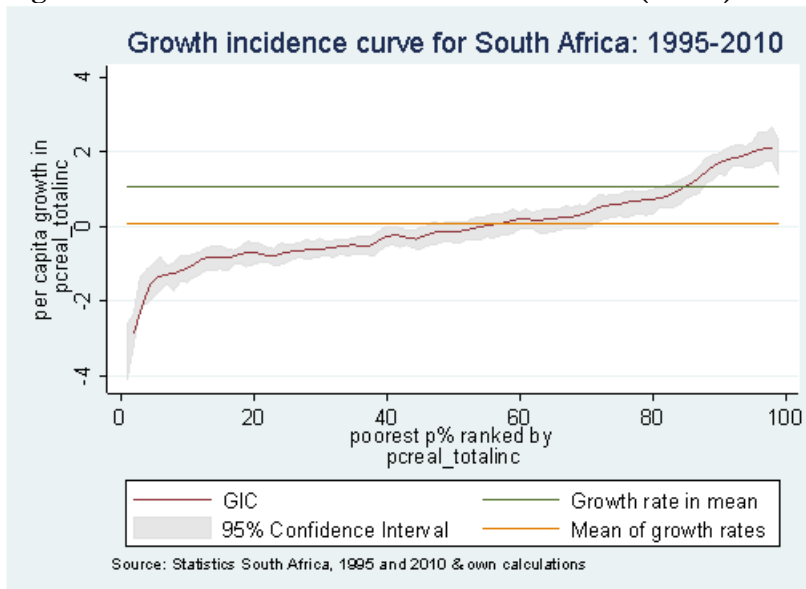
#### 4. Economic Growth, Poverty and Inequality in South Africa

There is very little doubt, if any, amongst economists at present day that in order to achieve poverty reduction or eradication, one of the necessary but insufficient condition would be a persistent and high level of economic growth. The link between economic growth and poverty reduction is theoretically clear and simple: higher growth in the economy promotes individual's income growth; therefore, poverty level falls in the society. However, the reason for the insufficient condition and what makes assessments around growth and poverty so complex is the distribution of growth-benefit, or, the initial and dynamics of inequality. Essentially, the impact of economic growth on poverty differs depending on how much inequality distributes the growth-dividend.

In this section, I examine the interactions between growth, poverty and inequality in South Africa using the growth incidence curves (GIC) methodology, developed by Ravallion & Chen (2003). GIC is useful in showing the varying impact of growth by mapping the growth differentials in real per capita income across the income percentile in a society. A GIC that lies above zero for all percentiles implies a first order dominance of individual's income in 2010 over 1995, or an unambiguous decline in poverty during the period. An upward sloping GIC means that the rich benefited more than its counterpart did, and hence worsening inequality. Pro-poor growth would be the case where the GIC is downward sloping but all percentiles above zero; anti-rich growth is where downward sloping and only the top percentiles experienced negative growths.

However, it should be noted here that this methodology depends heavily on the quality of the data and the survey sampling methods implemented, as it projects the income dynamics of the society as whole, not the individuals - it is not a panel. The calculations of per capita growth rates are also extremely sensitive towards zero-truncations in individual's income.

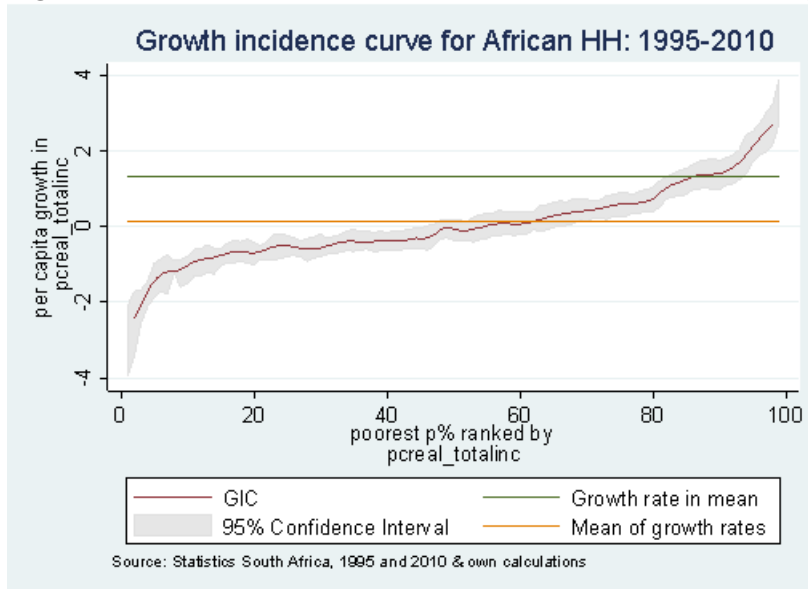
**Figure 5: Growth Incidence Curve for South Africa (Broad): 1995-2010**



Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations  
 Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010

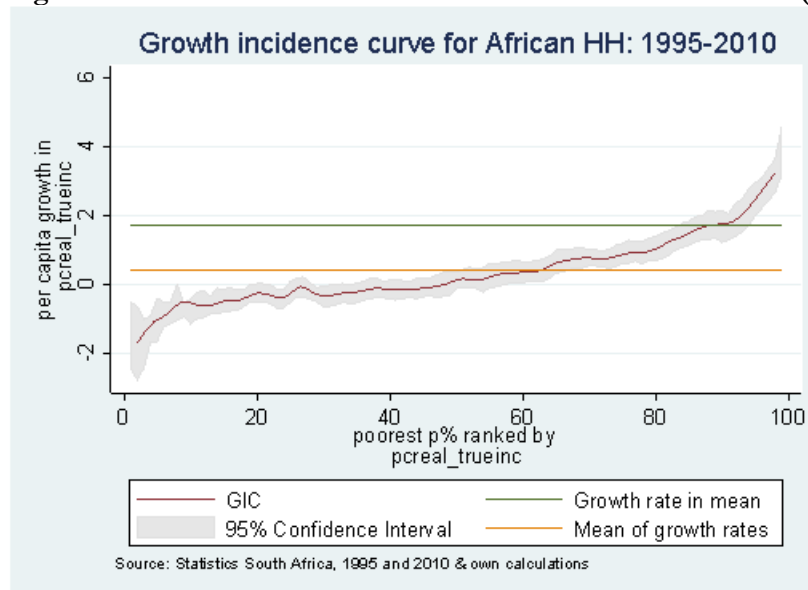
The GIC for South Africa using real per capita income over the 15-year period is presented in Figure 5. The upward sloping of the GIC suggests that there was no pro-poor growth during this period. In fact, the bottom 60 percentiles of individual's real-income experienced negative growths of up to almost negative four percent in average annual growth rate, at the poorest. Above the 60<sup>th</sup> percentile, individual's income grew at an increasing rate for the richer, although the rate of change flattens around 90-100<sup>th</sup> percentile at roughly annual growth rate of two percent.

**Figure 6: Growth Incidence Curve for African Household Head (Broad): 1995-2010**



Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations  
 Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010

**Figure 7: Growth Incidence Curve for African Household Head (Narrow): 1995-2010**



Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations  
 Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010

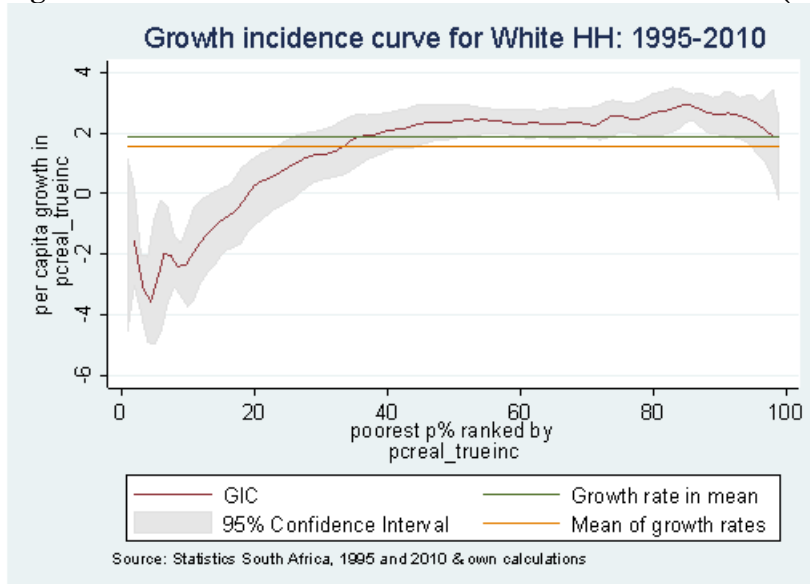
The GIC for individual living in African headed households shows similar upward trend as the aggregate GIC. However, in contrast to the aggregate GIC, those at the top income percentile of African households reached an average annual growth rate of above two percent.

Figure 7 shows the GIC for African households using the narrow definition of income. The graph suggests that based on regular income only, nearly 20% (bottom) of households income experienced negative growth while on the other extreme, the top income percentile experienced averaged annual growth rate of up to above 4 percent, which confirms our earlier finding that African's within inequality has increased substantially over the period.

Figure 8 clearly shows that only the lower 20 percent of the population earning lowest income, living in White-headed households experienced negative growths over the period from 1995 to 2010. The growth rates at the bottom are particularly noisy at about negative four percent. Unlike the GIC for African headed households, the average growth rates almost all positive income growths all experienced averaged growth rate in income of roughly 2.5%. Only those from the 95<sup>th</sup> percentile upwards saw a slight decline

in their income growth, although still positive. It should be reminded that as Table 7 demonstrates, the distribution of income for white households is effectively to the right of the income distribution for the Africans.

**Figure 8: Growth Incidence Curve for White Household Head (Narrow) : 1995-2010**



Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations  
 Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010

GICs for Male and Female can be found in Appendix as Figure A 3 and

Figure A 4. The results suggest that roughly 20 percent of households headed by male experienced negative to zero growth during the period. The bottom-percentile income group experienced lowest growth rate of up to 2 percent average annual growth rate, while on the other extreme at the top, households experienced growth of as high as 3 percent annual growth. Households headed by female in relative terms are far worse off than male, as nearly 55 percent of households headed by female experienced negative growths of up to one percent average annual growth rate. The highest, positive rate of growth for female-headed households is also roughly 3 percent, although it should be emphasized here that female household's income is in general almost half the income of male households (see Table A 3 in the Appendix).

To conclude, it appears that overall South Africa did not experience pro-poor growth in any sense, as one would like to have hoped. Given nearly 15 years of uninterrupted economic growth the distribution of its dividend, whether by race, gender or at the aggregate, seemed to have been pro-rich and anti-poor. These are rather troubling results given that they are inclusive of government's efforts in implementing social grants and poverty alleviation policies.

## 5. The Impact of Social Grants on Income Growth, Poverty and Inequality

The results above suggest that South Africa had experienced total misdistribution of growth-dividend and as a result, ineffective poverty reduction, and deteriorating inequality. Especially the poor at the bottom percentile of the income distribution, their real income have witnessed negative growths of up to 3-4 percent at most. However, this does not mean that state interventions, in particular, social grants had no effect at all in ameliorating poverty and inequality. In this section, I investigate the impact of social grants systems and its role on poverty and inequality by examining the poverty, inequality and the GIC estimates had it been completely removed from the individual's income.

### 5.1. The Impact of Grants on Poverty and Inequality Dynamics

Social grants can be used as an effective tool to uplift poverty and adjust the social inequity that erodes the impact of growth on poor. Table 9 convincingly proves that despite earlier results, state intervention in the form of grant income played a crucial role in ameliorating poverty during the period under review. In 1995, the poverty estimates as represented by headcount index showed that at the aggregate, there would have been 2.2 percent of the total population in South Africa stricken by poverty and being classified as poor, had there been no grants income to assist them. In 2010, the effect of grant incomes was even more significant: 5.7 percent of the population would otherwise have been classified as poor in the absence of grant incomes.

**Table 9: Headcount Income (Broad) Poverty Displacements of Household Head by Race, Gender and Education, With and Without Grants 1995-2010**

	1995			2010		
	With Grants	Without Grants	Difference	With Grants	Without Grants	Difference
<b>R577 a month poverty line (March 2009 prices)</b>						
<b>Total</b>	46.0	48.2	<b><u>2.2</u></b>	47.3	53.0	<b><u>5.7</u></b>
<b>by Race</b>						
<b>African</b>	55.4	57.6	<b><u>2.2</u></b>	55.6	61.6	<b><u>6.0</u></b>
<b>Coloured</b>	33.1	37.0	3.8	26.5	32.9	<b><u>6.4</u></b>
<b>Asian</b>	4.3	6.1	1.9	8.1	13.3	5.2
<b>White</b>	1.8	2.8	1.0	6.8	9.4	2.6
<b>by Gender</b>						
<b>Male</b>	38.1	40.1	<b><u>1.9</u></b>	35.8	40.9	<b><u>5.1</u></b>
<b>Female</b>	63.7	66.4	<b><u>2.8</u></b>	62.7	69.1	<b><u>6.4</u></b>
<b>by Education</b>						
<b>None</b>	76.2	79.7	<b><u>3.5</u></b>	76.1	85.8	<b><u>9.7</u></b>
<b>Grade 1-6</b>	65.7	68.4	<b><u>2.7</u></b>	66.0	74.7	<b><u>8.8</u></b>
<b>Grade 7-12</b>	38.2	40.2	2.0	47.2	52.6	<b><u>5.4</u></b>
<b>Grade 12</b>	8.3	8.6	0.3	19.2	20.8	1.6
<b>Degree</b>	0.4	0.4	0.0	7.9	8.5	0.6

Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations

Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010  
2. Bolded and underscored numbers are statistically significant.

By race, it is clear that the effects of grants have extensively reached those living in households headed by Africans. The difference in poverty headcount influenced by grant income was 2.2 in percentage points in 1995. This should serve as no surprise since African headed households in South Africa were among the poorest group of the country's population due to apartheid. The data shows that in 2010, African headed households were still among those most in need of social assistance, with almost 6.0 percent of the individuals living in these households were supported by grant income. Interestingly, households headed

by Coloureds, received significantly more social assistance in 2010 fifteen years after the advent of democracy, as the difference in poverty headcount moved from statistically insignificant in 1995 to the highest of difference at 6.4 percent in 2010. Asian and White households did not see a significant difference between with and without grant income throughout the period.

In terms of gender, grant income appears to have a larger impact on welfare for females than males, although both groups experienced increased effects of grant income over the 15-year period. This result highlights the gender disparity in terms of income poverty in south Africa. Most intriguing of results in Table 9 is that of poverty estimates by educational levels of household heads. Grants income has the most significant and largest magnitude of impact on poverty for those with lower levels of education. The impact of grant income decreases and becomes insignificant as the educational attainment of households head increase. This trend is true for both 1995 and 2010, although the impact extended to households with qualifications of less than Grade 12 in 2010.

**Table 10: Shifts in Income (Broad) Inequality: Gini Coefficients for 1995, 2010 with and without grants**

	1995			2010		
	With Grants	Without Grants	Difference	With Grants	Without Grants	Difference
<b>Total</b>	0.658	0.684	<b><u>0.026</u></b>	0.696	0.749	<b><u>0.053</u></b>
<b>by Gender</b>						
<b>Male</b>	0.641	0.660	<b><u>0.019</u></b>	0.667	0.703	<b><u>0.035</u></b>
<b>Female</b>	0.618	0.677	<b><u>0.058</u></b>	0.678	0.782	<b><u>0.103</u></b>
<b>by Race</b>						
<b>African</b>	0.577	0.621	<b><u>0.044</u></b>	0.645	0.734	<b><u>0.089</u></b>
<b>Coloured</b>	0.501	0.534	0.034	0.588	0.632	<b><u>0.044</u></b>
<b>Asian</b>	0.465	0.477	0.011	0.522	0.542	0.020
<b>White</b>	0.445	0.450	0.004	0.469	0.476	0.007
<b>by Education</b>						
<b>None</b>	0.475	0.590	<b><u>0.115</u></b>	0.484	0.760	<b><u>0.276</u></b>
<b>Grade 1-6</b>	0.493	0.553	<b><u>0.060</u></b>	0.554	0.722	<b><u>0.168</u></b>
<b>Grade 7-12</b>	0.556	0.577	0.021	0.625	0.687	<b><u>0.062</u></b>
<b>Grade 12</b>	0.502	0.505	0.003	0.569	0.580	0.011
<b>Degree</b>	0.465	0.466	0.001	0.464	0.466	0.002

Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations

- Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010  
2. Bolded and underscored numbers are statistically significant.

Data suggest that grant income has too been an important and effective tool in ameliorating South Africa's high levels of income inequality, by supporting those at the bottom end of the income distribution. Table 10 indicates that in 1995, income inequality with the support of grant income was at 0.663, as represented by the Gini coefficient. Without grant income, the level of inequality would have otherwise deteriorated to 0.684. By 2010, the consequence of removing social assistance for the poor's income was unthinkable, as the Gini coefficient would have been 0.749, as opposed to 0.696 with grant income. The differences for the two years are thus both statistically significant at the five percent level : 0.026 and 0.053 in Gini coefficient, respectively.

The inequality levels within male and female groups show the crucial role-played by the grant income especially for the female group. In both 1995 and 2010, male and female's within-group inequality would have otherwise risen by significant amounts had the grant system been absent from their budget. Individuals living in female-headed households in particular would have otherwise witnessed deterioration in income inequality as represented by the coefficient of up to 0.103 in 2010. It is also noteworthy that

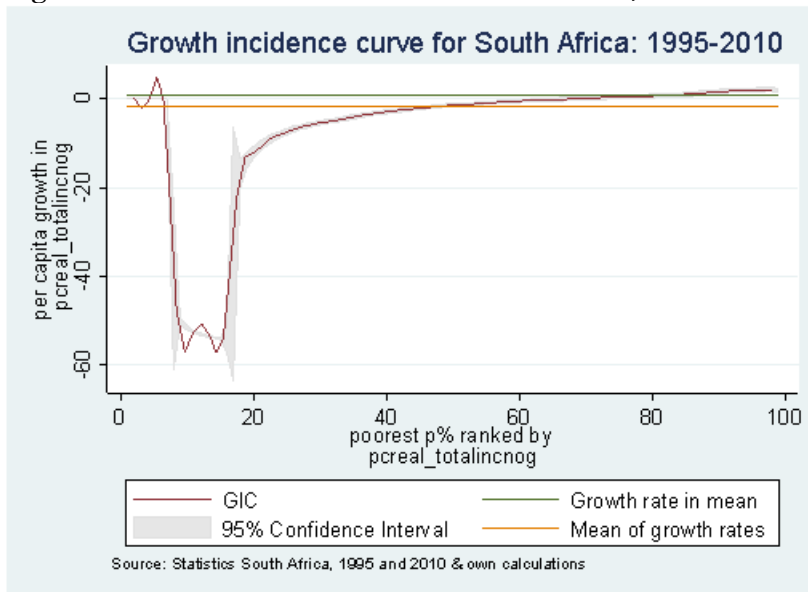


the poor among female-headed households in general has lower incomes than the poor in male headed households, so the effect of the grant income to the previous group suggests an even more prominent influence grant income holds for the female cohort.

Inequality as represented by the Gini coefficient by race indicates that African, and later in 2010 together with Coloureds, received the most inequality-reducing effect from grant incomes. The effect for African increased from 0.04 in 1995, to 0.09 fifteen years later. It should be no surprise since that African headed household also had the highest level of income inequality compared to other race groups, hence grant income naturally become a crucial part of reducing within-income inequality among these groups. Similar difference can also be found between inequalities with, and then without income by educational attainments of the household head. The inequality-reducing effects of grants for household heads with Grade 6 or less (including no schooling at all) in particular, more than doubled in 2010 than in 1995. It is worth noting that in the poverty analysis section earlier, households with lower levels of schooling are in general, poorer.

In sum, an interesting observation that is repeatedly shown in Table 9 and Table 10 is the significance of the grant income on within-inequality of households at targeting the various groups with the highest levels of poverty and inequality. All of which implies the well-functioning targeting mechanisms of the grant system in delivering assistant to some of the most vulnerable members in the South African society.

**Figure 9: Growth Incidence Curve for South Africa, without Grants: 1995-2010**

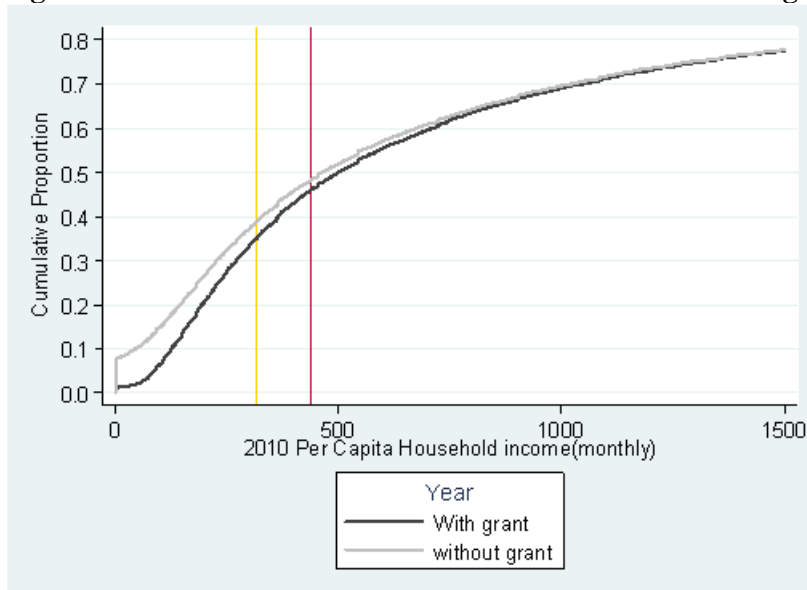


Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations  
 Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010

Figure 9 confirms the impact of grant income on the growth rates of welfare across the income percentiles. In stark contrast to the GIC presented earlier for South Africa’s total per capita income (Figure 5), those around the bottom 5<sup>th</sup> to 20<sup>th</sup> percentile income groups would have otherwise experienced detrimental collapse in their income of up to nearly 50 percent of their income between 1995 and 2010. Only at the 20<sup>th</sup> percentile and beyond does the impact of grant income seem to disappear, as the growth rates returns to the GIC presented including grants. It should be underscored that the initial

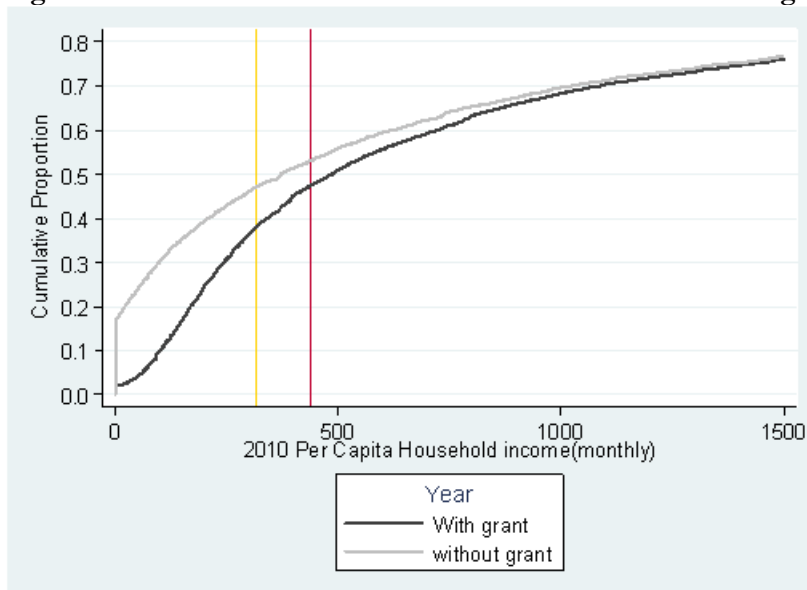
growth rates at the very bottom percentiles does not mean that they experienced absolute pro-poor growth, but as residuals created by re-ranking the income variable for the GIC calculation<sup>6</sup>.

**Figure 10: Cumulative Distribution Function with and without grants 1995**



Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations  
 Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010

**Figure 11: Cumulative Distribution Function with and without grants 2010**



Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations  
 Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010

Income GICs without grant incomes for African- and White-headed households are presented in Appendix Figure A 6 and Figure A 7 respectively. Clearly, the groups being affected the most were African-headed households, whose GIC for income without grant is near identical to that presented in Figure 9. On the other hand, White-headed households did not seem to have been affected at all by the

<sup>6</sup> Essentially, these are most likely those who are receiving grants and experienced growth in income including grants, but when grants are excluded, they dropped to the bottom percentile.

grant income. This clearly demonstrates that grant system is almost exclusively servicing the African headed households, who are also the most deprived group of all in the country.

Figure 10 and Figure 11 present the juxtaposed cumulative distribution functions of income, with and without grant in 1995 and 2010 with upper and lower poverty lines. The gaps between the cumulative distribution function for with and without grants in both figures show the increased significant impact of grant income on South African's income composition. The gap in 2010 is also significantly wider than it was in 1995, suggestive of a brisk expansion in provision for the social grant system in more recent years of the country's newfound democracy. The diminishing distance between the gaps at the higher end of the function also suggest that the system effectively diminishes in scale as income of individual increases.

## **6. Implications for Policies: Education, Employment and Public Saving Schemes**

Given the above results regarding South Africa's economic growth experience for the past 15 years since the fall of apartheid, I shall now discuss in this section, some of the policy implications, as well as potential innovations around social assistance for consideration. The implementing of a state's transfers policy in the form of grants is an important topic in balancing the trade-offs between growth and redistribution. Essentially, too little redistributive intervention may lead the state towards unintended disequilibrium, polarizing the exceptionally rich and the poor. Too much intervention on the other hand may discourage growth potentials, lead to resource flights, and curb individual's willingness to work, among other things. Social grant system in South Africa is functioning well, but it simply lacks the ingredient that defines any policy a true and optimal redistributive intervention: incentives. Simply put, the current use of the grant resources does not form a meaningful, positive tide with any developmental behaviours of the individual to promote inclusive growths, which is a great misfortune. Since from the above evidence, it is clear that social grant has become a structural necessity of the South African economy, an optimal way to use this resource then is to align it with people's incentive to engage in developmental activities.

Below I make the case that social grant system in South Africa has become part of its economy's foundation and structure, proving that both administratively and on the larger economy, the system has worked impressively well. After which, I propose three developmental instruments that could be attached to the current social grant system and hopefully assist South Africa in its noble pursuit of inclusive growth. These instruments are all developmental in nature and proven so in the literature around the world by numerous developed and developing countries today. Since a "good" policy is one which identifies itself closely with the necessity of intervention based on information and evidence, the arguments I offer will refer as frequently as possible to the results presented in the paper; in particular from Section 5: The Impact of Social Grants on Income Growth, Poverty and Inequality.

### **6.1. What Social Assurances can/cannot do?**

It is without a doubt that South Africa's social grant system has become a structural necessity of the country's economy and its citizen's welfare – especially for the poor. Without it, both the state of poverty and inequality in the country would have been unthinkable: almost 5.7 percent of the total population of 50 million would immediately fall below the poverty line, living with less than R577 per month, per person. Inequality in South Africa would have risen to as high as 0.75 in the Gini coefficient if there was no social assistance in place, making the country first of its kind, ultra-poor and ultra-unequal society.

Apart from the social impacts, administratively, there is also paramount evidence that the current system of social protection and assistance is well targeted and functioning efficiently. More specifically, the impact of the social grants is statistically significant only for those that have the highest proportion of poverty, most stricken by relative poverty, and have the most severe inequality. From Table 9, it is clear that in both 1995 and 2010, Africans, male and more importantly female with less than Grade 6 in educational attainment were the most deprived. Therefore, they also received the most impact from social assistance. In 2010, the influence of the social grant system was extended precisely to Coloureds, the next highest poverty rate after the African group; and those with less than Grade 12 in education, also the next group with the highest proportion of poor. The precision of the grant system on targeting those that are most in need is impressively accurate. The declining magnitude of impact of the social grants, as the poverty rates of the various groups decrease is also testament to the efficiency of the system, showing no signs of wastage of the state's social grant provisions.

In terms of inequality, Table 10 shows similar results in how effective social grant system is as a tool to ameliorate some of the unequal distribution of welfare in the country. Again, the system targets those that are African, and later Coloureds too; both male and more so, female; and households headed by household head with less than Grade 6 in 1995 and later, Grade 12 in educational attainment. The magnitude of influence caused by the social grant system also suggests that the system is working efficiently in terms of its administration. More specifically, as the level of inequality represented by the Gini coefficient deteriorates, the impact of grants seemed to dissipate to minimize wastage of resources.

Despite the clear short-term effectiveness of the grant system, there are exposed realities about the social grant system that needs to be realized. Primarily is the ineffectiveness and failure of using the current grant system as a force to reverse the nature of growth in South Africa. More specifically, years of experimenting and expanding the social grant system and assistance for the most deprived, the current system is simply ineffective to induce inclusive growth outcomes at the larger economy. As Figure 5 and Figure 6 clearly demonstrated, in spite of state's intervention in the forms of social grant system, there is still no evidence of pro-poor growth in the country's growth pattern. The growth economy is still one where the poor are getting poor, and the rich getting richer. In other words, although the current social grant system is a *pro-poor* policy administered by the government; it is not a *pro-poor growth* policy.

## **6.2. Pro-Poor Growth Policies**

A *pro-poor growth* policy is one whereby individual incentives collectively aligned actions and behaviours with the objective of the state policy, and become the main force in driving the economy towards an inclusive equilibrium. The crucial ingredient for making an ordinary *pro-poor policy* into a *pro-poor growth policy* is vitalising incentives in the policies itself. In the context of social grant, one of the easiest ways to create incentive is by aligning the financial incentive premiums with some of the key developmental drivers or instruments, where "more is better". Below I propose the three add-on policy innovations for the current grant system in place, where social assistance is administered on a marginal basis, to encourage incentives. It should be noted here that at this stage, these propositions are conceptual in main and could/should be further debated based on similar rigour (if not more) in evidence and reasoning.

### **Grant Premiums and Education**

Evidence earlier has shown that higher levels of education are not only associated with lower likelihoods of poverty and relative poverty, but also lower levels of inequality. Results on grant impact suggest that there is less need and effect for grant income if the household heads are educated. The link between social grant system and education is undeniably clear and straight forward. In Brazil, the Bolsa Familia (Family Allowance) is a social welfare program which provides financial aid to the poor, under the condition that their children attend school and are vaccinated. The Bolsa Familia program has been highly successful in reducing poverty in Brazil, as poverty fell 27.7% during the first term in the Lula administration. There is no doubt that education is an important facet of inclusive growth in the larger economy.

The example of Bolsa Familia serves as a good learning opportunity for South Africa's lack of linking education with the social grant system. There is only voluntary correlation between the attendance of children at school and the parents receiving grants, which encourages little incentive for future inclusive growth. Hence, future expansions in the social grant system could include Conditional grant premiums on top of the current grant system to encourage and create incentives for households to send children to school and participate in meaningful growth activities. More specifically, conditional grant premiums could be administered to households who successfully maintain or wish to send youngsters to school. The

grant could even penetrate at the school level, by giving additional subsidies to pupil who performed well to strengthen the incentives for the children to engage in learning, and replace the costs to parents for sending their children to school. This will alleviate some of the burdens of the poor parents with the good will of sending their children to a learning environment.

### **Grant Premiums and Employment (Work subsidy)**

A truth about the South African poor and the situation that polarizes the income distribution is the high levels of unemployment rate in the country. With the absence of a regular income source, whether by capital, donation, or others, individual immediately falls below the poverty line. Furthermore, South Africa has an extremely low level of saving (see later), which means that there is very little safety net for the unemployed to traverse their most difficult episodes of falls in income during their unemployment spells. Although there is the Unemployment Insurance Fund (UIF) in place for absorbing these shocks, however, since one can only claim from UIF when unemployed, after months of contributing to the fund, the incentives and effect of consumption smoothening for receiving UIF benefits is relatively low and insignificant (Bhorat & Tseng, 2011).

Unlike the UIF, the implementation of social grant with work and employment in the form of worker subsidy can be used to encourage job-seeking behaviours, as well as promote the employer incentive to hire them. The subsidy essentially lowers the reservation wage of the job seekers, hence their willingness to work; and lowers the cost of employing an additional worker by the employer. Like the proposed grant premium with education, the worker's subsidies should be built on top of the current social grant system with the workers as its direct grant recipients, so there are no concerns of worker's wage and the government's subsidy being abused by the intermediary employer.

### **Grant Premiums and Public Savings Scheme**

Saving is an important facet for growth in the economic literature. The reasons for savings are essentially twofold: Firstly, it serves as a safety net for any unforeseeable shocks or collapse in income. Secondly, it enables investment, which ultimately stands as the potential to future growth. Unfortunately, South Africans do not save, unlike many in the far-eastern countries (e.g. Taiwan and China). However, unknown by many analysts is that in these countries, there are numerous, informal, community-based savings schemes run initially by the government, and later transferred to elected persons in the community. These public savings schemes accept however small, monthly payments and promises a return upon demand of the depositor at various return premiums. Although there was never any research done on the inclusive growth impact of these informal, public/community based savings schemes, however, years of positive growth records from the far-east is testament to the importance of savings on bringing about inclusive growth outcomes.

## **7. Conclusion**

The aim of this paper is threefold: First, to present, using income indication for welfare in all available, post-apartheid Household IESs surveys, an overview of the Secondly, the impact of the South African Government's provision of social grants on indicators of welfare as poverty and inequality - especially of the poor are examined. Thirdly, using the results derived in the previous sections, I discuss three policy innovations in linking social grants with developmental drivers in promoting sustainable, future, developmental gains, namely: Education, employment and public savings schemes.

The evidence presented here suggests that aggregate poverty, as measured using per capita household income, did not change significantly between 1995 and 2010. When taking all 1995, 2000, 2005 and 2010 poverty indices in a series though, the data suggests that poverty rate reached its height in 2000 and declined at a consistent rate ever since. This is true for both the defined broad definition of income, as well as the narrow definition of income. At the lower poverty line however, the poverty rate in 2010 is significantly higher than it was in 1995. Income poverty estimates by race suggest that the only groups that experienced significant changes between the 1995-2010 period were the Coloured and the White headed households. More specifically, while individuals living in in Coloured-headed households witnessed an improvement in welfare, white-headed households saw a surprise deterioration in welfare. The puzzling surprise increase in poverty headcounts for white headed households might be suggestive of job losses experienced as a result of the 2008 economic recession by semi-skilled formal sector workers living in these households. Households headed by female struggles the most in terms of poverty in the South African society. The trend for females showed that they have been experiencing significant decreases since 2000, however, the cumulative decline was not significant to constitute change in poverty between 1995 and 2010. Poverty headcount by education shows that poverty rates for even the degree holders have increased, although this groups still has the lowest poverty rate compared to all other groups. The analysis of changes in poverty without poverty lines confirms that although there has been a decline in poverty since 2000, the shift in poverty between 1995 and 2010 is almost undistinguishable.

Inequality, as represented by the Gini coefficients shows that South Africa since 1995 has experienced consistent increase in inequality and by 2005; it had possibly become the most unequal society in the world. There is however, the first sign of reverse in inequality in 2010, from the peak of 0.714 to 0.696. I emphasize however, that this decline was not statistically significant across the 5-year period. Interestingly, inequality within race showed that African and Coloured groups experienced most significant increase in inequality over the 15 year period. More intriguingly is that the levels of inequality across education are all fairly high at above 0.45 in Gini coefficient.

GIC confirms the worrying growth pattern experienced in South Africa that the poor (below 60<sup>th</sup> percentile in fact) are not getting any of the growth dividends in real terms; the growth rates for the middle class remained largely stationery and the rich is getting considerably richer. Overall, there had been very little, if any, pro-poor growth, but anti-poor growth in South Africa for the 15-year period under review. Despite these results, the final section of the paper demonstrated just how influential and the necessary the grant system in South Africa has been in ameliorating, but not eradicating high levels of inequality and poverty. Furthermore, social grants have indeed become a structural necessity of the South African economy, and the consequences of removing it would be unthinkable. Hence through linking education, employment and public savings schemes with social grant protection and assistance, ultimately is an attempt to innovate policies that promotes inclusive growth potentials. This paper simply points out from the researched facts some of the realities of the South African economy. Topics and specifics about these policy innovations should be investigated in detail in the future.

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## 9. Appendix

### Appendix 1: Comparison between the Narrow and Broad Definitions of Income.

The Narrow definition of income includes the following items:

- i. Salaries and wages for normal hours
- ii. Bonuses and income from overtime
- iii. Commission and director's fees
- iv. Net profit from business/professional practice/farming
- v. Part-time work and cash allowances
- vi. Value of company housing
- vii. Value of company transport
- viii. Value of pension funds, etc
- ix. Value of other company benefits
- x. Old age and war pensions
- xi. Disability grants
- xii. Family and other allowances
- xiii. Income from letting of holiday property
- xiv. Income from letting of other property
- xv. Interest received and accrued on loans, shares
- xvi. Dividends on shares
- xvii. Pension, social welfare and grants
- xviii. Annuities and receipts from investments
- xix. Alimony, maintenance received
- xx. regular allowances received from family members living elsewhere
- xxi. Net income from hobbies, side-lines
- xxii. Payments received from boarders
- xxiii. Income from Other sources (coicop: 50519100)

The Broad definition of income includes those items specified in the narrow definition, as well as the following:

- i. Income from sale of motor vehicles
- ii. Income from sale of fixed property
- iii. Income from sale of other personal property and second-hand
- iv. Value of claims from stokvels
- v. Value of non-refundable bursaries
- vi. Value of benefits, donations and gifts
- vii. Value of cash
- viii. Value of food received
- ix. Value of housing
- x. Value of clothing
- xi. Value of other benefits, donations, gifts
- xii. All other income (e.g from gambling, lotto winnings)
- xiii. All other income not elsewhere specified
- xiv. undeclared income
- xv. Workmen's compensation, unemployment insurance
- xvi. Value of lump sums received from pensions, insurance
- xvii. Value of lump sums received from endowment policies
- xviii. Value of lump sums received from the Workmen's Compensation
- xix. Value of life insurance and inheritances received
- xx. Value of claims from funeral funds
- xxi. Value of claims for damage to fixed property
- xxii. Value of claims for road traffic collisions
- xxiii. Value of other gratuities, specify
- xxiv. Lobola /dowry received

**Table A 1: Income (Narrow) Poverty Displacements by Education of Household Head: 1995-2010**

	Headcount Rate (%)				Poverty Gape Ratio (%)			
	1995	2000	2005	2010	1995	2000	2005	2010
<b>R577 a month poverty line (March 2009 prices)</b>								
No Schooling	79.5	87.0	82.0	78.0	45.3	55.4	43.8	<b>41.7</b>
Primary (Grade 1-6)	68.6	77.4	71.6	67.5	36.5	46.9	37.0	<b>36.9</b>
Secondary without matric (Grade 7-12)	41.9	55.6	49.2	<b>48.5</b>	20.5	30.7	24.7	<b>27.0</b>
Secondary with Matric (Grade 12)	10.0	19.7	18.5	<b>19.7</b>	4.6	11.2	8.7	<b>11.1</b>
Degree/Higher Education	1.0	6.2	2.3	<b>8.4</b>	0.6	4.7	0.6	<b>4.7</b>
<b>R416 a month poverty line (March 2009 prices)</b>								
No Schooling	66.9	78.8	68.2	64.9	34.4	44.5	31.6	<b>30.0</b>
Primary (Grade 1-6)	54.8	66.3	57.2	55.4	26.6	37.0	26.1	27.2
Secondary without matric (Grade 7-12)	30.4	44.2	38.0	<b>39.1</b>	14.3	23.1	17.4	<b>20.5</b>
Secondary with Matric (Grade 12)	6.6	15.3	13.4	<b>15.6</b>	3.2	8.7	5.9	<b>8.6</b>
Degree/Higher Education	0.7	5.5	0.5	<b>5.8</b>	0.6	4.3	0.2	<b>3.9</b>

Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations

- Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010  
 2. Highlighted means statistically significant at the 95% confidence interval of the five-year change, bolded and underscored numbers are statistically significant over the fifteen-year change.

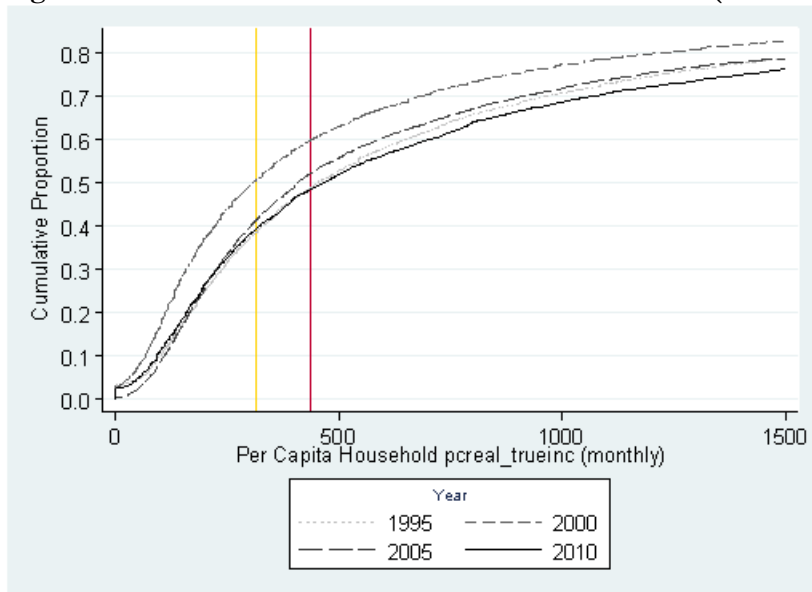
**Table A 2: Shifts in Income (Narrow) Inequality: Gini Coefficients for 1995, 2000, 2005 and 2010**

	1995	2000	2005	2010
<b>Total</b>	0.663	0.718	0.716	<b>0.701</b>
<b>by Gender</b>				
Male	0.642	0.698	0.694	<b>0.671</b>
Female	0.633	0.671	0.690	<b>0.686</b>
<b>by Race</b>				
African	0.587	0.650	0.626	<b>0.653</b>
Coloured	0.502	0.563	0.589	<b>0.593</b>
Indian/Asian	0.458	0.526	0.556	<b>0.524</b>
White	0.442	0.501	0.503	0.469
<b>by Education</b>				
No Schooling	0.493	0.526	0.485	<b>0.488</b>
Primary (Grade 1-6)	0.508	0.569	0.519	<b>0.562</b>
Secondary without matric (Grade 7-12)	0.563	0.610	0.612	<b>0.633</b>
Secondary with Matric (Grade 12)	0.495	0.565	0.596	<b>0.570</b>
Degree/Higher Education	0.470	0.499	0.494	0.461

Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations

- Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010  
 2. Highlighted means statistically significant at the 95% confidence interval of the five-year change, bolded and underscored numbers are statistically significant over the fifteen-year change.

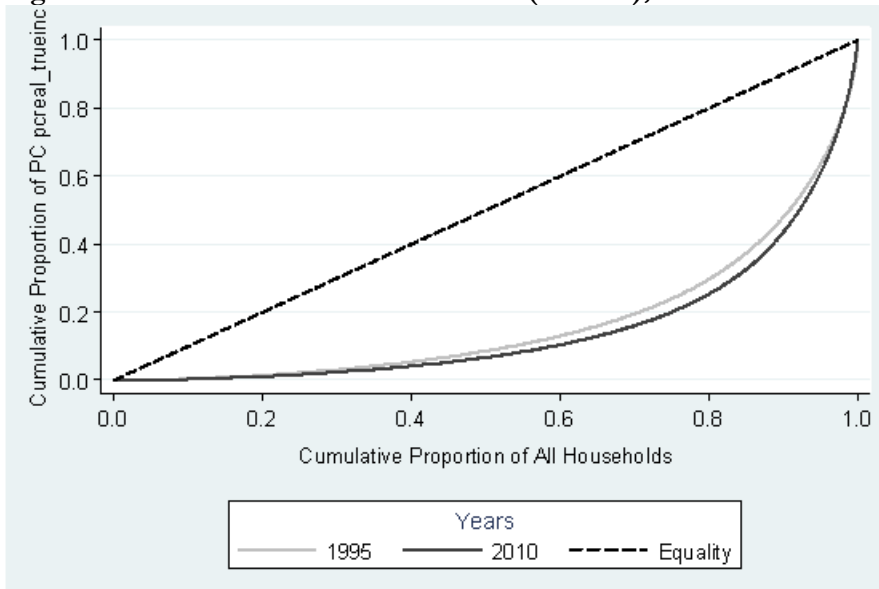
**Figure A 1: Cumulative Distribution Function of Income (Narrow) for South Africa, 1995 – 2010**



Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations

- Notes:
1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010
  2. Highlighted means statistically significant at the 95% confidence interval of the five-year change, bolded and underscored numbers are statistically significant over the fifteen-year change.

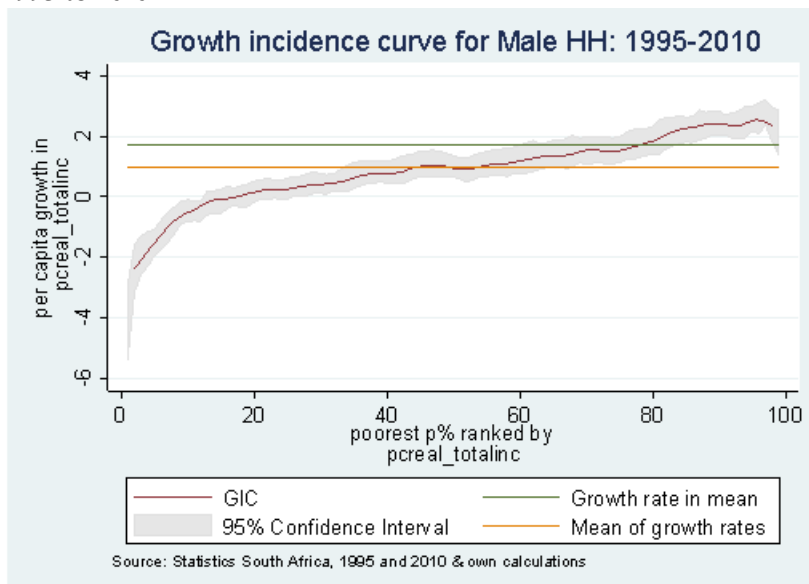
**Figure A 2: Lorenz Curve for South Africa (Narrow), 1995 and 2010**



Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations

- Notes:
1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010
  2. Highlighted means statistically significant at the 95% confidence interval of the five-year change, bolded and underscored numbers are statistically significant over the fifteen-year change.

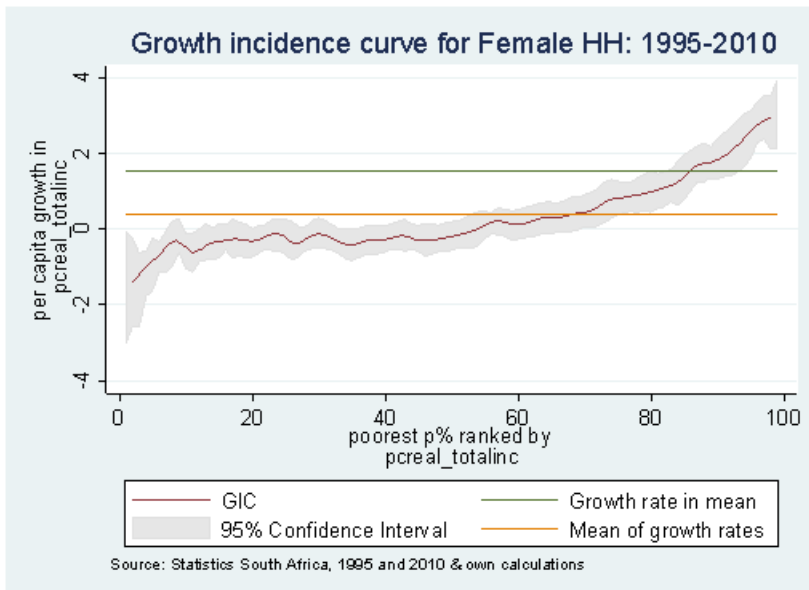
**Figure A 3: Real Growth Incidence Curve for individuals Living in Male Headed Households, 1995 to 2010**



Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations

Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010

**Figure A 4: Real Growth Incidence Curve for Individuals Living in Female Headed Households, 1995 to 2010**



Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations

Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010

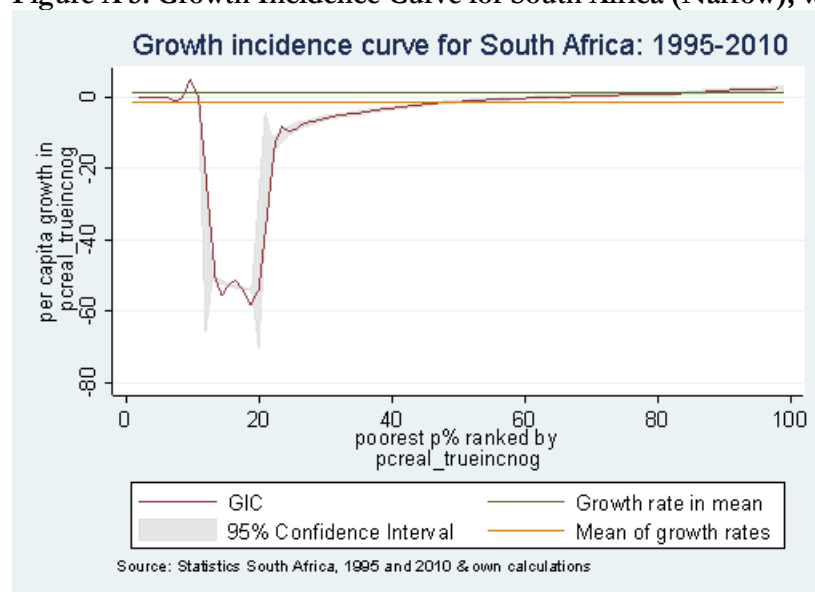
**Table A 3: Changes in Real Annual Mean per capita Income Deciles by Gender (2005 prices): 1995:2010**

Decile	Male			Female		
	1995	2010	Difference	1995	2010	Difference
1 <sup>st</sup>	1191	823	-30.9	640	481	-24.9
2 <sup>nd</sup>	2390	2250	-5.9	1384	1272	-8.1
3 <sup>rd</sup>	3447	3514	1.9	1922	1825	-5.1
4 <sup>th</sup>	4770	5123	7.4	2510	2385	-5.0
5 <sup>th</sup>	6653	7536	13.3	3236	3099	-4.2
6 <sup>th</sup>	9380	10788	15.0	4187	4176	-0.2
7 <sup>th</sup>	13710	16585	21.0	5525	5731	3.7
8 <sup>th</sup>	21429	26924	25.6	7763	8650	11.4
9 <sup>th</sup>	35749	49527	38.5	12220	15037	23.1
10 <sup>th</sup>	97093	128073	31.9	40906	57297	40.1
<b>Total</b>	<b>19573</b>	<b>25092</b>	<b>28.2</b>	<b>8021</b>	<b>9993</b>	<b>24.6</b>

Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations

Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010

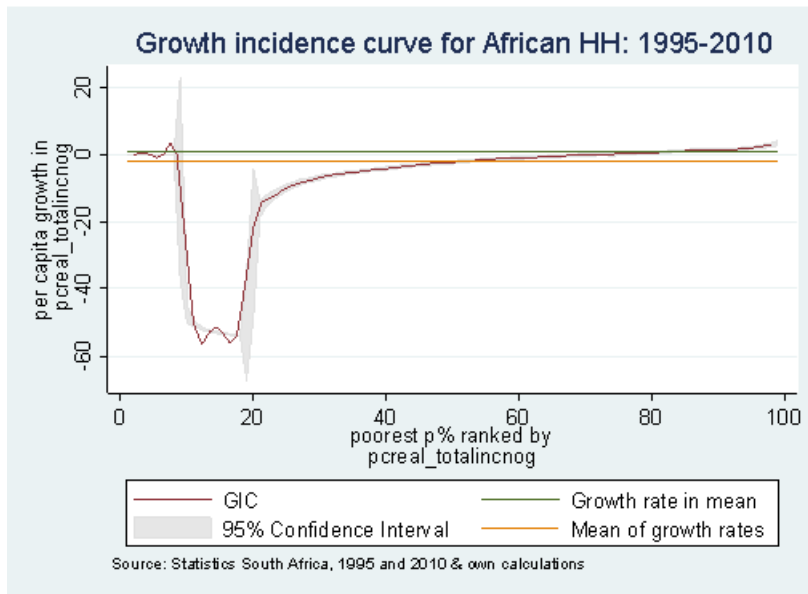
**Figure A 5: Growth Incidence Curve for South Africa (Narrow), without Grants**



Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations

Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010

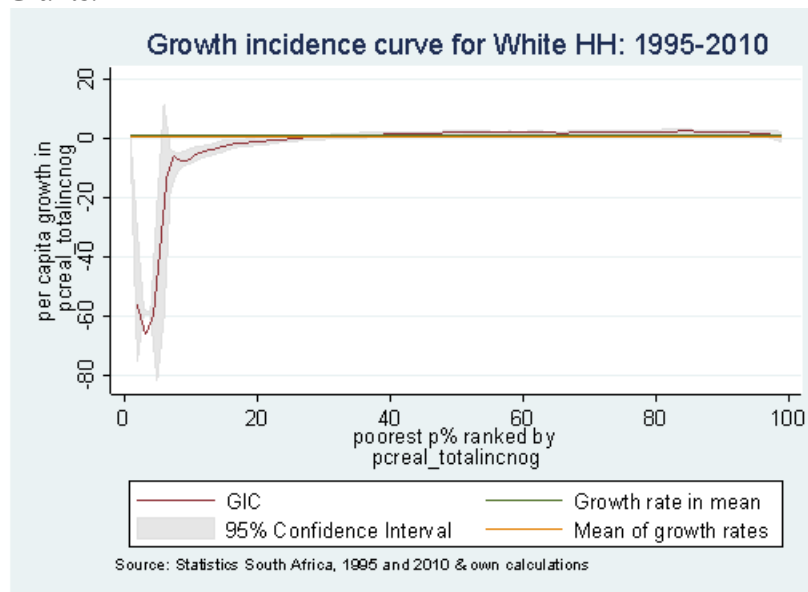
**Figure A 6: Income (Broad) Growth Incidence Curve African-Headed Households, without Grants**



Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations

Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010

**Figure A 7: Income (Broad) Growth Incidence Curve for White-headed Households, without Grants.**



Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations

Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010

Table A 4: Shifts in Income (Narrow) Inequality for 1995, 2010 with and without grants

	1995			2010		
	With Grants	Without Grants	Difference	With Grants	Without Grants	Difference
<b>Total</b>	0.66	0.69	<b><u>0.03</u></b>	0.70	0.76	<b><u>0.05</u></b>
<b>by Gender</b>						
<b>Male</b>	0.64	0.66	<b><u>0.02</u></b>	0.67	0.71	<b><u>0.04</u></b>
<b>Female</b>	0.63	0.70	<b><u>0.07</u></b>	0.69	0.79	<b><u>0.11</u></b>
<b>by Race</b>						
<b>African</b>	0.59	0.64	<b><u>0.05</u></b>	0.65	0.74	<b><u>0.09</u></b>
<b>Coloured</b>	0.50	0.54	0.04	0.59	0.64	<b><u>0.05</u></b>
<b>Asian</b>	0.46	0.47	0.01	0.52	0.54	0.02
<b>White</b>	0.44	0.45	0.00	0.47	0.48	0.01
<b>by Education</b>						
<b>None</b>	0.49	0.62	<b><u>0.13</u></b>	0.49	0.78	<b><u>0.30</u></b>
<b>Grade 1-6</b>	0.51	0.57	<b><u>0.07</u></b>	0.56	0.74	<b><u>0.18</u></b>
<b>Grade 7-12</b>	0.56	0.59	0.02	0.63	0.70	<b><u>0.06</u></b>
<b>Grade 12</b>	0.50	0.50	0.00	0.57	0.58	0.01
<b>Degree</b>	0.47	0.47	0.00	0.46	0.46	0.00

Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations

- Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010  
2. Highlighted means statistically significant at the 95% confidence interval of the five-year change, bolded and underscored numbers are statistically significant over the fifteen-year change.

Table A 5: Income (Narrow) Poverty Displacements of Household Head by Race, Gender and Education, With and Without Grants 1995-2010

	1995			2010		
	With Grants	Without Grants	Difference	With Grants	Without Grants	Difference
<b>R577 a month poverty line (March 2009 prices)</b>						
<b>Total</b>	49.1	51.2	<b><u>2.1</u></b>	48.6	54.0	<b><u>5.4</u></b>
<b>by Race</b>						
<b>African</b>	58.9	61.0	<b><u>2.1</u></b>	57.0	62.7	<b><u>5.7</u></b>
<b>Coloured</b>	35.2	39.1	3.9	27.5	33.7	<b><u>6.2</u></b>
<b>Asian</b>	6.2	8.6	2.4	8.5	13.4	5.0
<b>White</b>	3.1	4.4	<b><u>1.3</u></b>	7.0	9.7	2.7
<b>by Gender</b>						
<b>Male</b>	40.7	42.6	<b><u>1.9</u></b>	36.7	41.7	<b><u>5.0</u></b>
<b>Female</b>	67.9	70.5	<b><u>2.6</u></b>	64.3	70.2	<b><u>5.9</u></b>
<b>by Education</b>						
<b>None</b>	79.5	82.6	<b><u>3.1</u></b>	78.0	86.6	<b><u>8.6</u></b>
<b>Grade 1-6</b>	68.6	71.2	2.7	67.5	75.6	<b><u>8.0</u></b>
<b>Grade 7-12</b>	41.9	43.9	2.1	48.5	54.0	<b><u>5.5</u></b>
<b>Grade 12</b>	10.0	10.5	0.5	19.7	21.2	1.5
<b>Degree</b>	1.0	1.1	0.1	8.4	8.9	0.5

Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations

- Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010  
2. Highlighted means statistically significant at the 95% confidence interval of the five-year change, bolded and underscored numbers are statistically significant over the fifteen-year change.



**Table A 6: Income (Broad) Poverty Displacements of Household Head by Race, Gender and Education, With and Without Grants 1995-2010**

	1995			2010		
	With Grants	Without Grants	Difference	With Grants	Without Grants	Difference
<b>R416 a month poverty line (March 2009 prices)</b>						
<b>Total</b>	35.0	38.7	<b><u>3.7</u></b>	37.9	47.1	<b><u>9.2</u></b>
<b>by Race</b>						
<b>African</b>	42.7	46.7	<b><u>3.9</u></b>	45.0	54.9	<b><u>10.0</u></b>
<b>Coloured</b>	20.7	26.2	<b><u>5.5</u></b>	17.9	27.5	<b><u>9.6</u></b>
<b>Asian</b>	2.8	4.1	1.3	7.5	11.9	4.5
<b>White</b>	1.3	2.4	<b><u>1.1</u></b>	4.4	7.8	3.4
<b>by Gender</b>						
<b>Male</b>	27.9	30.9	<b><u>3.1</u></b>	27.1	35.2	<b><u>8.1</u></b>
<b>Female</b>	50.9	56.0	<b><u>5.1</u></b>	52.2	62.8	<b><u>10.6</u></b>
<b>by Education</b>						
<b>None</b>	62.3	69.5	<b><u>7.2</u></b>	62.0	80.5	<b><u>18.4</u></b>
<b>Grade 1-6</b>	51.3	56.0	<b><u>4.7</u></b>	53.2	67.5	<b><u>14.3</u></b>
<b>Grade 7-12</b>	26.4	29.0	<b><u>2.6</u></b>	37.5	45.3	<b><u>7.8</u></b>
<b>Grade 12</b>	4.9	5.4	0.5	15.0	17.4	2.4
<b>Degree</b>	0.2	0.4	0.2	5.7	6.3	0.6

Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations

- Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010  
2. Highlighted means statistically significant at the 95% confidence interval of the five-year change, bolded and underscored numbers are statistically significant over the fifteen-year change.

**Table A 7: Income (Narrow) Poverty Displacements of Household Head by Race, Gender and Education, With and Without Grants 1995-2010**

	1995			2010		
	With Grants	Without Grants	Difference	With Grants	Without Grants	Difference
<b>R416 a month poverty line (March 2009 prices)</b>						
<b>Total</b>	38.7	42.1	<b><u>3.5</u></b>	39.5	48.3	8.8
<b>by Race</b>						
<b>African</b>	47.0	50.6	<b><u>3.6</u></b>	46.8	56.3	9.4
<b>Coloured</b>	22.8	28.3	5.5	18.9	28.7	9.8
<b>Asian</b>	4.6	5.9	1.4	7.5	12.0	4.5
<b>White</b>	2.3	3.8	<b><u>1.4</u></b>	4.6	8.2	3.6
<b>by Gender</b>						
<b>Male</b>	30.8	33.7	<b><u>2.9</u></b>	28.3	36.1	7.9
<b>Female</b>	56.4	61.1	<b><u>4.8</u></b>	54.3	64.4	10.0
<b>by Education</b>						
<b>None</b>	66.9	73.4	<b><u>6.5</u></b>	64.9	81.9	17.0
<b>Grade 1-6</b>	54.8	59.2	4.5	55.4	68.8	13.4
<b>Grade 7-12</b>	30.4	32.9	<b><u>2.5</u></b>	39.1	46.8	7.8
<b>Grade 12</b>	6.6	7.3	0.6	15.6	18.1	2.4
<b>Degree</b>	0.7	1.0	0.4	5.8	6.5	0.7

Source: Statistics South Africa Income and Expenditure Survey (IES) 1995, 2000, 2005 & 2010, own calculations

- Notes: 1. Cross-Entropy weights are assumed for 1995 IES and Sampling Design weights for 2010  
2. Highlighted means statistically significant at the 95% confidence interval of the five-year change, bolded and underscored numbers are statistically significant over the fifteen-year change.