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ABSTRACT

Census 1996 and Census 2001 are the only all-inclusive censuses conducted by Statistics South Africa (Stats SA) under the new democratic dispensation, providing information on demographics, educational attainment, migration status, labour market status, economic activities, income, housing, and access to household goods and services. However, when the cabinet took a decision that a census would not be conducted in 2006, a gap in information between Census 2001 and the next Census, which is scheduled to take place in 2011, was created. Later, a decision was taken to conduct the Community Survey (CS) in 2007, which was designed to provide information similar to the two censuses.

The aim of this paper is to look at the trends in demographics, educational attainment, labour market status, income and non-income welfare (e.g., housing, access to household goods and services) across the three surveys, using the 10% samples from the 1996 and 2001 censuses as well as the data from the Community Survey 2007. With regard to changes in income welfare, the household income variable was derived differently in each survey. Besides, all three surveys had high proportion of households with zero or unspecified household income, and excluding these households from poverty and inequality analyses would lead to biased results.

Hence, sequential regression multiple imputation (SRMI) was applied at both person and household levels to impute values for the households with zero and unspecified income, before the imputed household income values were used to derive per capita income for analyzing poverty and inequality trends across the three surveys. Finally, income welfare and non-income welfare were compared by dividing households into per capita income quintiles.

Keywords: South Africa, Household survey, poverty, inequality, missing data, imputation
JEL codes: J00

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1. Introduction

Census 1996 and Census 2001 are the only all-inclusive censuses conducted by Statistics South Africa (Stats SA) under the new democratic dispensation, providing information on demographics, educational attainment, migration status, labour market status, economic activities, income, housing, and access to household goods and services. However, when the cabinet took a decision that a census would not be conducted in 2006, a gap in information between Census 2001 and the next Census, which is scheduled to take place in 2011, was created. Later, a decision was taken to conduct the 2007 Community Survey (CS 2007). CS 2007 is a nationally representative, large-scale household survey designed to provide information similar to those provided by Census 1996 and Census 2001, with the following three main objectives (Statistics South Africa, 2007: 6):

- To provide estimates at lower geographical levels than existing household surveys
- To build human, management and logistical capacities for Census 2011
- To provide inputs into the preparation of the mid-year population projections.

The aim of this paper is to look at the trends across the three surveys[2], using the 10% samples from the 1996 and 2001 censuses as well as the data from the CS 2007. With regard to the latter, it is inevitable that some people present in South Africa on the census nights (i.e., 9-10 October in both censuses) were not reached for different reasons[3]. Thus, the Census 1996 and Census 2001 figures were later adjusted for undercount of both individuals and households by means of a post-enumeration survey[4]. However, in this paper, the figures before the post-enumeration survey took place will be presented in both censuses.

The paper is structured as follows: Section 2 focuses on the sampling design, sample size and questionnaire structure in each survey. With regard to the latter, more attention is given to how educational attainment, personal income and household income were captured. In Section 3, a descriptive analysis of the trends in demographics, education, labour market status, and non-income welfare (i.e., housing and access to household goods and services) is presented. Moreover, CS 2007 is compared with General Household Survey (GHS) 2007 and Labour Force Survey (LFS) 2007 March to determine the reliability of the CS 2007 data. Section 4 provides a more detailed analysis of the educational attainment trends in the three surveys, focusing on two age categories – 16-20 years and 21-25 years. With regard to changes in income welfare, the household income variable was derived differently in each survey. Besides, all three surveys had a high proportion of households with zero or unspecified household income, and excluding these households from poverty and inequality analyzes would lead to biased results. Hence, in Section 5, sequential regression multiple imputation (SRMI) is applied at both person and household levels to impute values for these people or households with zero or unspecified income, before the imputed household income values are used to derive per capita income. Section 6 presents the trends in poverty and inequality using this per capita income variable after SRMI. Section 7 compares income welfare with non-income welfare by dividing households in each survey into per capita income quintiles. Section 8 concludes.

[2] Strictly speaking, the two censuses are not surveys. However, for the remainder of the paper, all three sources of data will be referred to as "surveys".

[3] The reasons for the people not being reached included: Failure of the interviewers to visit all listed dwellings, failure to obtain interviews for all households (non-contact, refusals, etc.), failure to identify all persons within households, incomplete or poor-quality information on persons for key variables, lost or unprocessable questionnaires, etc. (Statistics South Africa, 2004: 3).

[4] For example, before the post-enumeration survey, the weighted population figures were 38 601 521 and 43 170 746 in Census 1996 and Census 2001 respectively. However, after the post-enumeration survey, the population figures were 40 583 573 and 44 819 779 respectively.

2. Sampling design, sample size and questionnaire structure

2.1 Sampling design

Census 1996 took place in October 1996, and the sample is a 10% unit level sample of all households (excluding special institutions[5], such as hotels, student hostels, churches, prisons, etc.) and all persons as enumerated in the census in South Africa.

On the other hand, Census 2001 took place in October 2001. The sample is also a 10% unit level sample, which was drawn as follows:

- Households: A 10% sample of households in housing units, as well a 10% sample of collective living quarters (both institutional and non-institutional) and the homeless.
- Persons: A sample consisting of all persons in the households and living quarters as well as the homeless, drawn from the sample described above.

In both censuses, the household records were explicitly stratified according to province and District Council (DC). Within each DC, the records were further implicitly stratified by local authority and enumeration area (EA) type.

With regard to CS 2007, which took place in February 2007, a two-stage stratified random sampling process was adopted. In the first stage, each municipality was considered as an explicit stratum, and a systematic simple random procedure was used to select EAs within each municipality, with the EAs being ordered by geographic type and EA type. The second stage involved the selection of dwelling units. Such selection was based on a fixed proportion of 10% of the total listed dwellings in an EA. All households within the selected dwelling units were covered. Besides, there was no replacement of refusals, vacant dwellings or non-contacts because of their impact on the probability of selection. Hence, concerted efforts were made to improve the response rates by means of multiple visits.

2.2 Sample size

With regard to the sample size, in the 10% sample of Census 1996, 846 478 households stayed in normal dwellings and 623 "households" stayed in institutions respectively, according to their answers in the dwelling type question in the household-level section (i.e., Section B)[6]. However, looking at the former, 30 of them only answered questions in Section B but did not take part in the person-level section (i.e., section A)[7]. In other words, only the people (3 508 368 in total) from the remaining 846 448 (846 478 – 30) households staying in normal dwellings took part in all sections of the questionnaire (i.e., both sections A & B). However, looking at these remaining 846 448 households, 216 of them contradicted their dwelling type answers in section B by claiming they actually stayed at institutions in section A. Therefore, the correct number of households staying in normal dwellings was 846 232 (846 448 – 216).

As far as these 846 232 households were concerned, 5 943 did not have a household head, while more than 1 person declared he/she was the household head in 2 887 households. Thus, it is only in the remaining 837 402 (846 232 – 5 943 – 2 887) households that there was one head in each household at the time of the survey.

[5] For the remainder of the paper, households that did not reside at institutions at the time of the survey will be referred to as "households living in normal dwellings".
[6] The questionnaire structure will be discussed in greater detail in Section 2.3.
[7] These 30 households will be excluded from the analyses for the remainder of the paper.

Looking at Census 2001, there were 905 748 households staying in normal dwellings and 42 844 "households" staying in institutions in the 10% sample. The number of people in each group amounted to 3 599 972 and 125 683 respectively. In contrast, in CS 2007, 246 618 households staying in normal dwellings and 98 552 "households" staying in institutions took part in the survey, with the number of people in each group being 949 100 and 98 552 respectively. In both Census 2001 and CS 2007, the people from households staying in normal dwellings took part in all sections of the questionnaire. Note that for the people staying in institutions in CS 2007, only one person from each "household" took part in the survey.

Figure 1 summarizes sample size in each survey, with the weighted figures in brackets. For the remainder of the paper, unless stated otherwise, people from households staying in normal dwellings will be the focus of the analyses.

2.3 Questionnaire structure

In Census 1996 and Census 2001, there are two sections in the questionnaire. The types of questions asked in each section were as follows:

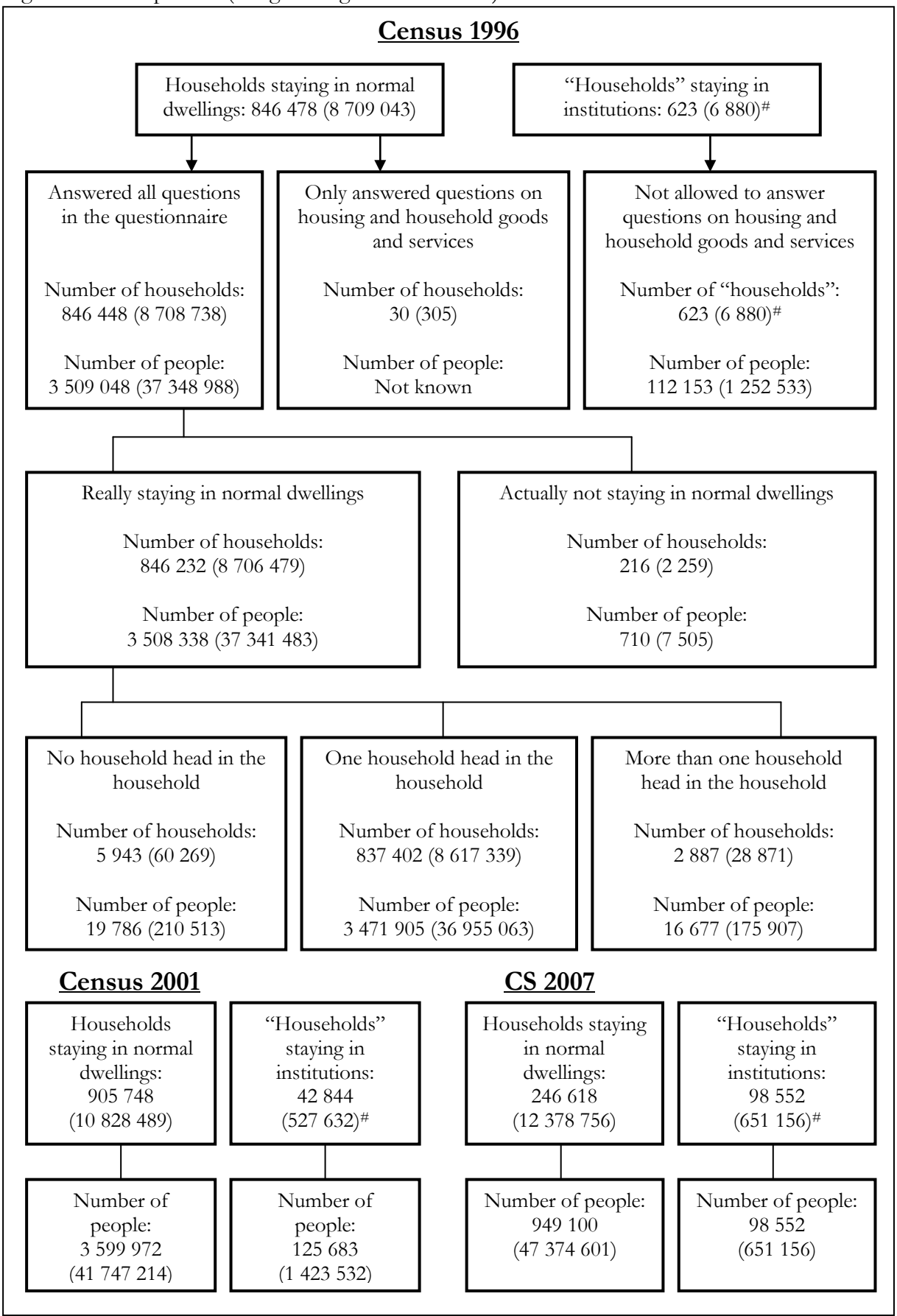
- Section A:
  - Demographics
  - Migration status
  - Education
  - Labour market status
  - Economic activities
  - Personal income
- Section B:
  - Information on housing (Example: dwelling type, ownership of dwelling, number of rooms, sharing of the same room by more than one person, etc.)
  - Information on household goods and services (Example: water access, landline telephone in dwelling, sanitation, energy/fuel, refuse removal, ownership of goods like television and computer)

As far as CS 2007 is concerned, similar questions were asked. Additionally, questions on social grants, which were never asked in censuses, were asked in CS 2007. The questionnaire is divided into the following sections:

- Section A: Demographics
- Section B: Migration
- Section C: Disability and social grants
- Section D: Education
- Section E: Employment and economic activities
- Section F: Fertility
- Section G: Parental survival and income
- Section H: Housing and household services
- Section I: Mortality in the last 12 months

In the next two sub-sections, the capturing of educational attainment and income is discussed in greater detail.

Figure 1 Sample size (Weighted figures in brackets)



Strictly speaking, it is impossible to derive the weighted number of "households" staying in institutions in all three surveys, because there was no household weight value given to these "households". Only person weight was available for people staying in institutions. Therefore, these weighted household figures were estimated by using the average person weight.

2.4 Derivation of educational attainment

Table 1 summarizes how the questions on the highest educational attainment were asked in the three surveys, as well as how the years of educational attainment were calculated for this paper.

Table 1 Educational attainment questions asked in the three surveys and the calculation of the years of educational attainment

Census 1996	
Question 1: What is the highest school/standard this person has completed?	**Question 2: Does this person have a technical or artisan certificate, a diploma or degree completed at an educational institution? If 'yes', what is the highest qualification he/she has?**
00: No schooling	01: Certificate
01: Grade 0	02: Diploma
02: Grade 1	03: Degree
03: Grade 2	04: Degree + Diploma
04: Grade 3	05: Degree + Honours
05: Grade 4	06: Master
06: Grade 5	07: PhD
07: Grade 6	08: Other
08: Grade 7	96: No qualification
09: Grade 8	97: N/A: Aged < 15 years
10: Grade 9	99: Unspecified
11: Grade 10	
12: Grade 11	
13: Matric	
97: N/A: Age < 5 years	
98: N/A: Institution	
99: Unspecified	
Highest educational attainment (Derived by Stats SA using the two questions above)	
Category	**Years of education**
01 No schooling	0
02 Grade 0	0
03 Grade 1	1
04 Grade 2	2
05 Standard 1	3
06 Standard 2	4
07 Standard 3	5
08 Standard 4	6
09 Standard 5	7
10 Standard 6	8
11 Standard 7	9
12 Standard 8	10
13 Standard 9	11
14 Less than Std 10 + Certificate / Diploma	11
15 Std 10 only	12
16 Std 10 + Certificate	13
17 Std 10 + Diploma	13
18 Std 10 + Bachelor's Degree	15
19 Std 10 + Bachelor's + Diploma	16
20 Std 10 + Bachelor's + Honours	16
21 Std 10 + Master's Degree	17
22 Std 10 + Doctor's Degree	20
23 Other	n/a
97: N/A: Age < 5 years	n/a
99: Unspecified	n/a

Table 1 Continued

Census 2001	
What is the highest level of education the person has completed?	**Years of education**
99: No schooling	0
00: Grade 0	0
01: Grade 1 / Sub A	1
02: Grade 2 / Sub B	2
03: Grade 3 / Standard 1	3
04: Grade 4 / Standard 2	4
05: Grade 5 / Standard 3	5
06: Grade 6 / Standard 4	6
07: Grade 7 / Standard 5	7
08: Grade 8 / Standard 6 / Form 1	8
09: Grade 9 / Standard 7 / Form 2	9
10: Grade 10 / Standard 8 / Form 3 / NTC I	10
11: Grade 11 / Standard 9 / Form 4 / NTC II	11
12: Grade 12 / Standard 10 / Form 5 / Matric / NTC III	12
13: Certificate with less than Grade 12	11
14: Diploma with less than Grade 12	11
15: Certificate with Grade 12	13
16: Diploma with Grade 12	13
17: Bachelors Degree	15
18: Bachelors Degree and Diploma	16
19: Honours Degree	16
20: Higher Degree (Masters, Doctorate)	17
21: Other	n/a
22: Don't know	n/a
CS 2007	
What is the highest level of education the person has completed?	**Years of education**
00: Grade 0	0
01: Grade 1 / Sub A	1
02: Grade 2 / Sub B	2
03: Grade 3 / Standard 1 / ABET 1	3
04: Grade 4 / Standard 2	4
05: Grade 5 / Standard 3 / ABET 2	5
06: Grade 6 / Standard 4	6
07: Grade 7 / Standard 5 / ABET 3	7
08: Grade 8 / Standard 6	8
09: Grade 9 / Standard 7 / ABET 4	9
10: Grade 10 / Standard 8 / NTC I	10
11: Grade 11 / Standard 9 / NTC II	11
12: Attended Grade 12, but not completed Grade 12	11
13: Grade 12 / Standard 10 / NTC III (Without university exemption)	12
14: Grade 12 / Standard 10 / NTC III (With university exemption)	12
15: Certificate with < Standard 10 / Grade 12	11
16: Diploma with < Standard 10 / Grade 12	11
17: Certificate with Standard 10 / Grade 12	13
18: Diploma with Standard 10 / Grade 12	13
19: Bachelors degree	15
20: BTech	15
21: Postgraduate diploma	16
22: Honours degree	16
23: Higher degree (Masters/PhD)	17
24: No schooling	0
98: Out of scope (children under five years of age)	n/a

In Census 1996, two separate questions were asked, namely "What is the highest school/standard that this person has completed?" and "Does this person have a technical or artisan certificate, a diploma or degree completed at an educational institution? If 'yes', what is the highest qualification he/she has?" Stats SA then derived the highest educational attainment variable using the respondents' answers on these two questions.

In Census 2001 and CS 2007, only one such question was asked, namely "What is the highest level of education that the person has completed?" A major improvement in CS 2007 is that there are three categories regarding Grade 12 – "Attended Grade 12, but not completed Grade 12", "Grade 12 (Without university exemption)" and "Grade 12 (With university exemption)", while in the two censuses, there is only one category called "Grade 12". This has an impact on the trends in educational attainment in South Africa when comparing the three surveys, and will be discussed in greater detail in Section 4, when educational attainment is looked at more thoroughly.

2.5 Derivation of personal income

As far as the capturing of income is concerned, in all three surveys, each respondent was asked to declare his/her personal income from all sources, but this question was asked in slightly different ways across the three surveys as follows:

- Census 1996 (Question 20, Section A): "Think of the past year (1 October 1995 to 30 September 1996) and the money each person received. Please indicate this person's income category before tax. Answer this question by indicating each person's weekly, monthly or annual income. Include all sources of income, for example housing loan subsidies, bonuses, allowances such as car allowances and investment income. If this person receives a pension or disability grant, please include this amount."
- Census 2001 (Question 22, Section A): "What is the income category that best describes the gross income of this person before tax?"
- CS 2007 (Question P-52, Section G): "What is the income category that best describes the gross monthly or annual income of the person before deductions and including all sources of income?"

The personal income was recorded in intervals rather than the exact amounts. Table 2 presents the income bands in each survey in nominal terms, and it can be seen that these bands are not consistent between 1996 and 2001, while they are exactly the same in 2001 and 2007.

Table 2 Annual personal and household income categories in the three surveys

Census 1996	Census 2001 and CS 2007
1: None	1: None
2: R1 – R2 400	2: R1 – R4 800
3: R2 401 – R6 000	3: R4 801 – R9 600
4: R6 001 – R12 000	4: R9 601 – R19 200
5: R12 001 – R18 000	5: R19 201 – R38 400
6: R18 001 – R30 000	6: R38 401 – R76 800
7: R30 001 – R42 000	7: R76 801 – R153 600
8: R42 001 – R54 000	8: R153 601 – R307 200
9: R54 001 – R72 000	9: R307 201 – R614 400
10: R72 001 – R96 000	10: R614 401 – R1 228 800
11: R96 001 – R132 000	11: R1 228 801 – R2 457 600
12: R132 001 – R192 000	12: R2 457 601 or more
13: R192 001 – R360 000	13: Response not given
14: R360 001 or more	
99: Unspecified	

2.6 Derivation of household income

2.6.1 Census 1996

In Census 1996, in addition to the personal income question, two more income-related questions were asked:

- Question 1.1, Section B: "Think of any additional that this income generates, and that has not been included in the previous section (For example, the sale of home-grown produce or home-brewed beer or cattle or the rental of property. Please indicate this total amount, if anything, during the past year. (1 October 1995 – 30 September 1996). If none enter '0'."
- Question 1.2 Section B: "If this household receives any remittances or payments (for example money sent back home by someone working or living elsewhere or alimony), please indicate the total received during the past year. (1 October 1995 – 30 September 1996). If none enter '0'."

For the remainder of the paper, these two income variables will be referred to as "additional household income" and "household remittances received" respectively. Looking at these two income values in greater detail, both of them were recorded in exactly the same intervals as the personal income intervals (See the first column of Table 2).

Next, Stats SA derived the personal income amount for each person (See Table 3)[8], before the personal income amounts of all members of the household were added together. The additional household income and household remittances amounts were estimated in exactly the same way, and were added to the total personal income amounts of all members of the household, before the household income amount was derived. Finally, the result for each household was reallocated into the relevant household income category. The household income categories were exactly the same as the personal income categories (First column of Table 2).

Since some respondents did not specify their personal income, and some households also did not specify the additional household income and household remittances, Stats SA adopted the following three rules when the household income was derived:

- If personal income was unspecified for a member of the household aged under 15 years, then the personal income for this child was set to R0.
- If a member of the household aged 15 years or older had unspecified personal income, it remained unspecified, and the household income was taken to be unspecified as well, because there was insufficient information for the estimate to be reliable.
- If additional household income or remittances received were unspecified, they were set to R0.

[8] These amounts were derived at as follows:

- Persons claiming they had zero income were not adjusted
- For the first category among those with incomes (R1 – R2 400), the amount was approximated two-thirds of the top cut-off point of this bracket, i.e., R2 400 × 2/3 = R1 600.
- For the second category (R2 401 – R6 000), the amount was the midpoint of the class interval, i.e., (R2 401 + R6 000)/2 = R4 200
- For the last category (R360 001 or more), the amount was twice the cut-off point of the second last class (R192 001 – R360 000), i.e., R360 000 × 2 = R720 000.
- For the other classes, the amount was calculated as the logarithmic mean of the top and bottom of the given interval, e.g., looking at the R6 001 – R12 000 category, the amount was equal to: exp^([ln(R6 001) + ln(R12 000)]/2) = R8 486.

Table 3 Derived personal income, additional household income, and household remittances amounts, Census 1996

	Derived personal income / additional household income / household remittance amount
1: None	R0
2: R1 – R2 400	R1 600
3: R2 401 – R6 000	R4 200
4: R6 001 – R12 000	R8 486
5: R12 001 – R18 000	R14 698
6: R18 001 – R30 000	R23 239
7: R30 001 – R42 000	R35 497
8: R42 001 – R54 000	R47 624
9: R54 001 – R72 000	R62 354
10: R72 001 – R96 000	R83 139
11: R96 001 – R132 000	R112 571
12: R132 001 – R192 000	R159 199
13: R192 001 – R360 000	R262 908
14: R360 001 or more	R720 000
99: Unspecified	n/a

Table 4 gives some examples of how the household income amount and category were derived.

Table 4 Numerous examples on the derivation of household income, Census 1996

Household A	
Member #1: Aged 20 years, personal income:	4: R6 001 – R12 000
Member #2: Aged 12 years, personal income:	99: Unspecified
Member #3: Aged 40 years, personal income:	13: R192 001 – R360 000
Additional household income:	4: R6 001 – R12 000
Receipt of remittances:	4: R6 001 – R12 000
Household income amount:	R288 366 (R8 486 + R0 + R262 908 + R8 486 + R8 486)
Household income category:	13: R192 001 – R360 000
Household B	
Member #1: Aged 20 years, personal income:	4: R6 001 – R12 000
Member #2: Aged 16 years, personal income:	99: Unspecified
Member #3: Aged 40 years, personal income:	13: R192 001 – R360 000
Additional household income:	4: R6 001 – R12 000
Receipt of remittances:	4: R6 001 – R12 000
Household income amount:	Unspecified
Household income category:	99: Unspecified
Household C	
Member #1: Aged 20 years, personal income:	4: R6 001 – R12 000
Member #2: Aged 12 years, personal income:	99: Unspecified
Member #3: Aged 40 years, personal income:	13: R192 001 – R360 000
Additional household income:	99: Unspecified
Receipt of remittances:	99: Unspecified
Household income amount:	R271 394 (R8 486 + R0 + R262 908 + R0 + R0)
Household income category:	13: R192 001 – R360 000

However, when looking at this household income variable derived by Stats SA, it was found that the three rules mentioned above were not applied in some households:

- 295 541 households did not contain any member aged 15 years or above with unspecified personal income. Therefore, these households should definitely have had specified household income. However, it can be seen from Table 5 that these households strangely have unspecified household income.

- 724 894 households (The sum of all the values in the third column of Table 5, excluding the value 276 423) have at least 1 member aged 15 years or above with unspecified personal income. Thus, according to the rules mentioned above, these households should have unspecified household income. However, the results from Table 5 show that these households still have specified income.

Table 5 Annual household income variable derived by Stats SA, Census 1996

Household income (Derived by Stats SA)	With ZERO members aged 15+ years with unspecified personal income	With AT LEAST 1 member aged 15+ years with unspecified personal income	Total
1: None	1 070 378	149 396	1 219 774
2: R1 – R2 400	636 703	51 675	688 378
3: R2 401 – R6 000	1 260 775	91 757	1 352 532
4: R6 001 – R12 000	1 095 109	98 430	1 193 539
5: R12 001 – R18 000	773 272	90 474	863 746
6: R18 001 – R30 000	749 347	80 215	829 562
7: R30 001 – R42 000	427 364	45 724	473 088
8: R42 001 – R54 000	313 351	30 920	344 271
9: R54 001 – R72 000	334 233	31 090	365 323
10: R72 001 – R96 000	230 351	19 567	249 918
11: R96 001 – R132 000	237 913	16 386	254 299
12: R132 001 – R192 000	147 409	10 111	157 520
13: R192 001 – R360 000	102 815	6 785	109 600
14: R360 001 or more	30 601	2 364	32 965
99: Unspecified	295 541	276 423	571 964
	7 705 162	1 001 317	8 706 479

In the end, the three rules were applied by the author to derive the household income variable again, and the results, which are different from using the Stats SA household income variable, are shown in Table 6 below. Thus, it seems that the household income variable derived originally by Stats SA is not accurate. For the remainder of the paper, the 1996 household income variable derived by the author will be used, unless stated otherwise.

Table 6 Annual household income variables derived by Stats SA and the author respectively, Census 1996

	Household income (Derived by Stats SA)		Household income (Derived by the author)	
1: None	1 219 774	14.0%	1 129 419	13.0%
2: R1 – R2 400	688 378	7.9%	558 158	6.4%
3: R2 401 – R6 000	1 352 532	15.5%	1 402 548	16.1%
4: R6 001 – R12 000	1 193 539	13.7%	1 074 861	12.3%
5: R12 001 – R18 000	863 746	9.9%	848 328	9.7%
6: R18 001 – R30 000	829 562	9.5%	777 787	8.9%
7: R30 001 – R42 000	473 088	5.4%	435 253	5.0%
8: R42 001 – R54 000	344 271	4.0%	333 118	3.8%
9: R54 001 – R72 000	365 323	4.2%	354 256	4.1%
10: R72 001 – R96 000	249 918	2.9%	241 198	2.8%
11: R96 001 – R132 000	254 299	2.9%	249 667	2.9%
12: R132 001 – R192 000	157 520	1.8%	157 704	1.8%
13: R192 001 – R360 000	109 600	1.3%	109 974	1.3%
14: R360 001 or more	32 965	0.4%	32 891	0.4%
99: Unspecified	571 964	6.6%	1 001 317	11.5%
	8 706 479	100.0%	8 706 479	100.0%

2.6.2 Census 2001

In Census 2001, household income was derived by simply adding the derived personal income amounts of all members in the household. As far as the derivation of the personal income amount is concerned, it was estimated using exactly the same method as in Census 1996[9], and Table 7 below shows the derived personal income amount by category.

Table 7 Derived personal income amounts, Census 2001 and CS 2007

	Derived personal income amount
1: None	R0
2: R1 – R4 800	R3 200
3: R4 801 – R9 600	R7 200
4: R9 601 – R19 200	R13 576
5: R19 201 – R38 400	R27 153
6: R38 401 – R76 800	R54 306
7: R76 801 – R153 600	R108 612
8: R153 601 – R307 200	R217 223
9: R307 201 – R614 400	R434 446
10: R614 401 – R1 228 800	R868 893
11: R1 228 801 – R2 457 600	R737 786
12: R2 457 601 or more	R4 915 200
13: Unspecified	n/a

15.6% of respondents had unspecified personal income in Census 2001 (See the third column of Table 8). However, Stats SA applied the so-called hot deck imputation method[10] to impute the personal income category of these people, and the results are shown in the last three columns of Table 8. In other words, after hot deck imputation, everyone had a specified personal income.

Table 8 Proportion of people in each annual personal income category before and after hot deck imputation, Census 2001

Before hot deck imputation			**After hot deck imputation**		
1: R0	23 434 110	56.1%	1: R0	28 712 005	68.8%
2: R1-R4 800	2 046 913	4.9%	2: R1-R4 800	2 310 421	5.5%
3: R4 801-R9 600	3 663 976	8.8%	3: R4 801-R9 600	4 028 173	9.6%
4: R9 601-R19 200	2 008 797	4.8%	4: R9 601-R19 200	2 183 074	5.2%
5: R19 201-R38 400	1 706 388	4.1%	5: R19 201-R38 400	1 876 788	4.5%
6: R38 401-R76 800	1 263 542	3.0%	6: R38 401-R76 800	1 404 969	3.4%
7: R76 801-R153 600	677 332	1.6%	7: R76 801-R153 600	759 272	1.8%
8: R153 601-R307 200	256 999	0.6%	8: R153 601-R307 200	289 125	0.7%
9: R307 201-R614 400	89 543	0.2%	9: R307 201-R614 400	99 929	0.2%
10: R614 401-R1 228 800	35 182	0.1%	10: R614 401-R1 228 800	40 058	0.1%
11: R1 228 801-R2 457 600	25 877	0.1%	11: R1 228 801-R2 457 600	32 101	0.1%
12: R2 457 601 or more	9 859	0.0%	12: R2 457 601 or more	11 299	0.0%
13: Unspecified	6 528 696	15.6%	13: Unspecified	0	0.0%
	41 747 214	100.0%		41 747 214	100.0%

[9] These amounts were derived as follows:

- Persons claiming they had zero income were not adjusted
- For the first category among those with incomes (R1 – R4 800), the amount was approximated two-thirds of the top cut-off point of this bracket, i.e., R4 800 × 2/3 = R3 200.
- For the second category (R4 801 – R9 600), the amount was the midpoint of the class interval, i.e., (R4 801 + R9 600)/2 = R7 200
- For the last category (R2 457 601 or more), the amount was twice the cut-off point of the second last class (R1 228 801 – R2 457 600), i.e., R2 457 600 × 2 = R4 915 200.
- For the other classes, the amount was calculated as the logarithmic mean of the top and bottom of the given interval, e.g., looking at the R9 601 – R19 200 category, the amount was equal to: exp^([ln(R9 601) + ln(R19 200)]/2) = R13 576.

[10] The hot deck imputation method as well as some other imputation methods will be discussed Section 5.

Household income was then derived by summing the personal income amounts of all members in the household. For example, if a household contained 3 members, and the personal income categories of the three persons (after hot deck imputations) were "1: R0", "2: R1 – R4 800" and "10: R614 401 – R1 228 800" respectively, then the household income R872 093 (R0 + R3 200 + R868 893 – See Table 7 for the derivation of these three amounts). Finally, the result for each household was reallocated into the relevant household income category. The household income categories were exactly the same as the personal income categories (Second column of Table 2). Besides, from Table 9, it can be seen that more than 15% of households had unspecified household income before hot deck imputation was run on unspecified personal income.

Table 9 Number of households in each household income category, Census 2001

	Before hot deck imputation		**After hot deck imputation**	
1: None	2 274 882	21.0%	2 546 711	23.5%
2: R1 – R4 800	774 583	7.2%	877 609	8.1%
3: R4 801 – R9 600	1 686 640	15.6%	1 927 235	17.8%
4: R9 601 – R19 200	1 437 798	13.3%	1 728 296	16.0%
5: R19 201 – R38 400	1 119 402	10.3%	1 403 207	13.0%
6: R38 401 – R76 800	759 920	7.0%	989 325	9.1%
7: R76 801 – R153 600	529 351	4.9%	710 802	6.6%
8: R153 601 – R307 200	302 734	2.8%	412 495	3.8%
9: R307 201 – R614 400	107 869	1.0%	146 940	1.4%
10: R614 401 – R1 228 800	29 814	0.3%	41 814	0.4%
11: R1 228 801 – R2 457 600	19 051	0.2%	28 256	0.3%
12: R2 457 601 or more	11 038	0.1%	15 799	0.1%
13: Unspecified	1 775 407	16.4%	0	0.0%
	10 828 489	100.0%	10 828 489	100.0%

2.6.3 CS 2007

In CS 2007, Stats SA derived the household income by summing the personal income amounts of all members in the household. With regard to the derivation of the personal income amount, it was estimated using exactly the same method as in Census 2001 (See footnote 9), and since the income categories between Census 2001 and CS 2007 were exactly the same in nominal Rand terms, the derived personal income amounts in each category were also the same across the two surveys, as shown in Table 7. However, since some respondents did not specify their personal income, Stats SA adopted the following rule when the household income was derived:

- In cases where there was unspecified personal income for any member, regardless of age, the household income was set to be unspecified as well

Finally, similar to the two censuses, the result for each household was reallocated into the relevant household income category. The household income categories were exactly the same as the personal income categories (Second column of Table 2). Table 10 presents the results.

Table 10 Number of households in each household income category, CS 2007

1: None	1 011 941	8.2%
2: R1 – R4 800	617 704	5.0%
3: R4 801 – R9 600	1 108 092	9.0%
4: R9 601 – R19 200	2 343 212	18.9%
5: R19 201 – R38 400	2 361 470	19.1%
6: R38 401 – R76 800	1 416 124	11.4%
7: R76 801 – R153 600	943 714	7.6%
8: R153 601 – R307 200	659 274	5.3%
9: R307 201 – R614 400	352 141	2.8%
10: R614 401 – R1 228 800	116 839	0.9%
11: R1 228 801 – R2 457 600	40 259	0.3%
12: R2 457 601 or more	28 790	0.2%
13: Unspecified	1 379 196	11.1%
	12 378 756	100.0%

To conclude, the household income variable was derived differently across the three surveys. Moreover, the 1996 household income variable derived by Stats SA is not accurate.

3. Using the three surveys for comparative analysis

Since the sampling design of CS 2007 is different than that of the two censuses (with the big difference being that not everyone took part in CS 2007), one might wonder if CS 2007 was reliable. Hence, CS 2007 is compared with LFS 2007 March[11] and GHS 2007 at person and household levels, before it is compared with the two censuses to derive trends in demographics, educational attainment, labour market status and non-income welfare.

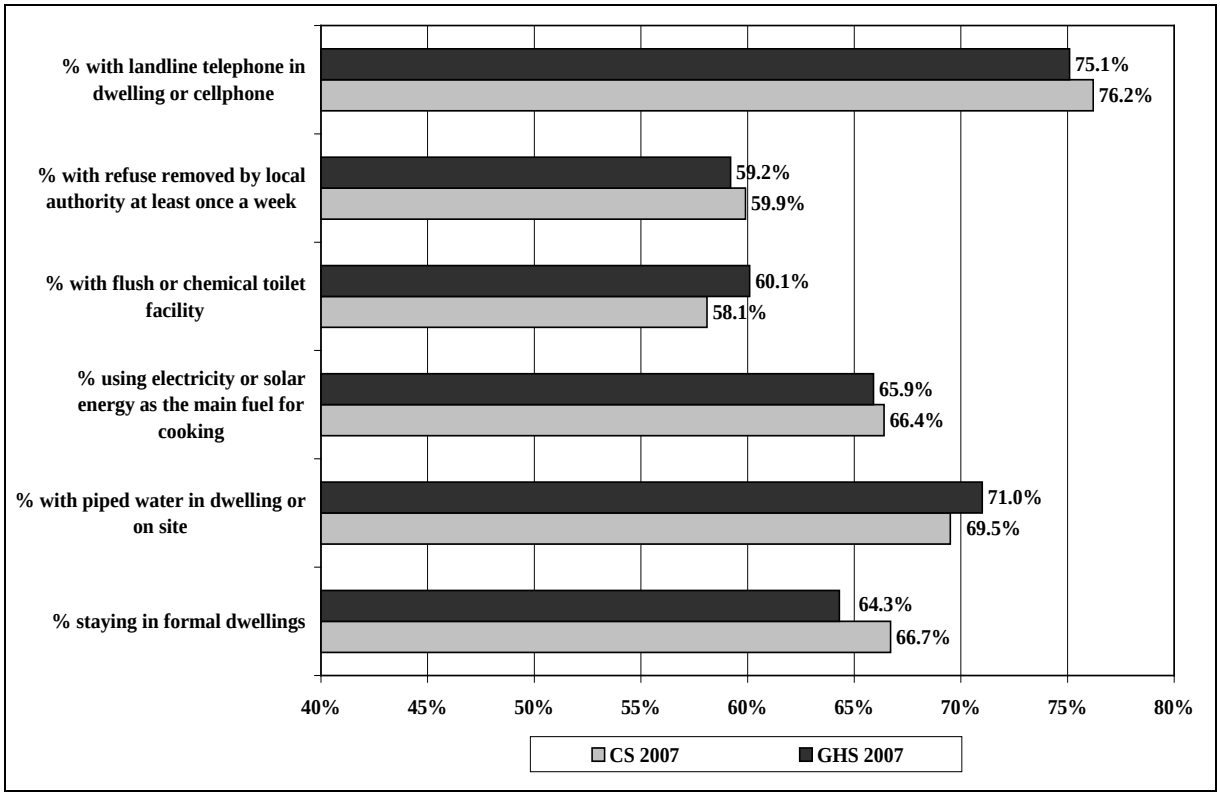
3.1 Reliability of CS 2007: Comparing it with LFS 2007 March and GHS 2007

Tables A1 and A2 in the appendix as well as Figure 2 present CS 2007 compared with LFS 2007 March and GHS 2007. It can be seen that the three surveys show very similar results, with the exception of the following:

- In CS 2007, the percentage of households aged 35-54 years was 5 percentage points higher, at the cost of the share of households aged 25-34 years
- The percentage of female-headed households in GHS 2007 was 3 percentage points higher than in CS 2007.
- The percentage of married household heads in GHS 2007 was about 4 percentage points lower than in CS 2007.
- The percentage of household heads with at least Matric was 5 percentage points higher in GHS 2007 than in CS 2007.
- The percentage of employed household heads was approximately 4 percentage points higher in GHS 2007 than in CS 2007.

[11] The comparison between CS 2007 and LFS 2007 March could only take place at person level, since the latter no longer asked questions at household level since 2005.

Figure 2 Comparing CS 2007 with GHS 2007 at household level: Access to goods and services



Thus, CS 2007 data are fairly reliable. Next, CS 2007 is compared with the two censuses.

3.2 Demographics, educational attainment and labour market status characteristics

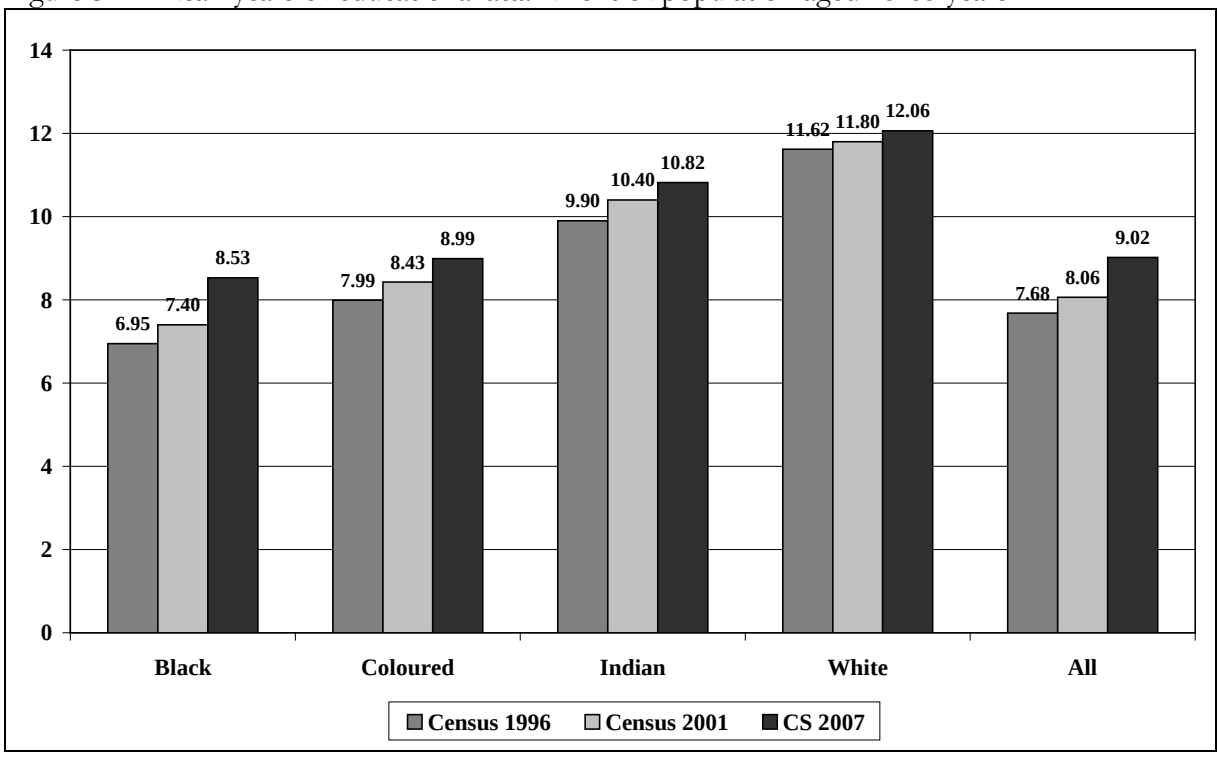
Tables A3 and A4 present the demographic, educational attainment and labour market status characteristics at person level and household level respectively when the two censuses are compared with CS 2007, and the results could be summarized as follows:

- Province: The Western Cape and Gauteng shares showed a continuous increase at both person and household levels across the three surveys, at the cost of the Eastern Cape and Limpopo shares.
- Age: At the person level, the percentage of the population in working ages (15-65 years) showed a continuous increase (from slightly above 59% in 1996 to nearly 64% in 2007), and this resulted in a lower age dependency ratio (from 0.43 in 1996 to 0.39 in 2007)[12]. On the other hand, looking at the age of the household head, there was a slight increase of the percentage of households headed by people aged 45 years or older. Consequently, the mean age of household head showed a slight increasing trend across the three surveys (from 44.4 years in 1996 to 46.7 years in 2007).
- Gender: Looking at the population by gender, the male share hovered around 48% in all surveys. However, as far as the gender of the household head is concerned, approximately 60% of households were headed by males.
- Race: At both person and household levels in all surveys, the Black share was about 75%, while the White share hovered around 10% at person level and 15% at household level.
- Marital status: Slightly below 30% of the population were either married or live with a partner in all three surveys. Looking at the household heads, the proportion of households headed by married people declined continuously (from 60.1% in 1996 to 54.2% in 2007).

[12] Age dependency ratio is calculated as: [Number of people aged 0-14 years + Number of people aged 66 years or above] / Number of people aged 15-65 years (i.e., working-age population).

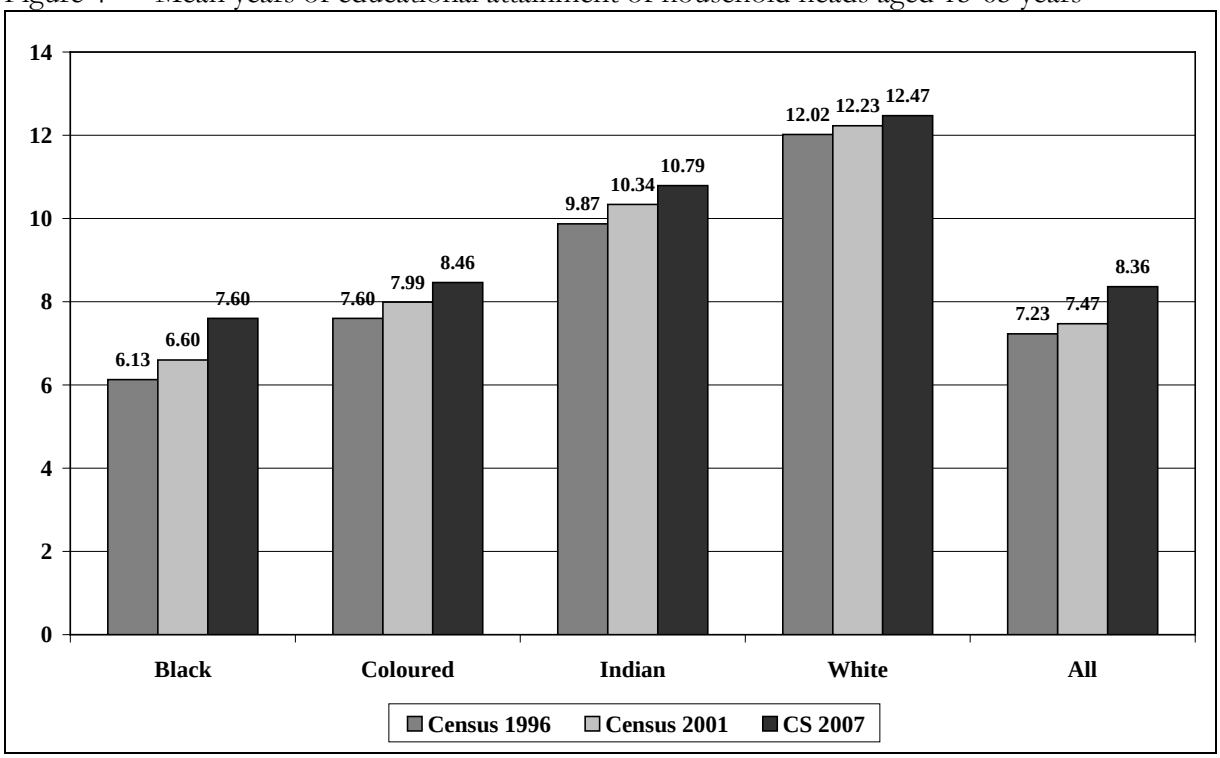
- Highest educational attainment: When only looking at the population and household heads aged between 15 and 65 years, there was a slight increase of the percentage of population and household heads with at least Matric, but this share was still below 30% in all three surveys at both levels. In addition, there was a sharp decline in the share of no schooling at both person and household levels between Census 2001 and CS 2007 (dropping from 13.3% to 6.5% at person level, and from 18.5% to 10.4% at household level across the two surveys in consideration). Besides, the mean educational attainment at both person and household levels in all races showed an increasing trend, as shown in Figures 3 and 4, but the increase was more abrupt between 2001 and 2007 (an increase of almost 1 year). Consequently, Section 4 will look at educational attainment in greater detail.
- Labour market status[13]: Looking at the working-age population, the percentage employed experienced a slight decrease between Census 1996 and Census 2001 (from 36.8% to 33.1%), before it increased abruptly in CS 2007 (40.5%). A similar trend could be found when looking at the percentage of household heads that were employed (51.8%, 50.7% and 61.1% in the three surveys).

Figure 3 Mean years of educational attainment of population aged 15-65 years



[13] In Census 1996 and CS 2007, only the broad labour market status and the strict labour market status were captured respectively, while in Census 2001, the labour market status was captured under both strict and broad definitions. The focus of this section is to look at the percentage of working-age population and household heads who were employed at the time of the survey.

Figure 4 Mean years of educational attainment of household heads aged 15-65 years



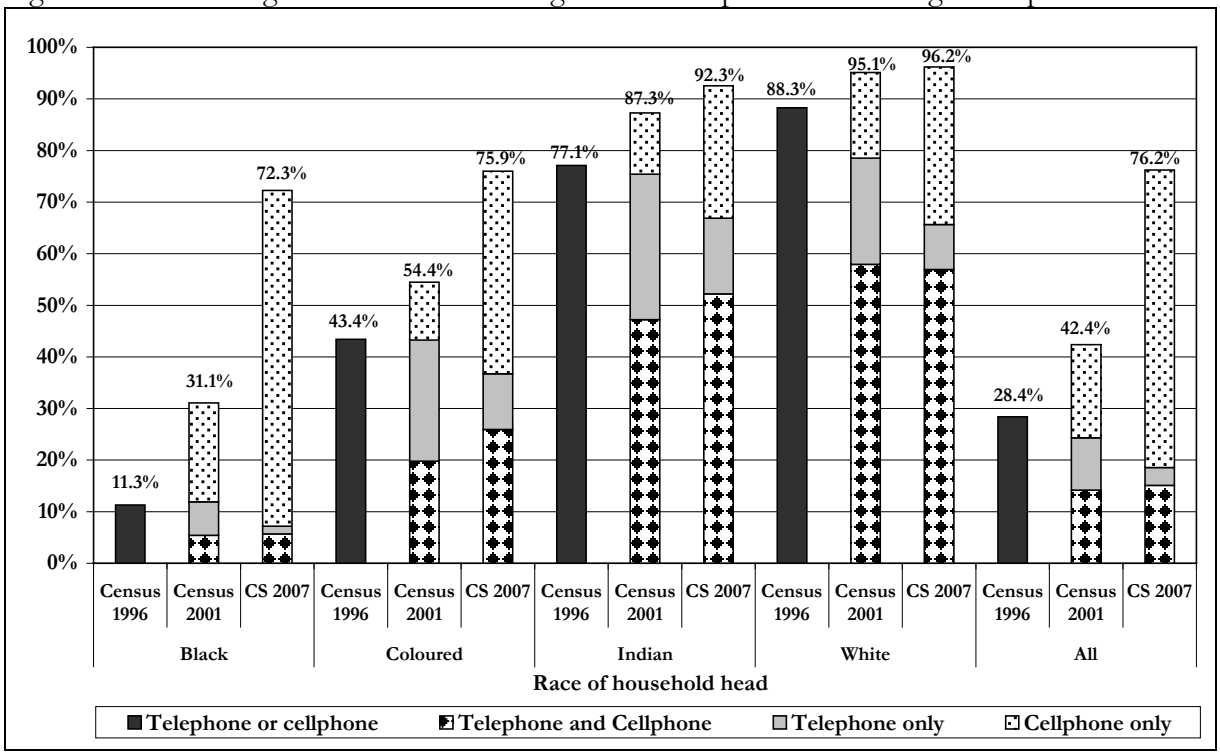
3.3 Household size, dwelling type, and access to household goods and services

Table A5 in the appendix shows the information regarding household size, dwelling type as well as access to household goods and services in the three surveys (at household level). The results could be summarized as follows:

- Household size: There was a continuous but slight downward trend in both the mean and standard deviation of household size.
- Dwelling type: The percentage of households living in formal dwellings (i.e., house or brick structure, flat in block of flats, town/cluster/semi-detached house, and unit in a retirement village) increased from 57.5% in 1996 to 66.7% in 2007.
- Water access: The percentage of households having access to piped water in dwelling, on site or inside yard increased from 60% in 1996 to almost 70% in 2007.
- Fuel used for cooking: In 1996, only slightly above 45% of households used electricity or solar energy as the fuel used for cooking, but this proportion increased to almost two-thirds in 2007.
- Sanitation: The proportion of households having flush or chemical toilet facilities increased from 50% in 1996 to almost 60% in 2007.
- Refuse removal: The proportion of households whose refuse was removed by a local authority at least once a week also increased from 50% in 1996 to almost 60% in 2007.
- Ownership of household goods: Census 1996 only asked question regarding the availability of a telephone in the dwelling or a cellphone. However, it is not possible to distinguish the former from the latter due to the way the question was asked. However, in Census 2001 and CS 2007, more questions were asked regarding ownership of household goods, including refrigerator, radio, television and computer. Besides, there were two separate questions asked on telephones, one on landline telephone and the other on cellphone ownership. Figure 5 shows that the percentage of households owning either a landline telephone in the dwelling or a cellphone increased rapidly, from slightly above 25% in 1996 to approximately 75% in 2007.

Therefore, to conclude, there is a clearly a continuous improvement in the non-income welfare of South African households.

Figure 5 Percentage of households having landline telephone in dwelling or cellphone



4. More on educational attainment

4.1 Educational attainment of the 16-20 and 21-25 age categories

In this section, the highest educational attainment of the individuals is analyzed in more detail, focusing on two age categories: 16-20 years and 21-25 years. In addition, a household quintile variable is derived, namely the socio-economic status (SES) quintile. With regard to the latter, household-level variables (See Table A6) are used to derive the socio-economic status (SES) index by means of principal components analysis (PCA)[14], before the index is used to divide the households into quintiles in each survey.

Table 11 shows the mean years of education by various demographic variables, and it can be seen that there was a continuous increase of the years of educational attainment on average in both age categories, but such increase was greater between 2001 and 2007, as mentioned in Section 3.2. Besides, the (mean White – mean Black) years of education difference clearly shows a declining trend, which suggests that the Black population enjoy a relatively greater improvement in educational attainment. The same trend is found when comparing the difference in years of education between quintile 5 and quintile 1. Finally, a higher educational attainment of the household head is associated with a higher educational attainment of his/her children.

[14] Instead of giving equal weights to various asset variables, this technique attaches the most weight to the asset variables that are most unequally distributed, i.e., the greater the standard deviation of a variable, the greater the weight it is. The range of variables is analyzed so as to extract those linear combinations of the variables that capture the most common information. Each linear combination or "principal component" is uncorrelated with the others, in order to capture a different dimension in the data. The first principal component explains the most variation in the data, with successive components explaining additional but less variation. In this paper, only the first principal component is used for the construction of the SES index.

Table 11 Mean years of educational attainment in two age categories

		Census 1996	Census 2001	CS 2007	Census 1996	Census 2001	CS 2007
		16-20 years			21-25 years		
All	All	8.40	8.75	9.76	9.12	9.51	10.19
Race	Black	8.08	8.47	9.63	8.71	9.19	9.98
	Coloured	8.92	9.30	9.78	9.17	9.83	10.12
	Indian	10.68	10.85	11.00	11.47	11.76	11.75
	White	10.73	10.68	10.93	12.03	12.07	12.17
(Mean White – Mean Black) difference		*2.65*	*2.21*	*1.30*	*3.32*	*2.88*	*2.19*
Gender	Male	8.16	8.53	9.60	9.06	9.42	10.04
	Female	8.63	8.97	9.92	9.18	9.59	10.35
(Mean female – Mean male) difference		*0.47*	*0.44*	*0.32*	*0.12*	*0.17*	*0.31*
Province	Western Cape	9.21	9.44	9.91	9.65	10.08	10.42
	Eastern Cape	7.67	7.97	9.27	8.55	8.72	9.56
	Northern Cape	7.92	8.53	9.46	8.04	8.81	9.62
	Free State	8.24	8.69	9.66	9.11	9.48	10.19
	KwaZulu-Natal	8.26	8.70	9.79	8.75	9.25	10.14
	North West	8.00	8.51	9.49	8.53	9.16	9.77
	Gauteng	9.38	9.71	10.34	10.12	10.51	10.85
	Mpumalanga	8.30	8.54	9.73	8.85	9.16	10.11
	Limpopo	8.53	8.44	9.63	9.08	8.77	9.76
Highest educational attainment of household head#	No schooling	7.23	7.56	9.11	7.22	7.01	8.82
	Incomplete primary	7.84	8.27	9.29	8.13	8.88	9.34
	Incomplete secondary	9.06	9.25	9.94	9.76	10.10	10.32
	Matric	10.30	10.29	10.69	11.47	11.48	11.55
	Matric + Cert/Dip	10.39	10.51	10.81	12.03	12.15	12.15
	Degree	10.65	10.66	11.05	13.17	13.01	13.07
SES quintile	Quintile 1	7.77	7.99	9.41	8.07	8.31	9.52
	Quintile 2	7.48	8.51	9.58	7.78	9.02	9.79
	Quintile 3	8.21	9.24	9.88	8.71	9.94	10.20
	Quintile 4	9.44	9.79	10.34	10.33	10.35	10.73
	Quintile 5	10.37	10.52	10.83	11.54	11.76	11.91
(Mean Quintile 5 – Mean Quintile 1) diff.		*2.60*	*2.53*	*1.42*	*3.48*	*3.45*	*2.39*

Note: Households with no or more than one household head in Census 1996 were excluded.

The percentage of people completing at least Matric is shown in Table 12, and such proportion increased between 1996 and 2001, before it surprisingly decreased between 2001 and 2007. However, the two censuses might have over-estimated the share of people completing at least Matric. Looking at Table 1, in the two censuses, the only Matric-relevant category in the highest educational attainment question was 'Matric'. The respondent would be assumed to have completed Matric (i.e., years of education is twelve) if he/she chose this option.

However, in CS 2007, the respondents were given three Matric-relevant options to choose – "Attended Grade 12, but not completed Grade 12", "Grade 12, without university exemption" and "Grade 12, with university exemption". A person declaring he/she attended Grade 12 but did not complete Grade 12 is assumed to have only eleven years of education.

Table 12 Percentage of people completing at least Matric in two age categories

		Census 1996	Census 2001	CS 2007	Census 1996	Census 2001	CS 2007
		16-20 years			21-25 years		
All	All	11.4%	15.4%	14.9%	31.4%	40.3%	34.4%
Race	Black	7.6%	12.0%	12.0%	25.3%	35.5%	30.0%
	Coloured	16.1%	20.3%	18.1%	30.1%	42.2%	35.0%
	Indian	40.5%	44.6%	43.2%	65.7%	78.3%	68.6%
	White	39.0%	38.9%	37.9%	73.7%	81.2%	71.4%
Gender	Male	10.4%	13.6%	13.0%	31.4%	39.1%	33.3%
	Female	12.4%	17.1%	16.7%	31.4%	41.4%	35.5%
Province	Western Cape	19.6%	22.1%	19.3%	37.0%	45.9%	37.1%
	Eastern Cape	5.9%	9.8%	7.9%	22.3%	30.6%	22.6%
	Northern Cape	9.4%	13.1%	13.6%	24.7%	32.7%	31.8%
	Free State	8.0%	12.3%	13.2%	27.8%	36.1%	33.9%
	KwaZulu-Natal	11.5%	15.3%	15.8%	29.9%	39.5%	35.3%
	North West	9.4%	12.7%	12.4%	27.7%	37.8%	31.0%
	Gauteng	20.4%	27.0%	25.8%	42.0%	52.6%	44.5%
	Mpumalanga	9.3%	11.4%	12.0%	29.0%	35.1%	32.2%
	Limpopo	8.4%	8.6%	7.3%	28.3%	28.2%	24.9%
Highest educational attainment of household head#	No schooling	4.9%	7.2%	6.8%	17.5%	21.8%	19.7%
	Incomplete primary	6.1%	8.7%	8.9%	19.3%	27.6%	22.9%
	Incomplete secondary	12.7%	14.5%	13.6%	29.3%	34.3%	26.5%
	Matric	37.5%	36.5%	37.5%	77.4%	77.8%	73.2%
	Matric + Cert/Dip	33.0%	35.7%	32.3%	81.2%	82.1%	74.7%
	Degree	38.0%	36.9%	37.3%	88.8%	86.7%	78.6%
SES quintile	Quintile 1	4.8%	7.6%	8.2%	16.8%	25.2%	22.2%
	Quintile 2	4.7%	10.9%	11.3%	16.7%	31.2%	26.9%
	Quintile 3	7.9%	17.4%	17.4%	24.2%	42.2%	34.7%
	Quintile 4	18.7%	26.3%	25.0%	43.1%	51.6%	44.0%
	Quintile 5	32.8%	38.0%	35.8%	67.4%	77.8%	66.1%

Note: Households with no or more than one household head in Census 1996 were excluded.

Looking at the people claiming that completed Matric, Table 13 shows that, in Census 1996, the proportion of people claiming they were attending educational institution was 57.4% and 32.2% in the 16-20 years and 21-25 years age categories respectively. It is possible that some of them actually did not complete Matric and were re-doing Matric at the time of the survey, while others completed Matric and were attending college/university/etc. However, it was impossible to distinguish the former from the latter. This became possible in Census 2001 with the improvement of categorization of the answer of this question. Table 13 shows that, the proportion of people claiming they were attending school at the time of the survey was 28.4% and 8.2% in the two age categories respectively, which indicates that these people could have attended Matric, but did not complete it (e.g., dropped out) and were re-doing Matric.

Table 13 Educational institution attendance at the time of the survey, if the highest educational attainment is Matric

Educational institution attendance at the time of survey	16-20 years	21-25 years
Census 1996 (Highest attainment: Matric)		
Yes#	57.4%	32.2%
No#	42.6%	67.8%
	100.0%	100.0%
Census 2001 (Highest attainment: Matric)		
Yes, school	28.4%	8.2%
Yes, college	8.6%	4.6%
Yes, technikon	7.7%	4.2%
Yes, university	9.4%	4.5%
Yes, adult education	0.3%	0.3%
Yes, others	0.3%	0.3%
No	45.3%	77.9%
	100.0%	100.0%
CS 2007 (Highest attainment: Attended Grade 12, but not completed Grade 12)		
Yes, secondary	63.1%	17.1%
Yes, college	0.0%	0.0%
Yes, university or technikon	0.0%	0.0%
Yes, other	0.0%	0.0%
No	36.9%	82.9%
	100.0%	100.0%
CS 2007 (Highest attainment: Grade 12, without university exemption)		
Yes, secondary	0.0%	0.0%
Yes, college	14.86%	6.1%
Yes, university or technikon	13.01%	5.7%
Yes, other	9.52%	2.0%
No	62.6%	86.3%
	100.0%	100.0%
CS 2007 (Highest attainment: Grade 12, with university exemption)		
Yes, secondary	0.0%	0.0%
Yes, college	14.0%	7.6%
Yes, university or technikon	50.8%	32.8%
Yes, other	3.0%	5.4%
No	32.2%	54.3%
	100.0%	100.0%

In Census 1996, the respondents were not asked to declare the type of institution (e.g., school, college, etc.), but were only asked to declare whether they were attending an educational institution or not at the time of the survey.

As far as CS 2007 is concerned, due to further improvement of the categorization of the answer on the highest educational attainment question, it can be seen from Table 13 that, for those people claiming they had competed Matric (regardless of whether they obtained university exemption or not), none were attending schools at the time of the survey. However, when looking at people who did Matric but had not successfully completed it (and hence were assumed to have eleven years of educational attainment), a very high proportion were attending schools at the time of the survey, which again indicates that they were re-doing Matric.

Finally, with regard to the percentage of people completing each year of schooling, Figures 6 and 7 above present the results, and it can be seen that there is a continuous upward trend of this proportion throughout the three surveys in all years of schooling, but such increase is more rapid between 2001 and 2007. The exception was the abrupt decrease of the percentage of people completing at least twelve years of education, due to the reasons explained above. Figures A1 to A8 show the similar findings by race and household quintiles.

Figure 6 Percentage of people aged 16-20 years completing each year of schooling

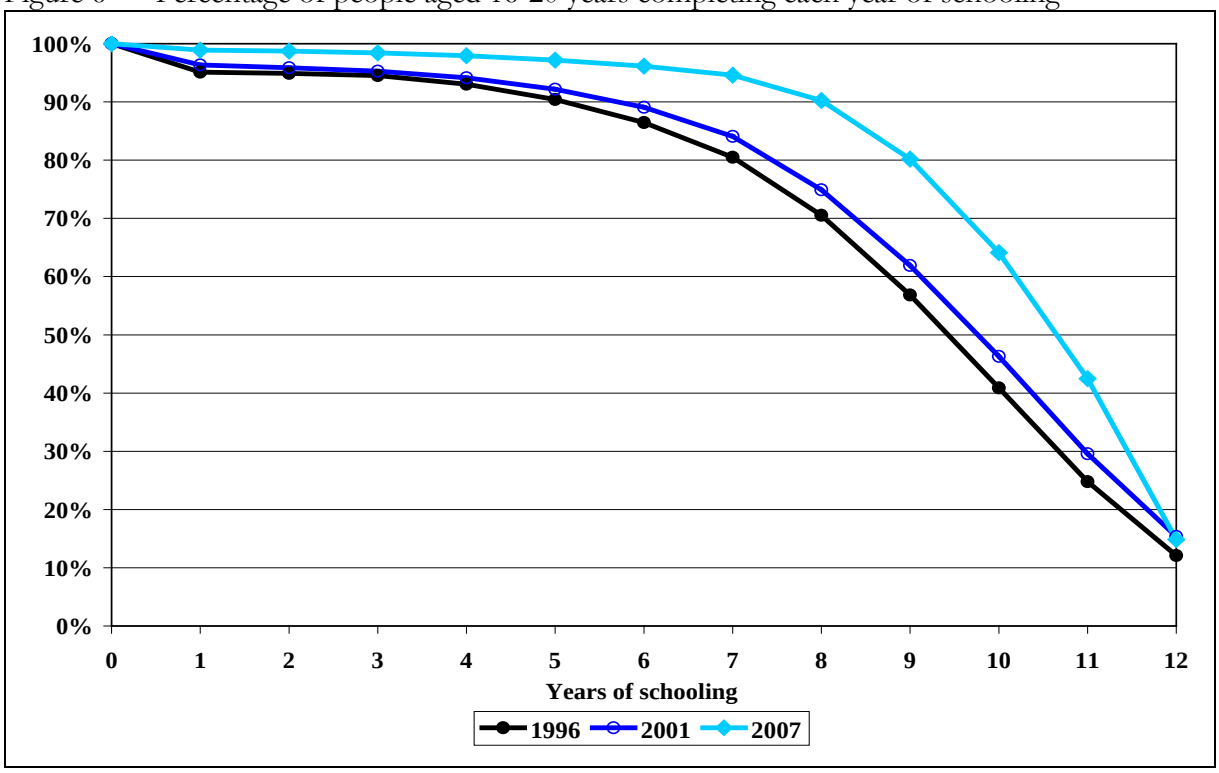
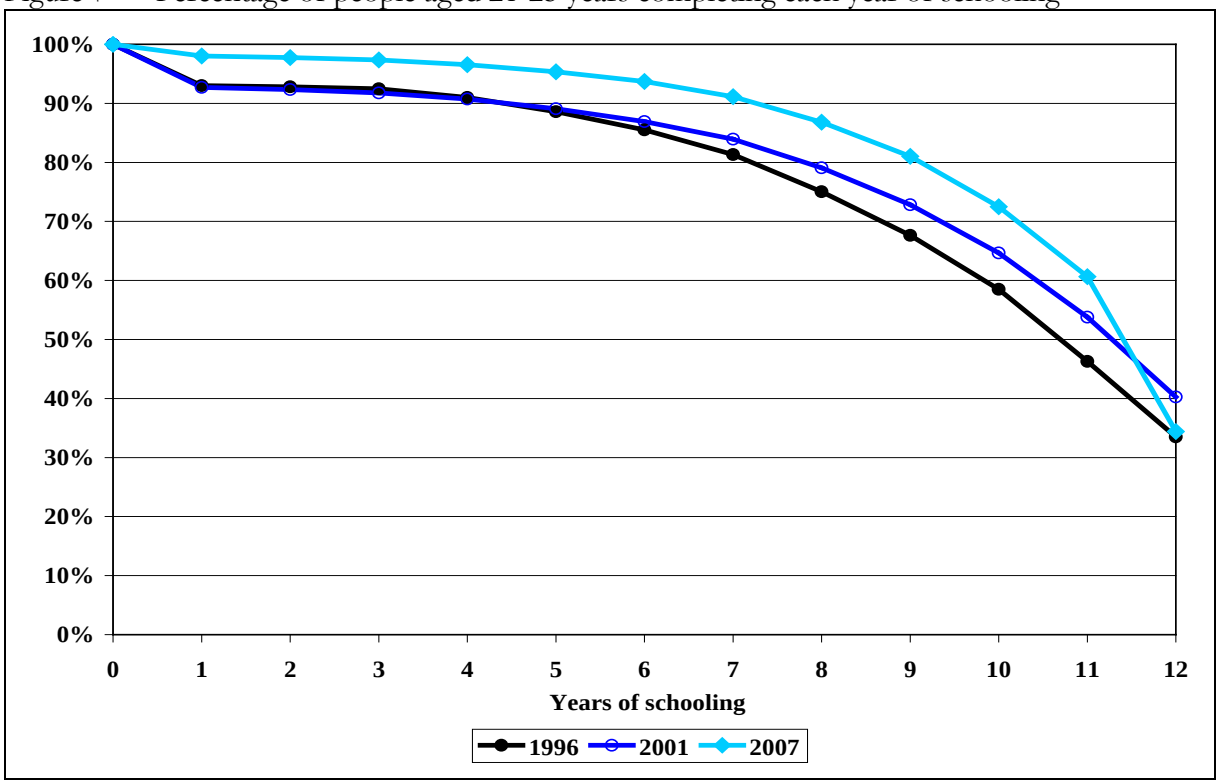


Figure 7 Percentage of people aged 21-25 years completing each year of schooling



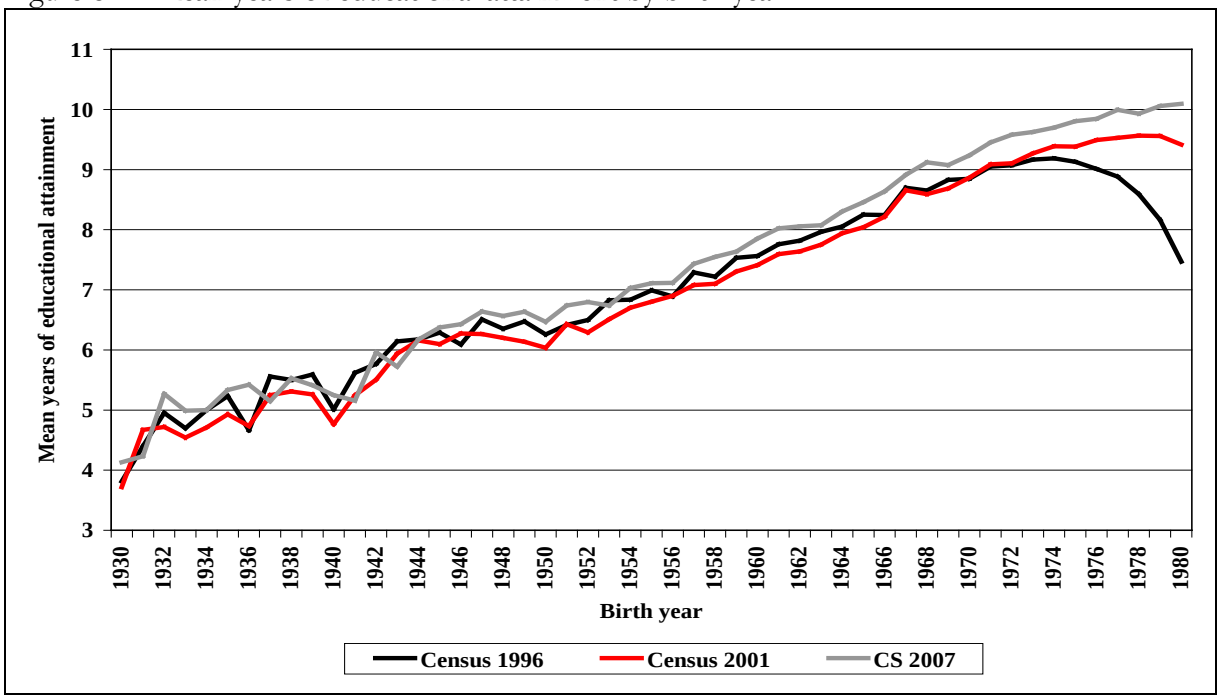
To conclude, despite the possible over-estimation of the number of people completing Matric in the two censuses, there was a continuous improvement in the educational attainment of the people aged 16-25 years, and the increase was more rapid between Census 2001 and CS 2007.

4.2 More on the rapid increase of educational attainment between 2001 and 2007

It was discussed in Section 3.2 that there was an abrupt increase of the mean educational attainment (by almost 1 year) between 2001 and 2007. Besides, the attainment profile of people in CS 2007 was much better, as Figures 6 and 7 in Section 4.1 show that the 2007 lines clearly lie above the 1996 and 2001 lines. This is now looked at in more detail in this section.

First, Figure 8 below presents the mean years of educational attainment by birth year in each survey, and the CS 2007 line is clearly above the two census lines from the birth year 1960. Thus, despite the fact that the proportion of people with at least Matric shows a big decline between 2001 and 2007 (due to the improvement of the question, as discussed in Section 4.1), the mean educational attainment in 2007 still enjoys an obvious increase. However, can one simply conclude from this that CS 2007 over-sampled people with high educational attainment?

Figure 8 Mean years of educational attainment by birth year



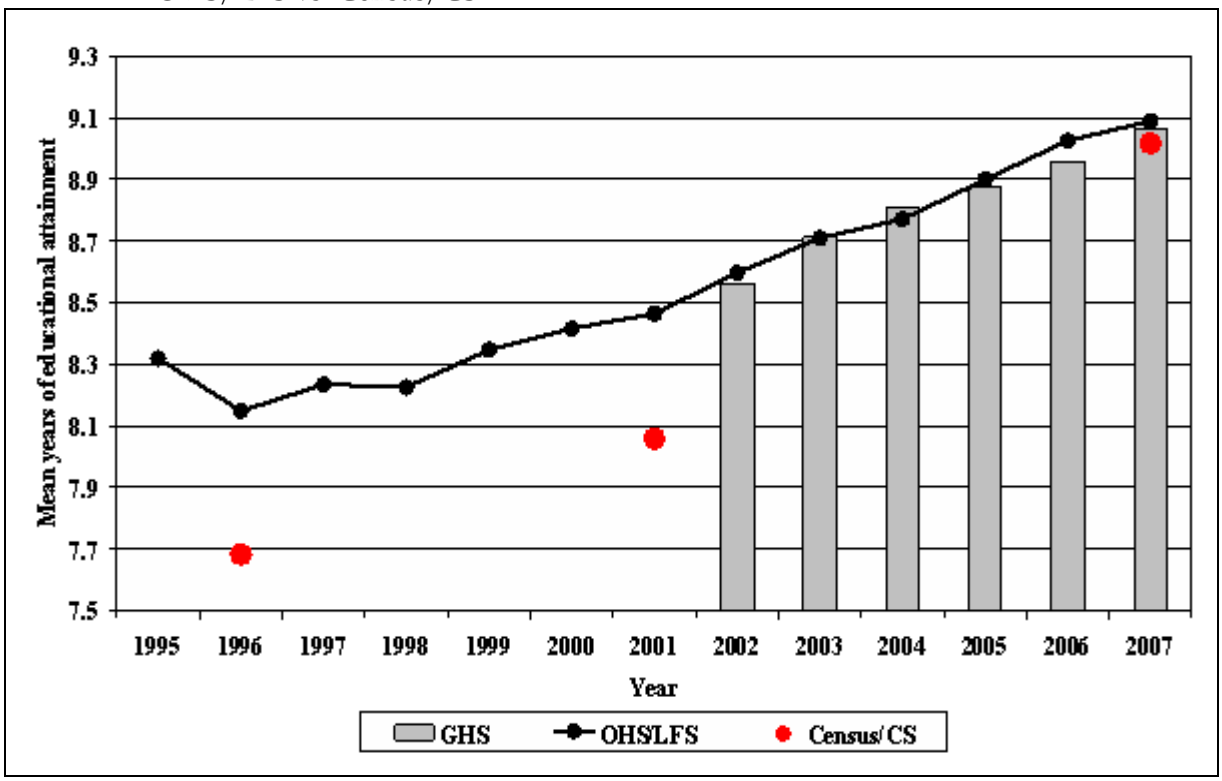
Next, the three surveys are compared with October Household Surveys (OHSs), LFSs and GHSs, and the results are presented in Figure 9. It can be seen that the mean educational attainment of people aged 15-65 years in CS 2007 is extremely close to that of GHS 2007 and LFS 2007, while the mean educational attainment in the Census 1996 and Census 2001 is lower (by about 0.5 year), when compared with OHS 1996 and LFS 2001 respectively. Thus, is it possible that educational attainment was estimated correctly in CS 2007, but rather under-estimated in the two censuses? Or is it possible that the surveys (CS 2007, OHSs, LFSs and GHSs) over-sampled people with better educational attainment, and the educational attainment figures in the censuses are more reliable?

With regard to the abrupt decrease of the share of people with no schooling between Census 2001 and CS 2007 (See Tables A3 and A4), which consequently caused the 2007 attainment profile lines to lie above the 1996 and 2001 lines in Figures 6 and 7[15], Table A7 show the characteristics of these people in the two surveys. It can be seen that the number of Blacks aged 15-65 years without any schooling dropped rapidly by 1.5 million (from 3.3 million to 1.8 million)

[15] In CS 2007, the percentage of people completing at least one year of schooling amounted to 99% and 98% in the 16-20 and 21-25 age categories respectively. However, these two proportions were only approximately 95% and 93% in both censuses.

between the two surveys, i.e., a decrease of more than 40% in percentage terms. However, did the Black population really enjoy such a rapid educational attainment improvement between 2001 and 2007?

Figure 9 Mean years of educational attainment of people aged 15-65 years, GHS vs. OHS/LFS vs. Census/CS



Note: The September LFSs were used in 2001 – 2006, while the March LFS was used in 2007 (because CS 2007 took place in February)

In order to find out if it was actually the two censuses that under-estimated the educational attainment of the population, one needs to compare these two surveys with other surveys that took place at the same time (i.e., OHS 1996, LFS 2001) by looking at whether the educational attainment questions were asked quite differently across the surveys. Besides, the demographic composition (i.e., provincial share, gender share, racial share, area type) of the sample in each survey needs to be compared (e.g., is it possible that Census 1996 and Census 2001 under-estimated mean years of education due to the fact that these two surveys over-sampled the Black population and/or people staying in rural areas, compared with OHS 1996 and LFS 2001 respectively?), i.e., a similar comparison exercise as in Table A1 (comparing CS 2007 with GHS 2007 and LFS 2007) needs to be done. However, such analysis would not be conducted in this paper, since the focus is on the comparability of the two censuses and the CS.

In conclusion, further analyses are needed to investigate the reasons accounting for the abrupt increase of the mean educational attainment between Census 2001 and CS 2007, which goes beyond the scope of this paper.

5. Imputing zero and unspecified household income using sequential regression multiple regression (SRMI)

5.1 Introduction

A serious problem of the three surveys is that a high proportion of people reported zero or unspecified personal income, which subsequently resulted in a high proportion of households with zero or unspecified household income (if the hot deck imputation in 2001 is ignored). Regarding the people/households with missing personal/household income, who are these people/households? Ardington *et al.* (2005: 5-7) argue that if those with missing data fall disproportionately in the bottom of the income distribution, then levels of poverty will be underestimated. In contrast, if non-response is higher among the wealthy, measures of inequality are likely to be biased downwards. In addition, with regard to the higher proportion of households with zero household income, even allowing for South Africa's high unemployment rates, it is highly unlikely that all of these zero income households had no working-age members earning any income.

Therefore, when analyzing poverty and inequality, unless the data is missing completely at random (MCAR)[16], ignoring households with unspecified household income would lead to biased results. Besides, including households that might incorrectly report zero income might lead to over-estimation of poverty and inequality levels. Therefore, in this section, a method called sequential regression multiple imputation (SRMI) is applied at both person and household levels, before the poverty and inequality analyzes are looked at in Section 6. For the remainder of the paper, SRMI at person level and SRMI at household level will be referred to as SRMI1 and SRMI2 respectively.

5.2 Sequential regression multiple imputation (SRMI)

The four main methods to deal with missing data in general are casewise deletion, available-case deletion, single imputation and multiple imputation (Table 14 briefly summarizes each method). In this paper, values for the households with unspecified personal or household income are imputed using a particular multiple imputation technique developed by Raghunathan *et al.* (2001), which is applied when data are missing at random (MAR). This method, namely SRMI, could be summarized as follows (Ardington *et al.*, 2005: 8-11, Lacerda *et al.*, 2008: 24-47 & Vermaark, 2008: 2-3):

- The variables to be used in the imputation model are ordered from those with the least to those with the most missing values.
- Let the matrix X represent all variables that are fully observed (i.e., there are no unspecified responses), while Y_1, Y_2, …, Y_k stand for the ordered variables that contain missing values. Note that the variables are ordered with respect to the extent of missing data they contain.
- Y_1 is regressed on X, and imputations are then generated through random draws from the predictive distribution of a generalized linear model, with the observed variables as covariates and parameters drawn randomly from their joint posterior distribution[17].

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[16] With regard to missing data, there are three types of mechanisms (Lacerda *et al.*, 2008: 6-9):

- Missing completely at random (MCAR): The distribution of missingness is independent of both the observed and missing data
- Missing at random (MAR): The distribution of missingness is independent of missing data, but is dependent on some or all of the observed variables for each observational unit
- Missing not at random (MNAR): The distribution of missingness is dependent on both the observed and missing data

[17] For example, a normal OLS regression model is used when Y_1 is a continuous variable (e.g., earnings amount). However, a Poisson model is used when Y_1 is a count variable (e.g., age), a logistic model is used when Y_1 is binary (e.g., gender), a multinomial logistic model is used when Y_1 is a nominal categorical variable (e.g., province), and an ordered logistic model is used when Y_1 is an ordinal categorical variable (e.g., household income category).

- Since its missing values have now been imputed, Y_1 is appended to the set of predictor variables. Next, Y_2 is regressed on X and the imputed Y_1, and values are imputed for Y_2.
- This imputation goes on until all Y variables have been imputed using all previously imputed variables as covariates.
- The entire procedure is then repeated m times (i.e., m stands for the number of imputations), to produce m imputed complete datasets.

Table 14 Commonly used methods to deal with missing data

Method	Meaning
Casewise deletion	Simply eliminating all cases that have any missing values on any variables, regardless of the parameters being estimated
Available-case deletion	Excluding only those cases for which data is missing on the variables necessary to estimate the parameters of interest
Single imputation	Imputing one value for each missing item. Examples: o Unconditional mean substitution: Missing values are replaced by the average of the observed values for that variable o Logical imputation: A consistent value is calculated or deduced from other information relating to the individual or household, e.g., if a child has invalid race, but his parents are both Blacks, then the child is assigned the same race o Hot deck imputation: Missing values are substituted with observed values drawn from similar responding units, e.g., the observational units are divided into cells and then each missing value within the cell is replaced with a random draw from the observed values o Cold deck imputation: Substituting missing values with a constant value from an external source, e.g., a value from a previous realization of the same survey o Stochastic mean substitution: The imputed values are randomly generated from a specified theoretical distribution with mean equivalent to the cell mean and variance equal to the cell variance o Stochastic regression imputation: Missing values are replaced by a value predicted by regression imputation plus a residual drawn to represent the uncertainty in the predicted value
Multiple imputation	Imputing several values for each missing item to allow for the inherent uncertainty in the imputation procedure.

Source: Lacerda *et al.*, 2005: 11-21.

5.3 Application of SRMI on the personal income variable (SRMI1)

Table 15 below explains the decision rules on the personal income variable, before SRMI1 is applied. In Census 2001, the personal income variable without hot deck imputation is used. The employment status of the person was the critical variable that was taken into consideration before deciding whether to accept his/her declared personal income category, or whether his/her personal income was adjusted to missing, before SRMI1 was run. To sum up, looking at people aged 15 years or above who were employed at the time of the survey but declared zero or unspecified personal income, their personal income is assumed to be unspecified, and SRMI1 is applied to impute their personal income category.

Only the employed were included for the SRMI1, and the SRMI1 was run five times. The average of the five imputed personal income values was regarded as the final imputed personal income[18]. Finally, the sum of the personal income amounts equal to the household income amount, i.e., households falling under the same household income category could have different household income amounts (See Table 4).

[18] For example, assuming the five imputed personal income categories of a person in CS 2007: 2 (R1 – R4 800), 3 (R4 801 – R9 600), 4 (R9 601 – R19 200), 3 (R4 801 – R9 600) and 5 (R19 201 – R38 400). The average value is 3.4, and since this figure is greater than 3 but smaller than 4, the final imputed personal income category of this person is 4 (R9 601 – R19 200).

Table 15 Decision rules before SRMI1 is applied on the personal income variable

Census 1996

- If additional household income or remittances received were unspecified, they were set to R0.
- If personal income was specified as R0:
  - If age was 0-14 years, then personal income remained R0, regardless of labour status
  - If age was 15+ years and the labour status was unemployed/inactive/not working-age population, the personal income remained R0
  - If age was 15+ years and the labour status was employed, then personal income became unspecified, and was imputed by SRMI1
  - If age was unspecified, then personal income remained R0, regardless of labour status
- If personal income was unspecified:
  - If age was 0-14 years, then personal income became R0, regardless of labour status
  - If age was 15+ years and the labour status was unemployed/inactive/not working-age population, the personal income became R0
  - If age was 15+ years and the labour status was employed, then personal income remained unspecified, and was imputed by SRMI1
  - If age was unspecified, then personal income became R0, regardless of labour status
- After that, the personal incomes + additional household income + remittances received were added to derive the household income amount, before per capita income was derived

Census 2001

- Personal income without hot deck imputation was used
- If personal income before hot deck imputation was specified as R0:
  - If age was 0-14 years, then personal income remained R0, regardless of labour status
  - If age was 15+ years and the labour status was unemployed/inactive/not working-age population, the personal income remained R0
  - If age was 15+ years and the labour status was employed, then personal income became unspecified, and was imputed by SRMI1
  - If age was unspecified, then personal income remained R0, regardless of labour status
- If personal income before hot deck imputation was unspecified:
  - If age was 0-14 years, then personal income became R0, regardless of labour status
  - If age was 15+ years and the labour status was unemployed/inactive/not working-age population, the personal income became R0
  - If age was 15+ years and the labour status was employed, then personal income remained unspecified, and was imputed by SRMI1
  - If age was unspecified, then personal income became R0, regardless of labour status
- After that, the personal incomes were added to derive the household income amount, before per capita income was derived

CS 2007

- If personal income was specified as R0:
  - If age was 0-14 years, then personal income remained R0, regardless of labour status
  - If age was 15+ years and the labour status was unemployed/inactive/not working-age population, the personal income remained R0
  - If age was 15+ years and the labour status was employed, then personal income became unspecified, and was imputed by SRMI1
  - If age was unspecified, then personal income remained R0, regardless of labour status
- If personal income was unspecified:
  - If age was 0-14 years, then personal income became R0, regardless of labour status
  - If age was 15+ years and the labour status was unemployed/inactive/not working-age population, the personal income became R0
  - If age was 15+ years and the labour status was employed, then personal income remained unspecified, and was imputed by SRMI1
  - If age was unspecified, then personal income became R0, regardless of labour status
- After that, the personal incomes were added to derive the household income amount, before per capita income was derived

The variables included for the SRMI1 (with the person weight being the weight variable) are as follows: Race, gender, province, age, years of educational attainment, broad occupation category of employed, broad industry category of employed, number of employed in the household, and annual personal income category.

Table 16 Annual personal and household income in each survey, before and after SRMI1

	Before SRMI1		**After SRMI1**			
	Personal income		**Personal income**		**Household income**	
Census 1996						
1: None	22 638 513	60.6%	26 022 127	69.7%	1 284 285	14.8%
2: R1 – R2 400	1 013 994	2.7%	1 014 712	2.7%	600 928	6.9%
3: R2 401 – R6 000	3 127 647	8.4%	3 153 716	8.4%	1 507 158	17.3%
4: R6 001 – R12 000	1 778 993	4.8%	1 841 289	4.9%	1 189 838	13.7%
5: R12 001 – R18 000	1 461 100	3.9%	1 531 381	4.1%	972 733	11.2%
6: R18 001 – R30 000	1 255 632	3.4%	1 321 943	3.5%	899 576	10.3%
7: R30 001 – R42 000	749 239	2.0%	810 986	2.2%	512 606	5.9%
8: R42 001 – R54 000	494 498	1.3%	548 146	1.5%	393 412	4.5%
9: R54 001 – R72 000	458 961	1.2%	495 662	1.3%	419 307	4.8%
10: R72 001 – R96 000	237 232	0.6%	256 541	0.7%	288 145	3.3%
11: R96 001 – R132 000	159 170	0.4%	166 930	0.4%	294 660	3.4%
12: R132 001 – R192 000	96 327	0.3%	98 146	0.3%	184 037	2.1%
13: R192 001 – R360 000	57 637	0.2%	57 862	0.2%	123 657	1.4%
14: R360 001 or more	22 032	0.1%	22 042	0.1%	36 137	0.4%
99: Unspecified	3 790 508	10.2%	0	0.0%	0	0.0%
	37 341 483	100.0%	37 341 483	100.0%	8 706 479	100.0%
Census 2001						
1: None	23 434 110	56.1%	29 247 806	70.1%	2 673 559	24.7%
2: R1 – R4 800	2 046 913	4.9%	2 053 857	4.9%	860 093	7.9%
3: R4 801 – R9 600	3 663 976	8.8%	3 778 178	9.1%	1 894 392	17.5%
4: R9 601 – R19 200	2 008 797	4.8%	2 182 107	5.2%	1 689 132	15.6%
5: R19 201 – R38 400	1 706 388	4.1%	1 873 328	4.5%	1 386 097	12.8%
6: R38 401 – R76 800	1 263 542	3.0%	1 398 279	3.3%	988 268	9.1%
7: R76 801 – R153 600	677 332	1.6%	762 120	1.8%	706 331	6.5%
8: R153 601 – R307 200	256 999	0.6%	285 743	0.7%	412 061	3.8%
9: R307 201 – R614 400	89 543	0.2%	94 449	0.2%	144 288	1.3%
10: R614 401 – R1 228 800	35 182	0.1%	35 611	0.1%	37 414	0.3%
11: R1 228 801 – R2 457 600	25 877	0.1%	25 877	0.1%	23 278	0.2%
12: R2 457 601 or more	9 859	0.0%	9 859	0.0%	13 576	0.1%
13: Unspecified	6 528 696	15.6%	0	0.0%	0	0.0%
	41 747 214	100.0%	41 747 214	100.0%	10 828 489	100.0%
CS 2007						
1: None	22 058 265	46.6%	22 926 594	48.4%	1 069 905	8.6%
2: R1 – R4 800	7 967 281	16.8%	7 970 421	16.8%	610 223	4.9%
3: R4 801 – R9 600	2 342 025	4.9%	2 494 369	5.3%	1 105 489	8.9%
4: R9 601 – R19 200	5 660 829	11.9%	6 132 539	12.9%	2 431 775	19.6%
5: R19 201 – R38 400	2 274 924	4.8%	2 780 130	5.9%	2 628 573	21.2%
6: R38 401 – R76 800	1 808 507	3.8%	2 154 224	4.5%	1 772 450	14.3%
7: R76 801 – R153 600	1 413 691	3.0%	1 647 038	3.5%	1 214 057	9.8%
8: R153 601 – R307 200	654 204	1.4%	778 886	1.6%	847 908	6.8%
9: R307 201 – R614 400	283 171	0.6%	321 326	0.7%	463 795	3.7%
10: R614 401 – R1 228 800	88 590	0.2%	96 085	0.2%	152 809	1.2%
11: R1 228 801 – R2 457 600	46 329	0.1%	46 470	0.1%	48 020	0.4%
12: R2 457 601 or more	26 519	0.1%	26 519	0.1%	33 752	0.3%
13: Unspecified	2 750 266	5.8%	0	0.0%	0	0.0%
	47 374 601	100.0%	47 374 601	100.0%	12 378 756	100.0%

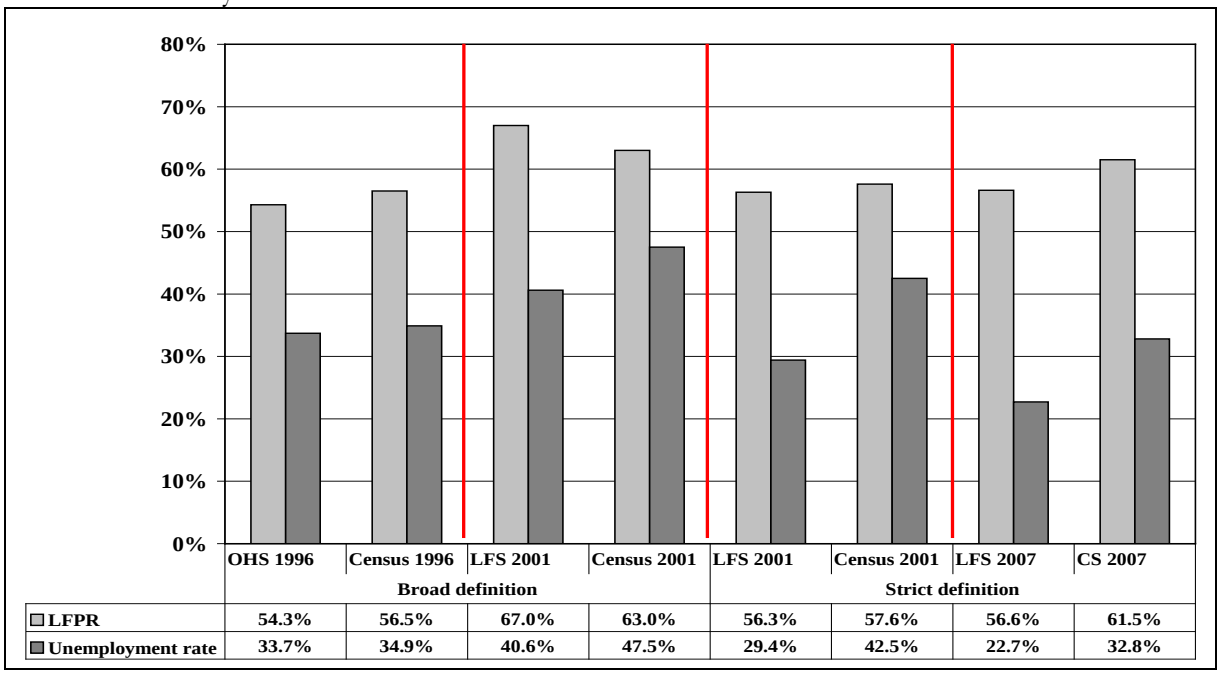
The second and third columns of Table 16 show the percentage of people in each personal income category in each survey, after applying the decision rules but before SRMI1 was run. Table A8 provides a more detailed analysis on the characteristics of people with zero and unspecified personal income before SRMI1, and it can be seen that, in all three surveys, more than 90% of people with zero personal income were not employed at the time of the survey. However, looking at people with unspecified personal income, it can be seen that approximately 15% of people in each census were employed, but such proportion was very high in CS 2007 (58.5%), and a higher proportion of them were Whites (22.7%, compared with about 15% in the two censuses). This implies that a lot of employed in CS 2007 (compared with the two censuses) refused to specify their personal income, and excluding them would result in over-estimation of poverty.

In addition, the last four columns of Table 16 show the percentage of people/households in each personal/household income category in each survey, after SRMI1, and the results show that the percentage of households with zero household income in each survey is 14.8%, 24.7% and 8.6% in 1996, 2001 and 2007 respectively, after SRMI1 was run.

As mentioned earlier, the labour market status of the person (i.e., whether he/she was employed or not at the time of the survey) is an important factor in determining whether to accept the person's declared personal income. However, when looking at Figure 10, it can be seen that the labour market status of the working-age population was not captured particularly well, especially in 2001 and 2007 (i.e., under-estimation of labour force participation rate but large over-estimation of unemployment rate), compared with Labour Force Surveys taking place during the same year.

It can be understood that the main aim of the two censuses as well as CS 2007 was not to capture labour market status of the respondents. In fact, only very few questions (approximately five in each survey) were asked on the labour market activities of the respondents. Therefore, running SRMI on unspecified personal income of the employed (Table 15) might not be the best approach. Therefore, the SRMI is also run at household level (SRMI2).

Figure 10 Labour market status of working-age population (15-65 years), comparing the three surveys with alternative data sources



	OHS 1996	Census 1996	LFS 2001	Census 2001	LFS 2001	Census 2001	LFS 2007	CS 2007
	Broad definition				Strict definition			
LFPR	54.3%	56.5%	67.0%	63.0%	56.3%	57.6%	56.6%	61.5%
Unemployment rate	33.7%	34.9%	40.6%	47.5%	29.4%	42.5%	22.7%	32.8%

Note: In Census 1996, only the broad labour market status was captured.
In Census 2001, both strict and labour market statuses were captured.
In CS 2007, only the strict labour market status was captured.

5.4 Application of SRMI on the household income variable (SRMI2)

As discussed in Section 2.6, household income was derived differently across the three surveys. Besides, the household income variable derived by Stats SA in Census 1996 is problematic. In addition, it could be argued that, after applying the SRMI at person level in Section 5.2, there still remains a high proportion of households with zero household income (14.8% in 1996, 24.7% in 2001, and 8.6% in 2007), but these households should have some sources of non-work-related income (i.e., remittances from other members, social grants, etc.), or they would not be able to survive. Therefore, in this section, the SRMI is run at household level, i.e., SRMI2. However, before running SRMI2, a consistent method must be applied to derive household income across the three surveys, and the method is presented in Table 17.

Table 17 Derivation of household income variable across the three surveys

Census 1996
o If additional household income or remittances received were unspecified, they were set to R0.
o Household income was derived by adding personal income of all members, additional household income, and remittances received.
o If personal income of any member was unspecified:
− If age was 0-14 years, then personal income was set to zero
− If age was unspecified, then personal income was set to zero
− If age was 15+ years, personal income remained unspecified, and households containing at least 1 such person would have unspecified household income. SRMI2 was needed later.
Census 2001
o Personal income without hot deck imputation was used
o Household income was derived by adding the personal income of all members
o If personal income of any member was unspecified:
− If age was 0-14 years, then personal income was set to zero
− If age was unspecified, then personal income was set to zero
− If age was 15+ years, personal income remained unspecified, and households containing at least 1 such person would have unspecified household income. SRMI2 was needed later.
CS 2007
o Household income was derived adding the personal income of members.
o If personal income of any member was unspecified:
− If age was 0-14 years, then personal income was set to zero
− If age was unspecified, then personal income was set to zero
− If age was 15+ years, personal income remained unspecified, and households containing at least 1 such person would have unspecified household income. SRMI2 was needed later.

Once this consistent pre-SRMI2 household income is derived, a decision had to be made on how to deal with households with zero or unspecified household income, and it was decided to apply further decision rules (they will be referred to as "further decision rules" for the remainder of the paper), before SRMI2 was eventually run (See Table 18 below):

Table 18 Further decision rules on the household income, before SRMI2 was run

Census 1996, Census 2001 and CS 2007
o If the household income was non-zero, accept it.
o If the household income was R0, and it contained at least 1 person 15+ years with R0 personal income, then the household income became unspecified. SRMI2 was needed.
o If the household income was R0, but it did not contain any member 15+ years with R0 personal income, accept this R0 household income
o If the household income was unspecified, SRMI2 was needed.

Thus, it can be seen that, unlikely SRMI1, the labour market status of the person is no longer an important concern when running SRMI2. In addition, the variables included for the SRMI2 (the weight variable is household weight) are as follows: Province, race of household head, gender of household head, age of household head, years of educational attainment of household head, employment status of household head, number of employed in the household, household size, and annual household income category.

Table A9 shows the characteristics of households with unspecified household income before SRMI2, and a majority of them were households headed by poorly educated Blacks, without any employed member. In addition, Table 19 below shows the percentage of households in each annual household income category in each survey, before and after the SRMI2, and in all three surveys, fewer than 1% of households had zero household income in all three surveys after the imputations.

Table 19 Annual household income in each survey, before and after SRMI2

	Before SRMI2 + Before further decision rules were applied		**Before SRMI2 + After further decision rules were applied**		**After SRMI2**	
Census 1996						
1: None	1 106 024	12.8%	58 186	0.7%	58 186	0.7%
2: R1 – R2 400	553 564	6.4%	553 564	6.4%	590 476	6.9%
3: R2 401 – R6 000	1 392 516	16.2%	1 392 516	16.2%	1 935 377	22.5%
4: R6 001 – R12 000	1 066 666	12.4%	1 066 666	12.4%	1 667 011	19.3%
5: R12 001 – R18 000	841 956	9.8%	841 956	9.8%	1 144 259	13.3%
6: R18 001 – R30 000	771 575	9.0%	771 575	9.0%	943 928	11.0%
7: R30 001 – R42 000	431 527	5.0%	431 527	5.0%	544 755	6.3%
8: R42 001 – R54 000	329 892	3.8%	329 892	3.8%	414 470	4.8%
9: R54 001 – R72 000	350 640	4.1%	350 640	4.1%	416 054	4.8%
10: R72 001 – R96 000	238 586	2.8%	238 586	2.8%	289 670	3.4%
11: R96 001 – R132 000	246 922	2.9%	246 922	2.9%	281 943	3.3%
12: R132 001 – R192 000	155 518	1.8%	155 518	1.8%	175 937	2.0%
13: R192 001 – R360 000	107 971	1.3%	107 971	1.3%	118 628	1.4%
14: R360 001 or more	32 259	0.4%	32 259	0.4%	36 645	0.4%
99: Unspecified	991 723	11.5%	2 039 561	23.7%	0	0.0%
	8 617 339	100.0%	8 617 339	100.0%	8 617 339	100.0%
Census 2001						
1: None	2 274 882	21.0%	13 567	0.1%	13 567	0.1%
2: R1 – R4 800	774 583	7.2%	774 583	7.2%	838 221	7.7%
3: R4 801 – R9 600	1 686 640	15.6%	1 686 640	15.6%	3 212 187	29.7%
4: R9 601 – R19 200	1 437 798	13.3%	1 437 798	13.3%	2 751 117	25.4%
5: R19 201 – R38 400	1 119 402	10.3%	1 119 402	10.3%	1 604 993	14.8%
6: R38 401 – R76 800	759 920	7.0%	759 920	7.0%	1 038 319	9.6%
7: R76 801 – R153 600	529 351	4.9%	529 351	4.9%	728 931	6.7%
8: R153 601 – R307 200	302 734	2.8%	302 734	2.8%	415 782	3.8%
9: R307 201 – R614 400	107 869	1.0%	107 869	1.0%	148 392	1.4%
10: R614 401 – R1 228 800	29 814	0.3%	29 814	0.3%	41 728	0.4%
11: R1 228 801 – R2 457 600	19 051	0.2%	19 051	0.2%	22 826	0.2%
12: R2 457 601 or more	11 038	0.1%	11 038	0.1%	12 426	0.1%
13: Unspecified	1 775 407	16.4%	4 036 722	37.3%	0	0.0%
	10 828 489	100.0%	10 828 489	100.0%	10 828 489	100.0%

Table 19 Continued

	Before SRMI2 + Before further decision rules were applied		Before SRMI2 + After further decision rules were applied		After SRMI2	
CS 2007						
1: None	1 022 550	8.3%	5 940	0.0%	5 940	0.0%
2: R1 – R4 800	623 073	5.0%	623 073	5.0%	625 313	5.1%
3: R4 801 – R9 600	1 118 947	9.0%	1 118 947	9.0%	1 329 209	10.7%
4: R9 601 – R19 200	2 366 175	19.1%	2 366 175	19.1%	2 998 839	24.2%
5: R19 201 – R38 400	2 391 387	19.3%	2 391 387	19.3%	2 892 378	23.4%
6: R38 401 – R76 800	1 438 767	11.6%	1 438 767	11.6%	1 786 791	14.4%
7: R76 801 – R153 600	965 259	7.8%	965 259	7.8%	1 211 580	9.8%
8: R153 601 – R307 200	677 998	5.5%	677 998	5.5%	851 889	6.9%
9: R307 201 – R614 400	363 323	2.9%	363 323	2.9%	448 032	3.6%
10: R614 401 – R1 228 800	121 188	1.0%	121 188	1.0%	148 828	1.2%
11: R1 228 801 – R2 457 600	42 297	0.3%	42 297	0.3%	48 623	0.4%
12: R2 457 601 or more	29 821	0.2%	29 821	0.2%	31 334	0.3%
13: Unspecified	1 217 971	9.8%	2 234 581	18.1%	0	0.0%
	12 378 756	100.0%	12 378 756	100.0%	12 378 756	100.0%

Finally, as far as the derivation of household income is concerned, looking at households that did not require SRMI2, the household income amount equals to the sum of the personal income amounts, and households falling under the same household income category could have different household income amounts (See Table 4). However, with regard to the households with imputed household income category after SRMI2, they had their household income amount derived using the values in Table 3 and Table 7 (for example, if the imputed household income category of a household in Census 1996 is "1: R1 – R2 400" after SRMI2, then the annual household income amount is approximated as R1 600. Similarly, if the imputed household income category of a household in Census is "5: R19 201 – R38 400", then the annual household income amount is estimated as R27 153.

5.5 Derivation of per capita income

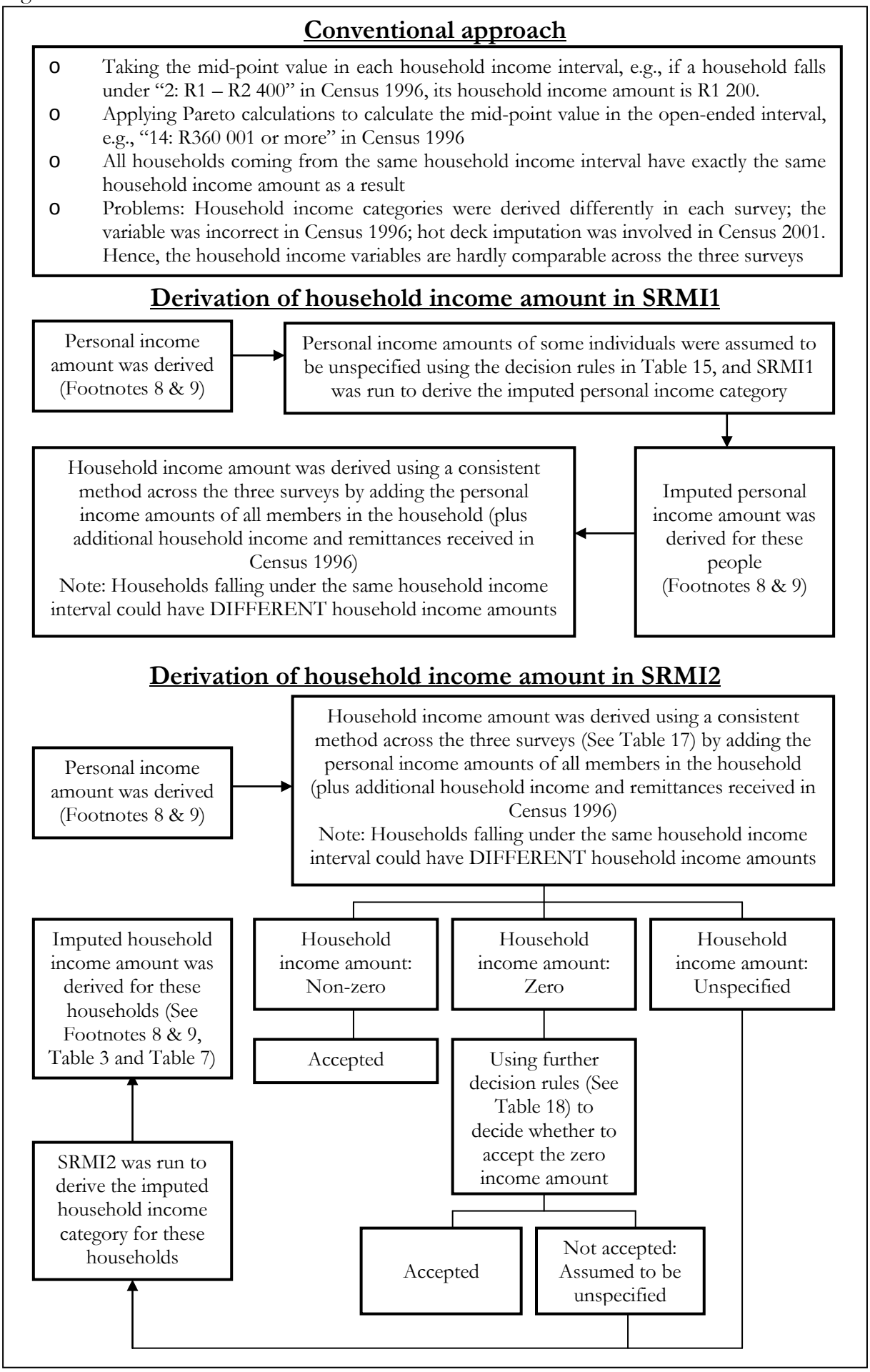
Sections 5.2 and 5.3 explained the derivation of the household income amount, and it can bee seen that such amount was NOT derived by simply taking the mid-point value of each household income category, and household income amount could differ amongst households coming from the same household income category. Figure 11 summarizes the various methods to derive the household income amount.

Next, the household income amount was divided by household size to derive the per capita income, before all nominal amounts were converted into real per capita income in 2000 prices using the South African Reserve Bank's monthly CPI series (KBP7032N)[19]. For the remainder of the paper, the per capita income variable after SRMI1 and SRMI2 will be referred to as "post-SRMI1 per capita income" and "post-SRMI2 per capita income" respectively.

In addition, the per capita income variable derived using a consistent method across the three surveys (Table 17) but before the further decision rules (Table 18) and SRMI2 were applied will be referred to as "pre-SRMI2 per capita income A", while the per capita income variable derived using the same consistent method, followed by applying the further decision rules but before SRMI2 were run will be referred to as "pre-SRMI2 per capita income B".

[19] The CPI values used in each survey are as follows: 79.78 (October 1996) in Census 1996, 106.05 (October 2001) in Census 2001, and 138.45 (February 2007) in CS 2007.

Figure 11 Derivation of household income amount under various methods



6. Poverty and inequality analyzes

6.1 Introduction

In this section, a brief literature review on the recent poverty and inequality analyses using census data is discussed, before the two post-SRMI per capita income variables derived from Section 5 are used to look at the poverty and inequality trends across the three surveys under consideration.

6.2 Recent studies on poverty and inequality trends using census data

Numerous studies have been done in the past to look at the poverty and inequality trends between Census 1996 and Census 2001, with some of them applying imputations to deal with zero and missing personal and/or household incomes. Table 20 summarizes the results of these studies, and the general conclusion is that both the poverty headcount and Gini coefficient increased between the two censuses.

However, when looking at these recent studies in greater detail, it is found that:

- Households with zero or/and unspecified household income were simply ignored in Leibbrandt *et al.* (2004), and this could lead to biased results on poverty and inequality.
- The imputation method was not explained in enough detail in Simkins (2005).
- Despite the fact that SRMI was used in Ardington *et al.* (2005), the variables included for the SRMI were not mentioned in the paper.
- It seems in all these papers, the mid-point value was used when deriving the household income amount (e.g., if 100 000 households fell under "R1 – R2 400" in Census 1996, then all these households will be assumed to have R1 200 household income amount).
- The incorrect 1996 household income variable (derived by Stats SA) was used by these authors, but it has been explained in Section 2.6.1 that such variable is not accurate.
- The household income variable was derived differently across the surveys (See Section 2.6), which means that, strictly speaking, the per capita income variable was also derived differently in each survey. Therefore, one needs to derive these two variables using a consistent method in all surveys, before meaningful and comparable poverty and inequality results could be derived. This is why the two SRMI exercises were done in Section 5.

In addition, Van der Berg *et al.* (2008) used an alternative data source – the All Media and Products Survey (AMPS) data – in their recent studies on poverty and inequality trends between 1993 and 2006, and using a poverty line of R3 000 per capita per annum (2000 prices), it was found that poverty increased around the mid 1990s, and then stabilized until the turn of the century, before dramatic reduction took place after 2001. Besides, there was a very slight increase of Gini coefficient.

In this section, using the three surveys under study, the poverty and inequality trends using the two per capita income variables after SRMI at both person level and household level will be the main focus.

Table 20 Summary of the results of recent studies on poverty and inequality tends by comparing Census 1996 with Census 2001

Author(s)	Treatment of households with zero, unspecified or imputed household income	Poverty headcount	Gini coefficient
Leibbrandt *et al.* (2004)	**Treatment #1** Census 1996: o Zero income: Excluded o Missing income: Excluded Census 2001: o Zero income households: Excluded o Missing income imputed by Stats SA by means of hot deck imputation: Excluded **Treatment #2** Census 1996: o Zero income: Included o Missing income: Excluded Census 2001: o Zero income households: Included o Missing income imputed by Stats SA by means of hot deck imputation: Excluded	Poverty line: R250/month (1996 prices) 1996: 0.50 2001: 0.55 Poverty line: US$2/day (PPP) 1996: 0.26 2001: 0.28 Poverty line: R250/month (1996 prices) 1996: 0.59 2001: 0.65 Poverty line: US$2/day (PPP) 1996: 0.40 2001: 0.44	1996: 0.68 2001: 0.73 1996: 0.74 2001: 0.79
Simkins (2005)	A set of decision rules was applied to allocate positive incomes to some adults with unspecified incomes and to adults with zero personal incomes coming from households with zero household income (e.g., people of pensionable age, ill/disabled people, employed, etc.). The imputed personal incomes were then used to derive household income. Note that household income (not per capita income) was the variable used for the poverty and inequality calculations	Poverty line: R7 240/year (1996 prices) 1996: 0.35 2001: 0.37	1996: 0.66 2001: 0.69
Ardington *et al.* (2005)	Some dubious zero personal income values (e.g., employed adults reporting zero income) were set to missing, before SRMI was done to derive the imputed household income. Next, the intra-band empirical distribution of personal incomes from IES 1995 and IES 2000 was replicated to impute a set of intra-band point household incomes in Census 1996 and Census 2001 respectively, before the per capita income variable was derived for the poverty and inequality analyses	Poverty line: R124/month (2001 prices) 1996: 0.383 2001: 0.417 Poverty line: R400/month (2001 prices) 1996: 0.600 2001: 0.675	1996: 0.74 2001: 0.82

6.3 Poverty trends

In this section, three poverty line values (2000 prices) as proposed by Woolard & Leibrrandt (2006) will be used:

- R2 532 per annum (for consumption of food items)
- R3 864 per annum (for consumption of food items and essential non-food items)
- R7 116 per annum (for consumption of food items, essential non-food items and non-essential non-food items)

Figures 12 and 13 below present the cumulative density functions (CDFs) of the three surveys after each of the two SRMI exercises[20]. From the former, it can be seen that, after SRMI1, the 2001 CDF clearly lies on top of the 1996 line (due to the fact that 2001 has the highest proportion of people with zero household income after SRMI1), while the 2007 CDF lies at the bottom, showing quite a distance from the 1996 line. This suggests that poverty experienced an increased between the two censuses, before an abrupt decrease took place between 2001 and 2007. This could partly be explained by the fact that, after SRMI1, a relatively large proportion of households still had zero income (14.8% in 1996, 24.7% in 2001, and 8.6% in 2007 – See Section 5.3). Similar poverty trends could be find in Figure 13 (CDFs after SRMI2), but it can be seen that the extent of poverty increase became smaller between 1996 and 2001 after SRMI2, compared with what happened after SRMI1 (Figure 12).

Figure 12 Cumulative density functions, using post-SRMI1 per capita income (2000 prices)

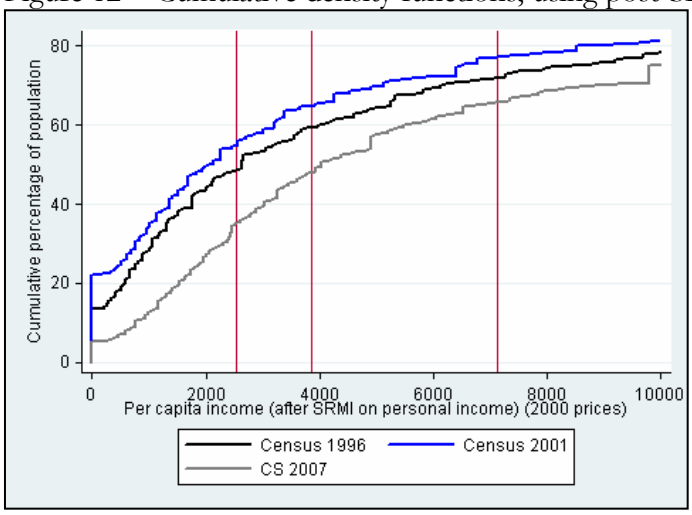
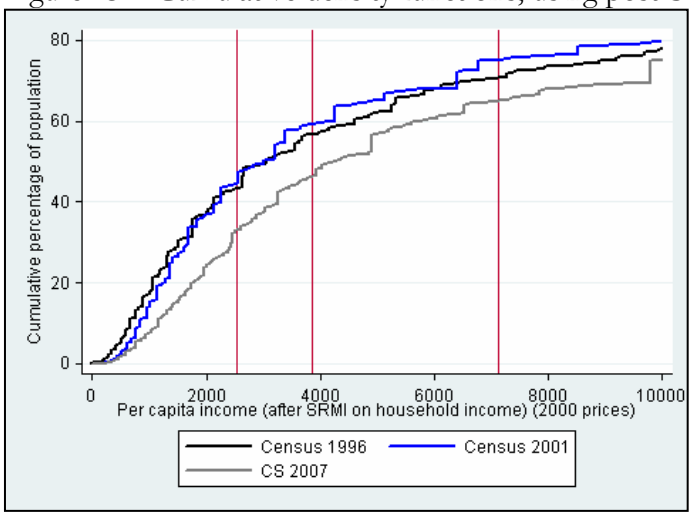
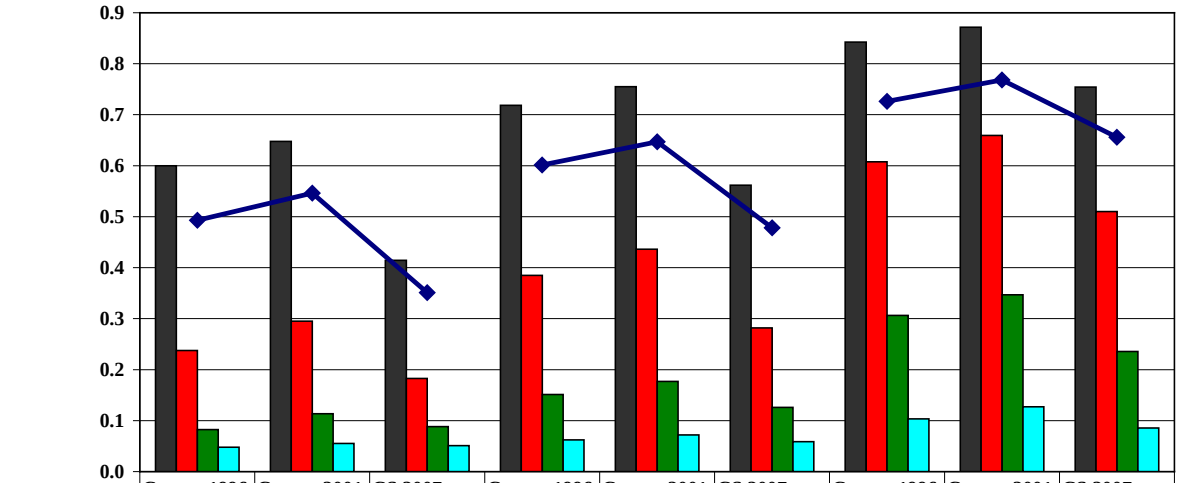


Figure 13 Cumulative density functions, using post-SRMI2 per capita income (2000 prices)



[20] Figures A9 to A12 provide more detail by showing the CDFs for the Black and White population.

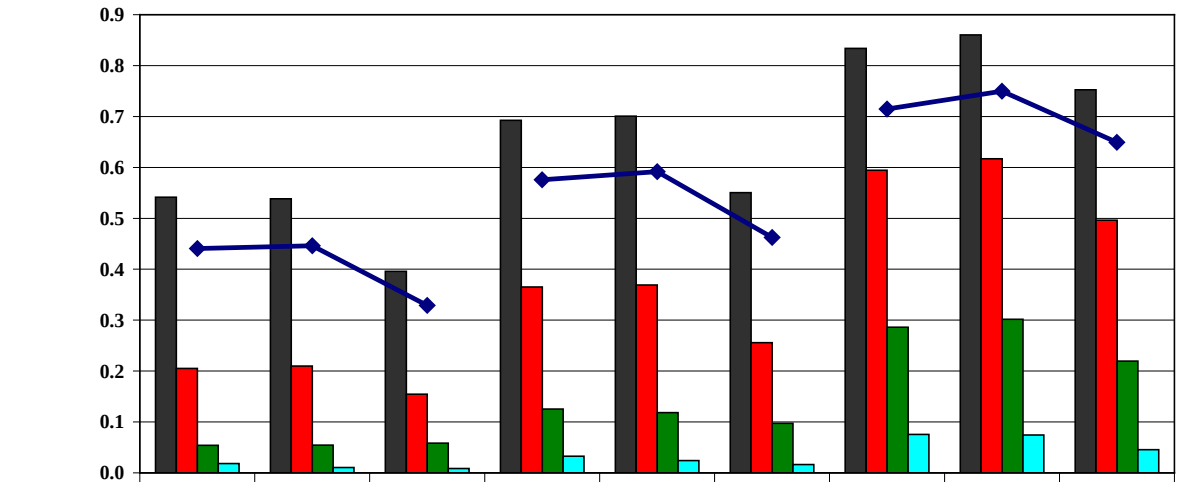
Figure 14 Poverty headcount ratios by race at each poverty line, using post-SRMI1 per capita income (2000 prices)



	Census 1996	Census 2001	CS 2007	Census 1996	Census 2001	CS 2007	Census 1996	Census 2001	CS 2007
	R2 532			R3 864			R7 116		
Black	0.600	0.648	0.414	0.718	0.755	0.562	0.842	0.872	0.754
Coloured	0.238	0.295	0.183	0.385	0.436	0.282	0.607	0.659	0.510
Indian	0.082	0.113	0.088	0.151	0.177	0.126	0.306	0.347	0.236
White	0.048	0.055	0.051	0.062	0.072	0.059	0.103	0.127	0.086
All	0.493	0.546	0.351	0.601	0.647	0.478	0.726	0.768	0.656

Next, Figure 14 and 15 present the poverty headcount by race at each poverty line after each SRMI exercise. From Figure 13, it can be seen that after SRMI1, at all three poverty lines, the poverty headcount increased between the two censuses in all race groups, before it showed an abrupt decrease between 2001 and 2007. However, if one looks at the poverty headcount trends after SRMI2, Figure 15 shows that the poverty headcount stagnated between 1996 and 2001, before showing a similar abrupt decrease in 2007.

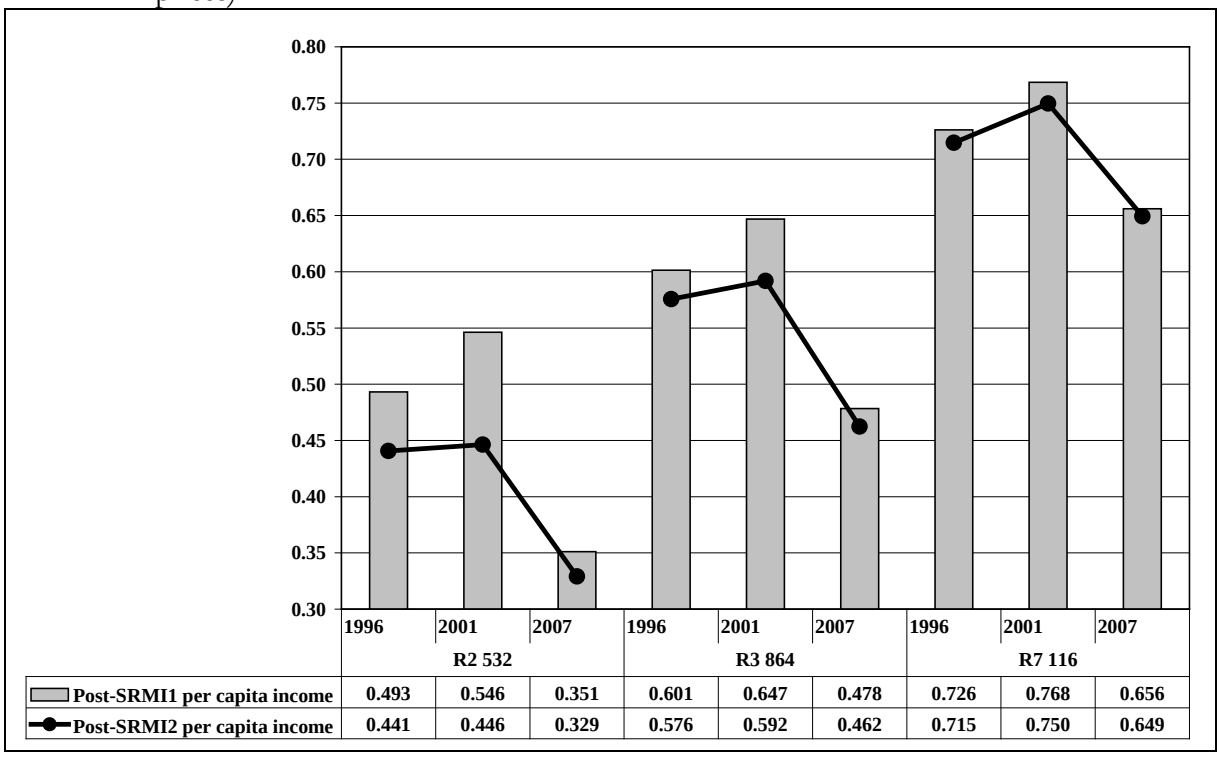
Figure 15 Poverty headcount ratios by race at each poverty line, using post-SRMI2 per capita income (2000 prices)



	Census 1996	Census 2001	CS 2007	Census 1996	Census 2001	CS 2007	Census 1996	Census 2001	CS 2007
	R2 532			R3 864			R7 116		
Black	0.541	0.538	0.396	0.693	0.701	0.551	0.834	0.860	0.752
Coloured	0.205	0.210	0.155	0.365	0.369	0.256	0.594	0.617	0.496
Indian	0.054	0.055	0.058	0.125	0.118	0.098	0.286	0.302	0.219
White	0.018	0.011	0.009	0.033	0.024	0.016	0.076	0.074	0.046
All	0.441	0.446	0.329	0.576	0.592	0.462	0.715	0.750	0.649

Additionally, if one compares the poverty headcount results at each poverty line from the two SRMI methods, it can be seen that, at all poverty lines and in all surveys, the poverty headcount values are lower after SRMI2, as shown in Figure 16. Finally, Tables A10 to A12 provide more detail by showing the poverty headcount, poverty gap and squared poverty gap ratios by numerous demographic variables other than race (e.g., gender, highest educational attainment, etc.) after each SRMI method was applied.

Figure 16 Poverty headcount ratios at each poverty line, comparing the results using post-SRMI1 per capita income (2000 prices) with post-SRMI2 per capita income (2000 prices)

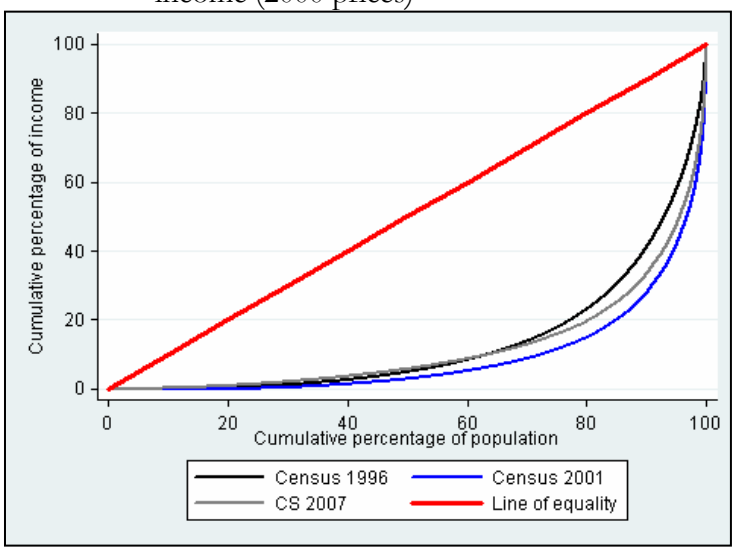


	1996	2001	2007	1996	2001	2007	1996	2001	2007
	R2 532			R3 864			R7 116		
Post-SRMI1 per capita income	0.493	0.546	0.351	0.601	0.647	0.478	0.726	0.768	0.656
Post-SRMI2 per capita income	0.441	0.446	0.329	0.576	0.592	0.462	0.715	0.750	0.649

6.4 Inequality trends

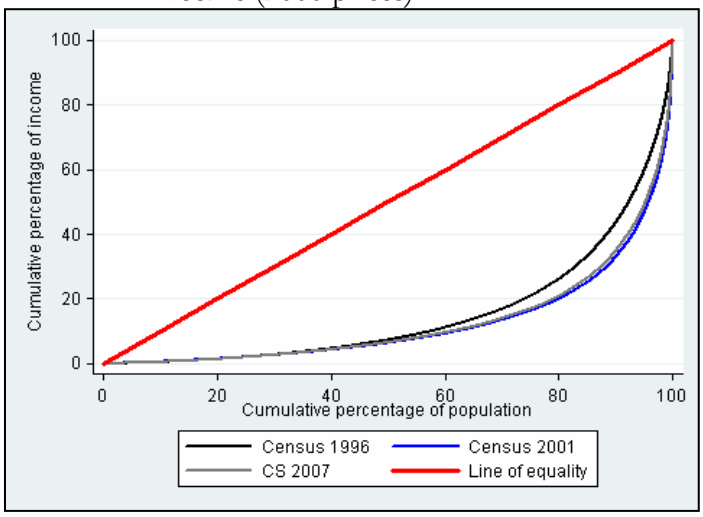
As far as the inequality trends are concerned, Figures 17 and 18 below present the Lorenz curves of the whole population in each survey.

Figure 17 Lorenz curves for the whole population in each survey, using post-SRMI1 per capita income (2000 prices)



From Figure 17, it can be seen that, using the per capita income variable after SRMI1, the 2001 curve is furthest away from the line of equality, while the opposite happens when one looks at the 1996 line, with the 2001 curve sandwiched between the two census curves. This suggests that the inequality increased between the two censuses, before showing a decline in 2007. A similar trend could be found in Figure 18, when using the per capita income variable after SRMI2, but the 2001 and 2007 curves are very close together, which suggested that the inequality problem worsened between 1996 and 2001, before a stagnating trend is observed between 2001 and 2007. Additionally, Figures A13 to A16 show what happened in the Black and White population, and a similar observation could be found.

Figure 18 Lorenz curves for the whole population in each survey, using post-SRMI2 per capita income (2000 prices)



Gini coefficients in each survey by numerous demographic variables are shown in Table 21 below, and the results show that, regardless of which SRMI method was applied, the Gini coefficient increased between 1996 and 2001, before showing a decline in 2007, but the 2007 Gini coefficient is still greater than the 1996 value.

Table 21 Gini coefficients in each survey

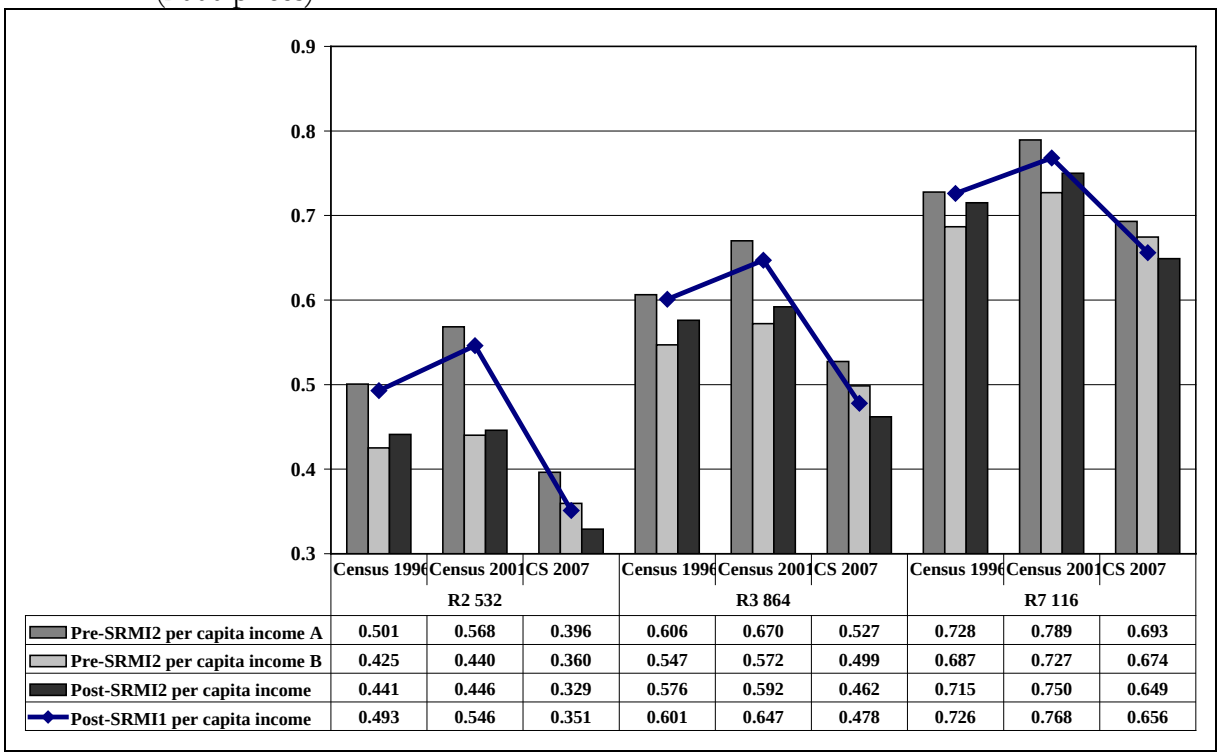
		Post-SRMI1 per capita income					Post-SRMI2 per capita income				
		Gini coefficient			% change		Gini coefficient			% change	
		Census 1996	Census 2001	CS 2007	2001 vs. 1996	2007 vs. 2001	Census 1996	Census 2001	CS 2007	2001 vs. 1996	2007 vs. 2001
All	All	0.734	0.817	0.759	*11%*	*-7%*	0.694	0.756	0.743	*9%*	*-2%*
Gender	Male	0.731	0.814	0.757	*11%*	*-7%*	0.692	0.754	0.739	*9%*	*-2%*
	Female	0.736	0.819	0.761	*11%*	*-7%*	0.696	0.757	0.746	*9%*	*-1%*
Race	Black	0.693	0.778	0.690	*12%*	*-11%*	0.620	0.654	0.663	*5%*	*1%*
	Coloured	0.550	0.644	0.636	*17%*	*-1%*	0.528	0.601	0.615	*14%*	*2%*
	Indian	0.501	0.617	0.620	*23%*	*0%*	0.481	0.583	0.608	*21%*	*4%*
	White	0.477	0.605	0.583	*27%*	*-4%*	0.459	0.566	0.559	*23%*	*-1%*
Province	WC	0.624	0.731	0.714	*17%*	*-2%*	0.609	0.692	0.694	*14%*	*0%*
	EC	0.761	0.835	0.733	*10%*	*-12%*	0.688	0.725	0.719	*5%*	*-1%*
	NC	0.691	0.768	0.737	*11%*	*-4%*	0.663	0.714	0.719	*8%*	*1%*
	FS	0.722	0.805	0.722	*11%*	*-10%*	0.683	0.722	0.704	*6%*	*-2%*
	KZN	0.746	0.826	0.744	*11%*	*-10%*	0.698	0.751	0.731	*8%*	*-3%*
	NW	0.703	0.780	0.711	*11%*	*-9%*	0.654	0.710	0.687	*9%*	*-3%*
	GAU	0.663	0.779	0.754	*17%*	*-3%*	0.633	0.736	0.734	*16%*	*0%*
	MPU	0.729	0.802	0.740	*10%*	*-8%*	0.679	0.728	0.725	*7%*	*0%*
	LIM	0.746	0.807	0.707	*8%*	*-12%*	0.668	0.695	0.691	*4%*	*-1%*

6.5 Poverty and inequality trends: With and without SRMI

As mentioned in Section 6.2, some recent studies (Table 20) ignored households with unspecified household income when estimating poverty and inequality trends. Hence, the focus of this section is to compare these trends with and without SRMI.

Figure 19 below shows that, using the consistently derived per capita income variable without any further decision rules or SRMI applied on the zero or unspecified income values (i.e., the variable "pre-SRMI2 per capita income A") resulted in very similar poverty headcount values compared to the post-SRMI1 per capita income. Once the further decision rules and SRMI2 were applied, poverty headcount ratios decreased further. Hence, this suggests that if one only uses the per capita income variable by accepting zero or unspecified values (note that the households with unspecified income could not be included for poverty analyses), this could lead to over-estimation of poverty. However, regardless of which per capita income variable is used, all four income variables show a similar poverty trends across the three surveys – an increase of poverty headcount between the two censuses, before an abrupt decease took place in CS 2007.

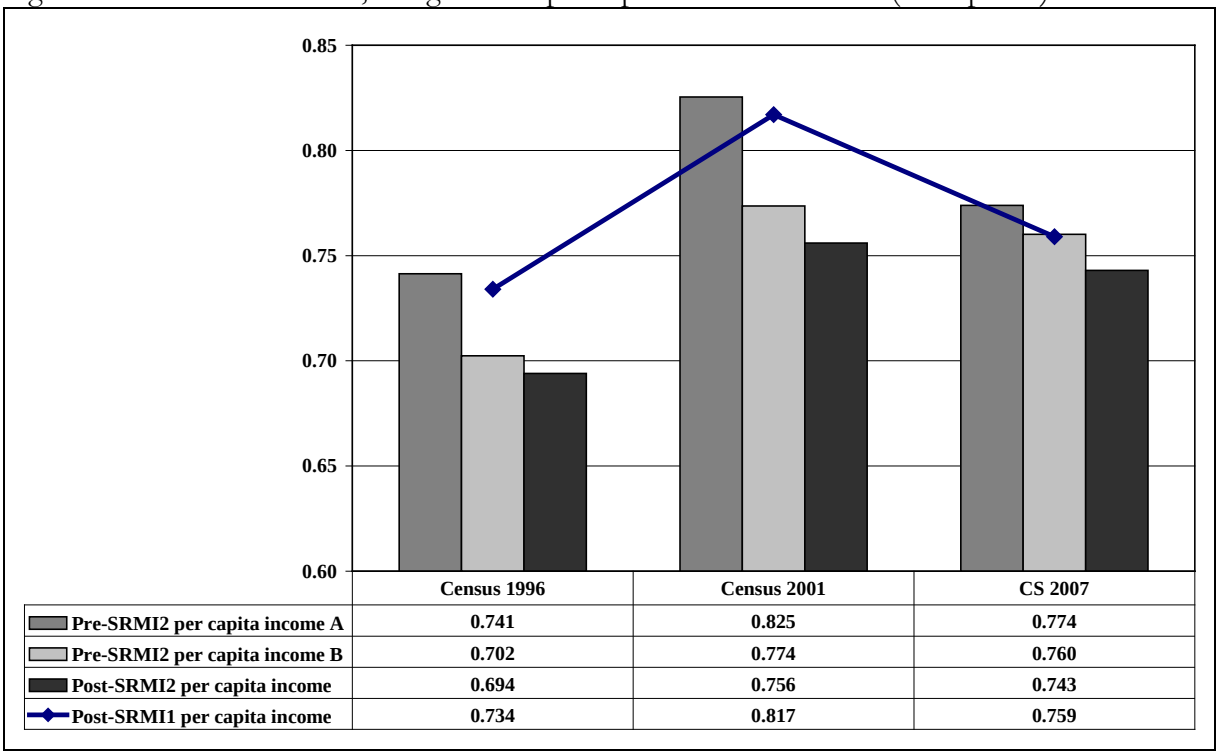
Figure 19 Poverty headcount at each poverty line, using various per capita income variables (2000 prices)



	R2 532			R3 864			R7 116		
	Census 1996	Census 2001	CS 2007	Census 1996	Census 2001	CS 2007	Census 1996	Census 2001	CS 2007
Pre-SRMI2 per capita income A	0.501	0.568	0.396	0.606	0.670	0.527	0.728	0.789	0.693
Pre-SRMI2 per capita income B	0.425	0.440	0.360	0.547	0.572	0.499	0.687	0.727	0.674
Post-SRMI2 per capita income	0.441	0.446	0.329	0.576	0.592	0.462	0.715	0.750	0.649
Post-SRMI1 per capita income	0.493	0.546	0.351	0.601	0.647	0.478	0.726	0.768	0.656

On the other hand, Figure 20 presents the Gini coefficients when using the various per capita income variables, and it can be seen that post-SRMI1 per capita income and pre-SRMI1 per capita income A show very similar Gini coefficient values. Once the further decision rules and SRMI2 were applied in all surveys, this resulted in a lower Gini coefficient. This implies that if one only uses the per capita income variable by accepting zero or unspecified values (again, note that the households with unspecified income could not be included for inequality analyses), this could lead to over-estimation of Gini coefficient. However, regardless of which per capita income variable is used, all four income variables show a similar poverty trends across the three surveys – the Gini coefficient increased between 1996 and 2001, before showing a decline in 2007, but the 2007 Gini coefficient is still greater than the 1996 value.

Figure 20 Gini coefficients, using various per capita income variables (2000 prices)

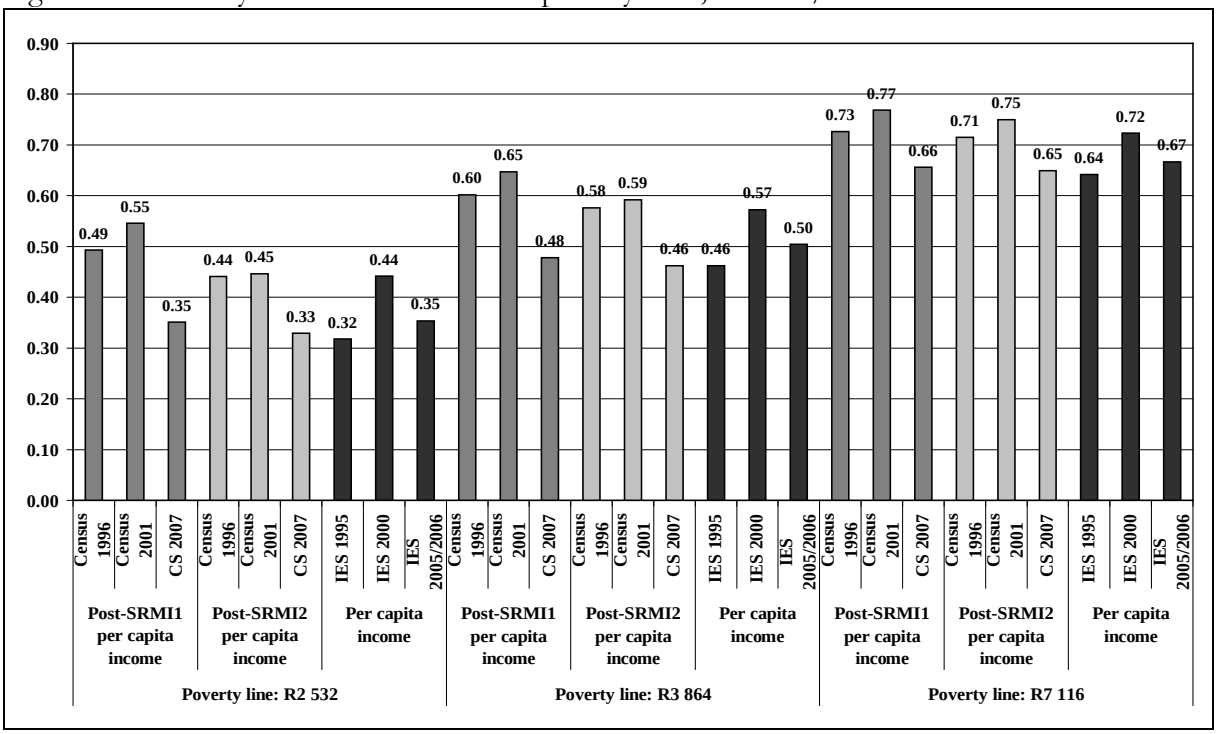


	Census 1996	Census 2001	CS 2007
Pre-SRMI2 per capita income A	0.741	0.825	0.774
Pre-SRMI2 per capita income B	0.702	0.774	0.760
Post-SRMI2 per capita income	0.694	0.756	0.743
Post-SRMI1 per capita income	0.734	0.817	0.759

6.6 Poverty and inequality trends: Census / CS vs. IESs

Figure 21 and Table 22 below compare the poverty headcount and Gini coefficients results between the three surveys under study and the Income and Expenditure Surveys (IESs) in 1995, 2000 and 2005/2006.

Figure 21 Poverty headcount at different poverty lines, Census / CS vs. IESs



Note: All per capita income variables are in 2000 prices.

As far as poverty headcount level is concerned, the IESs also show the same trends as the Census / CS at all poverty lines, i.e., an increase of poverty headcount between 1995 and 2000, before it declined in 2005/2006, but the 2005/2006 level was still higher than the 1995 level (Figure 19). On the other hand, Table 22 shows that the trends in Gini coefficients are slightly differently in IESs. Between IES 1995 and IES 2000, there was a rapid increase in the Gini coefficient values (i.e., similar to what happened between Census 1996 and Census 2001). However, while the Gini coefficient value declined between Census 2001 and CS 2007, it can be seen from Figure 20 that the Gini coefficient increased slightly between IES 2000 and IES 2005/2006.

Table 22 Gini coefficients, Census / CS vs. IESs

Variable	Survey	Gini coefficient
Post-SRMI1 per capita income (2000 prices)	Census 1996	0.734
	Census 2001	0.817
	CS 2007	0.759
Post-SRMI2 per capita income (2000 prices)	Census 1996	0.694
	Census 2001	0.756
	CS 2007	0.743
Per capita income (2000 prices)	IES 1995	0.660
	IES 2000	0.709
	IES 2005/2006	0.715

6.7 Comparing the censuses and CS with national accounts data

From the previous sections, it was concluded that poverty and inequality indices showed an increase between 1996 and 2001, before decreasing rapidly in 2007. In this section, the total household income amounts of each survey with and without SRMI are compared with the total current income amounts of the national accounts, so as to determine if the poverty and inequality trends are affected by the under- or over-estimation, if any, of the total household income of the three surveys concerned.

Current income (South African Reserve Bulletin Code: 6244J) in the national accounts consists of the sum of remuneration of employees, transfers (such as pensions and grants) and residuals (which include income from property, current transfers from incorporated business enterprises, and transfers from the rest of the world). The total current income (in Rand million terms) in 1996, 2001, and 2006[21] were as follows, with the income value in 2000 prices in brackets:

- 1996: R454 082 million (R584 179 million)
- 2001: R737 206 million (R697 649 million)
- 2006: R1 230 808 million (R857 706 million)

Next, the total household income values of surveys under consideration are compared with the national accounts' total current income values. Table 23 and Figure 22 clearly show that Census 1996 is the survey doing the poorest job in capturing total household income, as this amount as percentage of the total current income of the national accounts is very low – 42.05% and 51.33% using the incorrect household income variable derived by Stats SA and the variable derived by the author without SRMI respectively. After the SRMI, this proportion becomes higher, but is still below 60% - 58.20% and 59.97% after SRMI1 and SRMI2 respectively. Therefore, the under-capturing of income in 1996 could result in over-estimation of poverty.

[21] Since the two censuses took place in October, the total household income value of each census is compared with the 1996 and 2001 current income of national accounts respectively. However, since the CS 2007 took place in February 2007, the total household income value is compared with the 2006 current income.

Table 23 Comparing the three surveys with national accounts

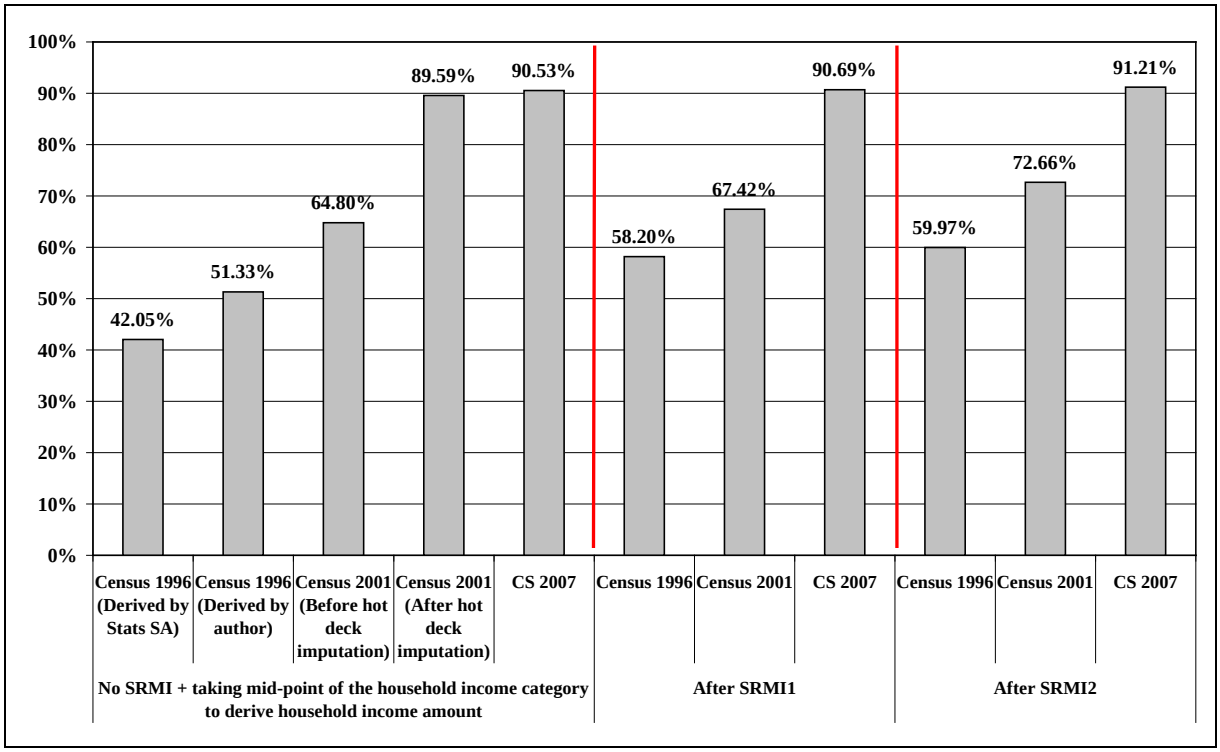
	Total income		Poverty headcount (P0) and Gini coefficients using per capita income (Total income / Household size)			
Total household income variable	**Total income (Rand million) (2000 prices)**	**As % of total income of national accounts**	**P0 (R2532)**	**P0 (R3864)**	**P0 (R7116)**	**Gini coefficient**
Without SRMI + using Pareto calculations to derive mid-point[22] household income value + excluding households with zero or unspecified income						
Census 1996 (Derived by Stats SA)	245 615	42.05%	0.424	0.557	0.688	0.702
Census 1996 (Derived by author)	299 831	51.33%	0.417	0.551	0.682	0.704
Census 2001 (Before hot deck imputation)	452 105	64.80%	0.434	0.551	0.722	0.806
Census 2001 (After hot deck imputation)	625 041	89.59%	0.412	0.529	0.703	0.808
CS 2007	776 476	90.53%	0.301	0.478	0.677	0.792
Without SRMI + using Pareto calculations to derive mid-point household income value + excluding households with unspecified income but including households with zero income						
Census 1996 (Derived by Stats SA)	245 615	42.05%	0.503	0.617	0.731	0.743
Census 1996 (Derived by author)	299 831	51.33%	0.497	0.612	0.725	0.744
Census 2001 (Before hot deck imputation)	452 105	64.80%	0.564	0.655	0.786	0.850
Census 2001 (After hot deck imputation)	625 041	89.59%	0.535	0.628	0.765	0.849
CS 2007	776 476	90.53%	0.342	0.508	0.696	0.804
Deriving household income value by adding the personal income amounts + after SRMI1						
Census 1996	339 993	58.20%	0.493	0.601	0.726	0.734
Census 2001	470 360	67.42%	0.546	0.647	0.768	0.817
CS 2007	780 761	90.69%	0.351	0.478	0.656	0.759
Deriving household income value by adding the personal income amounts + after SRMI2						
Census 1996	350 345	59.97%	0.441	0.576	0.715	0.694
Census 2001	506 896	72.66%	0.446	0.592	0.750	0.756
CS 2007	782 283	91.21%	0.329	0.462	0.649	0.743

Looking at Census 2001, it can be seen that, without SRMI and using the household income variable before hot deck imputation results in the total household income being 64.80% of the national accounts current income. However, this proportion increased to 89.59% if the household income variable after hot deck imputation was used. In addition, when SRMI was run on the household income variable without hot deck imputation, the proportion was 67.42% and 72.66% after SRMI1 and SRMI2 respectively. This implies that over-estimation of poverty in 2001 could have resulted, if the household income variable before hot deck imputation was used for poverty analyses.

CS 2007 is the survey doing the best job in estimating total income, as the total household income is equivalent to slightly more than 90% of the current income of national accounts, regardless of whether SRMI was run or not.

[22] For example, if a households fell under the "R1 – R2 400" category n Census 1996, then such household is assumed to have R1 200 (i.e., average of R1 and R2400) household income amount. Besides, Pareto calculations were done to derive the household income amount of a household that fell under the "R360 000 or more" category.

Figure 22 Total household income as percentage of total current income of national accounts, with and without SRMI



In order to find out if such serious under-estimation of income in the two censuses (especially in Census 1996) resulted in the under-estimation of the extent of poverty increase in 1996 and 2001, as well as the over-estimation of the extent of the decline of poverty between 2001 and 2007, the household income amount was adjusted in all three surveys to bring it in line with national accounts data (i.e., assuming the households with non-zero household income in each survey enjoyed the same proportional increase in household income).

After the adjustments, it was found that the extent of poverty increased between 1996 and 2001 was greater, while the extent of poverty declined between 2001 and 2007 became smaller, had the total income been captured better in the two censuses. However, it can still be concluded that, regardless of whether the adjustments on household income were done, the poverty trends in general are quite similar to the findings by van der Berg *et al.*, i.e., poverty increased from 1990s, before enjoying a downward trend after 2001.

6.8 Conclusion

This section looked at the poverty and inequality trends in the three surveys under study, using various per capita income variables. Regardless of which per capita income variable is used, similar trends are found, i.e., the poverty headcount worsened between Census 1996 and Census 2001, regardless of which poverty line was used, before an abrupt decrease took place between Census 2001 and CS 2007. The 2007 poverty headcount levels were lower than the 1996 levels. The Gini coefficient increased between the two censuses, before it experienced a decrease in CS 2007. However, the 2007 Gini coefficient was still greater than the 1996 value. Furthermore, since the total income was under-captured in the two censuses (the under-capturing problem was more serious in 1996), the rapid decline of poverty between 2001 and 2007 could be over-estimated as a result.

7. Income welfare vs. Non-income welfare

In this section, the analyses on income poverty (i.e., income welfare) in Section 6 and asset/service access (i.e., non-income welfare) in Section 3 are brought together to create a more nuanced understanding of what it means to be the poorest members of society. In each survey, the households are divided into quintiles using the two post-SRMI per capita income variables.

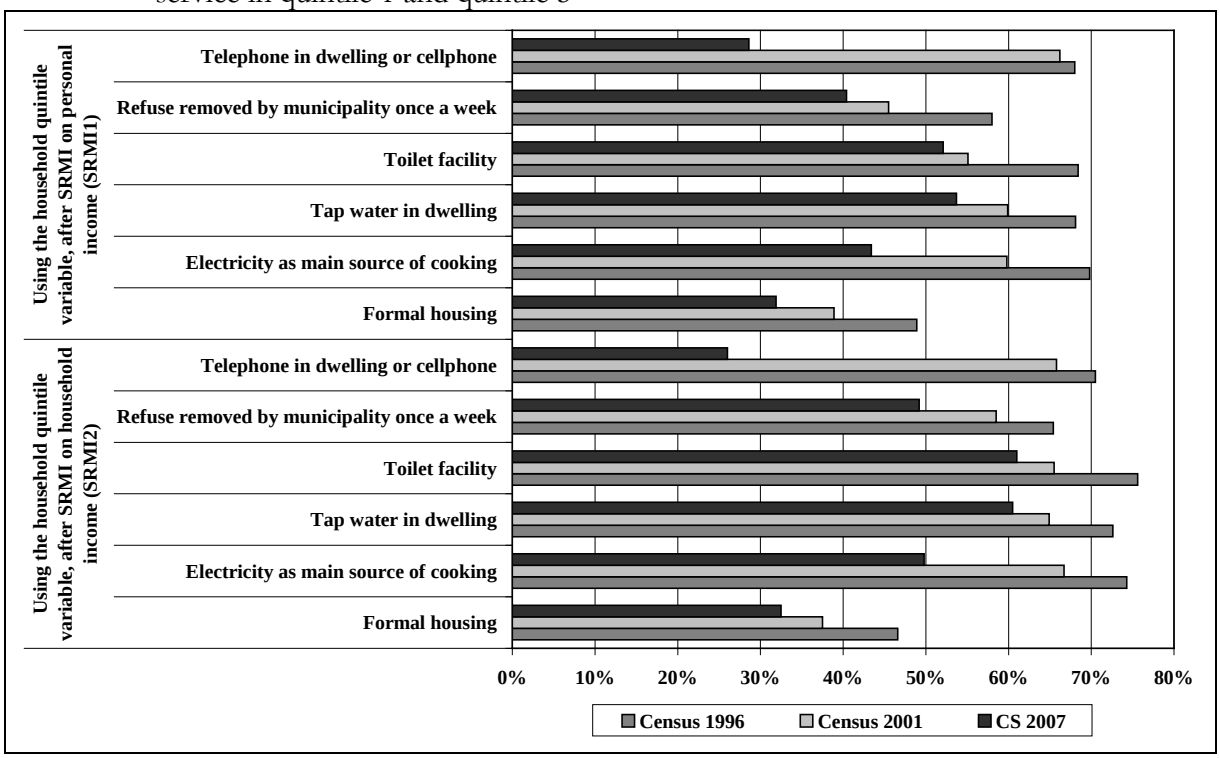
The results are presented in Tables A13 and A14. As expected, the households in the poorest quintiles are most deprived, with a low proportion being poorly educated and unemployed, and most being Black-headed and coming from Eastern Cape, KwaZulu-Natal or Limpopo. A high proportion of these households do not have access to formal dwellings, electricity for cooking, tap water in dwelling, toilet facility, landline telephone, and cellphone.

However, despite the fact that the poorest quintiles are most asset-deprived, it is generally these households that experienced the greatest gains in assets, as shown in Table 24 and Figure 23. Note that the proportion of households in the poorest quintile having access to a telephone in dwelling or a cellphone showed a great increase between Census 2001 and CS 2007, which in turn caused the (Quintile 5 – Quintile 1) difference to decrease abruptly across the two surveys.

Table 24 Difference in proportion of households with access to each household good and service in quintile 1 and quintile 5

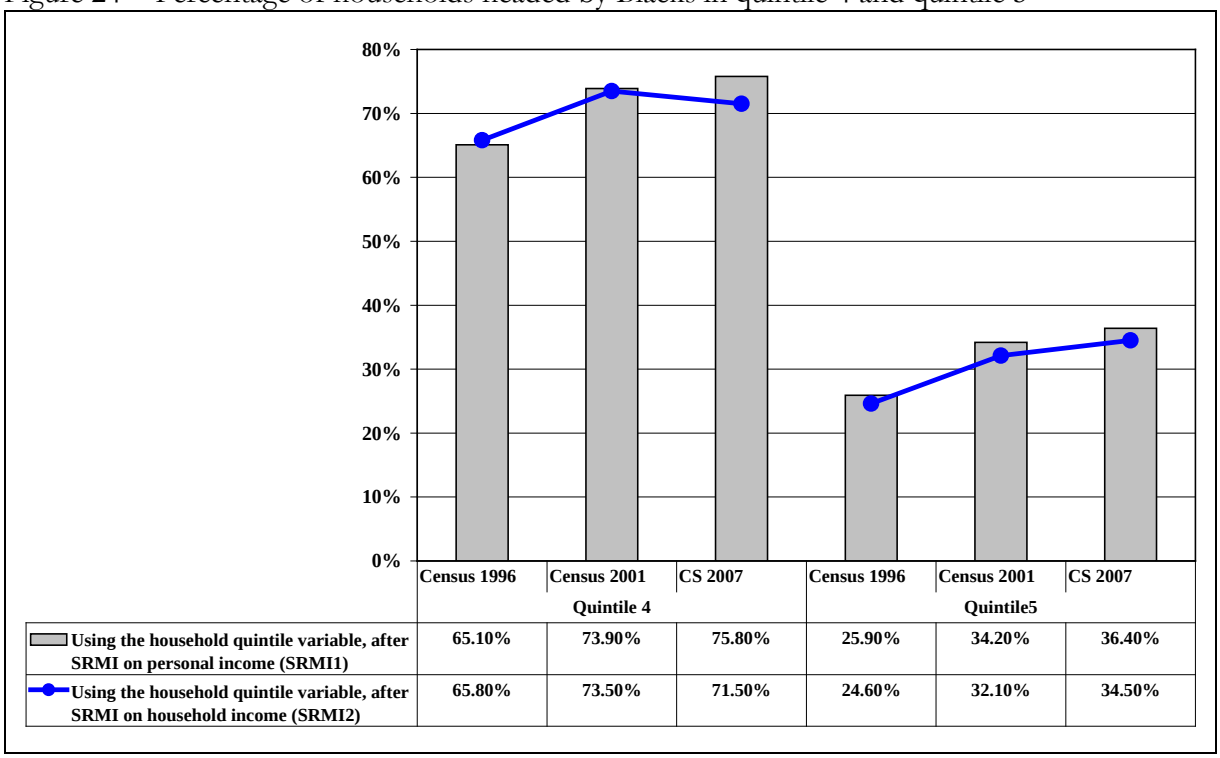
	Census 1996			Census 2001			CS 2007		
	Q1	**Q5**	**Diff.**	**Q1**	**Q5**	**Diff.**	**Q1**	**Q5**	**Diff.**
Using the household quintile variable, after SRMI on personal income (SRMI1)									
Percentage of households with formal housing	38.8%	87.7%	48.9%	49.9%	88.9%	38.9%	57.1%	89.0%	31.9%
Percentage of households using electricity as main source of cooking	20.0%	89.8%	69.8%	31.3%	91.0%	59.8%	50.3%	93.7%	43.4%
Percentage of households with tap water in dwelling	18.9%	87.0%	68.1%	15.0%	74.8%	59.9%	30.8%	84.5%	53.7%
Percentage of households with toilet facility	23.2%	91.6%	68.4%	36.4%	91.5%	55.1%	40.3%	92.4%	52.1%
Percentage of households with refuse removed by municipality once a week	28.0%	86.0%	58.0%	41.7%	87.2%	45.5%	46.2%	86.6%	40.4%
Percentage of households with telephone in dwelling or cellphone	7.6%	75.7%	68.0%	21.5%	87.7%	66.2%	66.0%	94.6%	28.6%
Using the household quintile variable, after SRMI on household income (SRMI2)									
Percentage of households with formal housing	40.9%	87.5%	46.6%	51.0%	88.6%	37.5%	56.6%	89.1%	32.5%
Percentage of households using electricity as main source of cooking	15.5%	89.8%	74.3%	23.9%	90.6%	66.7%	44.0%	93.7%	49.8%
Percentage of households with tap water in dwelling	14.3%	86.9%	72.6%	9.6%	74.5%	64.9%	24.4%	84.9%	60.5%
Percentage of households with toilet facility	16.1%	91.6%	75.6%	25.8%	91.3%	65.5%	31.7%	92.7%	61.0%
Percentage of households with refuse removed by municipality once a week	20.5%	85.9%	65.4%	28.3%	86.8%	58.5%	37.7%	86.9%	49.2%
Percentage of households with telephone in dwelling or cellphone	5.2%	75.6%	70.5%	20.7%	86.6%	65.8%	68.4%	94.4%	26.0%

Figure 23 Difference in proportion of households with access to each household good and service in quintile 1 and quintile 5



Another interesting finding is that the percentage of households headed by Blacks in the richer quintiles increased across the three surveys, and such increase was more rapid between the two censuses (See Figure 24). This suggests that there could be emerging Black affluence taking place.

Figure 24 Percentage of households headed by Blacks in quintile 4 and quintile 5



	Census 1996	Census 2001	CS 2007	Census 1996	Census 2001	CS 2007
	Quintile 4			Quintile5		
Using the household quintile variable, after SRMI on personal income (SRMI1)	65.10%	73.90%	75.80%	25.90%	34.20%	36.40%
Using the household quintile variable, after SRMI on household income (SRMI2)	65.80%	73.50%	71.50%	24.60%	32.10%	34.50%

8. Conclusion

This paper has looked at the sampling design, sample size and questionnaire structure of Census 1996, Census 2001 and CS 2007. Next, CS 2007 was compared with LFS 2007 March and GHS 2007 to ascertain that CS 2007 is a reliable data source, before it was compared with the two censuses to derive the trends in demographics, educational attainment, labour market status, dwelling, and access to household goods and services.

In addition, over the three surveys, the household income variable was derived by Stats SA with different methods. The 1996 household income variable is problematic. In addition, the proportion of households with either zero or unspecified income was high in each survey. Hence, the household income amount was derived in this paper using a consistent method across the three surveys by adding the personal income amounts of all household members, allowing households falling under the same household income category to have different household income values. In other words, the household income amount was NOT derived by simply taking the mid-point value of the relevant household income category. Additionally, SRMI was run at both person (SRMI1) and household (SRMI2) levels, before the per capita income variable was derived for poverty and inequality analyses.

Using the three poverty lines proposed by Stats SA, it was found that regardless of which post-SRMI variable was used, the poverty headcount increased between 1996 and 2001, before it enjoyed an abrupt decrease in 2007 (but the extent of increase between 1996 and 2001 was smaller when post-SRMI2 per capita income was used). In contrast, the Gini coefficient increased a lot between 1996 and 2001 and then decreased in 2007, but the 2007 level was still higher than the 1996 level.

Finally, income welfare was compared with non-income welfare by dividing the households in each survey into quintiles using the two post-SRMI per capita income variables. Regardless of which post-SRMI variable was used, the households in the poorest quintiles were most deprived, with a high proportion being poorly educated and unemployed, Black-headed, coming from Eastern Cape, KwaZulu-Natal or Limpopo. A high proportion of these households did not have access to formal dwellings, electricity for cooking, tap water in dwelling, toilet facility, landline telephone, and cellphone. However, these households were also the group that experienced the greatest gains in non-income welfare, as shown by the fact that the difference in proportion of households with access to each household good and service in quintile 1 and quintile 5 displayed a downward trend across the three surveys.

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Appendix

Table A1 Comparing CS 2007 with GHS 2007 and LFS 2007 March at person level

	CS 2007		GHS 2007		LFS 2007 March	
Province						
Western Cape	5 121 337	10.8%	4 835 706	10.1%	4 805 257	10.1%
Eastern Cape	6 375 010	13.5%	6 900 043	14.4%	7 054 709	14.8%
Northern Cape	1 014 344	2.1%	1 098 628	2.3%	911 719	1.9%
Free State	2 699 474	5.7%	2 961 550	6.2%	2 959 599	6.2%
KwaZulu-Natal	10 052 222	21.2%	9 997 255	20.9%	9 775 601	20.5%
North West	3 175 525	6.7%	3 389 811	7.1%	3 868 850	8.1%
Gauteng	10 218 602	21.6%	9 683 941	20.3%	9 321 080	19.6%
Mpumalanga	3 576 375	7.5%	3 531 552	7.4%	3 267 583	6.9%
Limpopo	5 141 712	10.9%	5 397 522	11.3%	5 688 065	11.9%
	47 374 601	100.0%	47 796 008	100.0%	47 652 463	100.0%
Age						
0-4 years	4 916 978	10.4%	5 164 753	10.8%	5 157 587	10.8%
5-9 years	5 046 210	10.7%	4 985 267	10.4%	4 986 345	10.5%
10-14 years	4 844 887	10.2%	5 077 023	10.6%	5 073 174	10.6%
15-24 years	9 589 029	20.2%	9 626 385	20.1%	9 601 660	20.1%
25-34 years	7 586 023	16.0%	8 180 455	17.1%	8 148 278	17.1%
35-44 years	5 906 397	12.5%	5 358 799	11.2%	5 322 718	11.2%
45-54 years	4 286 572	9.0%	4 084 087	8.5%	4 062 933	8.5%
55-64 years	2 671 938	5.6%	2 785 256	5.8%	2 762 259	5.8%
65+ years	2 526 567	5.3%	2 468 222	5.2%	2 440 016	5.1%
Unspecified	0	0.0%	65 761	0.1%	97 493	0.2%
	47 374 601	100.0%	47 796 008	100.0%	47 652 463	100.0%
Gender						
Male	22 779 786	48.1%	23 531 353	49.2%	23 460 198	49.2%
Female	24 594 815	51.9%	24 252 672	50.7%	24 185 393	50.8%
Unspecified	0	0.0%	11 983	0.1%	6 872	0.0%
	47 374 601	100.0%	47 796 008	100.0%	47 652 463	100.0%
Race						
Black	37 453 233	79.1%	37 978 590	79.5%	37 844 690	79.4%
Coloured	4 247 654	9.0%	4 231 052	8.9%	4 216 216	8.8%
Indian/Asian	1 225 106	2.6%	1 170 826	2.4%	1 167 653	2.5%
White	4 448 608	9.4%	4 342 182	9.1%	4 345 207	9.1%
Unspecified	0	0.0%	73 358	0.2%	78 697	0.2%
	47 374 601	100.0%	47 796 008	100.0%	47 652 463	100.0%
Highest educational attainment (15-65 years only)						
No schooling	1 974 263	6.5%	1 814 524	6.0%	1 826 019	6.1%
Incomplete primary	4 018 248	13.3%	3 991 236	13.2%	3 920 183	13.0%
Incomplete secondary	16 217 703	53.6%	15 109 436	49.9%	14 952 131	49.6%
Matric	5 292 754	17.5%	6 627 627	21.9%	6 860 698	22.7%
Cert/Dip with Matric	1 169 882	3.9%	1 568 911	5.2%	1 544 460	5.1%
Degree	1 221 305	4.0%	980 365	3.2%	928 104	3.1%
Unspecified	337 330	1.1%	207 484	0.7%	129 402	0.4%
	30 231 485	100.0%	30 299 583	100.0%	30 160 997	100.0%
% with at least Matric	7 683 941	25.4%	9 176 903	30.3%	9 462 664	31.4%
Years of educational attainment	Mean	9.02	Mean	9.07	Mean	9.09
	Std Dev.	3.72	Std Dev.	3.62	Std Dev.	3.62
Labour market status (15-65 years)						
Employed	12 245 265	40.5%	12 707 231	41.9%	12 634 896	41.9%
Unemployed/Inactive	17 986 220	59.5%	17 592 352	58.1%	17 526 101	58.1%
	30 231 485	100.0%	30 299 583	100.0%	30 160 997	100.0%

Table A2 Comparing CS 2007 with GHS 2007 at household level

	CS 2007		GHS 2007	
Province				
Western Cape	1 355 936	11.0%	1 360 129	10.3%
Eastern Cape	1 568 832	12.7%	1 781 275	13.5%
Northern Cape	258 067	2.1%	290 121	2.2%
Free State	795 435	6.4%	864 102	6.6%
KwaZulu-Natal	2 212 178	17.9%	2 513 193	19.1%
North West	902 239	7.3%	940 325	7.1%
Gauteng	3 149 037	25.4%	3 228 829	24.5%
Mpumalanga	932 298	7.5%	878 137	6.7%
Limpopo	1 204 734	9.7%	1 305 978	9.9%
	12 378 756	100.0%	13 162 089	100.0%
Age of household head				
0-14 years	20 521	0.2%	14 310	0.1%
15-24 years	695 747	5.6%	874 522	6.6%
25-34 years	2 283 170	18.4%	3 051 990	23.2%
35-44 years	3 043 353	24.6%	2 865 213	21.8%
45-54 years	2 696 787	21.8%	2 584 427	19.6%
55-64 years	1 804 656	14.6%	1 889 227	14.4%
65+ years	1 834 522	14.8%	1 845 734	14.0%
Unspecified	0	0.0%	36 666	0.3%
	12 378 756	100.0%	13 162 089	100.0%
Gender of household head				
Male	7 398 630	59.8%	8 225 178	62.5%
Female	4 980 126	40.2%	4 934 637	37.5%
Unspecified	0	0.0%	2 274	0.0%
	12 378 756	100.0%	13 162 089	100.0%
Race of household head				
Black	9 515 360	76.9%	10244892	77.8%
Coloured	925 655	7.5%	1 005 775	7.6%
Indian/Asian	313 165	2.5%	315 364	2.4%
White	1 624 576	13.1%	1 572 316	11.9%
Unspecified	0	0.0%	23 742	0.2%
	12 378 756	100.0%	13 162 089	100.0%
Marital status of household head				
Married/Live together	6 703 446	54.2%	6 634 149	50.4%
Never married	3 357 845	27.1%	4 053 897	30.8%
Other	2 317 465	18.7%	2 474 043	18.8%
	12 378 756	100.0%	13 162 089	100.0%
Highest educational attainment of household head (15-65 years only)				
No schooling	1 105 982	10.4%	1 051 206	9.2%
Incomplete primary	2 024 671	19.0%	1 904 141	16.6%
Incomplete secondary	4 627 302	43.4%	4 799 566	41.9%
Matric	1 650 444	15.5%	2 297 071	20.1%
Cert/Dip with Matric	490 729	4.6%	759 875	6.6%
Degree	641 942	6.0%	541 115	4.7%
Unspecified	116 040	1.1%	99 420	0.9%
	10 657 110	100.0%	11 452 394	100.0%
% with at least Matric	2 783 115	26.1%	3 598 061	31.4%
Years of educational attainment	Mean	8.36	Mean	8.62
	Std Dev.	4.34	Std Dev.	4.16
Labour market status of household head (15-65 years)				
Employed	6 511 451	61.1%	7 487 825	65.4%
Unemployed/Inactive	4 145 659	38.9%	3 964 569	34.6%
	10 657 110	100.0%	11 452 394	100.0%

Table A3 Trends in demographics, education and labour market status at person level

	Census 1996		Census 2001		CS 2007	
Province						
Western Cape	3 597 025	9.6%	4 232 273	10.1%	5 121 337	10.8%
Eastern Cape	5 910 611	15.8%	6 020 932	14.4%	6 375 010	13.5%
Northern Cape	780 164	2.1%	758 286	1.8%	1 014 344	2.1%
Free State	2 355 342	6.3%	2 534 891	6.1%	2 699 474	5.7%
KwaZulu-Natal	7 771 175	20.8%	8 827 809	21.1%	10 052 222	21.2%
North West	3 062 954	8.2%	3 399 049	8.1%	3 175 525	6.7%
Gauteng	6 604 928	17.7%	8 122 434	19.5%	10 218 602	21.6%
Mpumalanga	2 718 265	7.3%	2 886 937	6.9%	3 576 375	7.5%
Limpopo	4 541 019	12.2%	4 964 603	11.9%	5 141 712	10.9%
	37 341 483	100.0%	41 747 214	100.0%	47 374 601	100.0%
Age						
0-4 years	4 231 158	11.3%	4 197 081	10.1%	4 916 978	10.4%
5-9 years	4 431 054	11.9%	4 594 308	11.0%	5 046 210	10.7%
10-14 years	4 354 955	11.7%	4 765 533	11.4%	4 844 887	10.2%
15-24 years	7 478 744	20.0%	8 578 416	20.5%	9 589 029	20.2%
25-34 years	5 870 192	15.7%	6 679 812	16.0%	7 586 023	16.0%
35-44 years	4 336 922	11.6%	5 265 952	12.6%	5 906 397	12.5%
45-54 years	2 655 847	7.1%	3 476 520	8.3%	4 286 572	9.0%
55-64 years	1 799 339	4.8%	2 137 290	5.1%	2 671 938	5.6%
65+ years	1 762 511	4.7%	2 052 302	4.9%	2 526 567	5.3%
Unspecified	420 761	1.1%	0	0.0%	0	0.0%
	37 341 483	100.0%	41 747 214	100.0%	47 374 601	100.0%
Gender						
Male	17 610 405	47.2%	19 797 757	47.4%	22 779 786	48.1%
Female	19 731 078	52.8%	21 949 457	52.6%	24 594 815	51.9%
	37 341 483	100.0%	41 747 214	100.0%	47 374 601	100.0%
Race						
Black	28 717 477	76.9%	32 965 948	79.0%	37 453 233	79.1%
Coloured	3 321 982	8.9%	3 759 789	9.0%	4 247 654	9.0%
Indian/Asian	982 290	2.6%	1 038 237	2.5%	1 225 106	2.6%
White	3 985 845	10.7%	3 983 240	9.5%	4 448 608	9.4%
Unspecified	333 889	0.9%	0	0.0%	0	0.0%
	37 341 483	100.0%	41 747 214	100.0%	47 374 601	100.0%
Highest educational attainment (15-65 years only)						
No schooling	3 146 391	14.1%	3 503 747	13.3%	1 974 263	6.5%
Incomplete primary	3 624 836	16.3%	4 148 549	15.8%	4 018 248	13.3%
Incomplete secondary	10 245 024	45.9%	11 680 756	44.4%	16 217 703	53.6%
Matric	3 263 309	14.6%	5 039 291	19.1%	5 292 754	17.5%
Cert/Dip with Matric	749 674	3.4%	1 270 735	4.8%	1 169 882	3.9%
Degree	408 306	1.8%	672 448	2.6%	1 221 305	4.0%
Unspecified	859 713	3.9%	0	0.0%	337 330	1.1%
	22 297 253	100.0%	26 315 526	100.0%	30 231 485	100.0%
% with at least Matric	4 421 289	19.8%	6 982 474	26.5%	7 683 941	25.4%
Years of educational attainment	Mean	7.68	Mean	8.06	Mean	9.02
	Std Dev.	4.15	Std Dev.	4.24	Std Dev.	3.72
Labour market status (15-65 years)						
Employed	8 197 242	36.8%	8 717 441	33.1%	12 245 265	40.5%
Unemployed/Inactive	14 100 011	63.2%	17 598 085	66.9%	17 986 220	59.5%
	22 297 253	100.0%	26 315 526	100.0%	30 231 485	100.0%

Table A4 Trends in demographics, education and labour market status at household level

	Census 1996		Census 2001		CS 2007	
Province						
Western Cape	941 449	10.8%	1 134 812	10.5%	1 355 936	11.0%
Eastern Cape	1 280 470	14.7%	1 462 305	13.5%	1 568 832	12.7%
Northern Cape	178 461	2.0%	199 181	1.8%	258 067	2.1%
Free State	608 613	7.0%	703 933	6.5%	795 435	6.4%
KwaZulu-Natal	1 604 111	18.4%	1 996 860	18.4%	2 212 178	17.9%
North West	697 575	8.0%	910 677	8.4%	902 239	7.3%
Gauteng	1 856 057	21.3%	2 561 626	23.7%	3 149 037	25.4%
Mpumalanga	589 470	6.8%	709 062	6.5%	932 298	7.5%
Limpopo	950 273	10.9%	1 150 033	10.6%	1 204 734	9.7%
	8 706 479	100.0%	10 828 489	100.0%	12 378 756	100.0%
Age of household head#						
0-14 years	83 888	1.0%	17 322	0.2%	20 521	0.2%
15-24 years	603 077	7.0%	765 174	7.1%	695 747	5.6%
25-34 years	1 925 056	22.3%	2 333 514	21.5%	2 283 170	18.4%
35-44 years	2 123 493	24.6%	2 735 559	25.3%	3 043 353	24.6%
45-54 years	1 523 646	17.7%	2 123 737	19.6%	2 696 787	21.8%
55-64 years	1 108 397	12.9%	1 406 722	13.0%	1 804 656	14.6%
65+ years	1 153 198	13.4%	1 446 461	13.4%	1 834 522	14.8%
Unspecified	96 584	1.1%	0	0.0%	0	0.0%
	8 617 339	100.0%	10 828 489	100.0%	12 378 756	100.0%
Gender of household head#						
Male	5 343 918	62.0%	6 216 668	57.4%	7 398 630	59.8%
Female	3 273 421	38.0%	4 611 821	42.6%	4 980 126	40.2%
	8 617 339	100.0%	10 828 489	100.0%	12 378 756	100.0%
Race of household head#						
Black	6 238 538	72.4%	8 342 402	77.0%	9 515 360	76.9%
Coloured	702 366	8.2%	860 702	7.9%	925 655	7.5%
Indian/Asian	234 555	2.7%	271 731	2.5%	313 165	2.5%
White	1 386 731	16.1%	1 353 654	12.5%	1 624 576	13.1%
Unspecified	55 149	0.6%	0	0.0%	0	0.0%
	8 617 339	100.0%	10 828 489	100.0%	12 378 756	100.0%
Marital status of household head#						
Married/Live together	5 180 093	60.1%	6 102 615	56.4%	6 703 446	54.2%
Never married	2 053 848	23.8%	2 783 021	25.7%	3 357 845	27.1%
Other	1 383 398	16.1%	1 942 853	17.9%	2 317 465	18.7%
	8 617 339	100.0%	10 828 489	100.0%	12 378 756	100.0%
Highest educational attainment of household head (15-65 years only)#						
No schooling	1 416 605	19.2%	1 758 265	18.5%	1 105 982	10.4%
Incomplete primary	1 238 094	16.8%	1 702 113	17.9%	2 024 671	19.0%
Incomplete secondary	2 866 659	38.8%	3 516 048	37.1%	4 627 302	43.4%
Matric	951 720	12.9%	1 619 226	17.1%	1 650 444	15.5%
Cert/Dip with Matric	352 489	4.8%	538 534	5.7%	490 729	4.6%
Degree	221 527	3.0%	353 750	3.7%	641 942	6.0%
Unspecified	337 682	4.6%	0	0.0%	116 040	1.1%
	7 384 776	100.0%	9 487 936	100.0%	10 657 110	100.0%
% with at least Matric	1 525 736	20.7%	2 511 510	26.5%	2 783 115	26.1%
Years of educational attainment	Mean	7.23	Mean	7.47	Mean	8.36
	Std Dev.	4.72	Std Dev.	4.68	Std Dev.	4.34
Labour market status of household head (15-65 years)#						
Employed	4 449 337	51.6%	4 812 838	50.7%	6 511 451	61.1%
Unemployed/Inactive	4 168 002	48.4%	4 675 098	49.3%	4 145 659	38.9%
	8 617 339	100.0%	9 487 936	100.0%	10 657 110	100.0%

Households with no or more than one household head in Census 1996 were excluded.

Table A5 Trends in household size, dwelling, and access to household goods and services at household level

	Census 1996		Census 2001		CS 2007	
Household size						
Mean	4.07		3.84		3.80	
Standard deviation	2.65		2.55		2.46	
Dwelling type						
House or brick structure	4 168 829	47.9%	6 026 486	55.7%	7 335 065	59.3%
Flat in block of flats	437 114	5.0%	569 908	5.3%	590 932	4.8%
Town/cluster/semi-detached house	365 388	4.2%	305 769	2.8%	334 776	2.7%
Unit in a retirement village	38 594	0.4%	0	0.0%	0	0.0%
Traditional dwelling	1 594 213	18.3%	1 592 399	14.7%	1 442 675	11.7%
House/flat/room in backyard	459 019	5.3%	396 500	3.7%	360 657	2.9%
Informal dwelling/shack in backyard	385 218	4.4%	446 455	4.1%	584 672	4.7%
Informal dwelling/shack not in backyard	1 002 484	11.5%	1 340 445	12.4%	1 202 757	9.7%
Room/flatlet not in backyard	134 833	1.5%	117 212	1.1%	114 229	0.9%
Caravan or tent	16 328	0.2%	29 674	0.3%	14 958	0.1%
Other/Unspecified	104 459	1.2%	3 641	0.0%	398 035	3.2%
	8 706 479	100.0%	10 828 489	100.0%	12 378 756	100.0%
% staying in formal dwellings	*5 009 925*	*57.5%*	*6 902 163*	*63.7%*	*8 260 773*	*66.7%*
Water source						
Piped water in dwelling	3 801 433	43.7%	3 485 244	32.2%	5 840 147	47.2%
Piped water on site	1 437 491	16.5%	3 142 151	29.0%	2 757 874	22.3%
Public tap / Piped water outside yard	1 697 636	19.5%	2 524 315	23.3%	2 378 946	19.2%
Other/Unspecified	1 769 919	20.3%	1 676 779	15.5%	1 401 789	11.3%
	8 706 479	100.0%	10 828 489	100.0%	12 378 756	100.0%
% with piped water in dwelling or on site	*5 238 924*	*60.2%*	*6 627 395*	*61.2%*	*8 598 021*	*69.5%*
Fuel source for cooking						
Electricity	4 077 199	46.8%	5 555 366	51.3%	8 221 479	66.4%
Solar	0	0.0%	23 495	0.2%	4 111	0.0%
Gas	274 843	3.2%	275 736	2.5%	248 868	2.0%
Paraffin	1 868 611	21.5%	2 325 680	21.5%	1 832 033	14.8%
Wood	2 008 118	23.1%	2 217 094	20.5%	1 883 883	15.2%
Coal	312 535	3.6%	298 413	2.8%	148 236	1.2%
Animal dung	103 226	1.2%	106 975	1.0%	30 857	0.2%
Other/Unspecified	61 947	0.7%	25 730	0.2%	9 289	0.1%
	8 706 479	100.0%	10 828 489	100.0%	12 378 756	100.0%
% using electricity or solar energy as the main fuel for cooking	*4 077 199*	*46.8%*	*5 578 861*	*51.5%*	*8 225 590*	*66.4%*

Table A5 Continued

	Census 1996		Census 2001		CS 2007	
Sanitation						
Flush or chemical toilet	4 349 066	50.0%	5 815 421	53.7%	7 197 358	58.1%
Pit latrine / Dry toilet	2 826 685	32.5%	3 093 906	28.6%	3 891 319	31.4%
Bucket latrine	404 734	4.6%	441 861	4.1%	270 276	2.2%
Other/Unspecified	1 125 994	12.9%	1 477 301	13.6%	1 019 803	8.2%
	8 706 479	100.0%	10 828 489	100.0%	12 378 756	100.0%
% with flush or chemical toilet facility	*4 349 066*	*50.0%*	*5 815 421*	*53.7%*	*7 197 358*	*58.1%*
Refuse removal						
Removed by local authority at least once a week	4 434 478	50.9%	5 991 094	55.3%	7 416 704	59.9%
Removed by local authority less often	191 837	2.2%	166 809	1.5%	208 468	1.7%
Communal refuse dump	276 542	3.2%	189 846	1.8%	266 686	2.2%
Own refuse dump	2 814 088	32.3%	3 539 292	32.7%	3 564 450	28.8%
No rubbish disposal	831 884	9.6%	941 448	8.7%	883 219	7.1%
Other/Unspecified	157 650	1.8%	0	0.0%	39 229	0.3%
	8 706 479	100.0%	10 828 489	100.0%	12 378 756	100.0%
% with refuse removed by local authority at least once a week	*4 434 478*	*50.9%*	*5 991 094*	*55.3%*	*7 416 704*	*59.9%*
Ownership of household goods						
Refrigerator	Not asked		5 535 524	51.1%	7 912 501	63.9%
Radio	Not asked		7 900 466	73.0%	9 475 938	76.6%
Television	Not asked		5 825 727	53.8%	8 114 275	65.6%
Computer	Not asked		933 416	8.6%	1 934 800	15.6%
Landline telephone in dwelling	Not asked		2 633 489	24.3%	2 298 735	18.6%
Cellphone	Not asked		3 488 939	32.2%	9 004 307	72.7%
Landline telephone in dwelling or cellphone	2 469 922	28.4%	Not asked		Not asked	
Internet facilities at home	Not asked		Not asked		893746	7.22%
Post facilities (Mail postbox)	Not asked		Not asked		4927983	39.81%
% with landline telephone in dwelling or cellphone	*2 469 922*	*28.4%*	*4 586 948*	*42.4%*	*9 433 850*	*76.2%*

Table A6 Variables used to derive the socio-economic status (SES) index

Dwelling type		**Water source**	
Formal house/flat	House or brick structure	Tap in dwelling	Piped water inside dwelling
	Flat in a block of flats	Tap on premises	Piped water on site or in yard
	Town/Cluster/Semi-detached house	Public tap	Public tap or piped water outside yard
	Unit in retirement village	Other (Reference group)	Water-carrier/tanker
Single room or flatlet or traditional hut	Traditional dwelling/hut		Borehole
	House/Flat/Room in backyard		Dam
	Flat/Room not in backyard		River
	Caravan/Tent		Stream
	Worker's hostel (bed/room)		Spring
Informal dwelling (Reference group)	Informal dwelling in backyard		Water vendor
	Informal dwelling not in backyard		Other/Unspecified
	Private ship/boat	**Highest educational attainment of household head**	
	Other/Unspecified	Above Matric	Cert/Dip with Matric
Fuel source for cooking			BTech/Bachelor Degree/Postgraduate qualifications
Electricity	Electricity	Matric	Matric (with or without university exemption)/NTC III
	Solar	Incomplete secondary	Grade 7 - Grade 11 or NTC I - NTC II
Gas	Gas		Cert/Dip without Matric
Paraffin/Coal	Paraffin		Attended Matric but did not complete it
	Coal	Incomplete primary	Grade 1 - Grade 6
Wood/Dung (Reference group)	Wood	No schooling (Reference group)	No schooling
	Animal dung		Grade 0
	Other/Unspecified	**Refuse removal**	
Sanitation		Removed once a week	Removed by local authority once a week
Toilet facility	Flush toilet	Removed less often	Removed by local authority less often
	Chemical toiler	Communal refuse dump	Communal refuse dump
Pit latrine	Pit latrine with ventilation	Own refuse dump	Own refuse dump
	Pit latrine without ventilation	Other (Reference group)	Other/Unspecified
	Dry toilet	**Telephone in dwelling or cellphone**	
Bucket latrine	Bucket latrine	Yes	Yes
Other (Reference group)	Other/Unspecified	No (Reference group)	No/Unspecified

Table A7 Characteristics of people with no schooling, Census 2001 vs. CS 2007

	Census 2001						CS 2007					
	16-20 years		21-25 years		15-65 years		16-20 years		21-25 years		15-65 years	
Province												
Western Cape	4 810	2.9%	9 743	3.5%	129 879	3.7%	3 571	6.7%	4 629	5.2%	88 877	4.5%
Eastern Cape	35 451	21.3%	45 061	16.1%	554 819	15.8%	11 206	21.1%	12 892	14.6%	238 984	12.1%
Northern Cape	2 873	1.7%	4 522	1.6%	70 957	2.0%	1 675	3.1%	2 694	3.0%	60 900	3.1%
Free State	6 681	4.0%	12 385	4.4%	192 068	5.5%	2 223	4.2%	3 621	4.1%	96 784	4.9%
KwaZulu-Natal	48 169	28.9%	77 718	27.8%	878 473	25.1%	12 787	24.0%	24 627	27.8%	495 641	25.1%
North West	15 118	9.1%	24 232	8.7%	325 115	9.3%	5 135	9.6%	7 177	8.1%	202 580	10.3%
Gauteng	13 174	7.9%	32 717	11.7%	400 487	11.4%	6 556	12.3%	13 595	15.4%	254 258	12.9%
Mpumalanga	13 121	7.9%	24 377	8.7%	344 639	9.8%	4 005	7.5%	7 001	7.9%	223 740	11.3%
Limpopo	27 062	16.3%	49 269	17.6%	607 310	17.3%	6 068	11.4%	12 266	13.9%	312 499	15.8%
	166 459	100.0%	280 024	100.0%	3 503 747	100.0%	53 226	100.0%	88 502	100.0%	1 974 263	100.0%
Gender												
Male	78 125	46.9%	128 737	46.0%	1 442 866	41.2%	29 852	56.1%	47 882	54.1%	822 484	41.7%
Female	88 334	53.1%	151 287	54.0%	2 060 881	58.8%	23 374	43.9%	40 620	45.9%	1 151 779	58.3%
	166 459	100.0%	280 024	100.0%	3 503 747	100.0%	53 226	100.0%	88 502	100.0%	1 974 263	100.0%
Race												
Black	158 338	95.1%	269 102	96.1%	3 300 746	94.2%	46 890	88.1%	81 276	91.8%	1 829 097	92.6%
Coloured	5 922	3.6%	7 781	2.8%	151 587	4.3%	4 198	7.9%	4 016	4.5%	110 697	5.6%
Indian	801	0.5%	1 120	0.4%	24 823	0.7%	649	1.2%	1 630	1.8%	19 487	1.0%
White	1 398	0.8%	2 021	0.7%	26 591	0.8%	1 489	2.8%	1 580	1.8%	14 982	0.8%
	166 459	100.0%	280 024	100.0%	3 503 747	100.0%	53 226	100.0%	88 502	100.0%	1 974 263	100.0%
Employment status												
Employed	13 448	8.1%	45 077	16.1%	840 118	24.0%	7 287	13.7%	20 578	23.3%	624 851	31.6%
Unemployed/Inactive	153 011	91.9%	234 947	83.9%	2 663 629	76.0%	45 939	86.3%	67 924	76.7%	1 349 412	68.4%
	166 459	100.0%	280 024	100.0%	3 503 747	100.0%	53 226	100.0%	88 502	100.0%	1 974 263	100.0%

Table A8 Characteristics of people with zero or unspecified personal income, after applying the decision rules in Table 15 but before SRMI was run

	Zero personal income						Unspecified personal income					
	Census 1996		Census 2001		CS 2007		Census 1996		Census 2001		CS 2007	
Age												
0-14 years	11 250 432	49.7%	10 152 386	43.3%	6 902 940	31.3%	1 651 049	43.6%	2 953 967	45.2%	651 117	23.7%
15-24 years	5 508 062	24.3%	6 032 960	25.7%	7 415 695	33.6%	846 429	22.3%	1 493 021	22.9%	532 100	19.3%
25-34 years	2 483 147	11.0%	3 036 696	13.0%	3 392 117	15.4%	491 920	13.0%	789 847	12.1%	540 172	19.6%
35-44 years	1 497 654	6.6%	1 995 117	8.5%	1 982 871	9.0%	307 768	8.1%	527 596	8.1%	422 523	15.4%
45-54 years	916 833	4.0%	1 331 551	5.7%	1 397 190	6.3%	190 887	5.0%	366 093	5.6%	321 197	11.7%
55-64 years	542 886	2.4%	671 093	2.9%	750 591	3.4%	118 848	3.1%	223 097	3.4%	174 739	6.4%
65+ years	240 465	1.1%	214 307	0.9%	216 861	1.0%	95 066	2.5%	175 075	2.7%	108 418	3.9%
Unspecified	199 034	0.9%	0	0.0%	0	0.0%	88 541	2.3%	0	0.0%	0	0.0%
	22 638 513	100.0%	23 434 110	100.0%	22 058 265	100.0%	3 790 508	100.0%	6 528 696	100.0%	2 750 266	100.0%
(Now the focus is on the people 15-65 years)												
Province												
Western Cape	771 331	7.0%	902 067	6.9%	1 255 904	8.4%	196 144	10.0%	537 009	15.7%	412 355	20.6%
Eastern Cape	2 033 407	18.5%	1 947 495	14.9%	2 216 983	14.8%	169 696	8.6%	535 332	15.7%	195 835	9.8%
Northern Cape	199 672	1.8%	215 383	1.6%	312 121	2.1%	29 122	1.5%	47 953	1.4%	46 330	2.3%
Free State	742 733	6.8%	815 941	6.2%	877 289	5.9%	66 374	3.4%	201 638	5.9%	42 996	2.1%
KwaZulu-Natal	2 430 388	22.1%	2 947 337	22.5%	3 445 970	23.0%	421 767	21.5%	698 311	20.5%	345 815	17.3%
North West	1 008 632	9.2%	1 275 359	9.7%	1 090 984	7.3%	120 549	6.1%	122 557	3.6%	91 240	4.6%
Gauteng	1 617 781	14.7%	2 347 300	17.9%	2 855 564	19.1%	560 862	28.5%	898 970	26.3%	719 188	35.9%
Mpumalanga	777 383	7.1%	957 325	7.3%	1 198 543	8.0%	184 020	9.4%	158 356	4.6%	81 444	4.1%
Limpopo	1 398 126	12.7%	1 687 274	12.9%	1 714 961	11.5%	216 349	11.0%	214 487	6.3%	66 514	3.3%
	10 979 453	100.0%	13 095 481	100.0%	14 968 319	100.0%	1 964 883	100.0%	3 414 613	100.0%	2 001 717	100.0%
Race												
Black	9 302 241	84.7%	11 427 466	87.3%	12 777 472	85.4%	1 430 310	72.8%	2 368 794	69.4%	1 150 619	57.5%
Coloured	754 462	6.9%	852 541	6.5%	1 098 218	7.3%	148 442	7.6%	398 288	11.7%	298 024	14.9%
Indian/Asian	244 281	2.2%	261 902	2.0%	325 631	2.2%	52 992	2.7%	104 873	3.1%	98 291	4.9%
White	612 416	5.6%	553 572	4.2%	766 998	5.1%	296 532	15.1%	542 658	15.9%	454 783	22.7%
Unspecified	66 053	0.6%	0	0.0%	0.0%	0.0%	36 607	1.9%	0	0.0%	0	0.0%
	10 979 453	100.0%	13 095 481	100.0%	14 968 319	100.0%	1 964 883	100.0%	3 414 613	100.0%	2 001 717	100.0%
Gender												
Male	4 295 568	39.1%	5 571 479	42.5%	6 356 435	42.5%	817 326	41.6%	1 474 836	43.2%	1 053 662	52.6%
Female	6 683 885	60.9%	7 524 002	57.5%	8 611 884	57.5%	1 147 557	58.4%	1 939 777	56.8%	948 055	47.4%
	10 979 453	100.0%	13 095 481	100.0%	14 968 319	100.0%	1 964 883	100.0%	3 414 613	100.0%	2 001 717	100.0%

Table A8 Continued

	Zero personal income						Unspecified personal income					
	Census 1996		Census 2001		CS 2007		Census 1996		Census 2001		CS 2007	
Educational attainment												
No schooling	1 550 428	14.1%	1 793 934	13.7%	838 189	5.6%	220 181	11.2%	366 709	10.7%	69 968	3.5%
Incomplete primary	1 995 796	18.2%	2 227 261	17.0%	1 847 663	12.3%	255 825	13.0%	462 191	13.5%	158 105	7.9%
Incomplete secondary	5 756 234	52.4%	6 659 366	50.9%	9 479 023	63.3%	937 601	47.7%	1 640 312	48.0%	935 794	46.7%
Matric	1 298 009	11.8%	2 038 312	15.6%	2 222 145	14.8%	324 517	16.5%	724 200	21.2%	491 725	24.6%
Matric + Cert/Dip	95 466	0.9%	294 553	2.2%	293 596	2.0%	43 864	2.2%	147 712	4.3%	118 801	5.9%
Degree	40 182	0.4%	82 055	0.6%	159 248	1.1%	25 186	1.3%	73 489	2.2%	151 648	7.6%
Unspecified	243 338	2.2%	0	0.0%	128 455	0.9%	157 709	8.0%	0	0.0%	75 676	3.8%
	10 979 453	100.0%	13 095 481	100.0%	14 968 319	100.0%	1 964 883	100.0%	3 414 613	100.0%	2 001 717	100.0%
Employment status												
Employed	95 084	0.9%	181 237	1.4%	708 852	4.7%	311 810	15.9%	533 763	15.6%	1 173 085	58.6%
Unemployed/Inactive/ Not EAP	10 884 369	99.1%	12 914 244	98.6%	14 259 467	95.3%	1 653 073	84.1%	2 880 850	84.4%	828 632	41.4%
	10 979 453	100.0%	13 095 481	100.0%	14 968 319	100.0%	1 964 883	100.0%	3 414 613	100.0%	2 001 717	100.0%
Number of employed in the household												
0	5 634 895	51.3%	7 726 781	59.0%	7 073 944	47.3%	637 892	32.5%	1 250 754	36.6%	333 991	16.7%
1	3 586 138	32.7%	3 795 315	29.0%	4 937 020	33.0%	747 729	38.1%	1 209 602	35.4%	629 709	31.5%
2	1 272 667	11.6%	1 166 393	8.9%	2 027 186	13.5%	391 009	19.9%	639 952	18.7%	636 180	31.8%
3+	485 753	4.4%	406 992	3.1%	930 169	6.2%	188 253	9.6%	314 305	9.2%	401 837	20.1%
	10 979 453	100.0%	13 095 481	100.0%	14 968 319	100.0%	1 964 883	100.0%	3 414 613	100.0%	2 001 717	100.0%
SES quintile												
Quintile1	2 887 224	26.3%	3 377 554	25.8%	3 915 257	26.2%	353 029	18.1%	552 652	16.2%	183 222	9.2%
Quintile2	2 800 387	25.5%	3 170 947	24.2%	3 503 699	23.4%	337 120	17.3%	555 286	16.3%	223 625	11.2%
Quintile3	2 146 153	19.5%	2 658 783	20.3%	2 969 501	19.8%	394 465	20.2%	619 221	18.1%	381 276	19.0%
Quintile4	1 912 630	17.4%	2 399 571	18.3%	3 394 894	22.7%	507 788	26.1%	837 916	24.5%	726 338	36.3%
Quintile5	1 125 725	10.3%	1 488 626	11.4%	1 184 968	7.9%	355 987	18.3%	849 538	24.9%	487 256	24.3%
Unspecified	107 334	1.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	10 979 453	100.0%	13 095 481	100.0%	14 968 319	100.0%	1 948 389	100.0%	3 414 613	100.0%	2 001 717	100.0%

Table A9 Characteristics of households with unspecified household income, after applying the further decision rules but before SRMI2 was run

	Census 1996		Census 2001		CS 2007	
Province						
Western Cape	160 084	7.8%	390 522	9.7%	313 778	14.0%
Eastern Cape	306 460	15.0%	665 480	16.5%	286 072	12.8%
Northern Cape	26 593	1.3%	55 384	1.4%	46 216	2.1%
Free State	105 714	5.2%	267 806	6.6%	87 897	3.9%
KwaZulu-Natal	416 433	20.4%	787 924	19.5%	371 399	16.6%
North West	154 544	7.6%	287 417	7.1%	158 229	7.1%
Gauteng	455 409	22.3%	927 984	23.0%	719 056	32.2%
Mpumalanga	155 745	7.6%	237 821	5.9%	134 005	6.0%
Limpopo	258 579	12.7%	416 384	10.3%	117 929	5.3%
	2 039 561	100.0%	4 036 722	100.0%	2 234 581	100.0%
Race of household head						
Black	1 660 156	81.4%	3 312 178	82.1%	1 622 109	72.6%
Coloured	108 443	5.3%	270 227	6.7%	192 623	8.6%
Indian/Asian	37 104	1.8%	71 573	1.8%	63 204	2.8%
White	217 898	10.7%	382 744	9.5%	356 645	16.0%
Unspecified	15 960	0.8%	0	0.0%	0	0.0%
	2 039 561	100.0%	4 036 722	100.0%	2 234 581	100.0%
Gender of household head						
Male	1 198 342	58.8%	2 214 432	54.9%	1 417 618	63.4%
Female	841 219	41.2%	1 822 290	45.1%	816 963	36.6%
	2 039 561	100.0%	4 036 722	100.0%	2 234 581	100.0%
Educational attainment of household head						
No schooling	509 861	25.0%	923 066	22.9%	212 676	9.5%
Incomplete primary	362 617	17.8%	754 465	18.7%	377 044	16.9%
Incomplete secondary	764 670	37.5%	1 529 115	37.9%	994 353	44.5%
Matric	207 965	10.2%	592 434	14.7%	374 000	16.7%
Matric + Cert/Dip	46 410	2.3%	144 626	3.6%	92 407	4.1%
Degree	28 434	1.4%	93 005	2.3%	132 258	5.9%
Unspecified	119 604	5.9%	11	0.0%	51 843	2.3%
	2 039 561	100.0%	4 036 722	100.0%	2 234 581	100.0%
Marital status of household head						
Married	1 032 742	50.6%	1 780 952	44.1%	916 620	41.0%
Live together	135 101	6.6%	395 235	9.8%	186 964	8.4%
Never married	592 313	29.0%	1 263 161	31.3%	795 298	35.6%
Widower/Widow	174 784	8.6%	393 402	9.7%	216 182	9.7%
Divorced/Separated	94 736	4.6%	203 972	5.1%	119 517	5.3%
Unspecified	9 885	0.5%	0	0.0%	0	0.0%
	2 039 561	100.0%	4 036 722	100.0%	2 234 581	100.0%
Employment status of household head						
Employed	568 981	27.9%	894 898	22.2%	830 140	37.1%
Unemployed/Inactive/Not EAP	1 470 580	72.1%	3 141 824	77.8%	1 404 441	62.9%
	2 039 561	100.0%	4 036 722	100.0%	2 234 581	100.0%
Number of employed in the household						
0	1 320 930	64.8%	2 849 295	70.6%	1 171 938	52.4%
1	443 137	21.7%	735 853	18.2%	519 683	23.3%
2	197 101	9.7%	327 755	8.1%	376 301	16.8%
3+	78 393	3.8%	123 819	3.1%	166 659	7.5%
	2 039 561	100.0%	4 036 722	100.0%	2 234 581	100.0%
SES quintile						
Quintile1	501 344	24.6%	962 666	23.8%	387 088	17.3%
Quintile2	497 802	24.4%	914 055	22.6%	388 988	17.4%
Quintile3	425 588	20.9%	846 650	21.0%	476 066	21.3%
Quintile4	375 234	18.4%	735 908	18.2%	606 850	27.2%
Quintile5	239 593	11.7%	577 443	14.3%	375 589	16.8%
	2 039 561	100.0%	4 036 722	100.0%	2 234 581	100.0%

Table A10 Poverty headcount ratios at different poverty lines

		R2 532					R3 864					R7 116				
		Census 1996	Census 2001	CS 2007	% change 2001 vs. 1996	% change 2007 vs. 2001	Census 1996	Census 2001	CS 2007	% change 2001 vs. 1996	% change 2007 vs. 2001	Census 1996	Census 2001	CS 2007	% change 2001 vs. 1996	% change 2007 vs. 2001
Post-SRMI1 per capita income (2000 prices)																
All	All	0.493	0.546	0.351	*10.8%*	*-35.7%*	0.601	0.647	0.478	*7.7%*	*-26.1%*	0.726	0.768	0.656	*5.8%*	*-14.6%*
Gender	Male	0.475	0.528	0.337	*11.2%*	*-36.2%*	0.582	0.629	0.457	*8.1%*	*-27.3%*	0.709	0.754	0.632	*6.3%*	*-16.2%*
	Female	0.510	0.563	0.364	*10.4%*	*-35.3%*	0.619	0.663	0.498	*7.1%*	*-24.9%*	0.742	0.781	0.678	*5.3%*	*-13.2%*
Race	Black	0.600	0.648	0.414	*8.0%*	*-36.1%*	0.718	0.755	0.562	*5.2%*	*-25.6%*	0.842	0.872	0.754	*3.6%*	*-13.5%*
	Coloured	0.238	0.295	0.183	*23.9%*	*-38.0%*	0.385	0.436	0.282	*13.2%*	*-35.3%*	0.607	0.659	0.510	*8.6%*	*-22.6%*
	Indian	0.082	0.113	0.088	*37.8%*	*-22.1%*	0.151	0.177	0.126	*17.2%*	*-28.8%*	0.306	0.347	0.236	*13.4%*	*-32.0%*
	White	0.048	0.055	0.051	*14.6%*	*-7.3%*	0.062	0.072	0.059	*16.1%*	*-18.1%*	0.103	0.127	0.086	*23.3%*	*-32.3%*
Province	WC	0.185	0.269	0.183	*45.4%*	*-32.0%*	0.309	0.390	0.272	*26.2%*	*-30.3%*	0.502	0.591	0.471	*17.7%*	*-20.3%*
	EC	0.656	0.705	0.427	*7.5%*	*-39.4%*	0.755	0.795	0.583	*5.3%*	*-26.7%*	0.847	0.876	0.773	*3.4%*	*-11.8%*
	NC	0.443	0.481	0.312	*8.6%*	*-35.1%*	0.599	0.620	0.452	*3.5%*	*-27.1%*	0.753	0.773	0.664	*2.7%*	*-14.1%*
	FS	0.537	0.608	0.343	*13.2%*	*-43.6%*	0.659	0.719	0.499	*9.1%*	*-30.6%*	0.776	0.830	0.703	*7.0%*	*-15.3%*
	KZN	0.562	0.626	0.404	*11.4%*	*-35.5%*	0.661	0.716	0.544	*8.3%*	*-24.0%*	0.772	0.816	0.717	*5.7%*	*-12.1%*
	NW	0.528	0.571	0.387	*8.1%*	*-32.2%*	0.649	0.685	0.519	*5.5%*	*-24.2%*	0.786	0.817	0.694	*3.9%*	*-15.1%*
	GAU	0.252	0.335	0.252	*32.9%*	*-24.8%*	0.354	0.431	0.339	*21.8%*	*-21.3%*	0.508	0.588	0.497	*15.7%*	*-15.5%*
	MPU	0.549	0.606	0.402	*10.4%*	*-33.7%*	0.672	0.719	0.540	*7.0%*	*-24.9%*	0.794	0.837	0.715	*5.4%*	*-14.6%*
	LIM	0.687	0.719	0.472	*4.7%*	*-34.4%*	0.787	0.816	0.629	*3.7%*	*-22.9%*	0.874	0.895	0.801	*2.4%*	*-10.5%*
Post-SRMI2 per capita income (2000 prices)																
All	All	0.441	0.446	0.329	*1.1%*	*-26.2%*	0.576	0.592	0.462	*2.8%*	*-22.0%*	0.715	0.750	0.649	*4.9%*	*-13.5%*
Gender	Male	0.421	0.422	0.309	*0.2%*	*-26.8%*	0.553	0.567	0.435	*2.5%*	*-23.3%*	0.696	0.732	0.622	*5.2%*	*-15.0%*
	Female	0.459	0.469	0.348	*2.2%*	*-25.8%*	0.596	0.615	0.487	*3.2%*	*-20.8%*	0.732	0.766	0.674	*4.6%*	*-12.0%*
Race	Black	0.541	0.538	0.396	*-0.6%*	*-26.4%*	0.693	0.701	0.551	*1.2%*	*-21.4%*	0.834	0.860	0.752	*3.1%*	*-12.6%*
	Coloured	0.205	0.210	0.155	*2.4%*	*-26.2%*	0.365	0.369	0.256	*1.1%*	*-30.6%*	0.594	0.617	0.496	*3.9%*	*-19.6%*
	Indian	0.054	0.055	0.058	*1.9%*	*5.5%*	0.125	0.118	0.098	*-5.6%*	*-16.9%*	0.286	0.302	0.219	*5.6%*	*-27.5%*
	White	0.018	0.011	0.009	*-38.9%*	*-18.2%*	0.033	0.024	0.016	*-27.3%*	*-33.3%*	0.076	0.074	0.046	*-2.6%*	*-37.8%*
Province	WC	0.150	0.184	0.147	*22.7%*	*-20.1%*	0.285	0.325	0.240	*14.0%*	*-26.2%*	0.484	0.548	0.450	*13.2%*	*-17.9%*
	EC	0.609	0.590	0.436	*-3.1%*	*-26.1%*	0.743	0.740	0.595	*-0.4%*	*-19.6%*	0.849	0.863	0.775	*1.6%*	*-10.2%*
	NC	0.404	0.391	0.281	*-3.2%*	*-28.1%*	0.576	0.563	0.430	*-2.3%*	*-23.6%*	0.739	0.752	0.649	*1.8%*	*-13.7%*
	FS	0.486	0.482	0.318	*-0.8%*	*-34.0%*	0.633	0.646	0.480	*2.1%*	*-25.7%*	0.764	0.808	0.697	*5.8%*	*-13.7%*
	KZN	0.513	0.538	0.398	*4.9%*	*-26.0%*	0.637	0.672	0.541	*5.5%*	*-19.5%*	0.761	0.801	0.716	*5.3%*	*-10.6%*
	NW	0.475	0.479	0.341	*0.8%*	*-28.8%*	0.626	0.638	0.484	*1.9%*	*-24.1%*	0.777	0.804	0.683	*3.5%*	*-15.0%*
	GAU	0.190	0.223	0.202	*17.4%*	*-9.4%*	0.316	0.360	0.299	*13.9%*	*-16.9%*	0.488	0.563	0.483	*15.4%*	*-14.2%*
	MPU	0.494	0.518	0.388	*4.9%*	*-25.1%*	0.646	0.674	0.532	*4.3%*	*-21.1%*	0.783	0.825	0.712	*5.4%*	*-13.7%*
	LIM	0.631	0.625	0.463	*-1.0%*	*-25.9%*	0.767	0.775	0.626	*1.0%*	*-19.2%*	0.869	0.887	0.804	*2.1%*	*-9.4%*

Table A11 Poverty gap ratios at different poverty lines

		R2 532					R3 864					R7 116				
		Census 1996	Census 2001	CS 2007	% change 2001 vs. 1996	% change 2007 vs. 2001	Census 1996	Census 2001	CS 2007	% change 2001 vs. 1996	% change 2007 vs. 2001	Census 1996	Census 2001	CS 2007	% change 2001 vs. 1996	% change 2007 vs. 2001
Post-SRMI1 per capita income (2000 prices)																
All	All	0.327	0.380	0.171	*16.2%*	*-55.0%*	0.406	0.457	0.256	*12.6%*	*-44.0%*	0.528	0.573	0.406	*8.5%*	*-29.1%*
Gender	Male	0.314	0.370	0.168	*17.8%*	*-54.6%*	0.391	0.444	0.248	*13.6%*	*-44.1%*	0.511	0.558	0.391	*9.2%*	*-29.9%*
	Female	0.338	0.390	0.173	*15.4%*	*-55.6%*	0.419	0.469	0.263	*11.9%*	*-43.9%*	0.542	0.586	0.420	*8.1%*	*-28.3%*
Race	Black	0.401	0.454	0.199	*13.2%*	*-56.2%*	0.493	0.542	0.300	*9.9%*	*-44.6%*	0.629	0.668	0.473	*6.2%*	*-29.2%*
	Coloured	0.124	0.168	0.085	*35.5%*	*-49.4%*	0.191	0.238	0.135	*24.6%*	*-43.3%*	0.336	0.384	0.260	*14.3%*	*-32.3%*
	Indian	0.051	0.075	0.047	*47.1%*	*-37.3%*	0.074	0.101	0.068	*36.5%*	*-32.7%*	0.146	0.173	0.121	*18.5%*	*-30.1%*
	White	0.039	0.047	0.045	*20.5%*	*-4.3%*	0.044	0.053	0.048	*20.5%*	*-9.4%*	0.062	0.071	0.060	*14.5%*	*-15.5%*
Province	WC	0.105	0.169	0.095	*61.0%*	*-43.8%*	0.155	0.227	0.140	*46.5%*	*-38.3%*	0.274	0.350	0.250	*27.7%*	*-28.6%*
	EC	0.448	0.502	0.205	*12.1%*	*-59.2%*	0.540	0.589	0.310	*9.1%*	*-47.4%*	0.663	0.703	0.488	*6.0%*	*-30.6%*
	NC	0.241	0.280	0.141	*16.2%*	*-49.6%*	0.342	0.376	0.224	*9.9%*	*-40.4%*	0.501	0.523	0.389	*4.4%*	*-25.6%*
	FS	0.326	0.400	0.156	*22.7%*	*-61.0%*	0.424	0.494	0.247	*16.5%*	*-50.0%*	0.562	0.624	0.420	*11.0%*	*-32.7%*
	KZN	0.386	0.452	0.193	*17.1%*	*-57.3%*	0.467	0.530	0.291	*13.5%*	*-45.1%*	0.584	0.638	0.454	*9.2%*	*-28.8%*
	NW	0.342	0.382	0.196	*11.7%*	*-48.7%*	0.430	0.470	0.286	*9.3%*	*-39.1%*	0.566	0.600	0.441	*6.0%*	*-26.5%*
	GAU	0.166	0.238	0.137	*43.4%*	*-42.4%*	0.215	0.290	0.192	*34.9%*	*-33.8%*	0.317	0.391	0.301	*23.3%*	*-23.0%*
	MPU	0.354	0.409	0.189	*15.5%*	*-53.8%*	0.446	0.499	0.287	*11.9%*	*-42.5%*	0.582	0.629	0.451	*8.1%*	*-28.3%*
	LIM	0.467	0.505	0.211	*8.1%*	*-58.2%*	0.563	0.598	0.330	*6.2%*	*-44.8%*	0.689	0.717	0.515	*4.1%*	*-28.2%*
Post-SRMI2 per capita income (2000 prices)																
All	All	0.233	0.208	0.129	*-10.7%*	*-38.0%*	0.332	0.320	0.222	*-3.6%*	*-30.6%*	0.479	0.481	0.383	*0.4%*	*-20.4%*
Gender	Male	0.221	0.196	0.120	*-11.3%*	*-38.8%*	0.316	0.304	0.208	*-3.8%*	*-31.6%*	0.461	0.461	0.363	*0.0%*	*-21.3%*
	Female	0.243	0.219	0.137	*-9.9%*	*-37.4%*	0.345	0.335	0.235	*-2.9%*	*-29.9%*	0.495	0.499	0.402	*0.8%*	*-19.4%*
Race	Black	0.289	0.254	0.156	*-12.1%*	*-38.6%*	0.407	0.385	0.267	*-5.4%*	*-30.6%*	0.574	0.567	0.453	*-1.2%*	*-20.1%*
	Coloured	0.084	0.080	0.053	*-4.8%*	*-33.8%*	0.156	0.156	0.105	*0.0%*	*-32.7%*	0.309	0.314	0.236	*1.6%*	*-24.8%*
	Indian	0.022	0.019	0.018	*-13.6%*	*-5.3%*	0.045	0.044	0.039	*-2.2%*	*-11.4%*	0.120	0.118	0.095	*-1.7%*	*-19.5%*
	White	0.009	0.004	0.003	*-55.6%*	*-25.0%*	0.015	0.009	0.006	*-40.0%*	*-33.3%*	0.033	0.024	0.018	*-27.3%*	*-25.0%*
Province	WC	0.061	0.069	0.051	*13.1%*	*-26.1%*	0.117	0.136	0.100	*16.2%*	*-26.5%*	0.244	0.276	0.218	*13.1%*	*-21.0%*
	EC	0.332	0.277	0.174	*-16.6%*	*-37.2%*	0.456	0.416	0.294	*-8.8%*	*-29.3%*	0.615	0.592	0.483	*-3.7%*	*-18.4%*
	NC	0.186	0.164	0.099	*-11.8%*	*-39.6%*	0.296	0.276	0.188	*-6.8%*	*-31.9%*	0.467	0.452	0.361	*-3.2%*	*-20.1%*
	FS	0.249	0.217	0.116	*-12.9%*	*-46.5%*	0.361	0.342	0.214	*-5.3%*	*-37.4%*	0.519	0.519	0.397	*0.0%*	*-23.5%*
	KZN	0.283	0.268	0.161	*-5.3%*	*-39.9%*	0.387	0.388	0.269	*0.3%*	*-30.7%*	0.534	0.548	0.442	*2.6%*	*-19.3%*
	NW	0.250	0.221	0.134	*-11.6%*	*-39.4%*	0.358	0.342	0.232	*-4.5%*	*-32.2%*	0.520	0.516	0.402	*-0.8%*	*-22.1%*
	GAU	0.086	0.089	0.077	*3.5%*	*-13.5%*	0.146	0.163	0.138	*11.6%*	*-15.3%*	0.267	0.299	0.260	*12.0%*	*-13.0%*
	MPU	0.258	0.246	0.153	*-4.7%*	*-37.8%*	0.370	0.372	0.260	*0.5%*	*-30.1%*	0.532	0.546	0.435	*2.6%*	*-20.3%*
	LIM	0.347	0.305	0.183	*-12.1%*	*-40.0%*	0.473	0.447	0.310	*-5.5%*	*-30.6%*	0.635	0.624	0.505	*-1.7%*	*-19.1%*

Table A12 Squared poverty gap ratios at different poverty lines

		R2 532					R3 864					R7 116				
		Census 1996	Census 2001	CS 2007	% change 2001 vs. 1996	% change 2007 vs. 2001	Census 1996	Census 2001	CS 2007	% change 2001 vs. 1996	% change 2007 vs. 2001	Census 1996	Census 2001	CS 2007	% change 2001 vs. 1996	% change 2007 vs. 2001
Post-SRMI1 per capita income (2000 prices)																
All	All	0.259	0.316	0.118	*22.0%*	*-62.7%*	0.323	0.377	0.175	*16.7%*	*-53.6%*	0.432	0.483	0.294	*11.8%*	*-39.1%*
Gender	Male	0.250	0.309	0.119	*23.6%*	*-61.5%*	0.311	0.367	0.172	*18.0%*	*-53.1%*	0.417	0.469	0.285	*12.5%*	*-39.2%*
	Female	0.268	0.323	0.117	*20.5%*	*-63.8%*	0.334	0.386	0.177	*15.6%*	*-54.1%*	0.446	0.494	0.303	*10.8%*	*-38.7%*
Race	Black	0.318	0.379	0.136	*19.2%*	*-64.1%*	0.395	0.450	0.204	*13.9%*	*-54.7%*	0.521	0.569	0.344	*9.2%*	*-39.5%*
	Coloured	0.088	0.128	0.060	*45.5%*	*-53.1%*	0.129	0.172	0.089	*33.3%*	*-48.3%*	0.231	0.278	0.171	*20.3%*	*-38.5%*
	Indian	0.042	0.064	0.038	*52.4%*	*-40.6%*	0.054	0.078	0.049	*44.4%*	*-37.2%*	0.095	0.121	0.083	*27.4%*	*-31.4%*
	White	0.036	0.044	0.043	*22.2%*	*-2.3%*	0.039	0.047	0.045	*20.5%*	*-4.3%*	0.049	0.058	0.052	*18.4%*	*-10.3%*
Province	WC	0.080	0.138	0.072	*72.5%*	*-47.8%*	0.109	0.173	0.099	*58.7%*	*-42.8%*	0.189	0.261	0.171	*38.1%*	*-34.5%*
	EC	0.359	0.421	0.140	*17.3%*	*-66.7%*	0.440	0.495	0.210	*12.5%*	*-57.6%*	0.563	0.611	0.355	*8.5%*	*-41.9%*
	NC	0.168	0.212	0.095	*26.2%*	*-55.2%*	0.242	0.281	0.147	*16.1%*	*-47.7%*	0.379	0.411	0.269	*8.4%*	*-34.5%*
	FS	0.242	0.321	0.105	*32.6%*	*-67.3%*	0.322	0.396	0.162	*23.0%*	*-59.1%*	0.453	0.521	0.294	*15.0%*	*-43.6%*
	KZN	0.312	0.380	0.129	*21.8%*	*-66.1%*	0.380	0.446	0.196	*17.4%*	*-56.1%*	0.491	0.551	0.332	*12.2%*	*-39.7%*
	NW	0.266	0.311	0.140	*16.9%*	*-55.0%*	0.338	0.380	0.200	*12.4%*	*-47.4%*	0.460	0.498	0.325	*8.3%*	*-34.7%*
	GAU	0.136	0.206	0.105	*51.5%*	*-49.0%*	0.168	0.240	0.140	*42.9%*	*-41.7%*	0.242	0.316	0.221	*30.6%*	*-30.1%*
	MPU	0.276	0.332	0.126	*20.3%*	*-62.0%*	0.350	0.405	0.193	*15.7%*	*-52.3%*	0.475	0.527	0.328	*10.9%*	*-37.8%*
	LIM	0.371	0.418	0.134	*12.7%*	*-67.9%*	0.457	0.497	0.216	*8.8%*	*-56.5%*	0.586	0.620	0.375	*5.8%*	*-39.5%*
Post-SRMI2 per capita income (2000 prices)																
All	All	0.148	0.120	0.071	*-18.9%*	*-40.8%*	0.228	0.206	0.133	*-9.6%*	*-35.4%*	0.363	0.355	0.263	*-2.2%*	*-25.9%*
Gender	Male	0.140	0.113	0.066	*-19.3%*	*-41.6%*	0.217	0.194	0.125	*-10.6%*	*-35.6%*	0.348	0.338	0.248	*-2.9%*	*-26.6%*
	Female	0.155	0.126	0.075	*-18.7%*	*-40.5%*	0.238	0.216	0.141	*-9.2%*	*-34.7%*	0.377	0.370	0.277	*-1.9%*	*-25.1%*
Race	Black	0.185	0.146	0.086	*-21.1%*	*-41.1%*	0.282	0.250	0.161	*-11.3%*	*-35.6%*	0.441	0.423	0.314	*-4.1%*	*-25.8%*
	Coloured	0.046	0.040	0.028	*-13.0%*	*-30.0%*	0.090	0.086	0.058	*-4.4%*	*-32.6%*	0.198	0.199	0.143	*0.5%*	*-28.1%*
	Indian	0.012	0.009	0.009	*-25.0%*	*0.0%*	0.025	0.022	0.021	*-12.0%*	*-4.5%*	0.067	0.065	0.055	*-3.0%*	*-15.4%*
	White	0.006	0.002	0.001	*-66.7%*	*-50.0%*	0.010	0.005	0.003	*-50.0%*	*-40.0%*	0.020	0.013	0.010	*-35.0%*	*-23.1%*
Province	WC	0.034	0.034	0.027	*0.0%*	*-20.6%*	0.066	0.075	0.056	*13.6%*	*-25.3%*	0.153	0.174	0.134	*13.7%*	*-23.0%*
	EC	0.213	0.158	0.096	*-25.8%*	*-39.2%*	0.321	0.271	0.179	*-15.6%*	*-33.9%*	0.485	0.450	0.340	*-7.2%*	*-24.4%*
	NC	0.109	0.088	0.051	*-19.3%*	*-42.0%*	0.188	0.167	0.106	*-11.2%*	*-36.5%*	0.336	0.318	0.236	*-5.4%*	*-25.8%*
	FS	0.155	0.122	0.062	*-21.3%*	*-49.2%*	0.245	0.216	0.123	*-11.8%*	*-43.1%*	0.394	0.381	0.264	*-3.3%*	*-30.7%*
	KZN	0.185	0.160	0.089	*-13.5%*	*-44.4%*	0.274	0.260	0.164	*-5.1%*	*-36.9%*	0.416	0.419	0.312	*0.7%*	*-25.5%*
	NW	0.159	0.126	0.074	*-20.8%*	*-41.3%*	0.245	0.218	0.139	*-11.0%*	*-36.2%*	0.393	0.380	0.275	*-3.3%*	*-27.6%*
	GAU	0.050	0.047	0.042	*-6.0%*	*-10.6%*	0.089	0.093	0.081	*4.5%*	*-12.9%*	0.177	0.198	0.170	*11.9%*	*-14.1%*
	MPU	0.164	0.143	0.084	*-12.8%*	*-41.3%*	0.253	0.242	0.157	*-4.3%*	*-35.1%*	0.404	0.408	0.304	*1.0%*	*-25.5%*
	LIM	0.225	0.180	0.101	*-20.0%*	*-43.9%*	0.336	0.297	0.188	*-11.6%*	*-36.7%*	0.502	0.480	0.357	*-4.4%*	*-25.6%*

Table A13 Demographic, education, labour market status, household goods and services access and income profiles by household quintile, using per capita income variable after SRMI on personal income (SRMI1)

	Census 1996						Census 2001						Community Survey 2007					
Quintile	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**
Province																		
Western Cape	4.0%	4.5%	11.8%	16.0%	18.2%	10.8%	5.6%	4.5%	10.2%	14.4%	18.1%	10.5%	6.5%	6.7%	11.4%	13.0%	17.5%	11.0%
Eastern Cape	21.8%	20.3%	13.7%	9.4%	8.0%	14.7%	18.3%	18.4%	14.0%	9.0%	7.4%	13.5%	16.3%	16.3%	14.0%	9.6%	7.1%	12.7%
Northern Cape	1.2%	2.5%	3.0%	1.9%	1.9%	2.1%	1.1%	2.0%	2.5%	2.0%	1.8%	1.8%	1.8%	2.2%	2.4%	2.1%	2.0%	2.1%
Free State	6.5%	9.2%	7.7%	6.0%	5.6%	7.0%	6.8%	8.6%	7.5%	5.4%	4.5%	6.5%	5.9%	7.4%	7.1%	6.7%	5.0%	6.4%
KwaZulu-Natal	21.9%	19.3%	17.5%	17.3%	16.0%	18.4%	21.2%	21.2%	17.3%	16.9%	15.4%	18.4%	20.0%	20.7%	18.2%	16.2%	14.1%	17.9%
North West	8.3%	9.2%	9.1%	7.9%	5.3%	8.0%	8.6%	9.2%	9.6%	8.7%	5.8%	8.4%	8.1%	6.9%	6.8%	8.9%	5.5%	7.3%
Gauteng	12.9%	9.7%	19.0%	29.8%	36.1%	21.3%	19.1%	10.4%	19.1%	30.7%	38.1%	23.7%	20.8%	17.0%	22.2%	29.4%	38.4%	25.4%
Mpumalanga	7.1%	8.3%	7.7%	5.8%	4.9%	6.8%	6.5%	8.2%	7.7%	6.1%	4.5%	6.6%	8.6%	8.7%	7.6%	7.1%	5.6%	7.5%
Limpopo	16.4%	17.1%	10.6%	6.1%	4.1%	10.9%	12.8%	17.5%	12.1%	6.8%	4.5%	10.6%	12.1%	14.2%	10.4%	7.0%	4.8%	9.7%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Race of household head																		
Black	92.8%	92.4%	81.6%	65.1%	25.9%	72.4%	92.8%	94.1%	86.6%	73.9%	34.2%	77.0%	91.3%	92.6%	85.9%	75.8%	36.4%	76.9%
Coloured	2.8%	5.6%	11.8%	13.5%	6.7%	8.2%	3.3%	5.0%	10.3%	12.6%	8.9%	8.0%	3.9%	5.8%	10.0%	9.9%	7.7%	7.5%
Indian/Asian	0.6%	0.6%	2.0%	5.6%	4.8%	2.7%	0.7%	0.4%	1.5%	4.0%	6.1%	2.5%	0.7%	0.8%	1.8%	3.5%	6.1%	2.5%
White	3.2%	1.1%	4.1%	15.1%	61.6%	16.1%	3.1%	0.5%	1.7%	9.5%	50.8%	12.5%	4.1%	0.8%	2.3%	10.8%	49.9%	13.1%
Unspecified	0.5%	0.4%	0.5%	0.8%	1.1%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Gender of household head																		
Male	46.9%	50.4%	61.2%	72.7%	79.9%	62.0%	49.2%	42.6%	55.9%	64.7%	74.6%	57.4%	47.8%	47.0%	58.2%	69.4%	77.0%	59.8%
Female	53.1%	49.6%	38.8%	27.3%	20.1%	38.0%	50.8%	57.4%	44.1%	35.3%	25.4%	42.6%	52.2%	53.0%	41.8%	30.6%	23.0%	40.2%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Age of household head																		
0-14 years	3.2%	0.7%	0.4%	0.2%	0.2%	1.0%	0.5%	0.1%	0.1%	0.0%	0.0%	0.2%	0.4%	0.3%	0.0%	0.0%	0.0%	0.2%
15-24 years	11.3%	7.5%	6.3%	5.1%	4.6%	7.0%	13.8%	4.5%	6.0%	5.4%	3.4%	7.1%	11.4%	4.6%	4.1%	5.2%	2.7%	5.6%
25-34 years	21.7%	16.2%	21.0%	26.2%	26.5%	22.3%	23.9%	15.0%	18.9%	23.9%	24.3%	21.6%	19.6%	14.6%	16.9%	21.3%	19.9%	18.4%
35-44 years	24.0%	20.8%	23.3%	28.7%	26.2%	24.6%	25.9%	22.3%	22.6%	26.8%	28.1%	25.3%	25.2%	21.8%	22.6%	25.1%	28.5%	24.6%
45-54 years	17.8%	16.4%	16.5%	17.8%	20.1%	17.7%	20.2%	19.2%	18.1%	18.8%	21.9%	19.6%	23.0%	20.5%	20.1%	20.4%	25.1%	21.8%
55-64 years	12.4%	15.6%	13.1%	11.0%	12.4%	12.9%	11.1%	16.3%	14.1%	11.6%	13.1%	13.0%	13.1%	16.6%	15.5%	12.6%	15.2%	14.6%
65+ years	8.1%	21.7%	18.3%	10.0%	9.4%	13.4%	4.8%	22.7%	20.3%	13.5%	9.2%	13.4%	7.3%	21.6%	20.8%	15.4%	8.6%	14.8%
Unspecified	1.6%	1.2%	1.2%	0.9%	0.7%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table A13 Continued

	Census 1996						Census 2001						Community Survey 2007					
Quintile	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**
Educational attainment of household head																		
No schooling	32.5%	39.5%	27.5%	11.4%	2.8%	22.9%	25.7%	40.6%	29.0%	14.3%	2.8%	22.1%	16.3%	24.9%	19.0%	9.7%	1.7%	14.4%
Incomplete primary	21.4%	23.2%	21.7%	13.0%	2.7%	16.6%	20.8%	24.9%	23.5%	17.0%	3.7%	18.0%	24.2%	28.2%	24.6%	16.8%	4.1%	19.7%
Incomplete secondary	34.0%	30.3%	40.3%	48.5%	26.1%	36.3%	39.4%	28.7%	36.5%	42.7%	24.4%	35.1%	45.4%	38.2%	42.5%	46.4%	29.6%	40.6%
Matric	6.1%	3.6%	6.2%	15.9%	29.2%	11.9%	11.5%	4.9%	9.1%	19.4%	34.8%	15.9%	9.9%	6.1%	10.0%	18.2%	27.4%	14.2%
Matric + Cert/Dip	0.6%	0.5%	1.1%	5.1%	15.6%	4.4%	1.8%	0.8%	1.5%	5.0%	18.3%	5.3%	1.5%	0.8%	1.9%	4.8%	12.8%	4.3%
Degree	0.3%	0.1%	0.3%	1.4%	13.1%	2.8%	0.6%	0.2%	0.4%	1.7%	16.1%	3.6%	1.3%	0.3%	0.9%	3.3%	23.7%	5.7%
Unspecified	5.2%	2.8%	3.1%	4.6%	10.6%	5.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	1.5%	1.2%	0.9%	0.7%	1.2%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Mean	5.06	4.27	5.58	8.19	11.48	6.81	6.13	4.21	5.54	7.83	11.59	7.07	6.87	5.54	6.56	8.47	11.92	7.83
Std Dev.	4.30	4.10	4.20	3.95	3.20	4.72	4.48	4.20	4.40	4.27	3.24	4.82	4.23	4.23	4.31	4.08	3.17	4.59
% with at least Matric	6.9%	4.2%	7.5%	22.4%	57.8%	19.1%	14.0%	5.9%	11.1%	26.1%	69.1%	24.8%	12.7%	7.2%	12.7%	26.2%	63.9%	24.1%
Marital status of household head																		
Married	45.4%	52.3%	49.8%	58.1%	64.7%	53.9%	35.7%	45.9%	45.4%	47.5%	62.8%	46.7%	33.5%	39.9%	43.5%	45.4%	63.5%	44.9%
Live together	6.0%	6.5%	8.6%	6.5%	3.4%	6.2%	9.1%	10.6%	12.6%	10.4%	5.6%	9.7%	9.5%	10.6%	12.5%	7.7%	5.8%	9.2%
Never married	34.2%	21.8%	23.6%	21.2%	17.5%	23.8%	40.4%	17.8%	21.7%	25.4%	17.3%	25.7%	39.6%	24.6%	23.1%	29.5%	18.1%	27.1%
Widower/Widow	9.6%	15.1%	12.9%	8.7%	6.6%	10.6%	9.6%	21.6%	15.8%	11.3%	6.9%	12.6%	12.6%	20.6%	16.6%	12.2%	6.1%	13.7%
Divorced/Separated	4.3%	4.0%	4.8%	5.2%	7.7%	5.1%	5.2%	4.1%	4.4%	5.5%	7.4%	5.3%	4.8%	4.4%	4.2%	5.3%	6.5%	5.0%
Unspecified	0.5%	0.4%	0.3%	0.3%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Employment status of household head																		
Employed	7.2%	37.4%	57.2%	75.6%	83.4%	51.6%	0.0%	30.2%	51.2%	69.1%	81.0%	44.5%	11.3%	41.1%	56.7%	70.7%	84.3%	52.6%
Unemployed/Inactive/ Not working-age population	92.8%	62.6%	42.9%	24.4%	16.7%	48.4%	100.0%	69.8%	48.8%	31.0%	19.0%	55.6%	88.8%	58.9%	43.3%	29.3%	15.7%	47.4%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Number of employed																		
0	90.3%	49.8%	27.3%	10.8%	10.6%	38.3%	100.0%	56.4%	30.2%	15.4%	9.4%	44.7%	84.7%	44.7%	24.9%	18.2%	7.9%	36.2%
1	8.8%	38.5%	51.9%	52.6%	38.8%	38.0%	0.0%	38.3%	52.8%	57.0%	41.3%	36.2%	13.7%	42.1%	45.8%	52.2%	37.3%	38.4%
2	0.8%	9.7%	16.3%	27.9%	39.1%	18.4%	0.0%	4.6%	13.5%	21.8%	38.8%	15.1%	1.4%	10.9%	21.6%	22.1%	42.5%	19.5%
3+	0.1%	2.1%	4.6%	8.8%	11.5%	5.3%	0.0%	0.7%	3.5%	5.8%	10.5%	4.0%	0.1%	2.3%	7.8%	7.5%	12.4%	6.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Mean	0.11	0.65	1.00	1.38	1.56	0.93	0.00	0.50	0.91	1.20	1.54	0.80	0.17	0.72	1.16	1.23	1.64	0.98
Std Dev.	0.34	0.78	0.88	0.92	0.95	0.96	0.00	0.63	0.80	0.83	0.91	0.89	0.42	0.78	0.99	0.94	0.93	0.97

Table A13 Continued

	Census 1996						Census 2001						Community Survey 2007					
Quintile	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**
Household size																		
1	16.5%	8.6%	17.3%	18.5%	20.7%	16.3%	25.8%	0.0%	11.4%	28.8%	21.2%	18.6%	17.6%	5.7%	9.0%	36.2%	19.3%	17.8%
2	12.0%	6.9%	21.8%	17.6%	27.8%	17.0%	17.9%	7.4%	14.8%	22.3%	25.3%	17.9%	15.8%	7.3%	19.7%	21.4%	25.8%	17.9%
3	14.3%	11.9%	11.0%	17.0%	18.7%	14.5%	14.7%	7.1%	24.2%	10.6%	19.2%	15.3%	14.8%	15.8%	19.3%	11.6%	19.7%	16.1%
4	13.3%	11.8%	16.8%	15.9%	18.1%	15.1%	13.2%	20.7%	11.6%	15.1%	17.9%	15.4%	13.8%	18.8%	15.2%	13.3%	19.6%	16.1%
5	11.0%	17.9%	8.0%	14.0%	8.7%	12.0%	10.1%	16.6%	11.1%	10.8%	9.3%	11.4%	11.8%	15.9%	14.1%	7.9%	9.1%	11.7%
6	9.1%	13.3%	8.8%	7.5%	3.4%	8.5%	7.0%	13.7%	10.3%	5.1%	3.9%	7.8%	9.5%	11.5%	8.9%	4.4%	3.6%	7.6%
7	6.3%	10.8%	6.3%	3.9%	1.4%	5.8%	4.5%	9.4%	7.2%	3.2%	1.8%	5.0%	5.7%	9.1%	5.5%	2.2%	1.5%	4.8%
8+	17.6%	19.0%	10.1%	5.7%	1.1%	10.8%	6.8%	25.2%	9.4%	4.1%	1.5%	8.7%	11.0%	15.8%	8.3%	3.1%	1.4%	8.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Mean	4.53	5.31	3.90	3.60	2.88	4.05	3.47	5.95	4.19	3.11	2.96	3.84	4.09	5.07	4.09	2.77	2.99	3.80
Std Dev.	2.97	2.86	2.63	2.19	1.59	2.64	2.42	2.77	2.55	2.16	1.69	2.55	2.66	2.64	2.36	2.04	1.67	2.46
Ownership of dwelling																		
Owned	85.6%	82.7%	73.6%	71.0%	71.4%	76.9%	53.3%	57.9%	52.8%	50.9%	68.4%	56.2%	62.3%	65.4%	60.0%	51.8%	69.4%	61.6%
Rented/Others/Unspecified	14.4%	17.3%	26.4%	29.1%	28.7%	23.1%	46.7%	42.1%	47.2%	49.1%	31.6%	43.8%	37.7%	34.6%	40.0%	48.2%	30.6%	38.4%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Dwelling type																		
Formal	38.8%	45.8%	53.0%	65.3%	87.7%	57.5%	49.9%	53.5%	61.3%	68.2%	88.9%	63.7%	57.1%	60.3%	64.0%	64.7%	89.0%	66.7%
Single room or flatlet or traditional hut	39.7%	37.0%	25.0%	16.2%	7.3%	25.3%	26.5%	31.2%	19.8%	14.2%	6.9%	19.7%	23.2%	23.4%	18.6%	19.0%	7.6%	18.5%
Informal dwelling	21.6%	17.1%	22.0%	18.5%	5.0%	17.1%	23.6%	15.3%	19.0%	17.6%	4.2%	16.6%	19.7%	16.3%	17.4%	16.3%	3.4%	14.8%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Fuel source for cooking																		
Electricity	20.0%	21.5%	39.8%	66.2%	89.8%	46.8%	31.3%	26.5%	43.5%	66.3%	91.0%	51.3%	50.3%	50.4%	62.7%	76.3%	93.7%	66.5%
Gas	2.3%	2.7%	4.0%	4.2%	2.5%	3.2%	2.2%	2.0%	2.7%	3.1%	2.6%	2.6%	1.5%	1.8%	2.1%	2.2%	2.4%	2.0%
Paraffin/Coal	32.6%	31.1%	32.4%	22.0%	5.4%	25.1%	35.3%	27.0%	28.8%	21.9%	4.6%	24.2%	22.5%	20.4%	18.6%	15.2%	2.6%	16.0%
Wood/Dung	45.2%	44.7%	23.8%	7.6%	2.4%	25.0%	31.2%	44.5%	25.0%	8.6%	1.8%	21.9%	25.7%	27.4%	16.6%	6.3%	1.3%	15.5%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Water																		
Tap in dwelling	18.9%	19.7%	35.7%	60.4%	87.0%	43.7%	15.0%	11.2%	21.8%	40.9%	74.8%	32.2%	30.8%	28.9%	39.7%	53.8%	84.5%	47.2%
Tap on premises	15.8%	20.3%	23.0%	17.2%	5.3%	16.5%	28.8%	30.0%	35.8%	33.3%	16.3%	29.0%	23.9%	26.7%	26.5%	24.5%	8.9%	22.3%
Public tap	29.9%	27.0%	22.2%	13.6%	3.5%	19.5%	32.1%	32.0%	26.6%	18.1%	6.4%	23.3%	28.8%	26.8%	21.4%	14.9%	3.3%	19.2%
Other	35.4%	33.0%	19.2%	8.8%	4.2%	20.3%	24.2%	26.8%	15.8%	7.7%	2.5%	15.5%	16.5%	17.5%	12.4%	6.8%	3.2%	11.3%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table A13 Continued

	Census 1996						Census 2001						Community Survey 2007					
Quintile	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**
Sanitation																		
Toilet facility	23.2%	23.2%	44.0%	70.6%	91.6%	50.0%	36.4%	28.2%	45.4%	68.2%	91.5%	53.7%	40.3%	37.9%	51.5%	70.0%	92.4%	58.1%
Pit latrine	46.1%	50.2%	38.0%	20.4%	5.9%	32.5%	36.8%	43.9%	35.2%	21.0%	5.8%	28.6%	43.2%	46.3%	37.0%	23.3%	6.3%	31.4%
Bucket latrine	5.9%	6.4%	6.1%	3.7%	0.9%	4.7%	5.6%	5.3%	5.0%	3.5%	0.8%	4.1%	3.0%	3.0%	2.8%	1.7%	0.3%	2.2%
Other	24.8%	20.2%	11.9%	5.3%	1.6%	12.9%	21.2%	22.6%	14.5%	7.4%	1.9%	13.6%	13.5%	12.9%	8.8%	4.9%	0.9%	8.2%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Refuse removal																		
Municipality - once a week	28.0%	27.5%	46.2%	69.2%	86.0%	50.9%	41.7%	31.0%	47.9%	68.8%	87.2%	55.3%	46.2%	43.7%	55.5%	68.6%	86.6%	59.9%
Municipality - less than once a week	2.1%	2.1%	2.7%	2.8%	1.2%	2.2%	1.6%	1.3%	1.7%	1.7%	1.2%	1.5%	1.3%	1.4%	1.7%	2.4%	1.6%	1.7%
Communal refuse	3.0%	3.8%	4.8%	2.9%	1.2%	3.2%	1.9%	1.8%	2.2%	1.9%	0.8%	1.8%	1.9%	2.0%	2.6%	2.9%	1.3%	2.2%
Own refuse dump	47.0%	49.9%	35.7%	19.1%	8.6%	32.3%	41.8%	51.1%	38.7%	22.7%	9.4%	32.7%	39.8%	41.8%	32.0%	20.8%	8.7%	28.8%
Other	19.9%	16.7%	10.6%	5.9%	3.0%	11.4%	12.9%	14.7%	9.5%	4.8%	1.4%	8.7%	10.7%	11.0%	8.2%	5.4%	1.7%	7.5%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Telephone in dwelling or cellphone																		
Yes	7.6%	7.6%	17.0%	38.1%	75.7%	28.4%	21.5%	22.1%	32.3%	52.1%	87.7%	42.4%	66.0%	70.5%	73.3%	77.7%	94.6%	76.2%
No	92.4%	92.4%	83.0%	61.9%	24.4%	71.6%	78.5%	77.9%	67.7%	47.9%	12.3%	57.6%	34.0%	29.5%	26.7%	22.3%	5.4%	23.8%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Annual household income after SRMI on personal income (using the 2007 categories in all three surveys)																		
R0	70.3%	0.0%	0.0%	0.0%	0.0%	14.8%	100.0%	0.0%	0.0%	0.0%	0.0%	24.7%	43.2%	0.0%	0.0%	0.0%	0.0%	8.6%
R1 – R4 800	29.1%	53.5%	26.9%	0.1%	0.0%	21.8%	0.0%	35.5%	11.4%	0.0%	0.0%	7.9%	18.8%	5.7%	0.0%	0.0%	0.0%	4.9%
R4 801 – R9 600	0.5%	32.7%	28.2%	11.1%	0.0%	14.5%	0.0%	51.3%	28.2%	17.5%	0.0%	17.5%	24.1%	11.5%	9.0%	0.0%	0.0%	8.9%
R9 601 – R19 200	0.0%	12.9%	29.8%	25.1%	0.3%	14.0%	0.0%	12.5%	42.0%	25.2%	0.0%	15.6%	12.1%	40.3%	22.2%	22.2%	0.0%	19.6%
R19 201 – R38 400	0.0%	0.8%	14.0%	39.0%	17.1%	14.5%	0.0%	0.7%	17.2%	34.3%	10.9%	12.8%	1.8%	37.6%	38.2%	27.1%	0.0%	21.2%
R38 401 – R76 800	0.0%	0.0%	1.1%	21.8%	28.8%	10.1%	0.0%	0.0%	1.3%	20.8%	24.2%	9.1%	0.0%	4.8%	26.8%	28.0%	11.3%	14.3%
R76 801 – R153 600	0.0%	0.0%	0.0%	3.0%	36.5%	7.3%	0.0%	0.0%	0.0%	2.3%	33.1%	6.5%	0.0%	0.1%	3.8%	20.5%	25.0%	9.8%
R153 601 – R307 200	0.0%	0.0%	0.0%	0.0%	13.8%	2.5%	0.0%	0.0%	0.0%	0.0%	20.8%	3.8%	0.0%	0.0%	0.1%	2.2%	33.8%	6.9%
R307 201 – R614 400	0.0%	0.0%	0.0%	0.0%	2.0%	0.4%	0.0%	0.0%	0.0%	0.0%	7.3%	1.3%	0.0%	0.0%	0.0%	0.0%	19.9%	3.8%
R614 401 – R1 228 800	0.0%	0.0%	0.0%	0.0%	1.4%	0.2%	0.0%	0.0%	0.0%	0.0%	2.8%	0.5%	0.0%	0.0%	0.0%	0.0%	7.8%	1.5%
R1 228 801 – R2 457 600	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	1.2%	0.2%
R2 457 601 or more	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	1.1%	0.2%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Mean (Rand, 2000 prices)	142	1 515	4 060	11 121	51 783	13 000	0	1 113	3 052	8 588	64 521	14 422	590	2 675	5 660	13 513	87 754	21 153
Std Dev. (Rand, 2000 prices)	235	481	1 055	3 839	56 026	30 458	0	410	730	2 805	147 967	67 668	581	616	1 213	4 154	163 397	77 952

Table A14 Demographic, education, labour market status, household goods and services access and income profiles by household quintile, using per capita income variable after SRMI on household income (SRMI2)

	Census 1996						Census 2001						Community Survey 2007					
Quintile	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**
Province																		
Western Cape	2.7%	6.9%	11.6%	15.3%	18.5%	10.8%	3.6%	7.2%	11.4%	14.0%	18.6%	10.5%	4.5%	8.0%	11.1%	14.6%	18.0%	11.0%
Eastern Cape	22.0%	18.1%	12.9%	9.3%	7.2%	14.7%	19.7%	16.7%	12.3%	8.9%	7.4%	13.5%	17.7%	16.1%	12.7%	8.2%	7.0%	12.7%
Northern Cape	1.6%	2.6%	2.5%	1.8%	1.9%	2.1%	1.6%	2.1%	2.0%	1.6%	1.8%	1.8%	1.7%	2.3%	2.3%	1.9%	2.0%	2.1%
Free State	7.9%	8.4%	7.3%	6.0%	5.7%	7.0%	7.4%	7.8%	6.7%	5.5%	4.5%	6.5%	6.3%	7.5%	6.7%	6.4%	5.0%	6.4%
KwaZulu-Natal	22.6%	18.9%	17.7%	17.5%	16.1%	18.4%	23.1%	18.7%	17.4%	16.7%	15.4%	18.4%	22.5%	19.2%	17.6%	15.1%	14.0%	17.9%
North West	8.8%	9.2%	9.2%	7.8%	5.4%	8.0%	8.9%	9.3%	9.3%	8.3%	5.8%	8.4%	6.9%	7.5%	7.8%	9.0%	5.5%	7.3%
Gauteng	7.0%	12.9%	21.9%	30.3%	36.4%	21.3%	9.7%	17.3%	25.7%	33.4%	37.8%	23.7%	15.2%	19.3%	24.7%	32.9%	38.1%	25.4%
Mpumalanga	7.9%	8.0%	7.3%	5.9%	4.9%	6.8%	8.1%	7.5%	6.5%	5.7%	4.4%	6.6%	9.4%	8.0%	7.6%	6.6%	5.6%	7.5%
Limpopo	19.5%	15.0%	9.8%	6.2%	4.1%	10.9%	18.0%	13.5%	8.6%	6.1%	4.3%	10.6%	15.7%	12.0%	9.5%	5.5%	4.7%	9.7%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Race of household head																		
Black	95.5%	90.0%	82.2%	65.8%	24.6%	72.4%	95.9%	91.5%	84.5%	73.5%	32.1%	77.0%	95.6%	91.3%	85.3%	71.5%	34.5%	76.9%
Coloured	3.2%	7.6%	10.9%	12.3%	6.6%	8.2%	3.6%	6.8%	10.2%	11.9%	8.9%	8.0%	3.6%	6.7%	9.0%	11.5%	7.5%	7.5%
Indian/Asian	0.3%	0.9%	2.3%	5.4%	4.8%	2.7%	0.3%	0.8%	2.1%	4.4%	6.2%	2.5%	0.4%	1.0%	1.8%	4.4%	5.9%	2.5%
White	0.7%	1.3%	4.1%	15.8%	62.4%	16.1%	0.3%	0.9%	3.3%	10.2%	52.9%	12.5%	0.4%	1.0%	4.0%	12.6%	52.1%	13.1%
Unspecified	0.3%	0.3%	0.4%	0.7%	1.6%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Gender of household head																		
Male	41.5%	53.9%	62.7%	73.3%	79.8%	62.0%	38.7%	49.8%	60.7%	70.2%	74.9%	57.4%	40.5%	49.8%	63.1%	72.8%	77.2%	59.8%
Female	58.5%	46.1%	37.3%	26.7%	20.2%	38.0%	61.3%	50.2%	39.3%	29.8%	25.1%	42.6%	59.5%	50.3%	36.9%	27.2%	22.8%	40.2%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Age of household head																		
0-14 years	3.5%	0.7%	0.3%	0.2%	0.2%	1.0%	0.7%	0.1%	0.0%	0.0%	0.0%	0.2%	0.7%	0.1%	0.0%	0.0%	0.0%	0.2%
15-24 years	6.8%	8.5%	8.4%	6.6%	4.6%	7.0%	5.5%	9.1%	9.3%	7.4%	3.5%	7.1%	6.9%	4.8%	8.5%	4.9%	2.7%	5.6%
25-34 years	16.2%	18.9%	24.2%	26.7%	25.8%	22.3%	15.8%	20.2%	23.7%	27.1%	23.2%	21.6%	16.7%	15.6%	20.4%	21.4%	19.0%	18.4%
35-44 years	22.7%	22.3%	24.7%	27.9%	25.5%	24.6%	24.7%	23.3%	24.7%	28.2%	26.9%	25.3%	26.2%	21.1%	21.5%	28.4%	27.4%	24.6%
45-54 years	17.8%	16.9%	16.4%	17.4%	20.1%	17.7%	20.9%	18.4%	17.7%	19.6%	21.9%	19.6%	24.4%	19.4%	18.2%	23.5%	24.7%	21.8%
55-64 years	15.0%	14.1%	11.7%	10.9%	12.7%	12.9%	15.1%	13.3%	11.5%	10.5%	13.8%	13.0%	14.5%	16.5%	13.2%	12.6%	15.6%	14.6%
65+ years	16.2%	17.5%	13.3%	9.5%	10.4%	13.4%	17.2%	15.7%	13.1%	7.1%	10.8%	13.4%	10.7%	22.7%	18.2%	9.1%	10.6%	14.8%
Unspecified	1.9%	1.1%	1.0%	0.8%	0.7%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table A14 Continued

	Census 1996						Census 2001						Community Survey 2007					
Quintile	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**
Educational attainment of household head																		
No schooling	44.6%	34.1%	22.1%	10.0%	2.6%	22.9%	44.4%	29.8%	18.4%	7.3%	2.5%	22.1%	23.0%	23.3%	15.1%	5.3%	1.7%	14.4%
Incomplete primary	23.1%	23.1%	20.5%	12.6%	2.6%	16.6%	24.8%	23.9%	20.6%	13.2%	3.7%	18.0%	28.3%	27.0%	23.0%	13.1%	4.0%	19.7%
Incomplete secondary	25.4%	34.6%	44.3%	49.0%	26.7%	36.3%	25.9%	36.8%	43.5%	45.7%	25.9%	35.1%	40.2%	39.7%	45.8%	47.8%	29.9%	40.6%
Matric	2.6%	4.3%	7.9%	16.9%	29.2%	11.9%	4.1%	8.0%	14.2%	24.6%	34.8%	15.9%	6.1%	7.1%	11.7%	21.9%	27.5%	14.2%
Matric + Cert/Dip	0.3%	0.6%	1.4%	5.1%	15.3%	4.4%	0.6%	1.2%	2.7%	6.8%	17.5%	5.3%	0.8%	1.0%	2.3%	6.0%	12.6%	4.3%
Degree	0.1%	0.1%	0.3%	1.5%	12.8%	2.8%	0.1%	0.3%	0.7%	2.4%	15.6%	3.6%	0.2%	0.5%	1.1%	4.7%	23.7%	5.7%
Unspecified	4.0%	3.2%	3.6%	4.9%	10.7%	5.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	1.4%	1.0%	1.2%	0.7%	1.2%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Mean	3.68	4.78	6.24	8.41	11.48	6.81	3.82	5.40	6.93	8.98	11.56	7.07	5.73	5.84	7.13	9.38	11.92	7.83
Std Dev.	3.94	4.14	4.15	3.84	3.14	4.72	4.10	4.34	4.28	3.74	3.17	4.82	4.18	4.28	4.21	3.66	3.15	4.59
% with at least Matric	2.9%	5.0%	9.6%	23.6%	57.4%	19.1%	4.8%	9.5%	17.6%	33.8%	67.9%	24.8%	7.1%	8.6%	15.1%	32.6%	63.8%	24.1%
Marital status of household head																		
Married	54.3%	50.3%	47.0%	54.3%	64.2%	53.9%	46.8%	41.3%	39.3%	46.3%	62.1%	46.7%	38.2%	39.5%	35.8%	51.6%	63.5%	44.9%
Live together	5.9%	7.6%	8.3%	6.0%	3.3%	6.2%	9.7%	12.0%	11.3%	8.9%	5.4%	9.7%	10.0%	12.6%	8.1%	9.2%	5.6%	9.2%
Never married	22.1%	24.8%	28.6%	25.6%	17.4%	23.8%	20.3%	27.7%	32.7%	31.4%	17.3%	25.7%	30.8%	23.7%	36.6%	25.5%	17.8%	27.1%
Widower/Widow	13.8%	12.9%	10.8%	8.3%	7.1%	10.6%	19.3%	14.7%	11.3%	7.7%	7.6%	12.6%	16.6%	20.1%	14.3%	8.6%	6.5%	13.7%
Divorced/Separated	3.4%	4.2%	5.1%	5.5%	7.7%	5.1%	3.9%	4.4%	5.4%	5.9%	7.7%	5.3%	4.3%	4.2%	5.2%	5.1%	6.5%	5.0%
Unspecified	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Employment status of household head																		
Employed	20.6%	36.2%	52.0%	69.6%	81.6%	51.6%	19.5%	31.8%	42.5%	62.6%	77.4%	44.5%	27.9%	36.9%	51.0%	73.5%	81.6%	52.6%
Unemployed/Inactive/ Not working-age population	79.4%	63.8%	48.0%	30.5%	18.4%	48.4%	80.5%	68.2%	57.5%	37.4%	22.6%	55.6%	72.1%	63.1%	49.0%	26.5%	18.4%	47.4%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Number of employed																		
0	71.2%	50.9%	35.2%	19.6%	12.7%	38.3%	71.3%	56.9%	44.9%	25.1%	13.4%	44.7%	63.1%	48.3%	37.5%	14.0%	10.9%	36.2%
1	23.8%	36.0%	46.1%	46.8%	38.0%	38.0%	24.9%	33.8%	40.1%	48.0%	39.0%	36.2%	28.7%	37.1%	40.8%	51.2%	36.3%	38.4%
2	4.4%	10.7%	14.6%	25.7%	38.0%	18.4%	3.2%	7.7%	12.1%	21.5%	36.6%	15.1%	6.0%	11.4%	16.7%	26.5%	40.4%	19.5%
3+	0.7%	2.4%	4.1%	7.9%	11.3%	5.3%	0.6%	1.5%	2.9%	5.5%	11.0%	4.0%	2.2%	3.1%	5.0%	8.3%	12.5%	6.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Mean	0.35	0.65	0.89	1.25	1.52	0.93	0.33	0.54	0.74	1.09	1.49	0.80	0.49	0.71	0.91	1.32	1.60	0.98
Std Dev.	0.61	0.81	0.89	0.95	0.98	0.96	0.57	0.73	0.82	0.88	0.97	0.89	0.78	0.84	0.92	0.90	0.99	0.97

Table A14 Continued

	Census 1996						Census 2001						Community Survey 2007					
Quintile	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**
Household size																		
1	1.3%	8.7%	23.8%	26.2%	21.7%	16.3%	0.2%	10.2%	32.1%	34.4%	22.8%	18.6%	6.0%	0.0%	41.2%	22.3%	20.6%	17.8%
2	5.7%	15.3%	17.4%	19.4%	28.3%	17.0%	5.5%	21.5%	19.7%	18.0%	25.3%	17.9%	6.5%	22.7%	11.1%	25.0%	26.0%	17.9%
3	6.1%	16.8%	18.7%	13.3%	18.4%	14.5%	5.2%	19.5%	17.3%	15.7%	18.7%	15.3%	14.0%	18.4%	14.4%	14.0%	19.5%	16.1%
4	17.4%	14.3%	10.3%	16.2%	17.6%	15.1%	22.8%	14.8%	9.8%	12.0%	16.6%	15.4%	14.3%	18.2%	11.5%	18.8%	18.3%	16.1%
5	16.2%	12.3%	11.9%	10.8%	8.3%	12.0%	17.9%	12.1%	8.1%	8.6%	8.9%	11.4%	17.3%	14.8%	8.3%	8.7%	8.7%	11.7%
6	12.3%	13.8%	6.2%	6.5%	3.2%	8.5%	13.9%	8.9%	5.4%	5.3%	4.0%	7.8%	13.0%	9.9%	5.5%	5.0%	3.7%	7.6%
7	14.0%	5.5%	4.2%	3.3%	1.4%	5.8%	9.2%	6.3%	3.6%	3.1%	2.0%	5.0%	10.1%	5.9%	3.3%	2.6%	1.7%	4.8%
8+	27.0%	13.2%	7.4%	4.4%	1.2%	10.8%	25.4%	6.9%	4.1%	3.0%	1.7%	8.7%	18.8%	10.1%	4.6%	3.6%	1.6%	8.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Mean	6.10	4.54	3.50	3.24	2.84	4.05	5.99	3.95	2.99	2.90	2.94	3.84	5.34	4.44	2.94	3.14	2.97	3.80
Std Dev.	2.75	2.66	2.42	2.15	1.61	2.64	2.65	2.35	2.20	2.09	1.77	2.55	2.73	2.33	2.29	2.01	1.74	2.46
Ownership of dwelling																		
Owned	88.4%	81.6%	73.6%	70.0%	70.8%	76.9%	59.0%	53.1%	49.7%	51.3%	67.8%	56.2%	67.3%	63.7%	52.6%	54.3%	69.6%	61.6%
Rented/Others/Unspecified	11.6%	18.4%	26.4%	30.0%	29.2%	23.1%	41.0%	46.9%	50.3%	48.7%	32.2%	43.8%	32.7%	36.3%	47.4%	45.7%	30.4%	38.4%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Dwelling type																		
Formal	40.9%	46.9%	51.3%	63.2%	87.5%	57.5%	51.0%	56.3%	60.1%	67.7%	88.6%	63.7%	56.6%	61.4%	60.6%	68.8%	89.1%	66.7%
Single room or flatlet or traditional hut	44.5%	32.4%	24.2%	17.1%	7.4%	25.3%	34.0%	23.3%	17.1%	13.2%	7.0%	19.7%	26.7%	20.2%	15.0%	9.0%	4.9%	18.5%
Informal dwelling	14.7%	20.7%	24.5%	19.7%	5.1%	17.1%	15.0%	20.4%	22.8%	19.1%	4.4%	16.6%	16.7%	18.4%	24.5%	22.2%	5.9%	14.8%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Fuel source for cooking																		
Electricity	15.5%	26.3%	41.6%	64.1%	89.8%	46.8%	23.9%	36.0%	49.9%	67.9%	90.6%	51.3%	44.0%	54.6%	64.1%	82.1%	93.7%	66.5%
Gas	2.1%	3.2%	3.9%	4.1%	2.5%	3.2%	1.9%	2.5%	2.9%	3.0%	2.6%	2.6%	1.6%	1.8%	2.2%	2.1%	2.4%	2.0%
Paraffin/Coal	27.3%	33.5%	33.7%	23.7%	5.3%	25.1%	26.6%	31.8%	31.5%	22.8%	4.9%	24.2%	20.5%	20.9%	21.1%	12.3%	2.6%	16.0%
Wood/Dung	55.2%	37.0%	20.8%	8.2%	2.5%	25.0%	47.6%	29.7%	15.7%	6.3%	2.0%	21.9%	33.9%	22.7%	12.7%	3.4%	1.3%	15.5%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Water																		
Tap in dwelling	14.3%	23.8%	37.3%	58.9%	86.9%	43.7%	9.6%	17.0%	27.3%	42.6%	74.5%	32.2%	24.4%	32.2%	41.3%	60.3%	84.9%	47.2%
Tap on premises	16.5%	21.0%	22.1%	16.9%	5.3%	16.5%	27.8%	33.4%	34.5%	32.3%	16.3%	29.0%	24.7%	27.0%	26.6%	22.7%	8.7%	22.3%
Public tap	28.4%	26.8%	22.7%	14.7%	3.5%	19.5%	32.2%	29.7%	25.5%	18.1%	6.7%	23.3%	29.7%	25.7%	22.0%	12.1%	3.2%	19.2%
Other	40.9%	28.5%	17.8%	9.5%	4.4%	20.3%	30.4%	20.0%	12.7%	7.1%	2.5%	15.5%	21.2%	15.1%	10.2%	5.0%	3.2%	11.3%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table A14 Continued

	Census 1996						Census 2001						Community Survey 2007					
Quintile	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**All**
Sanitation																		
Toilet facility	16.1%	29.0%	46.6%	69.0%	91.6%	50.0%	25.8%	38.8%	53.7%	70.5%	91.3%	53.7%	31.7%	42.4%	55.2%	76.6%	92.7%	58.1%
Pit latrine	52.1%	46.7%	35.7%	21.1%	5.8%	32.5%	44.5%	37.9%	28.8%	19.0%	5.9%	28.6%	49.5%	43.4%	33.6%	18.9%	6.1%	31.4%
Bucket latrine	5.7%	6.5%	5.9%	3.9%	0.9%	4.7%	5.0%	5.4%	5.0%	3.5%	0.8%	4.1%	2.8%	3.2%	2.6%	1.5%	0.3%	2.2%
Other	26.2%	17.8%	11.8%	6.0%	1.7%	12.9%	24.7%	17.9%	12.5%	7.0%	2.1%	13.6%	16.0%	10.9%	8.6%	3.1%	0.9%	8.2%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Refuse removal																		
Municipality - once a week	20.5%	33.3%	49.0%	67.9%	85.9%	50.9%	28.3%	42.6%	57.3%	72.2%	86.8%	55.3%	37.7%	48.2%	57.9%	75.2%	86.9%	59.9%
Municipality - less than once a week	1.7%	2.4%	2.9%	2.8%	1.2%	2.2%	1.3%	1.7%	1.8%	1.8%	1.2%	1.5%	1.2%	1.6%	2.0%	2.2%	1.6%	1.7%
Communal refuse	2.9%	4.0%	4.6%	3.0%	1.2%	3.2%	1.7%	2.1%	2.2%	1.7%	0.8%	1.8%	1.7%	2.2%	3.0%	2.4%	1.3%	2.2%
Own refuse dump	54.0%	45.2%	33.0%	19.8%	8.6%	32.3%	52.7%	42.1%	31.1%	19.9%	9.7%	32.7%	47.1%	38.1%	29.4%	16.0%	8.5%	28.8%
Other	20.9%	15.2%	10.5%	6.5%	3.1%	11.4%	16.0%	11.4%	7.6%	4.4%	1.5%	8.7%	12.3%	10.0%	7.8%	4.2%	1.7%	7.5%
	20.5%	33.3%	49.0%	67.9%	85.9%	50.9%	28.3%	42.6%	57.3%	72.2%	86.8%	55.3%	37.7%	48.2%	57.9%	75.2%	86.9%	59.9%
Telephone in dwelling or cellphone																		
Yes	5.2%	9.5%	17.8%	37.0%	75.6%	28.4%	20.7%	25.9%	35.5%	53.9%	86.6%	42.4%	68.4%	70.3%	67.6%	84.6%	94.4%	76.2%
No	94.8%	90.5%	82.2%	63.0%	24.4%	71.6%	79.3%	74.1%	64.5%	46.1%	13.4%	57.6%	31.6%	29.7%	32.4%	15.5%	5.6%	23.8%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Annual household income after SRMI on household income (using the 2007 categories in all three surveys)																		
R0	3.3%	0.0%	0.0%	0.0%	0.0%	0.7%	0.6%	0.0%	0.0%	0.0%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.1%
R1 – R4 800	73.6%	36.6%	23.8%	0.0%	0.0%	27.1%	25.0%	10.2%	0.0%	0.0%	0.0%	7.7%	25.3%	0.0%	0.0%	0.0%	0.0%	5.1%
R4 801 – R9 600	21.0%	35.2%	26.2%	17.0%	0.0%	20.1%	60.8%	40.3%	32.1%	0.0%	0.0%	29.7%	34.4%	5.7%	11.7%	0.0%	0.0%	10.7%
R9 601 – R19 200	2.0%	24.3%	28.5%	22.5%	0.3%	15.8%	13.2%	41.4%	36.2%	35.2%	0.0%	25.4%	28.2%	49.5%	33.1%	0.0%	0.0%	24.2%
R19 201 – R38 400	0.0%	3.9%	19.3%	36.5%	18.3%	15.8%	0.5%	7.9%	27.3%	33.2%	11.8%	14.8%	11.5%	37.4%	31.3%	34.8%	0.0%	23.4%
R38 401 – R76 800	0.0%	0.1%	2.1%	20.8%	29.5%	10.3%	0.0%	0.2%	4.4%	28.3%	24.6%	9.6%	0.4%	7.3%	20.9%	36.5%	11.6%	14.4%
R76 801 – R153 600	0.0%	0.0%	0.1%	3.2%	34.9%	7.1%	0.0%	0.0%	0.1%	3.3%	32.7%	6.7%	0.0%	0.2%	3.0%	26.0%	25.8%	9.8%
R153 601 – R307 200	0.0%	0.0%	0.0%	0.1%	13.7%	2.5%	0.0%	0.0%	0.0%	0.1%	20.0%	3.8%	0.0%	0.0%	0.1%	2.7%	33.9%	6.9%
R307 201 – R614 400	0.0%	0.0%	0.0%	0.0%	1.8%	0.3%	0.0%	0.0%	0.0%	0.0%	7.2%	1.4%	0.0%	0.0%	0.0%	0.1%	19.0%	3.6%
R614 401 – R1 228 800	0.0%	0.0%	0.0%	0.0%	1.5%	0.3%	0.0%	0.0%	0.0%	0.0%	2.0%	0.4%	0.0%	0.0%	0.0%	0.0%	6.3%	1.2%
R1 228 801 – R2 457 600	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	0.2%	0.0%	0.0%	0.0%	0.0%	2.1%	0.4%
R2 457 601 or more	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	1.3%	0.3%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Mean (Rand, 2000 prices)	884	2 334	4 928	11 845	51 153	13 688	1 169	2 766	5 828	11 326	65 677	16 351	1 414	3 552	7 518	15 279	90 611	22 410
Std Dev. (Rand, 2000 prices)	390	489	832	3 486	55 445	30 201	404	521	1 088	1 960	153 801	71 635	569	872	1 937	4 099	172 885	82 370

Figure A1 Percentage of Blacks aged 16-20 years completing each year of schooling

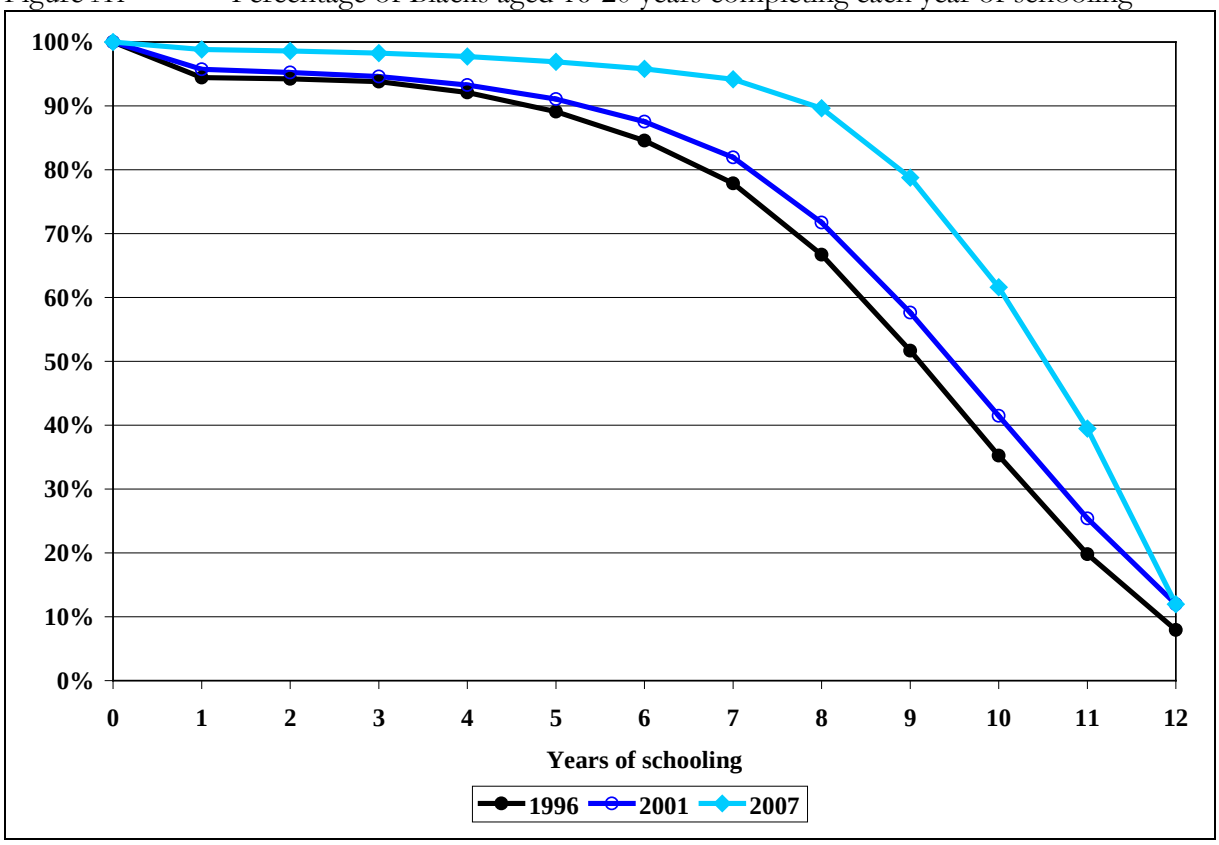

Figure A2 Percentage of Blacks aged 21-25 years completing each year of schooling

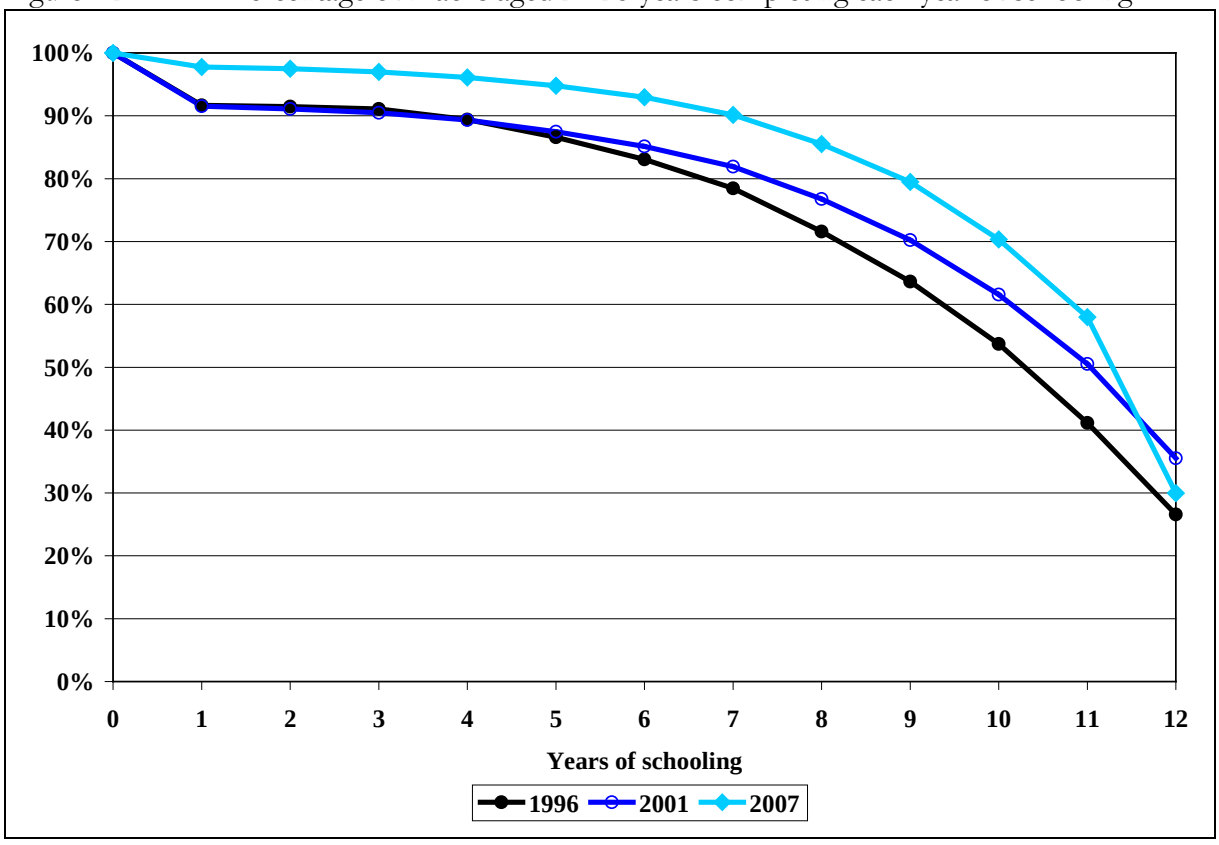

Figure A3 Percentage of Whites aged 16-20 years completing each year of schooling

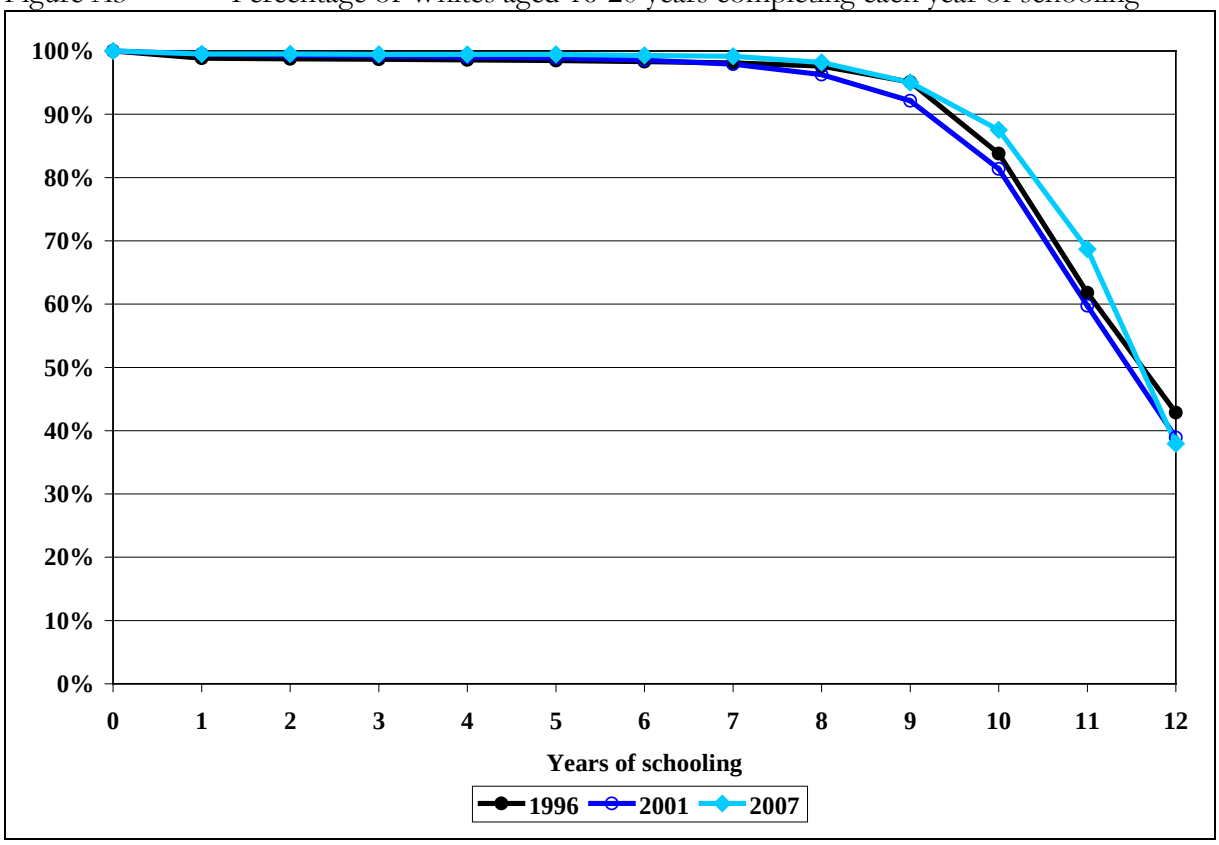

Figure A4 Percentage of Whites aged 21-25 years completing each year of schooling

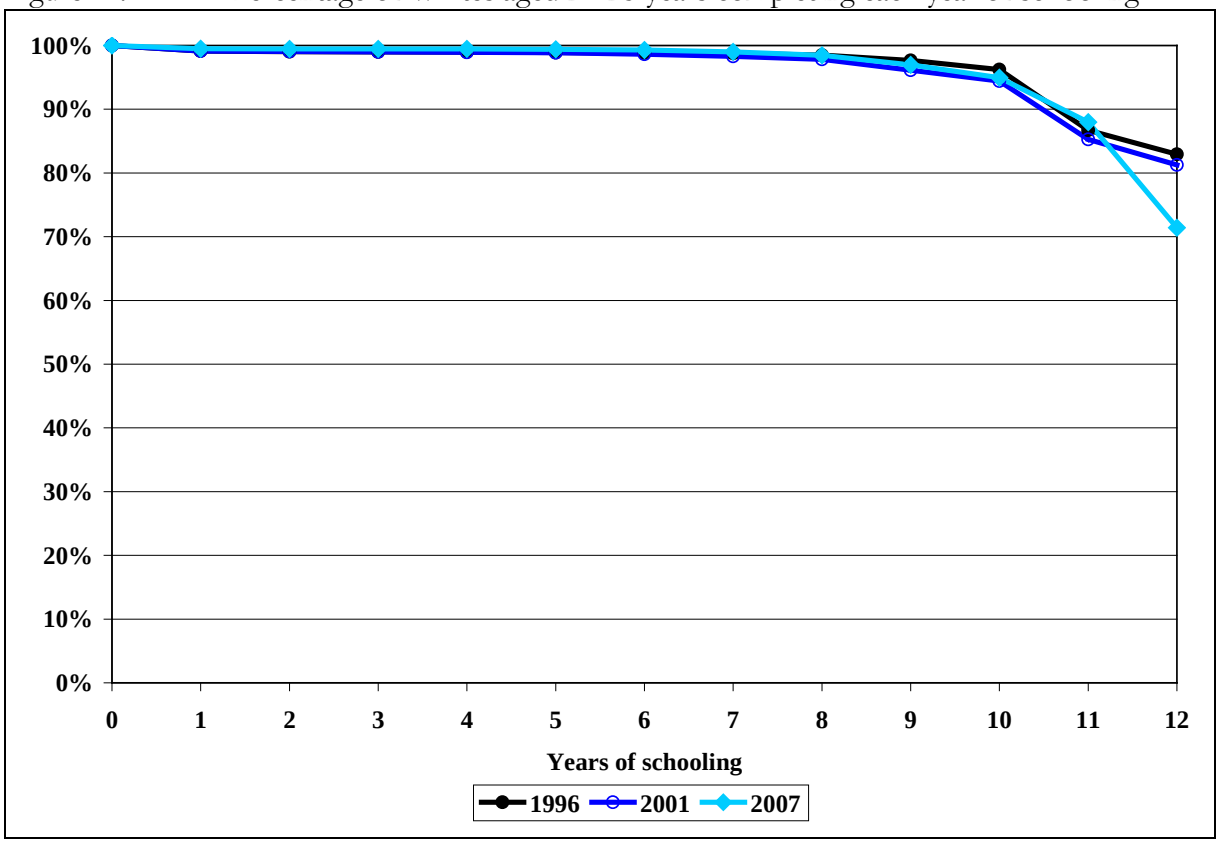

Figure A5 Percentage of people aged 16-20 years in SES quintile 1 completing each year of schooling

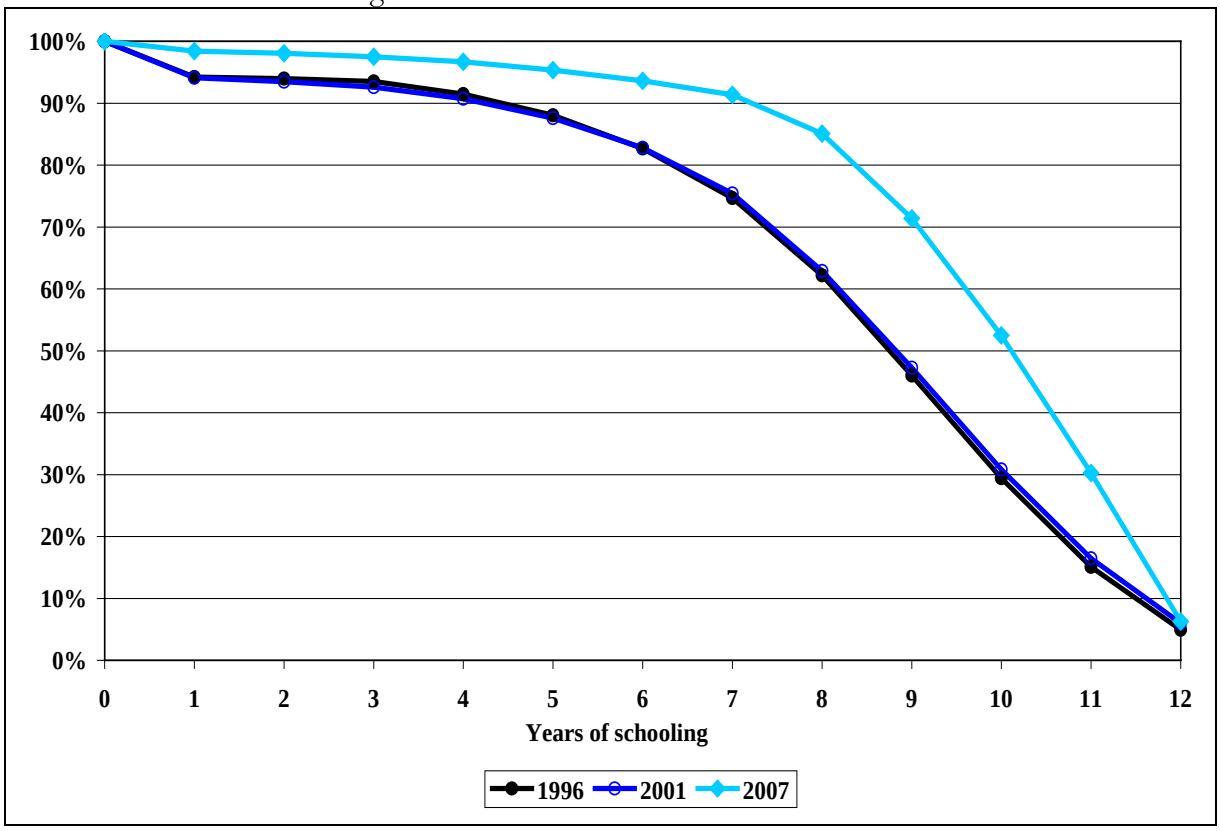

Figure A6 Percentage of people aged 21-25 years in SES quintile 1 completing each year of schooling

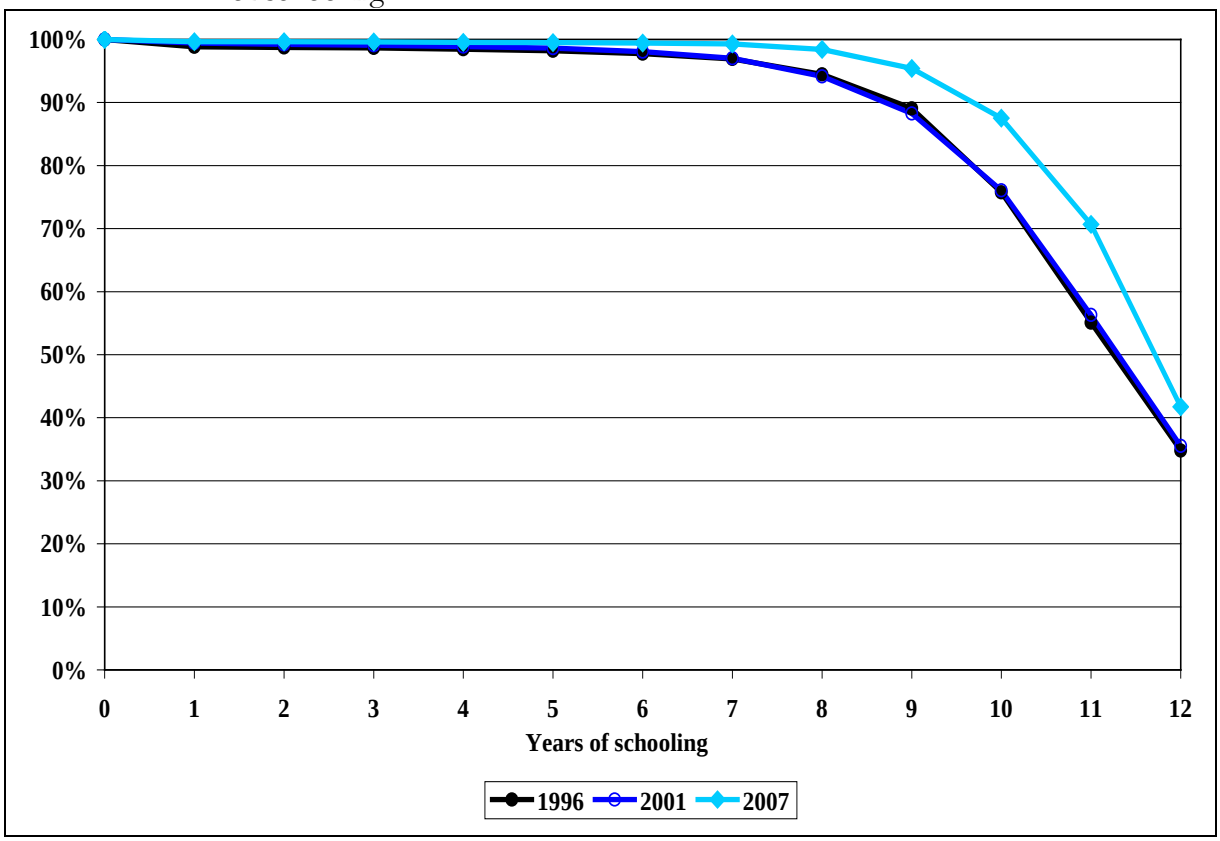

Figure A7 Percentage of people aged 16-20 years in SES quintile 5 completing each year of schooling

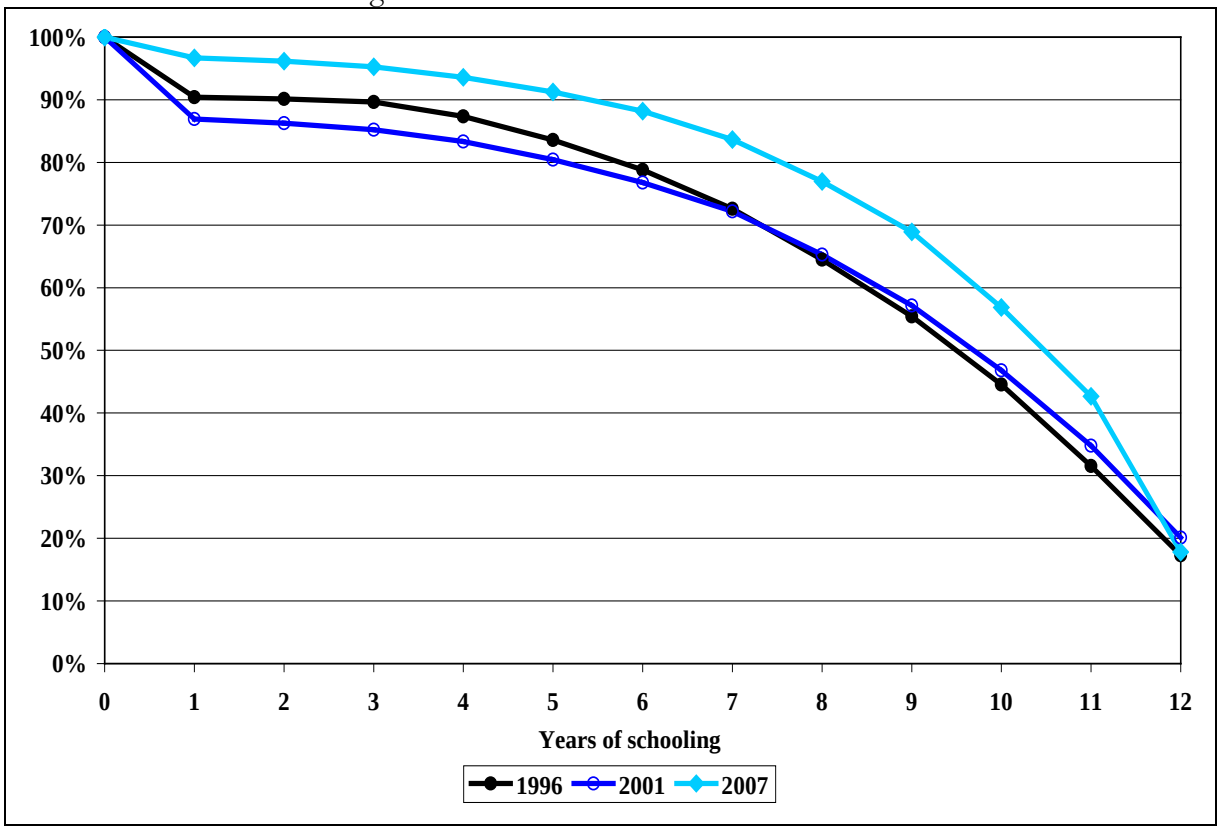

Figure A8 Percentage of people aged 21-25 years in SES quintile 5 completing each year of schooling

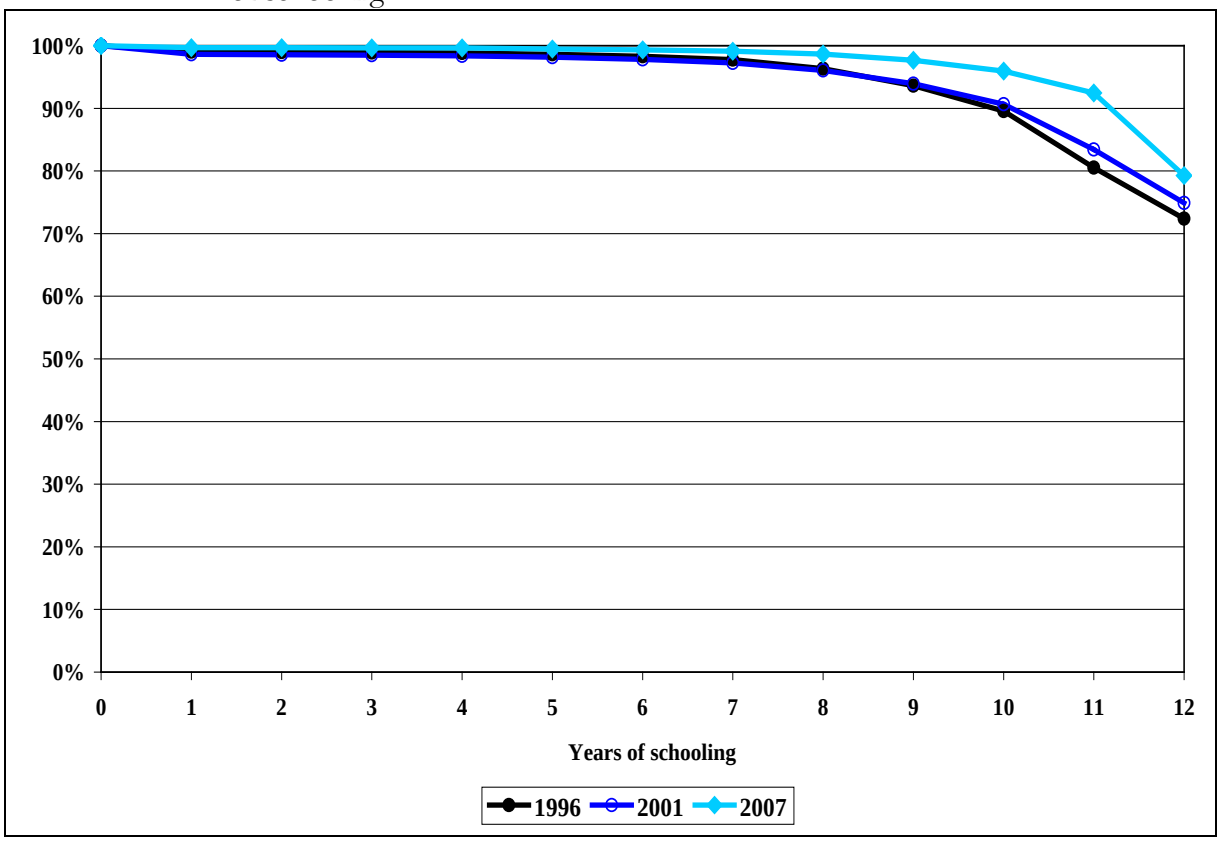

Figure A9 Cumulative density functions for Blacks, using post-SRMI1 per capita income (2000 prices)

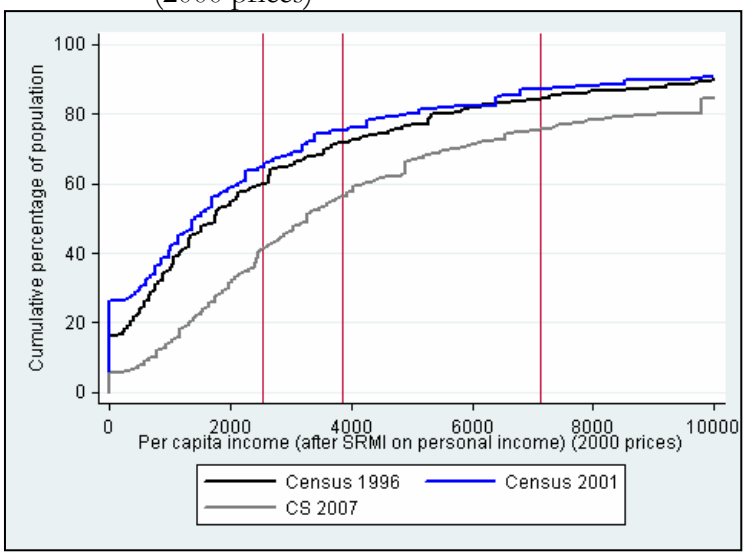

Figure A10 Cumulative density functions for Blacks, using post-SRMI2 per capita income (2000 prices)

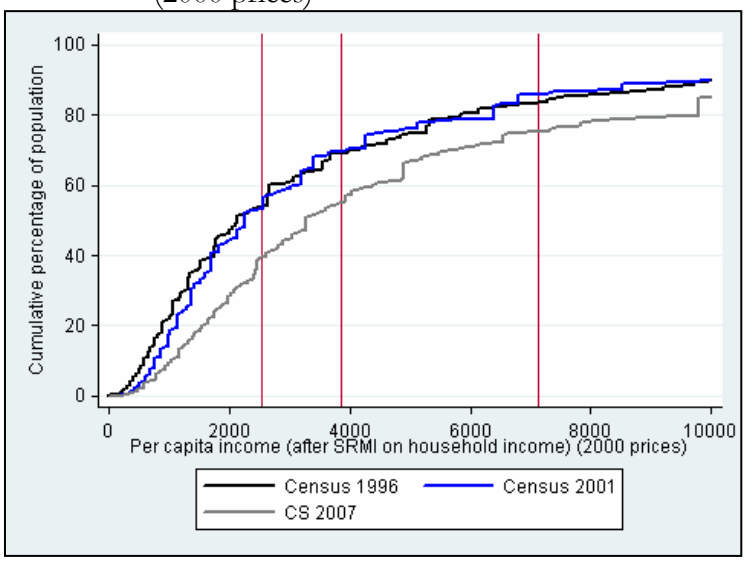

Figure A11 Cumulative density functions for Whites, using post-SRMI1 per capita income (2000 prices)

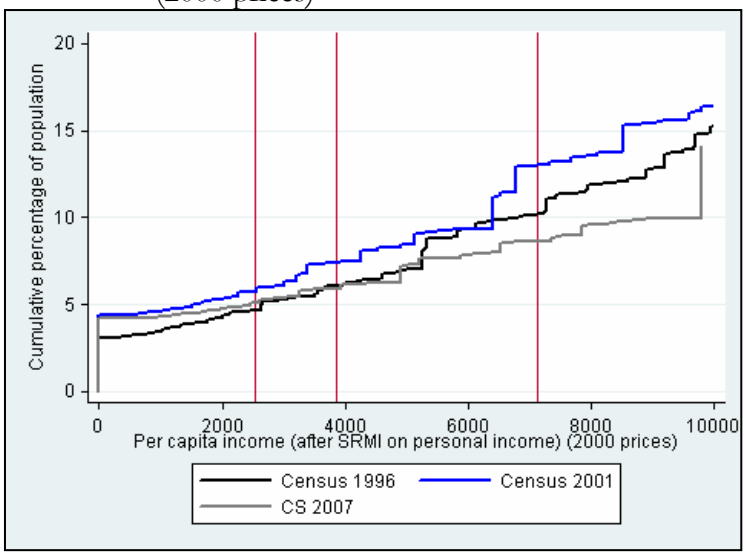

Figure A12 Cumulative density functions for Whites, using post-SRMI2 per capita income (2000 prices)

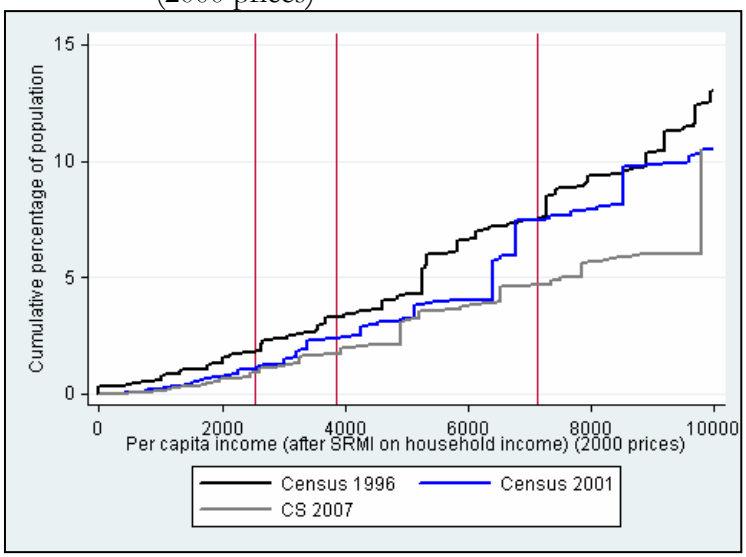

Figure A13 Lorenz curves for Blacks, using post-SRMI1 per capita income (2000 prices)

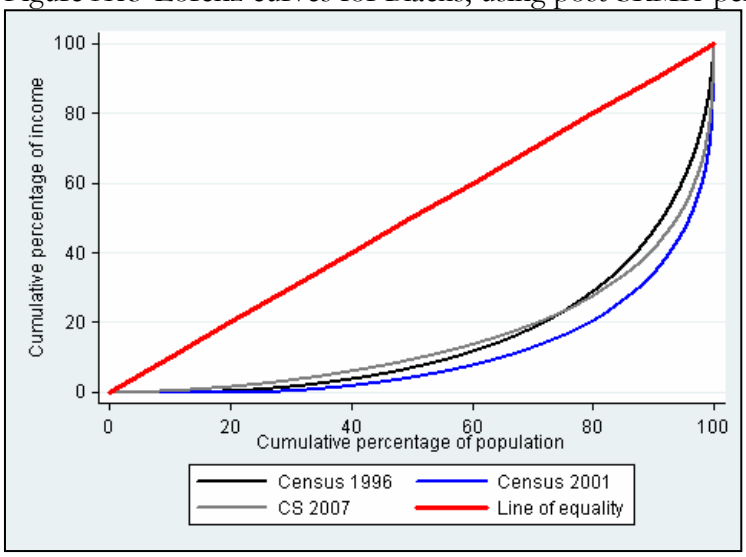

Figure A14 Lorenz curves for Blacks, using post-SRMI2 per capita income (2000 prices)

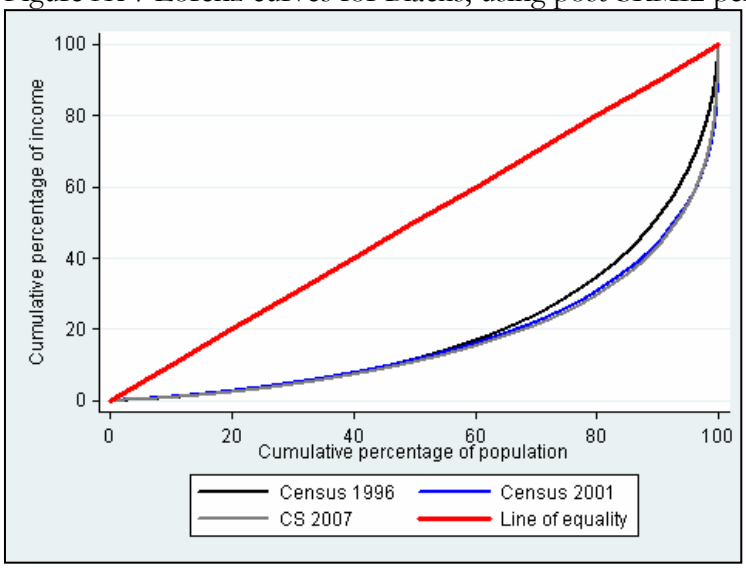

Figure A15 Lorenz curves for Whites, using post-SRMI1 per capita income (2000 prices)

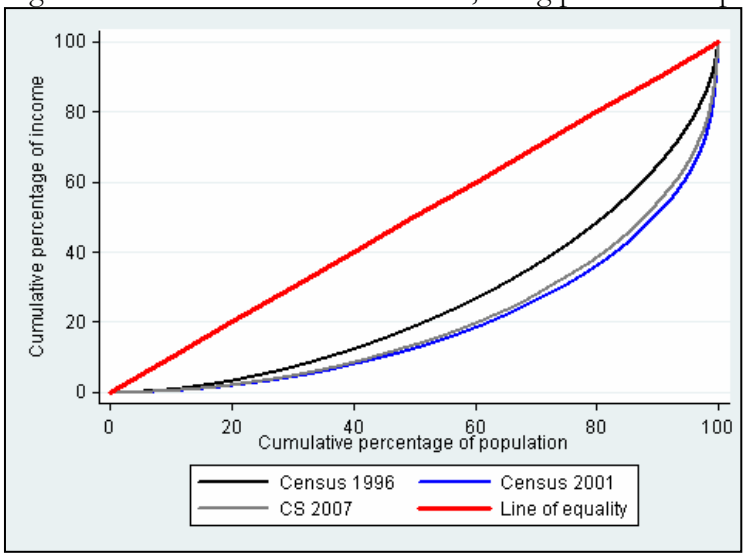

Figure A16 Lorenz curves for Whites, using post-SRMI2 per capita income (2000 prices)