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HOUSEHOLD FORMATION, POVERTY AND UNEMPLOYMENT – THE CASE OF RURAL HOUSEHOLDS IN SOUTH AFRICA

SONJA KELLER

Stellenbosch Economic Working Papers : 1 / 2004

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Sonja Keller
Department of Economics, University of Stellenbosch
& Nuffield College, Oxford University
E-MAIL: SONJA.KELLER@NUFFIELD.OXFORD.AC.UK

HOUSEHOLD FORMATION, POVERTY AND UNEMPLOYMENT – THE CASE OF RURAL HOUSEHOLDS IN SOUTH AFRICA

[1] This paper was originally written in 2002 as part of a larger research project for FASID (Foundation for Advanced Studies in International Development), on *The role of rural institutions in a globalising South African economy.*

Abstract

The paper examines household formation and composition decisions within the context of risk reduction and risk mitigation strategies of the poor in South Africa. A multi-level heckprobit estimator is employed in order to capture the influence of various factors at the individual, household and regional level, and we focus on the implications of the presence of pensioners and the unemployment on household composition and structure. Results are consistent with earlier findings that pensions are a key insurance mechanism for cushioning younger household members against adverse labour market conditions in rural South Africa. Hence they explain the propensity by household members to postpone formation of new independent household in order to continue living in multigenerational households.

JEL classification: D13, J12, J61, D64, I30, R20

1. INTRODUCTION

In recent years increasing attention has been paid to issues at the household level. A number of models have been proposed to examine aspects ranging from intra-household resource allocation between households members and across household activities, to the effects of intra-household dynamics on the educational and health outcomes of children, and the welfare of individuals comprising a household. Further, particularly so-called bargaining models have considered the importance of bargaining power held by members within the household for the allocation of communal resources, given the source of income and the identity of the receiver. Models like these have been used to analyse a range of issues such as the differential impact of female versusmale pension recipients on the household labour force participation rate or on the health outcomes of children living in the household. This focus on the functioning of household units seems to be justified, as many of the important components of well-being are principally determined within the household (Rosenzweig 1986: 233). It is hence beneficial to complement the conventional analyses at the household level by looking inside the "black-box".

However, the models generally treat household size and composition as exogenously determined variables. If the household is an important determinant of individual welfare, the question that arises is: what determines the household size, composition and living arrangements in the first place? Such analysis has so far received relatively little attention, particularly in a developing country context. Rosenzweig (1986: 233) highlights that, more attention needs to be given to understanding the determinants of the size and composition of families and the process of household decision-making when predicting the long-term consequences of economic development.

As is shown below, the relevance and implications of the particular dynamics of household formation are numerous. Firstly, household size and composition matter when constructing measures of poverty. Much of the poverty analysis takes place at the household level where all of the household members are classified either as poor or non-poor, depending on the average income per capita. That is, the total household income is divided by the number of (adult equivalent) household members. As poverty measures are sensitive to the number of people in the household, changes in the size of the household may potentially be as much of a driving force in pushing a household below the poverty line as an income shock or loss of employment.

Secondly, indications are that rural households below the poverty line are structurally different from non-poor households, having on average a larger number of members and a higher dependency ratio, as well as being more likely to be multi-generational. By investigating the household composition, formation dynamics and other causes that account for such a systematic pattern, we may improve our understanding of how the unemployed and economically inactive individuals are able to gain access to resources when faced with abject poverty, and the degree to which household structure adjusts to act as a safety net. For example, in order to examine how the unemployed in South Africa cope in the absence of unemployment insurance, Klasen and Woolard (2000) examine how the unemployed migrate and attach themselves to households with access to labour market income or pension income. Hence, by analysing household structure in the face of persistent unemployment, insight may be gained into the operation of a private (or social) safety net that cushions individual misfortune, and the risk-mitigating efforts of households and individuals once they have experienced a negative shock.

Lastly, an understanding of household formation dynamics is needed in order to improve our understanding of how rural households function in general and for analysing intra-household dynamics. Applications range from accessing the impact of household factors on the educational and nutritional status of children[2] to estimating the labour force participation rate of working-aged men, the duration of unemployment, and the poverty-alleviating impacts and degree of leakage associated with the transfers to the elderly and single mothers. Furthermore, some of the household strategies to mitigate and/or reduce risk can be assessed with particular reference to migration, social transfers and the unemployed.

It appears that while household structure has been studied for a variety of reasons, thus far authors in South Africa have tackled the issue with regard to one or two specific aspects relevant to their research. This article aims to provide an overall picture of our current understanding of the dynamics behind household formation and structure, and to contribute to the discussion by allowing for the joint determination of household structure and labour market status in an extended Heckprobit model.

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[2] Anderson (2000) examines the relationship between family structure, expenditure on education, and children's educational outcomes for black South Africans and finds that, after controlling for background factors, family structure is highly correlated with educational outcomes. The strongest effects are seen in children living with neither of their genetic parents.

The next section examines to what degree poor households differ structurally from non-poor households. Section 3 reviews the international literature on household structure and formation and how this is linked to labour market status and household income. We then turn our focus to studies in the South African context, with a particular emphasis on how household formation is linked to migration, the old-age pension scheme and unemployment. In section 5 we suggest a multi-level Heckprobit analysis for joint determination of labour force participation, employment and household membership. Further, we examine the determinants for lack of search effort among the unemployed and test whether household income has a search-financing effort or a disincentive effect on the unemployed. In Section 6 we conclude by re-interpreting our findings in terms of the risk-management and risk-mitigating efforts of households and individuals.

2. HOUSEHOLD SIZE AND POVERTY

As was mentioned above, while much of the poverty analysis takes place at the household level, household size and composition – with the possible exception of the number of children - is usually taken as exogenously determined. If we evaluate the welfare of a household according to total household income divided by the number of household members, our yardstick is clearly sensitive to the size of the household and this bears welfare implications. Indeed, Leibbrandt (2001: 30) shows that changes in the demographic structure of the household have an impact on the welfare of the household. Approximately a quarter of the non-poor households in 1993 that moved into poverty in 1998 did so as a result of a change in the demographic composition, i.e. the arrival of an additional household member may push the whole household into poverty (Table 1). On the other hand, changes in household composition were also responsible for more than 20% of the cases where households managed to escape poverty.

Table 1: Main event associated with movement of a household into and out of poverty

Main event associated with the movement of a household *into* poverty	% of households
Fall in money income as result of:	
Demographic events	27.4%
Income event, change in income from :	
Head's labour earnings	23.7%
Other household members' labour earnings	20.7%
Remittances	10.4%
Non-labour income of head/spouse	5.9%
Non-labour income of other household members	1.5%
Self-employment income	4.4%
Farm income	5.9%
	100.0%
Main event associated with the movement of a household *out of* poverty	
Rise in money income as result of:	
Demographic events	23.5%
Income event, change in income from :	
Head's labour earnings	19.3%
Other household members' labour earnings	26%
Remittances	9.2%
Non-labour income of head/spouse	6.7%
Non-labour income of other household members	2.9%
Self-employment income	8.8%
Farm income	3.4%
	100.0%

Source: Leibbrandt (2001: 30), FASID country background paper

Furthermore, the size and structure of poor households may be systematically different from that of non-poor households[3]. Table 2 suggests that households are poor primarily because of two factors. Firstly, the unemployment rate is significantly higher among poor households. While 82% of the economically active household members are employed in the case of non-poor rural households, this rate drops to 64% in the case of moderately poor households, and reaches a low of 45% for ultra-poor households. A similar pattern is observed for urban households. Even though poor households are on average home to more adults of working age than other households are[4], the absolute number of employed adults declines from 1.02 adults per household for non-poor households to 0.53 for ultra-poor households. Many of the unemployed in poorer households are discouraged and are no longer actively seeking work. The second factor which depresses per capita income of poorer households further is that such

[3] For the purpose of our analysis, we categorize the 20% of South Africa's households with the lowest per capita expenditure as ultra-poor and the next 20% of households as moderately poor.

[4] Working-aged adults are aged between 16 and 59 in the case of women and between 16 and 64 in the case of men.

households, in particular ultra-poor households, are demographically different from better off households (Table 2). While poor households on average have 30% more adults of working age relative to non-poor rural households, they have on average double the number of children under the age of 16 and 50% more pensioners than non-poor households. The combined demographic impact of these factors leads to a dependency ratio[5] of 0.7 in the case of better off households, which rises to 1.4 for ultra-poor households - a doubling in the dependency ratio. Hence, in the case of rural households not only does a lack of linkage to the labour market play a significant role, but so do demographic factors[6].

Table 2: Household structure of poor and non-poor households

	Rural households			Urban Households		
	Non-Poor	Moderate Poor	Ultra-Poor	Non-Poor	Moderate Poor	Ultra-Poor
Per capita household expenditure	R11 846	R2 427	R1 052	R1 8635	R2 564	R1 161
Number of children (0-15 years)	1.33	2.28	3.37	0.94	1.87	2.54
Number of Female adults (16-59 years)	1.02	1.31	1.52	1.06	1.53	1.81
Number of Male adults (16-64 years)	1.02	1.02	1.09	1.21	1.45	1.57
Number of female elderly (60-64 years)	0.04	0.07	0.07	0.04	0.05	0.06
Number of female elderly (65+ years)	0.10	0.13	0.14	0.10	0.12	0.13
Number of male elderly (60-64 years)	0.04	0.04	0.04	0.04	0.05	0.05
Number of male elderly (65+ years)	0.06	0.09	0.08	0.07	0.08	0.08
Number adults (not pension) (16-59/64)	2.03	2.33	2.60	2.28	2.98	3.39
Number pensioners (60/65+)	0.21	0.28	0.29	0.22	0.25	0.27
Age of household head (mean)	47.78	50.89	52.42	46.04	51.34	54.00
Age of household head (median)	46.00	50.00	53.00	44.00	50.00	54.00
Number employed	1.02	0.75	0.53	1.41	0.98	0.68
Number unemployed (narrow)	0.11	0.18	0.23	0.15	0.48	0.61
Number unemployed (broad)	0.22	0.42	0.64	0.24	0.82	1.20
Dependency ratio	0.74	1.08	1.38	0.50	0.70	0.82
% economically actives employed	82.12%	63.81%	45.26%	85.72%	54.21%	36.09%
Total no. hhlds	1 452 633	1 175 489	1 468 065	3 964 248	667 310	393 822

Source: Calculations based on OHS/IES 1995

[5] The dependency ratio refers to the average number of non-working aged individuals per individual of working-age residing in the household.

[6] It is interesting to compare the demographic pattern of rural households compared with that of urban households. While the unemployment rate is also higher among the urban poor as opposed to non-poor urban households, the dependency ratio rises only marginally from 0.5 in the case of better off households to 0.8 for ultra-poor households. The difference in the pattern of dependency ratios between urban and rural households appears to be driven by the increased presence of working aged adults in poor urban households relative to poor rural households, as well as the relatively fewer children. Somewhat surprisingly, the elderly play a relatively minor role in accounting for differences in rural-urban dependency patterns.

Not only is household size of interest, but so also household composition, particularly with regard to implications for intra-households dynamics (Anderson 2000; Duflo 2000; Bertrand *et al*.2000). While the predominant household arrangements in developed countries are single person households or married couples with or without children, household composition patterns in developing countries are more complex, particularly among the poor. This complicates the analysis somewhat. While it is common to analyse the relationship between the other members of the household and the household head, such an analysis leads to a loss of information regarding the size and structure of the household. In an attempt to overcome these shortcomings, we examine the intergenerational structure of poor and non-poor households.

Table 3 indicates that the differences between poor and non-poor household relations are indeed significant. First, while roughly a quarter of all non-poor households consist of single person households, this declines to 5% in the case of moderately poor and 0.5% in the case of ultra-poor households. A similar trend is observed with regard to single generation households. On the other hand, the incidence of households comprising three or more generations increases to 45% among the ultra-poor, while only 21% of all non-poor households contain members spanning three or more generations. In particular, the high prevalence of four generation households - with the household head, his/her children and the household head's grandparents - is noteworthy. It is possible that the prevalence of multi-generation households is due to young adults failing to leave the parental household in the face of an adverse economic climate and high local unemployment rates. This hypothesis will be further analysed later in the paper. Nevertheless, the main conclusion to be drawn from Table 4 is that poor households are indeed structurally different from better off households, and that such intergenerational support in the form of co-residence may be as a result of poor economic conditions.

Table 3: Intergenerational structure of rural households (relation to household head)

	Non-poor		**Moderate poor**		**Ultra-poor**		5.1.1 Total
Single person and single generation households	**519558**	**35.77%**	**146681**	**12.48%**	**39072**	**2.67%**	**17.22%**
All two-generation households	**627680**	**43.21%**	**603767**	**51.36%**	**762899**	**51.97%**	**48.69%**
Two-generation households							
Children younger than 20	390828	26.90%	383180	32.60%	491109	33.45%	30.89%
-- with extended family	36132	2.49%	41033	3.49%	46204	3.15%	3.01%
-- with non-family	3986	0.27%	4000	0.34%	2727	0.19%	0.26%
Two-generation households							
Children aged 20-29 years	178790	12.31%	164353	13.98%	211683	14.42%	13.54%
-- with extended family	13137	0.90%	16335	1.39%	13943	0.95%	1.06%
-- with non-family	2647	0.18%	903	0.08%	386	0.03%	0.10%
Two-generation households							
Children older than 29 years	58062	4.00%	56234	4.78%	60107	4.09%	4.26%
-- with extended family	3593	0.25%	3161	0.27%	7550	0.51%	0.35%
-- with non-family	535	0.04%	1325	0.11%	921	0.06%	0.07%
All three-generation households	**135297**	**9.31%**	**160487**	**13.65%**	**201429**	**13.72%**	**12.14%**
Three generation households (complete)	49245	3.39%	47673	4.06%	69595	4.74%	4.07%
-- with extended family	24601	1.69%	17694	1.51%	31670	2.16%	1.81%
-- with non-family	1064	0.07%	0	0.00%	2800	0.19%	0.09%
Skip-generation households	86052	5.92%	112814	9.60%	131834	8.98%	8.07%
-- with extended family	26441	1.82%	32440	2.76%	47144	3.21%	2.59%
-- with non-family	2224	0.15%	1609	0.14%	1817	0.12%	0.14%
All four-generation households	**166962**	**11.49%**	**263782**	**22.44%**	**462800**	**31.52%**	**21.81%**
Four generation households (complete)	5673	0.39%	5163	0.44%	9835	0.67%	0.50%
Four generation skip (other than C HH GP)	682	0.05%	296	0.03%	386	0.03%	0.03%
C HH GP*	160607	11.06%	258323	21.98%	452579	30.83%	21.28%
Five generation households	**490**	**0.03%**	**772**	**0.07%**	**490**	**0.03%**	**0.04%**
Other	2646	0.18%	0	0.00%	1375	0.09%	0.10%
Total no. households	**1452633**	100.00 %	**1175489**	100.00%	**1468065**	100.00%	**4096187**

The decomposition of households is interpreted as follows: Two-generation households consist of households where all individuals of the second generation (i.e. children of the household head) are younger than 20, households where some children of the household head are between the age of 20 and 29, and households with some children older than 29. Three generation households are classified as complete if at least one individual belonging to of the

three generation is present, whereas a skip-generation household describes a household where no individuals of the second generation in the household are present.

*C HH GP refers to a household where the child of the household head, the household head and the grandparent *of the household head* are present (i.e. the parents of the household head are absent).

Source: Calculations based on OHS/IES 1995

A similar pattern is observed for urban households. The pattern with regard to three and four generation households seems to be even more pronounced here, with a total of 55% of ultra-poor households containing three or more generations, dropping to 14% in the case of non-poor households. Furthermore, contrary to expectations considering rural-urban migration of working-aged adults, skip-generation families are even slightly more prevalent in urban as opposed to rural areas.

Table 4: Intergenerational structure of urban households (relation to household head)

	5.1.2 Non-poor		Moderately poor		Ultra-poor		5.1.3 Total
Single person and single generation households	**1363139**	**34.39%**	**59733**	**8.95%**	**9970**	**2.51%**	**28.51%**
All two-generation households	**2028481**	**51.17%**	**316297**	**47.40%**	**168163**	**42.70%**	**50.00%**
Two-generation households							
Children younger than 20	1443838	36.42%	185857	27.85%	94540	24.01%	34.31%
-- with extended family	120000	3.03%	16717	2.51%	11184	2.84%	2.94%
-- with non-family	19443	0.49%	2109	0.32%	1276	0.32%	0.45%
Two-generation households							
Children aged 20-29 years	461680	11.65%	95319	14.28%	54189	13.76%	12.16%
-- with extended family	36667	0.92%	9346	1.40%	7434	1.89%	0.41%
-- with non-family	6412	0.16%	1342	0.20%	1120	0.28%	0.18%
Two-generation households							
Children older than 29 years	122963	3.10%	35121	5.26%	19434	4.93%	3.53%
-- with extended family	7968	0.20%	3412	0.51%	1697	0.43%	0.26%
-- with non-family	3919	0.10%	1074	0.16%	0	0.00%	0.12%
All three-generation households	**265953**	**6.71%**	**115234**	**17.27%**	**71020**	**18.03%**	**9.00%**
Three generation households	106793	2.69%	40869	6.12%	23870	6.06%	3.41%
-- with extended family	35127	0.89%	20898	3.13%	12557	3.19%	1.36%
-- with non-family	2736	0.07%	771	0.12%	506	0.13%	0.08%
Skip-generation households	159160	4.01%	74365	11.14%	47150	11.97%	5.59%
-- with extended family	47495	1.20%	24446	3.66%	16679	4.24%	1.76%
-- with non-family	8661	0.22%	2320	0.35%	1462	0.37%	2.48%
All four-generation households	**305213**	**7.70%**	**175078**	**26.24%**	**144669**	**36.73%**	**12.44%**
Four generation households (complete)	3457	0.09%	1955	0.29%	1374	0.35%	0.14%
Four generation skip (other than C HH GP)	1458	0.04%	231	0.03%	581	0.15%	0.05%
C HH GP	300298	7.58%	172892	25.91%	142714	36.24%	12.26%
Five generation households	**0**	**0.00%**	**268**	**0.04%**	**0**	**0.00%**	**0.01%**
Other	1462	0.04%	700	0.10%	0	0.00%	0.04%
Total no. households	**3964248**	100.00%	**667310**	100.00 %	**393822**	100.00%	5025380

3. INTERNATIONAL STUDIES OF HOUSEHOLD STRUCTURE AND FORMATION

While the previous section was mainly descriptive in nature, a number of models relating to the theory of household formation have been advanced and international studies have tested the models empirically. However, as will be pointed out, indications are that at times customs and behavioural patterns may be significantly different from elsewhere in South Africa, at least partly related to different economic prospects of the unemployed and the age distribution of the unemployed[7]. Care should therefore be taken when considering household formation studies conducted in developed countries.

McElroy (1985), one of the first authors to examine the economic determinants of household formation, used a utility comparison framework to examine the household formation patterns of young adults. Arguing that "except in special cases, market work and household membership are jointly chosen" (McElroy 1985: 293), she proposed a Nash-bargaining model of family behaviour to derive the indirect utility functions and reservation wage function. This model *jointly* determined household membership, work and consumption. Estimates using a trinomial probit model based on data relating to out-of-school, unmarried males aged 19 to 24 resident in the UK, support her hypothesis. Families appear to provide non-employment insurance to their sons, ensuring a minimal level of utility. In addition, McElroy finds that if either household membership or work status is treated as exogenously determined, one falsely reaches the conclusion that household membership and work status are unrelated.

Alternatively, co-residence of the young with their parents can be seen in the context of intergenerational support. Co-residence may in fact represent an alternative to transfers from the older generation to the young. Rosenzweig and Wolpin (1994) consider co-residence to be a cheaper way of parental support to the children, though sharing a residence is likely to entail privacy costs. They examined the impact of an increase in welfare payments to single mothers on the support provided by their parents to the single mothers in the form of cash transfers and co-residence. The results indicate that an increase in government welfare aid reduces the incidence of parental aid in the form of co-residence, though only to a limited degree (Rosenzweig and Wolpin 1994: 1212).

Several studies have also focused on the effect of the price of housing on new household formation. In a dynamic two-stage model of the home-leaving process for a cohort of individuals in the UK, Ermisch and Di Salvo (1997) examine the impact of the price of housing, young adults' income, individual characteristics and parental income on the probability of a young adult living apart from the parents. In the first stage of the decision, parents choose their allocations to housing, consumption and transfers to children in order to maximise their own utility, conditional on budget constraints, the cost of housing and their children's preferences (Ermisch and Di Salvo 1997: 628). Subsequently, the child takes the size of the transfer from his or her parents (whether co-residing or living apart from them) as well as wages and other income as given, and chooses to co-reside with his or her parents if this provides him or her with more utility than when living apart from the parents. As Ermisch and Di Salvo (1997: 628) point out: "by manipulating the level of transfers to the child, the parents can effectively make the co-residence decision".

The study finds that if higher house prices were sustained over the entire period during which a female child resided in the parental home, this significantly increased the median age at which she left the parental home . Better economic prospects impact significantly on the likelihood to leave the parental home (Ermish and Di Salvo 1997: 640). Interestingly, being unemployed for one year speeds up the exit from the parental home in favour of living with friends, which the authors interpret as being consistent with leaving the home to search for a job and living with friends during that period. The theoretical model predicted that parental and young person's income have opposite effects on the likelihood of leaving the parental home. Contrary to this hypothesis, a higher parental income is found to accelerate the children's departure (Ermish and Di Salvo 1997: 641). However, it appears that home-leaving patterns are significantly different in a country like South Africa, where unemployment is highly prevalent and many unemployed individuals are no longer actively searching for work.In such circumstances the young unemployed could postpone – rather than accelerate - the departure from the parental home.

Card and Lemieux (1997), using panel data for the U.S. and Canada over a 25 year period, examine the responses of young workers to external labour market forces in terms of the impact on their living arrangements, school enrolment and work effort. They confirm that poor labour market conditions in Canada (indicated by higher unemployment rates) can

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[7] Bhorat and Leibbrandt (2001: 87) find that the young, aged between 16 and 25, are particularly vulnerable with a narrow unemployment rate of 28%, compared to 14% for individuals aged between 26 and 55.

explain why the fraction of youth living with their parents has increased in Canada relative to the U.S. Improved local demand conditions tend to lower both the probability of staying at home and the probability of attending school among young men in both countries. Conversely, depressed local demand conditions and lower wages cause young men to adapt by continuing to live with their parents and by attending school (Card and Lemieux 1997: 32). The results suggest that "the family has played an important role in dampening the effect of the decline in the economic status of the youth" (Card and Lemieux 1997: 10).

4. STUDIES IN THE SOUTH AFRICAN CONTEXT

The previous section has indicated that decisions regarding household structure are complex and the factors involved multitudinous. However, many of the studies cannot be replicated for South Africa as fairly extensive longitudinal data sets for age cohorts are required, and these do not exist. Furthermore, household structures in developing countries appear to be more complex than those in developed countries are. So far, studies regarding household structure and formation in the South African context have mainly approached the issue from three angles. Firstly, a number of authors have examined the impact on household structure of an exogenous, permanent increase in household income. A particular example is when a household member becomes age-eligible for the non-contributory social old age pension. Secondly, Klasen and Woolard (2000) have focused on one particular characteristic of individuals, namely their employment status, and examined how household living arrangements adapt to accommodate the unemployed. Lastly, some studies have considered the labour migrant system which has left a significant imprint on the household structure. and hence we will also briefly touch on this topic.

4.1 THE INTERRELATIONSHIP BETWEEN MIGRATION, HOUSEHOLD CHARACTERISTICS AND HOUSEHOLD STRUCTURE

According to Cross *et al* (1998: 71), the "force of migration is probably the most neglected dynamic in South Africa's social policy. Few factors have done more to change the context of opportunity for the poor, yet little is known about how people move from place to place". While migration is an important issue in its own right, for the purpose of this paper we will limit the discussion of migration to how it is relevant to the determination of rural household structure. Edmonds *et al* (2001:6) suggest that "household composition is intertwined with migration". Not only will the migration patterns of individuals leave their mark on household structure, but the household may also play a causal role in encouraging or inhibiting migration

of individuals, particularly if migration is viewed as a household strategy to maximise household resources or diversify risk.

Most economic studies have interpreted rural-urban migration in the light of the Todaro (1969) class of models where migration is the result of significant differences in employment opportunity, income and amenity levels between urban and rural areas. Junming (1997: 4) emphasises that economic growth and development lead to structural changes in societies, which may in turn affect the migration decision. Relevant factors here are the community's socioeconomic development level, community facilities and accessibility, and its migration history[8]. A number of macroeconomic variables hence importantly influence the decision to migrate. Existing in parallel with macroeconomic models of migration are models at the household level and microeconomic models of individual choice. The latter suggest that individual characteristics such as age, gender, marital status, occupation and educational attainment play a role. With regard to models at the household level, family structure as indicated by family size, family socio-economic resources (e.g. land and education) and previous migration by family members may be regarded as explanatory variables in the migration decision. Particularly in poor countries migration may be undertaken as an explicit family strategy to maximise household income and diversify risk. It hence appears that when trying to account for the patterns of migration, a multi-level analysis that incorporates individual factors, family factors andcommunity characteristics seems most promising.

In an econometric analysis of rural out-migration in China, Junming (1997) tests this hypothesis in a (Huber) logistic regression. As expected, being male, unmarried and having higher educational attainment all increase the probability of migrating, but household-level variables are also significant. Family size, per capita income of the family and the number of family relatives residing outside the community impact positively on migration, while a larger household dependency ratio reduces migration. Furthermore, the two community variables have significant effects. A higher socioeconomic development level (as proxied by education, per capita income, facilities available and historical migration) increases the likelihood of migration in the community, while rural industrialization has the opposite effect (Junming

[8] Bekker (2001: 15) suggests that one of the most important constraints on migration is the social obligation to maintain social and kin ties in one's community of origin. If the new residential community includes kin and members from the home community, this constraint is eased. A community's migrant history may also be important in providing information to potential migrants, and previous migrants may act as a safety net during hard times.

1997:20). A comparable econometric study has not been undertaken for South Africa, yet indications are that household-related factors are important when individuals decide whether or not to migrate. For example, since changing household membership is potentially very costly and individuals may face credit constraints, it is not possible to move to a more efficient location due to the large initial costs of migration. Edmonds *et al* (2001: 22) find that having an elderly pension-eligible person in the household enables younger household members to leave the family and become migrant workers[9].

When examining migration in the South African context, it is useful to distinguish between oscillating migration, one-way rural-urban migration and circulatory migration. Oscillating migration refers to working-aged adults who temporarily migrate to the city or work on the mines during the year leaving the rural household behind. When individuals leave rural areas permanently to join or set up new households in urban areas this is referred to as one-way migration or "gravity flow" (University of Stellenbosch 2000; Cross *et al*. 1999). Furthermore circulatory migration, as referred to in this paper, describes a family that moves from a rural region to an urban area relatively early in the breadwinner's working career (or a rural-born man starts a family in the urban area), and upon retirement the family returns to the rural area. In contrast to oscillating migration, the family accompanies the rural-born husband to an urban area and his place of work (University of Stellenbosch 2000: 32-33). Cross *et al* (1999) point towards a fourth type of migration, namely rural-to-rural migration. This is to a large degree driven by factors such as infrastructure and land access, as urban job opportunities dry up.

When considering the impact of (oscillatory) migration on family structure, Apartheid legislation has had powerful and long-lasting effects on family structure, particularly for blacks. The Apartheid government forced black South Africans into homelands and black migrant workers were only allowed to work in urban areas on a temporary basis. Furthermore, migrants were prohibited from bringing their spouses and children with them to the cities and

[9] A possible alternative explanation to that of Edmonds *et al* (2001) is that staying in the rural home is efficient for the household as part of a risk-minimizing strategy since home production or subsistence agricultural production may be the only relatively reliable source of income. In addition, the cost of living is lower in rural areas and free natural resources are available to satisfy basic needs. Once a household member becomes pension-eligible though, younger individuals may migrate to urban areas, risking unemployment for extended periods, since income for the family staying behind is guaranteed and the individual could draw from these resources during phases of unemployment.

consequently many men lived away from their families. Such an oscillatory migrant labour system still continues to exist today, *inter alia* due to a lack of employment opportunities in rural areas, and this has resulted in a deficit of females and males in their 20's and 30's in rural areas relative to the number of children born in rural areas (Nieftagodien 2001: 5-6). Furthermore, as labour migration of rural-born male adults is prominent, it may be common that for all practical purposes women are making decisions at the household level if the men work away from home, which in turn impacts on intra-household dynamics. In this sense, past legislation in South Africa has contributed to a general shift among Africans to increased complexity in household organization.

While the permanent rural-urban migration of individuals may be driven by similar economic factors to those causing oscillatory migration, its relative impact on household structure is somewhat different. It appears that individuals who leave their households and migrate to urban areas are systematically different in terms of age, sex, education, skill and ambition from those who stay in rural areas (Junming 1997; Cross *et al* 1998). As migrants move to urban areas to set up a new household or join a household there, it relieves the rural areas of some of the population pressure. However, it can be argued that the individuals who do migrate are precisely those who are more likely to get a job and who would have set up their own households in rural areas. According to this line of argument, it is likely that in the short term one-way rural-urban migration leads to an increase in the dependency ratios of some households due to a reduction in the number of working-aged adults. This plus a lesser propensity to remit by permanent migrants in turn contribute to the vulnerability of the remaining household members and increases their likelihood of falling into poverty, particularly if the more educated individuals have migrated. In contrast, non-permanent labour migrants are generally still regarded as part of the rural household, usually maintain strong rural ties and remit frequently.

There are indications that circulating migration is now becoming less common. Bekker (2001) and Cross *et al* (1999) suggest that, with regard to circulatory migration back from the Western Cape to the Eastern Cape, more and more migrating households have broken permanently from their communities of origin. It is possible that the most prevalent type of migration is becoming one-way gravity flow migration rather than circulatory migration, and some of the important implications of this trend - particularly for the distribution of pension income - will be touched on in the next two sub-sections. However, Edmonds *et al* (2001: 26)

confirm that a small yet statistically significant fraction of men and women move from urban to rural areas when becoming pension-eligible.

In recent years it has been increasingly indicated however, that the predominant pattern of migration is no longer – if in fact it ever was – rural to urban, but rather 75% of moves are rural to rural (Cross *et al* 1998: 72). According to Cross *et al* (1998: 73), a general division of the population into three broad categories seems to have emerged. The first group is the permanent urban-born population, which has significant economic advantages and dominates the urban job market. Second, there is a conservative rural population, whose members have never moved, hold strong home links and have an advantage in land access and security networks. And lastly, a large mobile population exists, partly as an outflow of the labour migrant system and forced removals, and whose members prefer to move in order to improve living standards. Again, it appears that this last group is self-selected and generally younger, better educated and more ambitious than the conservative rural group. While the search for income represents a major driving force in the decision to migrate, according to Cross *et al* (1998: 76), other critical decision-making factors are the demand for infrastructure, peace and a stable community; accordingly, community-related factors need to be integrated into such studies.

4.2 PERMANENT CHANGE IN INCOME OF HOUSEHOLD

A hypothesis that has been put forward in recent years is that apart from the theory that certain household compositions may put members at increased risk of being poor through the household's capacity for labour supply, members' preference for consumption and investment, and the household's ability to insure against risk (Edmonds *et al.* 2001: 1), the household composition may itself be endogenously determined by household resources and adjust to household members' economic circumstances. One particular example often used to examine the effect of an exogenous change in income on household composition in South Africa, is payment from the government old age pension programme.

The Old Age Pension programme in South Africa is a universal, non-contributory, age- and means-tested scheme. While the Old Age Pension has historically been racially discriminatory, towards the end of the Apartheid era the government committed itself to achieving parity in eligibility requirements and benefits for all race groups, which was largely achieved by 1993. The pension scheme can be expected to have a significant impact on inter- as well as intra-household behaviour of the poor, not only because the pension benefit levels

are generous – more than twice the median per capita income among blacks and roughly half the average total household income of blacks – but also due to its reach. In 1993, 80% of African women over 60 and 77% of African men over 65 benefited from the public pension, with the pension programme reaching 49% of households below the poverty line and representing 33% of total household income for households in poverty.

In developed countries, pension programmes have often been reported to enable the elderly to live on their own (Boersch-Supan 1989). Indeed, about 68% of elderly in the United States live in single-generation households (Boersch-Supan 1989). However, the analysis of the prevalence of multi-generation households in South Africa in section 2 of the paper has already indicated that the situation may differ substantially in South Africa. Edmonds *et al* (2001: 3) find no evidence that an increase in pension income promotes the propensity for the elderly to live alone. Anecdotal evidence suggests the opposite, namely that the elderly often support the extended family by means of co-residence and sharing their resources. According to Ferreira, 'multi-generation households form a constellation around the person receiving the pension' (quoted in Ngoro 1998 and Bertrand *et al* 2000). Table 5 indicates that in total only 12% of pension-eligible individuals in rural areas stay in single person or single-generation households, compared to 24% in two-generation households or 64% of pensioners in three or more generation households. The pattern is particularly distinct for ultra-poor households as only 1% of the pension-eligible aged stay in single-generation households, compared to the 78% in three- or four-generation families. A similar pattern is observed in urban areas (Table 6).

Table 5: The distribution of pension-aged individuals in rural households

	Non-poor	**Moderately poor**	**Ultra-poor**	5.1.4 Total
Single person household	**11%**	**2%**	**0%**	**4%**
Single generation household	**21%**	**6%**	**1%**	**8%**
All two-generation households	**26%**	**26%**	**21%**	**24%**
All three-generation households	**18%**	**26%**	**22%**	**22%**
Three generation household (complete)	6%	4%	5%	5%
Skip-generation household	12%	22%	17%	17%
All four-generation households	**23%**	**39%**	**56%**	**42%**
Four generation household (complete)	1%	1%	2%	2%
Four generation skip (other than C HH GP)	0%	0%	0%	0%
C HH GP	22%	38%	54%	40%
Five generation household	**0%**	**0%**	**0%**	**0%**
Other	0%	0%	0%	0%
Total	100.00%	100.00%	100.00%	100%

Source: Calculated from OHS/IES (1995)

*Child of the Household head, household head and grandparent of the household head.

Table 6: The distribution of pension-aged individuals in urban households

	Non-poor	**Moderate poor**	**Ultra-poor**	5.1.5 Total
Single person household	**16%**	**2%**	**0%**	**12%**
Single generation household	**39%**	**9%**	**1%**	**30%**
All two-generation households	**19%**	**22%**	**18%**	**19%**
All three-generation households	**10%**	**24%**	**24%**	**14%**
Three generation household (complete)	3%	4%	3%	3%
Skip-generation household	7%	20%	21%	11%
All four-generation households	**15%**	**43%**	**58%**	**24%**
Four generation household (complete)	0%	1%	1%	0%
Four generation skip (other than C HH GP)	0%	0%	0%	0%
C HH GP	15%	42%	57%	24%
Five generation household	**0%**	**0%**	**0%**	**0%**
Other	0%	0%	0%	0%
Total	100.00%	100.00%	100.00%	100%

Source: Calculations based on OHS/IES 1995

*Child of the Household head, household head and grandparent of the household head.

There are a number of interpretations for the prevalence of pensioners in multi-generation households. While the pension payment is considerable in size and in most cases the elderly may be able to afford to live independently, pensioners may prefer to live with family for company, kinship or support services; otherwise, the aged and the extended family may be altruistically linked so that the needs of the family may dwarf any desire of the pensioners to live in an independent household (Edmonds *et al* 2001: 4-7). Alternatively, empirical evidence is also consistent with the hypothesis that female elderly in particular have relatively less bargaining power in a household (Bertrand *et al* 2000), and hence a large part of the pension may be diverted to support other family members with more bargaining power[10].

[10] Bertrand *et al* (2000) find a significant drop in the labour force participation of prime-age men when a female household member reaches the pension-eligible age. The results indicate that the power relations in a household may play an important role as firstly, labour supply drops less when the pensioner is male rather than female, secondly the reduction in labour supply is greatest for middle-aged rather than younger men, and thirdly female labour supply is unaffected.

Another argument is that conservative elderly individuals may regard larger households as a tradition, and for a pensioner to set up a single person household upon pension-eligibility is a drastic change in his/her habits and lifestyle.

In their analysis Edmonds *et al* (2001: 14) find that households in which at least one pensioner resides, are larger (though not significantly so), have more small children and on average contain more female individuals. Indeed, there are a number of systematic changes in the household composition when a member becomes pension eligible. Using a semi-parametric regression discontinuity estimator in order to exploit the age discontinuity in pension eligibility, Edmonds *et al* (2001: 22) find evidence that pension eligibility enables younger household members to become migrant workers. There is a net inflow of young children – especially below the age of 5 - and women around the age of 20, and a net outflow of men and women in their thirties. Somewhat unexpectedly, a strong gendered effect is present. The presence of female pensioners leads to a sharp drop in the number of woman in their thirties, while having male pensioners in the household is associated with a drop in the number of men in their thirties. However, opposite-sex effects are insignificant (Edmonds *et al* 2001: 17). Similarly, the increase in young women in their twenties is solely attributed to the effect of female pensioners, with fewer rather than more women in their twenties in male pensioners' households. When examining the probability that the elderly live with individuals who bear a specific relationship to them, the authors find no significant systematic pattern of non-relatives in pension households. However, there is slight evidence that pension-eligible women have a lower probability of living with cousins, in-laws, and other extended family. Edmonds *et al* (2001) find female pension-eligible household heads to be more likely to live with their adult children, yet this effect is not significant in the case of male pensioners.

One particular question of interest when examining the impact of the pension scheme, is whether unemployed individuals migrate to pension-eligible households in order to seek economic support. As will be shown in the next section, so far indications are that only a relatively small percentage of the unemployed actively move to another household for support, while the predominant strategy of the unemployed is to continue residing in the parental home (Klasen and Woolard 2000:13). An interesting observation is that, according to Bertrand *et al* (2000:3-10), in the case of three-generation households the pension-eligibility of household members increases the propensity of middle-aged men to drop out of the labour force, rather than increasing the likelihood of them being unemployed but willing to work. Exit from the labour force could be due to the family safety net producing a disincentive to

work with potentially lower intra-household transfers to an employed individual and/or to pension income allowing more leisure to be consumed. Edmonds *et al* (2001) find that pension-eligibility of a household member increases the probability that an individual has recently joined the household by 5 to 11%, though this effect is not statistically significant.

Lastly, pension-eligible women tend to be significantly *less* likely to live with their grandchildren (Edmonds *et al* 2001:23). While they note that this last result is confusing when compared to the earlier observation of an increased number of young children in pension households, I suggest that our earlier examination of three- and more generation household structures may hold the key to at least part of the puzzle[11]. By only considering the relationship of elderly to grandchildren, the 22% of observations comprising four- or more generation households where the elderly are likely to be the great-grandparents are (implicitly) ignored and the analysis only utilises data from the 12% of observations comprising three-generation households. Furthermore, their regression is conditional on the pensioner being the household head, whereas it may be common for an individual of the second or third generation in a four-generation household to be the household head.

This section has examined pension-eligibility as a particular case of an increase in household income. The findings indicate that in contrast to the experience in developed countries, pensioners show no increased propensity to live independently, but rather stay in multi-generation households that may even attract other individuals to the households. However, care should be taken when generalising these observed patterns to all increases in household or personal income. Contrary to the pension receipt scenario, the improved resources of an individual are commonly predicted to lead to an increased probability of setting up an independent household. The fact that this appears not to be the case regarding pension income, emphasises that - in accordance with household bargaining models - the identity of the receiver of the household income may play a crucial role.

While pensioners may be more altruistic or have less bargaining power within the household, younger members of the household could react differently to an increase in their income, as is evident in the increased propensity of employed children of the households head to leave the parental home and set up their own households (see next section).

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[11] According to Edmonds *et a.* (2001:23) a possible explanation is, "that those elderly living with only one grandchild are more likely to have that child leave, while those with one or more are likely to have still more children move in".

4.3 HOUSEHOLD STRUCTURE AND THE UNEMPLOYED

Another approach to studying household structure is to classify individuals according to one specific characteristic - namely employment status - and then examine the probability of residing in a household of a certain structure or of having an increased likelihood of a particular relationship to the household head. While unemployed individuals may choose to move to another household with labour market income or pension linkages, unemployed individuals may postpone setting up a household of their own and continue to reside in the parental home. If the individual were employed, he or she would have left the original household. This failure of the young unemployed to leave the parental home could lead to an increased tendency towards multi-generation households relative to single generation households.

As was mentioned in section 3, a number of international studies, have clearly indicated that parents insure their children against adverse labour market conditions, while favourable economic conditions increase the likelihood of children leaving the family home (McElroy 1985; Ermisch and DiSalvo 1997; Card and Lemieux 1997). Klasen and Woolard (2000: 11-14) show that a similar pattern emerges when Sough African data is examined. Using data from the 1995 Household Survey, they assume labour market status is exogenously determined and consider the residential choice of African males participating in the labour force using a multinomial logit model. The results indicate that unemployment significantly reduces the chances of setting up a household and there is an increased propensity to continue staying in the parental home. In particular, a higher level of household income per capita makes it significantly more attractive to form part of such a household rather than setting up an independent household. When extending the model to make provision for movement between urban and rural areas in response to unemployment, similar results are found. The predominant response of the unemployed with respect to household structure is to remain in the parental home, while only a minority selectively migrates to other households or returns to the family home.

In cases where unemployed individuals do migrate to other households, an interesting picture emerges (Klasen and Woolard 2000: 14). Compared with the broadly unemployed, the narrowly unemployed have a higher propensity to attach themselves to urban households. While the probability for the narrowly unemployed to move to relatives and non-family in urban areas is *four times* the probability of attaching themselves to such an household in rural

areas, the chances of the broadly unemployed of attaching themselves to urban households is not even *twice* that of joining rural households. Empirical support is found for the hypothesis that two groups of unemployed exist. Those with better job prospects, – as proxied by education, "are more likely to go to urban areas, attach themselves to relatives and search, while those with worse job prospects fall back to rural areas and do not search" (Klasen and Woolard 2000: 18)[12]. For the latter group, pensions and remittances may play an important role in explaining the choice of location to be rural areas where employment prospects are generally lower, yet possibly the likelihood of attaching oneself to a pension-household is higher.

While Klasen and Woolard assume unemployment to be exogenous and consider the residential decision of the individuals and the household resources of the receiving households, the direction of causality between unemployment (particularly broad unemployment), labour force participation and household composition may run both ways. Indeed, earlier studies regarded the household structure as exogenous and focused on the effect of increased household resources on the reservation wage and duration of unemployment (Atkinson and Micklewright 1991; Arulampalam and Stewart 1995).

It is useful to distinguish between three potential impacts that increased household resources may have on individual labour market status, namely the effects on labour force participation, search effort (broad unemployment) and on the narrow unemployment rate due to an increase in the reservation wage. Firstly, improved household resources may allow the individual to purchase more leisure and even exit the labour market altogether. Bertrand *et al* (2000) show that increased household income due to pension-eligibility of the elderly leads to a significant drop in the labour force participation rate of working-aged males with the unemployment rate unaffected.

Secondly, there may be a significant relationship between household resources and the discouraged workseeker phenomenon, leading to increased broad unemployment relative to narrow unemployment. Kingdon and Knight (2000: 1-2) argue that there are two possible interpretations of the lack of job search effort among those that label themselves as unemployed. According to the "taste for unemployment" hypothesis, higher household income – and hence also intra-household transfers to the unemployed person – may lower the

[12] High rural unemployment may hence be partly due to self-selection and partly due to a lack of

intensity of search effort as the income effect allows individuals to consume more leisure. Factors at the household level - in this case household income - thus play an important role. Under the alternative interpretation, the "discouraged work-seeker" hypothesis, job search is "hampered by impediments such as poverty, costs of search, long duration of unemployment, and adverse local economic conditions" (Kingdon and Knight 2000: 1-2). However, Bertrand *et al* (2000:19) argue that search effort should be dependent on the local unemployment rate rather than on household income since this is what the term "discouraged workseeker" would imply[13].

Lastly, pension income may affect the incidence of *narrow* unemployment either due to the selective migration of the unemployed to households with improved resources, or to an increase in the reservation wage which may prolong the duration of unemployment. In contrast to Bertrand *et al* (2000) who find no tendency for individuals in three-generation pension households to have a smaller likelihood of being employed than individuals in other three-generation households, Klasen and Woolard (2000: 29) find that after controlling for other factors, pension receiving households have a statistically significant higher prevalence of narrowly unemployed individuals. However, when examining the impact of pension and private income, Klasen and Woolard (2000: 19) find that while private income raises the reservation wage, there is little evidence of a disincentive effect of *pension* income on unemployment via a higher reservation wage.

In the next section we will develop a model of joint determination of labour market status and household membership and examine empirically the interdependence of these two variables with regards to the issues raised above.

5. A MULTI-LEVEL PROBIT ANALYSIS OF LABOUR FORCE PARTICIPATION, EMPLOYMENT AND HOUSEHOLD MEMBERSHIP

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employment opportunities.

[13] It is interesting to compare the findings of Klasen and Woolard that the unemployed are spread more broadly over households with that of Wittenberg (1999:38). The latter article concludes that "employment and unemployment tend to cluster in households: employment of one person (e.g. the father) is correlated with employment of the mother and both are correlated with the employment of the children". However, it is pointed out that findings may be driven by neighbourhood effects so that the correlation between unemployment status for individuals may hold for the community in that area rather than be limited to the household. In the next section, we will investigate this further by means of a multi-level multinomial logit regression

So far studies in the South African context have regarded either labour market status or household structure as exogenously determined (Klasen and Woolard 2000; Bertrand *et al.* 2000; Wittenberg 1999; Bhorat and Leibbrandt 2001). Efforts to allow for the simultaneous determination of household structure and employment have been dampened not only by econometric difficulties, but also by the lack of longitudinal data sets[14] for South African households, so that previously mentioned international studies cannot be easily replicated for South Africa.

However, McElroy (1985: 293) emphasises that "except in special cases, work and household membership are jointly chosen". She finds that estimates from a jointly determined model differ "sharply" (1985: 293) from the estimates when either employment or household structure is assumed to be exogenous. It is therefore important to supplement the current research with studies of the (joint) dynamics of household formation and employment. This section attempts to do this by using an augmented Heckman selection model that allows for the simultaneous determination of labour market status and household headship, and where provision is also made for the selection-bias present. A number of individual, household and regional factors are taken into account, allowing insight not only into the dynamics behind household membership and employment, but also the dynamics underlying labour market participation, the discouraged work-seeker phenomenon and the impacts of pension income.

5.1. DATA

We use data from the October Household Survey (OHS) 1995 and combine this with the Income and Expenditure Survey (IES), both surveys covering the same households in that year. The focus is limited to African males[15]. While we regard all African males between the age 16 and 65 as part of the potential labour force, we omit working-aged individuals still in

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[14] Commonly also termed panel data, longitudinal data refers to observations across households as well as over time, i.e. the same households are re-interviewed periodically. While in the KIDS (KwaZulu Natal Income Dynamics Survey) data set the same households analysed in 1993 are re-interviewed in 1997, a larger time dimension is needed in order to use most panel data methods in econometric analysis.

[15] African observations dominate the sample in the OHS and one may therefore expect non-Africans to have little impact on the analysis estimates. However, whites have a significantly higher level of income and lower level of unemployment (Woolard and Leibbrandt 2001), making a joint analysis difficult as the variation in income and employment is mainly driven by racial differences. Further analysis could consider the extent to which the female decision-making process regarding employment and household membership corresponds to that of males.

the education system. Partly due to high repetition rates in South Africa, the latter group may be dominated by young Africans still completing secondary education (Van der Berg 2001: 185-186).

In order to capture a wide variety of influences on employment status and household membership of individuals, we use a multi-level analysis that considers explanatory variables at the individual, the household and the regional level. Individual factors taken into account besides race and gender are age, the square of age and education level[16]. Variables at the household level include household per capita income (excluding the income attributable to the particular individual under consideration), the number of pension-eligible elderly and the number of other household members that are currently employed. While increased household income may raise the reservation wage of individuals hence prolonging unemployment, some unemployed individuals may lower the search effort or even exit the labour market altogether and become inactive. With regard to household membership, a higher household income signals access to resources additional to the individual's own wage, leading us to expect a postponement of the setting up of an independent household as individuals choose to stay in the current home instead.

Even after controlling for household income, pension-eligible elderly present in the household may have an additional impact, discouraging labour force participation and inhibiting the formation of independent households by younger working-aged adults. This is so not only because the elderly are possibly more altruistic, but also because they may have less bargaining power and (pension) money may be more easily extracted from them. Lastly, a number of studies on broad and narrow unemployment in South Africa have suggested that (informal) labour market networks and "contacts" may significantly increase an individual's chances of employment, as well as encourage unemployed individuals to search for work by lowering the costs of searching (Wittenberg 1999: 41-44). We could further argue that if other household members are employed and are earning money, an unemployed individual may have relatively less bargaining power within the household and may be less involved in decisions relating to how money is spent, necessitating and encouraging him or her to search for an own income.

[16] We make use of five splines to indicate incomplete primary education, complete primary education, incomplete secondary education, complete secondary education, and at least some tertiary education.

With regard to geographic factors, a local unemployment rate variable is included, capturing the employment prospects of the province and urban-rural location[17]. The implications of poor labour market conditions for the probability that an individual is unemployed (in the narrow sense) are self-explanatory, and a high narrow unemployment rate may further discourage out-of-work individuals to actively search for a job and many may exit the labour force after long periods of unemployment. Provincial dummies are also included in the analysis in order to control for fixed effects at the provincial level.

5.2. HOUSEHOLD MEMBERSHIP AND EMPLOYMENT WITH LABOUR MARKET STATUS CONSIDERED EXOGENOUS

As a point of comparison for the subsequent analysis, Table 7 first presents the analysis when employment status is regarded as exogenous and no correction is made for the selection bias due to the omission of economically inactive individuals from the sample. This analysis corresponds to the multinomial logit model examined by Klasen and Woolard (2000). In our probit analysis, the dependent variable takes on the value of 1 if the African male is the household head (i.e. he has set up his own household), and 0 if he is attached to another household with either one of his parents, an extended family member or a non-family member as the household head[18]. While the coefficients are not readily interpretable in terms of the increased propensity to set up an own household, we are primarily concerned with the significance, sign and relative size of the coefficients concerned. The results are similar to those of Klasen and Woolard (2000: 11-13), and confirm that a higher per capita household income makes it more attractive to reside in that household rather than to set up an independent household. Being employed increases the probability of being the head of a household, while the narrowly unemployed are only marginally more likely to have an own household relative to the broadly unemployed. After controlling for age, education, employment status and household income, the presence of a pension-aged individual has a further negative impact on new household formation, particularly if the pensioner is female. Given the picture presented in Table 7, it is a feasible hypothesis that while a higher household income generally makes residence in the household more attractive, the unemployed in particular may be sensitive to this effect. Klasen and Woolard (2000: 13)

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[17] As there are nine provinces and an individual may reside in the rural or urban area of each province, the unemployment rate variable takes on 18 different values, ranging from 5% and 11% for rural Western Cape and rural Northern Cape,to 36% for urban Gauteng and 54% and 66% for rural KwaZulu-Natal and rural Eastern Cape respectively.

[18] In most cases when the individual is not the household head, he is a child (74%) or grandchild (9%) of the household head, while 14% reside with extended family and 3% with non-family.

suggest that some of the unemployed may not only stay in the parental home, but could alternatively migrate to households with a higher income. While the above analysis does not provide further insight in this regard, our extended model in the next section allows for differential impacts of explanatory factors on household formation depending on whether individuals are employed, unemployed or inactive.

Table 7: Probit analysis of the relationship to household head (labour market treated as exogenous with no bias-correction term)

	Household head (Column 1)	Household head (Column 2)
Individual characteristics:		
Age	0.1932***	0.1919***
Age squared	-0.0015***	-0.0015***
Education (0-3 years)	-0.0529**	-0.0544**
Education (4-7 years)	-0.0003	-0.0004
Education (8-11 years)	-0.0324**	-0.0277*
Education (Matric, year 12)	-0.0262	-0.0385
Education (Tertiary)	0.1546***	0.1533***
Narrowly Unemployed (relative to broadly unemployed)	0.1046*	0.1043*
Employed (relative to broad unemployed)	1.2390***	1.2527***
Household characteristics:		
Other household income (R1000 p.a.)	-0.0130***	-0.0131***
Female Pensioners		-1.3943***
Male Pensioners		-1.238***
Pension dummy	-1.6385***	
Constant	-4.8228***	-4.8177***
Observations	12661	12661
Pseudo R^2	0.4835	0.4848

***, ** and * indicating significance at 1%, 5% and 10% respectively. Provincial dummies included but not shown: Free State and Mpumalanga are significant at 1% and North West Province at 10%.

5.3 METHODOLOGY: HECKMAN SELECTION MODEL AND PROBIT ANALYSIS

In order to improve on the above analysis and allow for the joint determination of household structure and employment status, we use a modified Heckman selection model or Heckprobit. In particular a Heckprobit consists of a selection equation as well as an equation of interest, with both dependent variables dichotomous (taking values of either 0 or 1).

Let $z^*_{1i} = X_{1i}\beta_1 + \varepsilon_{1i}$ be the selection equation, where we observe

$z_{1i} = 0$ if $z^*_{1i} \leq 0$ and $z_{1i} = 1$ if $z^*_{1i} > 0$ (1)

For individuals where $z_{1i} = 1$, we observe the outcome for the equation of interest

$z^*_{2i} = X_{2i}\beta_1 + \varepsilon_{2i}$

where $z_{2i} = 0$ if $z^*_{2i} \leq 0$ and $z_{2i} = 1$ if $z^*_{2i} > 0$ (2)

We can make use of either a two-step estimator or a joint maximum likelihood estimator. In the two-step probit, equation 1 (the selection equation) is estimated first using the full data sample. Given the coefficient estimates for equation 1, we can estimate the Inverse Mills ratio (IMR) (Greene 1993; Breen 1996). By including the estimated IMR as an explanatory variable in the equation of interest, adjustment is made for the selection bias as the equation of interest only takes into account observations where z_1=1. The joint maximum likelihood procedure estimates the selection equation and equation of interest simultaneously, and similarly takes into account the selection bias and the reduced sample in the equation of interest. While both methods generally give similar results with regard to the relative size, significance and sign of the coefficient estimates, the particular choice of estimation procedure is guided by theoretical considerations as to whether the selection into employment and choice of household membership is sequential – in which case the two-step procedure is advised, or whether it may be simultaneously determined. As argued below, we will predominantly make use of the latter estimation technique.

5.4 HECKPROBIT ESTIMATION RESULTS: A JOINT DETERMINATION OF LABOUR MARKET STATUS AND HOUSEHOLD MEMBERSHIP

In our analysis, we consider individuals in the labour force and then use a joint maximum likelihood Heckprobit to consider the simultaneous determination of being employed (in our case, indicated z_{1i}=1) as opposed to being unemployed (z_{1i} =0), and of being household head (z_{2i}=1) relative to being another household member (z_{2i}=0). This estimation is then repeated for the unemployed. However, we also need to take into account the potential selection bias as individuals in the labour force are not a random selection of all working-aged individuals, and

individual, household and community characteristics may differ significantly between those participating in the labour force and those not in the labour force (i.e. the economically inactive). To accomplish this, we start the analysis with a joint maximum likelihood model of selection into the labour force and determination of household structure. From this model we calculate an IMR for the selection of working-aged adults into the labour force, and include this IMR (or bias correction term) as an explanatory variable in the selection into employment or unemployment. Adjustment is therefore made for the fact that the latter Heckprobits focus on the employed and unemployed only.

In Table 8 we show the estimates for the joint maximum likelihood model *of being outside of the labour force* and *of being the household head*, given individual, household and regional variables. By using this technique, we allow for an individual to simultaneously evaluate the relative benefits of entering the labour market versus being economically inactive and staying attached to a household. We find that the variables have the expected signs and the Wald test indicates that the selection equation (describing labour force participation) and the equation of interest (describing household membership) are not independent of each other, with the correlation in the error structure of the two equations proving significant at 1%. Age and education influence labour force participation positively as has already been recorded by Dinkelman and Pirouz (2001) and Bhorat and Leibbrandt (2001), while improved household income causes some individuals to exit the labour market.

Confirming the findings of Bertrand *et al* (2000: 18-20), having female pensioners present in the household has a disincentive effect on labour force participation, while the impact of male pensioners is insignificant. Given the high unemployment rate in South Africa, it is plausible that after spells of prolonged unemployment and diminished hope of ever finding work again, individuals exit the labour market while others may be disheartened and never enter the labour force in the first place. Our analysis confirms this and we find that a high narrow unemployment rate impacts positively on the probability of being inactive, while improved attachment of the household to the labour market (as proxied by the number of employed persons in the household) impacts negatively on the probability of being inactive. With regard to household membership, we find that after controlling for individual characteristics and being out of the labour force, the presence of pensioners – particularly female pensioners – decreases the propensity to set up an own household. However, household income does not play a significant role; a possible explanation for this is suggested later when considering the unemployed.

TABLE 8: HECKPROBIT ANALYSIS OF LABOUR FORCE PARTICIPATION AND HOUSEHOLD MEMBERSHIP

	Analysis 1: The Inactive vs the Active, using full sample	
	Economically Inactive	Relation to Household head
Individual characteristics:		
Age	-0.3504***	0.2348***
Age squared	0.0043***	-0.0017***
Education (0-3 years)	-0.1040***	0.0764*
Education (4-7 years)	0.0244*	0.0391
Education (8-11 years)	0.1122***	-0.1048***
Education (matric, year 12)	-0.5299***	0.3046**
Education (Tertiary)	-0.0268	0.0430
Household characteristics:		
Other household income	0.0070***	0.0006
Female Pensioners	0.1849***	-0.9919***
Male Pensioners	0.0207	-0.4520***
Number of other Employed in household	-1.0356***	
Local/ Regional Factors:		
Unemployment rate (by province and urban-rural)	1.0356***	
Constant	5.6114***	-6.2200***
Rho	-0.4034	
Wald test of independent Equations	Interdependence of Equations ***	

***, ** and * indicating significance at 1%, 5% and 10% respectively.

Provincial dummies included: Northern Cape, Mpumalanga and Northern Province are significant.

Table 9 presents the results for the Heckprobit describing the household formation patterns of *those in the labour force*. The IMR1[19], adjusting for the exclusion of the economically inactive in this analysis, is highly significant in the equations for selection into employment (column 1) and into unemployment (column 3), and the exclusion of this adjustment factor could have led to serious bias in the estimates. The Wald test suggests a significant correlation in the error structure of the selection equation and equation of interest.

Regarding analysis 2 (columns 1 and 2), the variables have the expected sign and significance. While age (commonly used as a proxy for potential experience) and tertiary education increase the employability of individuals, household income has an inhibiting effect on employment. As we used the broad definition of unemployment – regarding those with no work and not looking for work, yet willing to accept it if offered as unemployed rather than being out of the labour force – income may either discourage search effort or prolong the duration of unemployment while looking for work, due to an increase in the reservation wage (see section 4.3). This leads one to expect a negative relationship between household income and employment. Indeed, we find that income does not have a significant negative effect on employment.. Bertrand *et al* (2000: 16-18) have shown that female pensioners in particular are more altruistic towards others or have less bargaining power in the household, and we similarly find that the drop in employment is particularly sizeable in the case where there are female pension-eligible household members present.

Another household variable of interest is the impact of the number of other employed individuals in the households on the probability of being employed oneself[20]. As explained previously, better labour market linkages improve the information flow within a household, increasing an individual's likelihood of employment. We find this effect to be strongly significant and relatively large. Further, as expected, a higher regional (narrow) unemployment rate diminished an individual's chances of employment.

With regard to household membership, the second column of analysis 2 shows that besides individual factors, household variables also matter in determining household membership. Given that an individual is employed, a higher household income generally delays the setting

[19] Since the selection into the labour force is the flip-side of being economically inactive, the Inverse Mills Ratio used here is essentially based on estimates in column 1 of table 22.

[20] Similar results are achieved when a dummy is used that takes on the value of 1 if at least one employed person is present in the household.

up of an independent household while pension-eligible elderly have an additional negative impact on new household formation.

Table 9: Heckprobit analyses of employment, unemployment and household structure (bias-correction for the exclusion of the economically inactive)

	Analysis 2: The Employed within the economically active sample		Analysis 3: The Unemployed within the economically active sample	
	Selection into employment (given in l.f.)[1]	Relation to Household head	Selection into unemployment (given in l.f.)	Relation to Household head
Individual characteristics:				
Age	0.0794***	0.2131***	-0.0673***	0.2411***
Age squared	-0.0005	-0.0019***	0.0004	-0.0019***
Education (0-3 years)	-0.0365*	-0.0415*	0.0286	-0.0608
Education (4-7 years)	-0.0101	-0.0092	0.0105	-0.0133
Education (8-11 years)	0.272*	-0.0216	-0.0249	-0.0724***
Education (matric, year 12)	-0.2048***	-0.0276	0.2359***	0.0554
Education (Tertiary)	0.3883***	0.2633***	-0.4034***	0.2548**
Household characteristics:				
Other household income	-0.0015	-0.0088***	-0.0010	0.0047
Female Pensioners	-0.5481***	-1.3495***	0.5834***	-1.5400***
Male Pensioners	-0.3083***	-1.0929***	0.2815***	-1.2042***
Number of other Employed in household	0.9926***		-0.9574***	
Local/ Regional Factors:				
Unemployment rate (by province and urban-rural)	-0.3413**		1.2150***	
Constant	-2.1365***	-4.2563***	1.4347**	5.4140***

Inverse Mills ratio (IMR1)	-0.8521***		0.9200***	
Rho	0.9535		-0.5189	
Wald test of independent Equations	Interdependence of Equations ***		Interdependence of Equations ***	

***, ** and * indicating significance at 1%, 5% and 10% respectively.

[1] Labour Force (using the broad definition of unemployment)

[2] Provincial dummies included: Free State, KwaZulu-Natal, North West and Northern Province are significant.

The Heckprobit analysis is repeated for unemployed individuals in analysis 3, with the IMR again significant, and the selection equation into unemployment and the equation referring to relationship to for household headship strongly interdependent. Column 3 is essentially the flip-side of column 1. Given that an individual is unemployed, the presence of pensioners once again discourages new household formation. However, it is important that since the household income variable is no longer significant in the determination of relationship to household head, the unemployed appear to be less sensitive to household income. A plausible explanation is that in general the unemployed are left with few alternatives but to be attached to a household (often the parental home), even if that household has desperately few resources itself. While this analysis provides no further insight regarding the migration pattern of the unemployed, given the results of this analysis and the insignificance of the income variable, it seems unlikely that the conscious and active movement of the unemployed towards relatively better-off households dominates the scenario. Rather, there appears to be a lack of movement out of the original home[21]. Unemployed households heads are on average no poorer than unemployed individuals attached to other households.

Estimates from Tables 7 to 9 predict a pattern of household membership that is distinct in terms of employment status. 78% of employed African working-aged males are heads of households, while this drops to 23% and 21.5% for the unemployed and inactive individuals respectively. It becomes evident that certain explanatory variables may in fact have both a direct and an indirect effect. For example, while the presence of pension-aged individuals increases the probability of being economically inactive and unemployed, which then raises the likelihood that the individuals are not the heads of their own households, the pensioner's

[21] Of all individuals who are not household heads, 83% stay with parents or grandparents.

presence furthermore impacts directly on household formation, conditional on members' employment status. Other variables, such as the regional unemployment rate and a proxy for labour market networks, have their influence mainly indirectly via their impact on employment status.

Table 10: Conditional predictions given employment status

	Household head	Not head of household
Employed	77.7%	22.3%
Unemployed	22.9%	77.1%
Inactive	21.5%	78.5%

Based on the estimates of Tables 7-9

5.5 DETERMINANTS OF LACK OF SEARCH AMONG UNEMPLOYED

The above analysis uses the broad definition of unemployment and does not distinguish between the narrowly unemployed and the discouraged unemployed. While not being the main focus of this paper, another issue of interest is to consider which individual, household and regional factors contribute to the lack of search effort among some unemployed, and whether the household formation pattern of the narrowly unemployed differs significantly from that of the broadly unemployed.

Table 11: Heckprobit analysis: Differences between the narrowly and broadly unemployed

	Analysis 5: Narrow relative to broad labour force		Analysis 6: Narrow relative to broad unemployed	
	Economically Active (broad)	Economically Active (narrow; given econ. active broad)	Unemployed (given broadly active)	Narrowly unemployed (given unemployed)
Individual characteristics:				
Age	0.3533***	0.2432***	-0.0810***	0.0288
Age squared	-0.0044***	-0.0028***	0.0006	-0.0004*
Education (0-3 years)	0.1031***	0.0378*	0.0258	-0.0143
Education (4-7 years)	-.0247*	0.0111	0.0112	0.0610***
Education (8-11 years)	-0.1109***	-0.0520***	-0.0203	-0.0059
Education (Matric, year 12)	0.5203***	0.2499***	0.2143***	0.1475*
Education (Tertiary)	0.0328	0.2730***	-0.4043***	0.0332
Household characteristics:				
Other household income	-0.0071***	-0.0021	-0.0006	0.00002**
Female Pensioners	-0.2074***	-0.3183***	0.5860***	0.0664
Male Pensioners	-0.0470	-0.1897***	0.2840***	-0.0440
Number of other employed in household	0.5419***	0.8068***	-0.9705***	-0.0697
Local/ Regional Factors:				
Unemployment rate (by province and urban-rural)	-1.0668**	-1.6392***	1.3164***	-0.9964***
Constant	5.3673***	-4.1488***	1.6919***	-0.1750
IMR 2			0.8436***	
Rho	0.6714		0.0805	

Wald test of independent equations	Interdependence of Equations ***	Interdependence of Equations *

***, ** and * indicating significance at 1%, 5% and 10% respectively.

First we estimate the joint selection of working-aged African males into the broad labour force (the selection equation in column 1), and then into the narrow labour force given that they are in the broad labour force (equation of interest in column 2). Hence, we compare the probability of being in the narrow labour force relative to being a non-searching unemployed individual. The IMR used in equation 6 is then based on the selection into the labour force modelled in analysis 5. We find that age and education significantly impact on search effort as the discouraged workseekers are on average younger and less educated, particularly with regard to matric and tertiary education (column 2 of Table 11). While income does not have a significant impact on search effort (although it does on broad labour force participation), the presence of pensioners lowers the chances of being in the narrow labour force relative to being a discouraged unemployed individual. Furthermore, a high unemployment rate as well as a lack of other employed people in the household inhibits search effort. This would indicate that the discouraged workseeker phenomenon is partly driven by poor employment prospects (due to low demand for labour relative to supply, as well as less education and less potential experience) and partly by household factors.

However, in this probit analysis, those in the narrowly defined labour force that is the employed and the narrowly unemployed - are compared to the unemployed who are no longer actively searching for work. Yet the question may rather be: which individual, household and regional factors cause some people to give up search efforts *given that they are unemployed*? In this regard, analysis 7 is more relevant. Column 3 corrects for selection into unemployment (broad and narrow) given participation in the labour force (column 1 of Table 11), and column 4 of Table 11 sheds light on the selection into narrow unemployment relative to broad unemployment (no search effort). Most notably, search effort seems to be sensitive to the (narrow) unemployment rate, and in regions with particularly poor labour market conditions, unemployed individuals have stopped active search efforts. There are some indications that the narrowly unemployed are significantly better educated than the discouraged unemployed, possibly reflecting different employment prospects. Importantly, household income does not inhibit search effort and may even encourage it, while the presence of pensioners similarly cannot account for the lack of job search amongst the discouraged unemployed. The fact that household income enters column 4 in Table 11 positively tends to support the hypothesis of

Dickelman and Pirouz (2001: 1-3) and Kingdon and Knight (2001: 9) of a "search-financing" effect of income, as money is needed for active job search.

It can be shown that the patterns of household headship adopted by the narrowly and broadly unemployed are very similar and consequently insignificantly different from the estimates presented in Table 9 (column 4). With regard to the narrowly as well as broadly unemployed, household income is insignificant (for what???) while the effect of pensioners is significant and negative[22].

5.6 SHORTCOMINGS OF THE ADOPTED APPROACH

Before concluding it is appropriate to highlight some of the shortcomings of the approach adopted. First, no provision was made for the fact that particularly young individuals may further their education in the face of poor economic conditions and hence postpone entry into the labour market due to poor employment prospects, as has been observed for Canada and the USA (Card and Lemieux 1997). Observations of working-aged individuals still in the education system were dropped from the initial sample and hence excluded from the analysis altogether, rather than being included as part of the economically inactive population. This treatment may be partly justified in the South African context, as in many regions a poor matric pass rate causes pupils to stay in the school system for prolonged periods, sometimes until their mid-twenties. The large number of working aged adults in education may hence be due to an "involuntary" prolonged stay in the school system, rather than to a conscious decision to improve skills and hence employability in the face of tough current economic conditions.

Secondly, while the analysis allowed for a joint determination of employment and household membership as well as managed to capture some interesting dynamics, this was done at the expense of a more specific examination of the relationships between other members and the household head. Since a probit analysis was used in this paper with a dichotomous dependent variable, we could only allow for two types of household status, namely whether or not the individual was a household head. Information specifying whether a non-household head individual lived with immediate family, extended family or non-family was disregarded. While footnote 4 indicated that in most cases non-household head working-aged males reside

[22] The tables are available from the author on request.

in the parental home, a multilogit analysis - as suggested by Klasen and Woolard (2000) – is better suited to examine this issue.

Thirdly, the data set does not allow for a decomposition of household non-wage income according to which household members received it. "Other household income" as used in this analysis was calculated subtracting the individual's wage income from total household income. While the distinction between wage and non-wage income may not be important when considering the employment status (and thus constructing the selection equation), it is feasible that while a higher wage income of other household members has a disincentive effect on setting up an own household, non-wage income may encourage it if the particular individual is the receiver of non-wage income and utilizes it to finance the new household[23]. Lastly, no provision is made for the dynamics of inter-household transfers, which may allow some individuals to set up their own households and could influence household formation and employment status in a number of ways.

6. CONCLUSION

In general, the poor are extremely vulnerable to shocks. Not only is the asset base which cushions the poor during hard times often very small, but the potential variability of returns to these assets may also be high, and conventional market-based methods of risk management and insurance unaffordable. Household composition and migration decisions may consequently be endogenous and form an integral part of a risk management strategy adopted by the poor; the resultingwelfare implications are numerous. The aim of this paper was to examine our current understanding of the underlying issues and to focus our analysis on households in rural South Africa.

Conceptually, one can distinguish between risk mitigation and risk reduction strategies. While risk mitigation is aimed at decreasing the potential negative impact of an event, risk reduction refers to the lowering of the probability of a negative event. Considered in this regard, the migrant labour system and temporary migration may not only allow for the maximising of household income, but also for the diversification of risk and insurance against covariant risk. Section 4.1 hence explored the ways in which household composition and household factors are intertwined with migration. Not only will migration patterns of individuals leave their

[23] The data set does not allow us to identify which household member is the recipient of the non-wage income.

mark on household structure, but the household may well play a causal role in encouraging or inhibiting migration of individuals. Remittance income from migrant workers may help residual rural households to diversify risk. However, as suggested in section 4.3, a lack of income may inhibit households to take advantage of such a strategy. This may occur not only due to the potentially high costs of relocation and extended periods of unemployment in the urban areas, but also as more secure sources of income (such as home production and subsistence agriculture) may have to be foregone. Particularly in the short term, the departure of a working-aged individual may increase rather than reduce the risk faced by the ultra-poor households. Studies seem to support the hypothesis that once an elderly household member receives the pension, a net outflow of working-aged individuals occurs. Therefore, in South Africa it may be difficult for the ultra-poor to diversify risk in the long-term due to higher initial risk and costs.

With regard to risk mitigation, household formation does appear to be important as parents and family can insure children against poor labour market conditions. Pension income, in particular, plays an important role here. International studies indicate that young unemployed individuals tend to postpone the setting up of an own households, leading to multi-generation household structures. Klasen and Woolard (2000) consider the residential decision of the unemployed and establish a similar hypothesis in the case of South Africa. However, only a relatively small percentage of the unemployed appear to actively move to another household for support, while the predominant strategy of the unemployed is to continue staying in the parental home.

While these authors' analysis assumes unemployment to be exogenous, the direction of causality between unemployment (particularly broadly unemployment), labour force participation and household composition may run both ways. In section 5, we hence use an extended Heckprobit analysis. In order to capture a wide variety of influences on employment status and household membership of individuals, we use a multi-level analysis that considers explanatory variables at the individual, household as well as regional level. In general, we confirm the findings of Klasen and Woolard. We also find that after controlling for individual characteristics and being unemployed, the presence of pensioners – particularly female pensioners – decreases the propensity to set up an own household. Interpreted alternatively, for a number of possible reasons and contrary to the experience in industrialised countries, the pension-eligible elderly forgo the opportunity to set up an independent household, but rather provide economic support to the extended family, acting as a private safety net and

cushioning negative shocks experienced by family members. Therefore, in an important way, the old age pension scheme supports the informal safety net in rural South Africa. We also examined the impacts of a number of other household and regional factors on employment status, search effort and household membership, recording the findings in section 5.4 and 5.5.

However, it should be noted that several constraints operant on the private safety net are evident. Not only do employment, unemployment and search effort cluster in households, and informal labour market networks matter for employment prospects, but the impact of household income on the relationship to the household head depends on the employment status of the individual. In particular, when the individual is unemployed, the household income variable is no longer significant in the determination of relation to the household head. Hence, the unemployed appear to be less sensitive to household income. A plausible explanation is that – in general – the unemployed are left with few alternatives but to be attached to a household (often the parental home), even if that household has very few resources itself. While the analysis in section 5 provided no further insight regarding the migration patter of the unemployed, given the overall results of this analysis and the insignificance of the income variable, it seems unlikely that the conscious and active movement of the unemployed towards relatively better-off households dominates the scenario. Rather, there appears to be a lack of movement out of the original home.

An important issue to consider is how future changes in migration and household formation trends may impact on the household's ability to manage risk. Should a trend towards increased one-way rural-urban migration – as opposed to oscillating and circulatory migration - be confirmed, residual rural households face increased vulnerability. This is so not only due to a likely worsening in the dependency ratio, a loss of remittance income and lowered diversification of risk, but also to the impairment of the risk mitigating impact of the social pension system as rural-born elderly working in urban areas no longer return to rural areas when qualifying for a pension. As the extended family and kinship network is strained, unemployed individuals may increasingly push remaining hosting families into poverty. Further investigation in this regard should hence be regarded as imperative.

7. BIBLIOGRAPHY

ANDERSON, K.G., 2000. "Family Structure, Parental Investment, and Educational Outcomes among Black South Africans*". Population Studies Center (PSC) Research Report Number. 00-461*. [Online]. Available: www.psc.isr.umich.edu/pubs/

ARULAMPALAM, W. and STEWART, M., 1995. "Determinants of Individual Unemployment Durations in an Era of High Unemployment". *Economic Journal* 105: 321-332.

ATKINSON, A.B.. and MICKLERIGHT, J., 1991."Unemployment Compensation and Labour Market Transitions: A Critical Review". Journal of Economic Literature 29: 1679-1727

BEKKER, S., 2001. "Diminishing returns: Circulatory migration linking Cape Town to the Eastern Cape". *South African Journal of Demography* (forthcoming).

BERTRAND, M., MILLER, D. and MULLAINATHAN, S., 2000. "Public Policy and Extended Families: Evidence from South Africa". *NBER Working Paper* 7594. [Online]. Available: www.nber.org/papers/w7594.

BHORAT, H., LEIBBRANDT, M., MAZIYA, M., VAN DER BERG, S. and WOOLARD, I.,2001. *Fighting Poverty.* Cape Town: UCT Press.

BOERSCH-SUPAN, A., KOTLIKOFF, L., and MORRIS, J., 1989. "Dynamics of Living Arrangements of the Elderly: Health and Family Support". NBER Working Paper Number 2787.

BREEN, R., 1996. Regression Models: Censored, Sample-Selected or Truncated Data. Thousand Oake, California: Sage Publications.

CARD, D. and LEMIEUX, T., 1997. "Adapting to Circumstances: The Evolution of Work, School, and Living Arrangements Among North American Youth*". NBER Working Paper No. 6142.* [Online]. Available: www.nber.org

CROSS, C., MNGADI, T. and MBHELE, T., 1998. "On the Move: Povery and the Impact of Migration in KwaZulu-Natal". *Indicator South Africa, The Barometer of Social Trends* 1998 15(1): 71-76.

CROSS, C., BEKKER, S., MLAMBO, N., KLEINBOOI, K., SAAYMAN, L., PRETORIUS, H., MNGADIT, T., MBELA, T., 1999. "An unstable balance: Migration, small farming, infrastructure and livelihoods on the Eastern Seaboard: Part Two – Eastern and Western Cape". *Final Report to DBSA*, Halfway House: Development Bank of Southern Africa.

CROSS, C., MNGADI, T. and MBHELE, T., 1998. "Constructing migration: Infrastructure, poverty and development in KwaZulu-Natal". *Development Southern Africa* 15(4): 635-659.

DINKELMAN, T. and PIROUZ. F., 2001. "Individual, Household and Regional Determinants of Labour Force Attachment in South Africa: Evidence from 1997 October Household Survey". *TIPS Working Paper* 1-2001.

DUFLO, E., 2000. "Grandmothers and Granddaughters: Old Age Pension and Intra-Household Allocation in South Africa". *NBER Working Paper Nr. 8061*. [Online]. Available: www.nber.org/papers/w8061

EDMONDS, E., MAMMEN, K., MILLER, D., 2001. "Household Composition Responses to Large Pension Receipts in South Africa". Mimeo, Princeton University.

ERMISCH, J. and DI SALVO, P., 1997. "The Economic Determinants of Young People's Household Formation". *Economica* 64: 627-644.

GREENE, W.H., 1993. Econometric Analysis. (2nd edition). New York: Macmillan Publishing Company.

JUNMING, Z., 1997. "Multilevel Analysis of Rural Outmigration in Guandong, China". *Working Paper Series Number 97-03*, Harvard Center for Population and Development Studies. [Online]. Available: http://www.hsph.harvard.edu/grhf/HUpapers/97_03.pdf

KINGDON, G. and KNIGHT, J., 2000. "Are Searching and Non-searching Unemployment Distinct States when Unemployment is High? The Case of South Africa". Centre for the Study of African Economies Working Paper 2000-2, University of Oxford. [Online]. Available: www.csae.ox.ac.uk

KLASEN, S. and WOOLARD, I., 2000. "Surviving Unemployment without State Support: Unemployment and Household Formation in South Africa". The Institute for the Study of Labour (IZA), Discussion Paper No. 237. [Online]. Available: www.iza.org/publications/discussionpaper2000.html

LEIBBRANDT, M., WOOLARD, I. and BHORAT, H. 2001. "Understanding Contemporary Household Inequalityy in South Africa". *In Fighting Poverty*, (eds.) H. Bhorat, M. Leibbrandt, M. Maziya, S. van der Berg and I. Woolard. Cape Town: UCT Press: 21-40.

MAITRA, P. and RAY, R., 1999. "The Effect of Transfers on Household Expenditure Patterns and Poverty in South Africa". University of Sydney, Working Paper. [Online]. Available: http://www.usyd.edu.au/su/econ/research/series99.htm

MCELROY, M.B., 1985. "The Joint Determination of Household Membership and Market Work: The Case of Young Men". *Journal of Labour Economics* 3 (3): 293-314.

NGORO, B., 1998. "Retiring to Life in Shackland". *The Independent*. July 20.

NIEFTAGODIEN, S., 2001. "Rural Poverty in South Africa: A Brief Profile". *FASID Country Background Paper 3*, March 2001, Poverty and the role of rural institutions in a globalising South African economy.

ROSENZWEIG, M.R., and WOLPIN, K.I., 1994. "Parental and Public Transfers to Young Women and Their Children". *The American Economic Review* 84(5): 1195-1212.

ROSENZWEIG, M.R., 1986. "Program Interventions, Intrahousehold Distribution and the Welfare of Individuals: Modeling Household Behavior". *World Development* 14(2): 233-243.

TODARO, M.P., 1969. "A Model of Labour Migration and Urban Unemployment in Less Developed Countries". *The American Economic Review* 59: 138-148.

UNIVERSITY OF STELLENBOSCH, Department Sociology, 2000. *Occasional Paper Nr. 11*.Proceedings of a Graduate Workshop on Internal Migration, 17-18 November 2000.

VAN DER BERG, S., 2001. "Social Policy to Address Poverty". *In Fighting Poverty*, (eds.) H. Bhorat, M. Leibbrandt, M. Maziya, S. van der Berg and I. Woolard. Cape Town: UCT Press:171-204.

WITTENBERG, M., 1999. "Job search and Household structure in an era of mass unemployment: A semi-parametric analysis of the South African labour market". *ERSA Working Paper,* University of Witwatersrand.

WOOLARD, I., and LEIBBRANDT, M., 2001. "Measuring Poverty in South Africa". *In Fighting Poverty*, (eds.) H. Bhorat, M. Leibbrandt, M. Maziya, S. van der Berg and I. Woolard. Cape Town: UCT Press:41-73.

A POVERTY PROFILE OF THE WESTERN CAPE PROVINCE OF SOUTH AFRICA

ABSTRACT

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determine the extent of poverty in the Western Cape province and construct a clear picture of the poor, using data from the 1995 October Household Survey. In order to arrive at a clear poverty profile the question "who is the 'representative poor individual' in the Western Cape?" is answered. After inequality in the province is detailed, the characteristics of the Western Cape poor are then used to explain household income and expenditure. In conclusion it is stated that policymakers' decision is whether to target those groups with the largest shares in poverty within the Western Cape, or those with the highest incidence of poverty.

JEL Classification: I32, R23, D31

A POVERTY PROFILE OF THE WESTERN CAPE PROVINCE OF SOUTH AFRICA

MORNÉ J. OOSTHUIZEN & LIEZL NIEUWOUDT[24]

ABSTRACT

[24] Respectively of the Development Policy Research Unit, University of Cape Town, and the Department of Economics, University of Stellenbosch.

Poverty reduction and alleviation is a main priority of the South African government. For the Western Cape province to formulate and implement successful, well-targeted policies aimed at reducing poverty it is important to identify exactly who the poor are. This study aims to determine the extent of poverty in the Western Cape province and construct a clear picture of the poor, using data from the 1995 October Household Survey. In order to arrive at a clear poverty profile the question "who is the 'representative poor individual' in the Western Cape?" is answered. After inequality in the province is detailed, the characteristics of the Western Cape poor are then used to explain household income and expenditure. In conclusion it is stated that policymakers' decision is whether to target those groups with the largest shares in poverty within the Western Cape, or those with the highest incidence of poverty.

1. INTRODUCTION

One of the greatest challenges facing the government of South Africa is the eradication of severe poverty and the upliftment of the country's citizens. The gap between rich and poor in the country is one of the largest in the world (World Development Report 2001: 593) and, in an attempt to reduce it, the current government has made poverty reduction and alleviation a main priority.

Despite being one of the country's richest regions, the Western Cape is not without poverty, although poverty rates are low relative to the other provinces (Woolard & Leibbrandt: 59-62). In order to formulate well-targeted policies aimed at reducing poverty, and for these policies to have the desired impacts, it is important to identify exactly who the poor are and which groups are most prone to being or becoming poor.

It is the aim of this study to determine the extent of poverty in the Western Cape province and construct a clear picture of the poor, using data from the 1995 October Household Survey. In section 2, the Western Cape province will be briefly described and compared to the rest of the country. This is followed in section 3 with the construction of poverty lines and the estimation of the extent and depth of poverty. Section 4 looks at exactly who the poor are, in terms of locational, demographic and economic characteristics, as well as household characteristics. Inequality in the province is detailed in the fifth section, and in section 6, some of the characteristics of the poor identified in previous sections are used to explain household income and expenditure.

2. THE WESTERN CAPE PROVINCE

The Western Cape is South Africa's fifth most populous province with slightly under 4 million residents in 1996 and a population density of just over 30 people per square kilometre (Census 1996; South Africa at a Glance 1996: 45). The province is divided into 8 regions: the Cape Metopolitan Area (CMA) and 7 district council areas (DCs). These are the Breede River DC, the Klein Karoo DC, the Overberg DC, the Central Karoo DC, the South Cape DC, the West Coast DC and the Winelands DC. The rate of urbanisation in the province is around 87% compared to the national figure of just over 50%, with the CMA almost completely urban. The West Coast and Central Karoo are the least urbanised areas with rates of 78.4%.

Table 1 details the province and its sub-regions, as inferred from the 1995 October Household Survey. The Western Cape accounts for 9.7% of the national population and 10.5% of the total number of households in the country, implying a smaller than average household size in the province. The CMA clearly dominates in the Western Cape with 37.8% of the population, more than the combined total of the next three largest regions, the Breede River, South Cape and West Coast. The Central and Klein Karoo are the smallest regions, accounting for barely 10% of the province's population.

The various regions in the province do not differ dramatically in terms of racial composition (Figure 1). Coloureds constitute between one-half and two-thirds of the regional populations, and Whites generally about one-quarter. Blacks make up the remainder, with Asians only really represented in the CMA. This is, however, in sharp contrast with the national picture where Blacks are by far the dominant group. Coloureds especially dominate in the Klein Karoo and West Coast, while the Black and White communities are relatively larger in the Breede River and CMA and the West Coast and Overberg respectively.

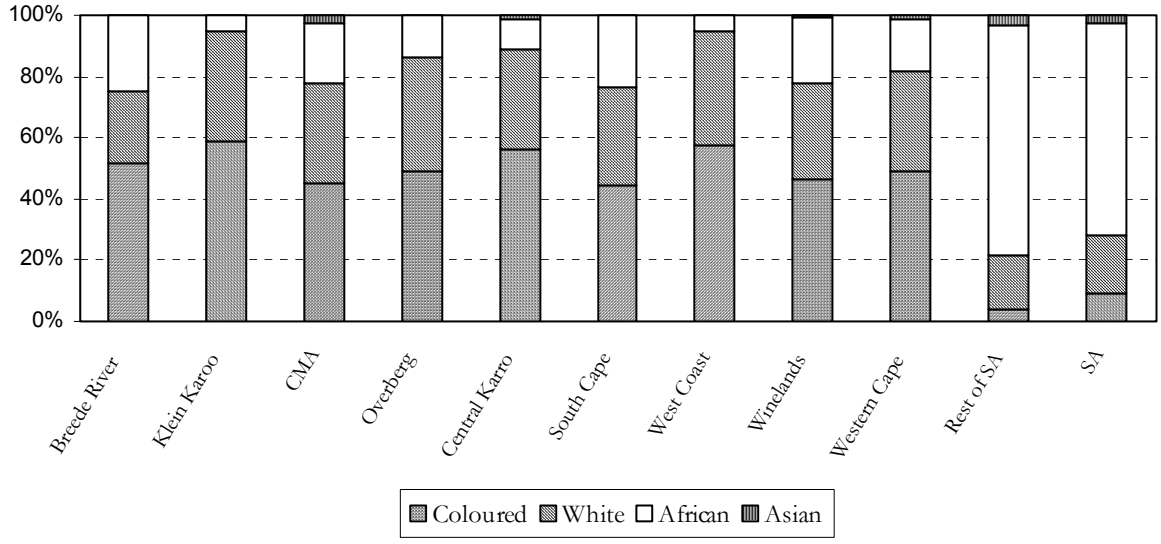
The population figures according to the 1996 census are also presented in Table 1. Although the total population figures from the OHS 1995 and the census are reasonably close to each other, the sizes of the regional populations vary significantly between the two. This is probably due to the different methods employed in the two surveys, and is a problem for which there is no simple solution. We can safely assume that the composition of the regions, in terms of race, gender, and other demographic characteristics are similar in the two surveys, and that the poverty rates calculated below are accurate, although the same can not necessarily be said about the calculated poverty shares.

Table 1 - The Western Cape and its Sub-Regions

REGION	POP.	SHARE OF	1996 CENSUS	HOUS	SHARE OF

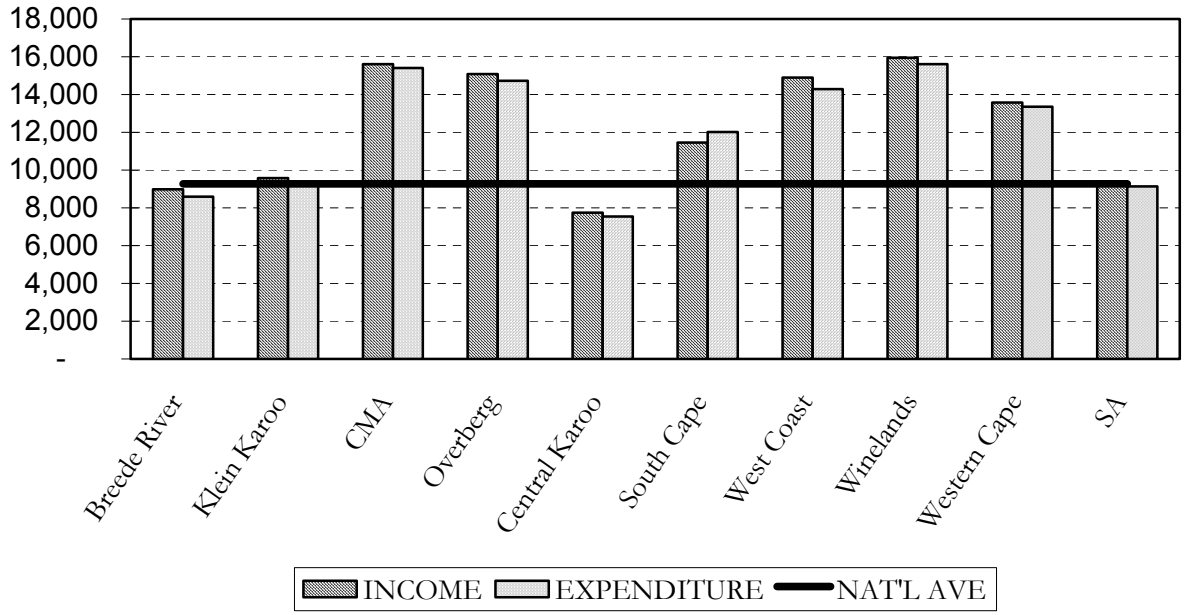
		SA TOTAL	W.CAPE TOTAL	POP.	SHARE OF W.CAPE	E-HOLDS	SA TOTAL	W.CAPE TOTAL
Western Cape	3,697,553	9.7		3,957,322		957,412	10.5	
CMA	1,398,709	3.7	37.8	2,561,721	64.7	349,939	3.8	36.6
Non-CMA	2,298,844	6.0	62.2	1,395,601	35.3	607,473	6.7	63.4
Breede River	434,286	1.1	11.7	281,094	7.1	100,926	1.1	10.5
Klein Karoo	217,442	0.6	5.9	113,858	2.9	55,036	0.6	5.7
Overberg	274,399	0.7	7.4	157,472	4.0	80,668	0.9	8.4
Central Karoo	154,657	0.4	4.2	55,065	1.4	42,566	0.5	4.4
South Cape	429,521	1.1	11.6	267,723	6.8	114,806	1.3	12.0
West Coast	429,125	1.1	11.6	232,068	5.9	125,873	1.4	13.1
Winelands	359,414	0.9	9.7	288,321	7.3	87,598	1.0	9.1
Rest of SA	34,373,201	90.3		36,621,577		8,164,155	89.5	
SA TOTAL	38,070,754	100.0		40,578,899		9,121,567	100.0	

Figure 1 - Racial Composition of the Regions, by Household



Average annual household income for the province as a whole was just under R13 300 per person, while average annual household expenditure was just over R13 050 per capita (Figure 2). This compares favourably with the national average of per capita income and expenditure of almost R8 980, indicated in the graph by the horizontal national average line. However, significant variations between the regions are masked by averaging The Winelands (mean per capita household income/expenditure of R15 769), CMA (R15 121) and Overberg (R14 973) are the richest regions, followed closely by the West Coast (R14 380). The remaining regions are all below the provincial average, with the Breede River (R8 321) and Central Karoo (R7 271) below the national average too.

Figure 2 - Average Annual Per Capita Income and Expenditure, by Region



3. MEASURING POVERTY

Successfully targeting the poor with the aim of alleviating poverty demands that they be accurately identified and described. For a poverty profile to properly characterise the poor, appropriate measures of poverty need to be applied. Although poverty usually entails much more than merely lacking sufficient means to purchase basic goods and services (including all aspects related to a household's well-being such as vulnerability), it is common practice to utilise monetary measures in determining the extent of poverty in any given population. The decision to only use income/expenditure measures of poverty for this study does by no means imply that all the other factors that determine a household's standard of living are less important.

Three quantitative poverty lines were chosen and used in the calculation of poverty indices. Two are absolute poverty lines – the cost to meet basic needs – and the third is a relative poverty line, seen in context of a specific society (Ravallion 1992: 25-31). The two absolute poverty lines are firstly the internationally-used one dollar a day and secondly a line based on per capita caloric intake per day. The US$1 a day line was calculated for 1995 using the average Rand/US dollar exchange rate for that year to arrive at a per capita figure of R1 323.86 per annum. In calculating a line based on caloric intake per day, the amount of money required to achieve a caloric intake of 8 500kJ per capita per day, based on the 1993 figure used by Woolard and Leibbrandt (2001: 49), was inflated using the consumer price index to arrive at R2 125.60 per capita per annum.

Since both income and expenditure data is available in the OHS, it was decided to use the average of per capita household income and per capita household expenditure as the variable according to which poverty is measured. This mitigates some of the problems associated with the use of either income or expenditure alone. For the relative poverty line, the population cut-off at the 40^{th} percentile of South African households ranked by average income-expenditure per capita was used. In 1995, the average income-expenditure of the poorest 40% of South African households was less than R3 498.75 per capita per annum.

In order to measure the proportion of the Western Cape population defined as being poor, as well as to determine the depth of poverty and the severity of poverty (or distribution of poverty among individual households), the three Foster-Greer-Thorbecke poverty indices were used: the head-count index (P_0), the poverty-gap index (P_1) and the severity of poverty index (P_2) (Ravallion 1992: 35-40). The direct cost of eliminating poverty was also calculated for each poverty line. The results for the Western Cape and South Africa are shown in Table 2.

The dollar-a-day poverty line can perhaps best be described as "an 'ultra-poverty' line" (Woolard & Leibbrandt 2001: 56), and only 3.8% of households in the Western Cape earn less than this minimum level of R1 323.86 per capita per annum[25]. When comparing this figure to that of the rest of South Africa, where 18.6% of households fall below this line, it becomes clear why the Western Cape is seen as one of the country's richest regions. In terms of the caloric intake poverty line, 12.0% of Western Cape households are poor while more than one-third of SA households are poor. This implies that only a third of poor households in the Western Cape can also be classified as ultrapoor while more than half (54%) of the poor in the country as a whole live below the dollar-a-day line. The relative poverty measure (40^{th}

[25] In order to simplify referring to individuals and households who are poor according to the various poverty lines, the following terminology will be used: when using the relative poverty line of the 40^{th} percentile, individuals/households will be referred to as either *poor* or *non-poor*; when using the absolute dollar-a-day poverty line, individuals/households will be referred to as either *ultrapoor* or *non-ultrapoor*.

percentile) estimates that 29.6% of individuals in the Western Cape and 50.9% in SA fall below this poverty line.

The poverty-gap index (P_1) determines the distance of the poor below the poverty line, with higher figures indicating deeper poverty. According to this index, the average depth of poverty in the Western Cape ranges from less than 1% below the poverty line based on the dollar-a-day line, to 3.5% based on the caloric intake poverty line, and to 10.3% based on the relative poverty line. Compared to figures of 6.0%, 13.9% and 25.5% respectively for SA as a whole, it is clear that poverty in the Western Cape is less deep than in the rest of the country. From the P_2 measure of the severity of poverty it is seen that poverty and ultrapoverty in the Western Cape are far less severe than in the rest of the country.

Table 2 - Poverty Indices

POVERTY LINE	HEADCOUNT INDEX (P_0)	POVERTY GAP INDEX (P_1)	MIN. COST TO ELIMINATE POVERTY	SEVERITY OF POVERTY INDEX (P_2)
WESTERN CAPE				
❖ Population cut-off at 40th percentile of households ranked by per capita income-expenditure = R3 498.75 pa	29.6	0.103	R 1,327 mil	0.049
❖ Money required to achieve a per capita caloric intake of 8 500kJ per day = R2 125.60 pa	12.0	0.035	R271 mil	0.014
❖ International poverty line of US$1 per capita per day = R1 323.86 pa	3.8	0.009	R45 mil	0.003
SOUTH AFRICA				
❖ Population cut-off at 40th percentile of households ranked by per capita income-expenditure = R3 498.75 pa	50.9	0.255	R33,979 mil	0.156
❖ Money required to achieve a per capita caloric intake of 8 500kJ per day = R2 125.60 pa	34.2	0.139	R11,224 mil	0.073
❖ International poverty line of US$1 per capita per day = R1 323.86 pa	18.6	0.060	R3,013 mil	0.027

The minimum cost of eliminating poverty is the amount of money required to raise the incomes of the poor to the level of the poverty line. In the Western Cape, the total elimination of ultrapoverty would theoretically cost R44.5 million annually, while eradicating relative poverty in the province would cost more than R2.5 billion. In South Africa, these costs rise to R3 billion and R34 billion respectively. However, this assumes that transfers from government are perfectly targeted, and furthermore, the costs do not include the cost of administering such a system. According to Bhorat (2001: 168), a "very serious drawback of such a scheme is that it does not take labour supply incentives into account". The promise of a grant to those individuals below the poverty line may reduce the incentive to work and encourage them to subsist on the grant alone, thus greatly raising the amount needed to fill the poverty gap.

4. INCIDENCE OF POVERTY AND CHARACTERISTICS OF THE WESTERN CAPE POOR

It is one of the aims of the poverty profile to identify those groups most afflicted by poverty and to describe their characteristics. In this section, this will be done by focussing on the location, demographic and economic characteristics of the poor, as well as the characteristics of the heads of poor households. Two main poverty lines will be utilised in the analysis of poverty on the level of the individual – individuals in the poorest 40% of households (the poor) and the international standard of one dollar per person per day (the ultrapoor) – while the poverty line for household-level analysis is one dollar per person per day.

(a) Location Characteristics

***REGION*:** In Table 3, the extent of poverty in the various regions is presented. Although one in five CMA residents are poor, this region's poverty rate is the lowest in the province, with more than 35% of non-CMA residents classified as poor. The Central and Klein Karoo suffer the highest poverty rates of 56.9% and 53.9% respectively. In judging the poverty shares of the various regions, it is important to keep their *population* shares in mind (see Table 1). The CMA accounts for one-quarter of the poverty and almost 27% of the ultrapoverty in the province, far below its population share of 38%. When comparing regional (ultra)poverty shares and population shares, four regions emerge as being severely afflicted. The Breede River, Klein Karoo and Central Karoo account for a particularly high proportion of poverty relative to their populations. Together with the South Cape, these regions account for almost two-thirds of individual ultrapoverty yet are home to only one-third of the population. An almost identical pattern emerges for household ultrapoverty shares.

It would therefore seem that the Western Cape can be divided into two 'super-regions' if one looks at the ratio of each region's (ultra)poverty share to its population share – one severely afflicted (indicated by high ratios) relative to the other. The Breede River, South Cape, and Central and Klein Karoo fall under the former, with the latter region being composed of the CMA, West Coast, Winelands and Overberg. The regions within the two 'super-regions' are contiguous, so that one can speak of a core (those regions around the CMA), and a periphery (the remaining outer regions).

Table 3 - Poverty Rates and Shares, by Region and Area

REGION	INDIVIDUALS				HOUSEHOLDS	
	Poverty Rate	Poverty Share	Ultrapoverty Rate	Ultrapoverty Share	Ultrapoverty Rate	Ultrapoverty Share
CMA	20.1	25.7	2.7	26.9	1.8	27.5
Non-CMA	35.4	74.3	4.5	73.1	2.7	72.5
- Breede River	43.7	17.3	9.0	27.4	5.0	22.4
- Klein Karoo	53.9	10.7	5.2	7.9	3.3	8.1
- Overberg	29.8	7.5	0.6	1.2	0.4	1.5
- Central Karoo	56.9	8.0	9.0	9.8	6.3	11.9
- South Cape	38.9	15.3	6.5	19.6	3.9	20.0
- West Coast	21.0	8.2	1.8	5.5	1.0	5.6
- Winelands	22.3	7.3	0.7	1.7	0.8	3.0

Western Cape	29.6	5.7	3.8	2.0	2.3	2.0
Rest of South Africa	53.2	94.3	20.2	98.0	13.7	98.0
South Africa	50.9	100.0	18.6	100.0	12.5	100.0
AREA TYPE						
Western Cape						
- Urban	26.8	78.6	4.0	90.2	2.4	88.5
- Rural	48.2	21.4	2.9	9.8	1.9	11.5
Rest of SA						
- Urban	30.0	26.5	8.0	18.6	4.9	18.2
- Rural	73.7	73.5	30.9	81.4	23.1	81.8
South Africa						
- Urban	29.4	29.4	7.3	20.0	4.5	19.6
- Rural	73.0	70.6	30.2	80.0	22.5	80.4

***AREA TYPE*:** The rural-urban divide is, as in many developing countries, also important when attempting to describe the poor (Table 3). Looking first at South Africa, we find that ultrapoverty is very much a rural phenomenon, with both rates and shares of ultrapoverty in rural areas far exceeding those in urban areas. In contrast, partly as a result of the 40 percentage point difference in the urbanisation rates of the Western Cape and the rest of the country, Western Cape poverty, and particularly ultrapoverty, is very much an urban phenomenon, despite the fact that poverty rates in the province's urban areas are significantly lower than in the rural areas.

Table 4 - Dwellings of Ultrapoor and Non-Ultrapoor Households

DWELLING TYPE	WESTERN CAPE		SOUTH AFRICA	
	Non-Ultrapoor	Ultrapoor	Non-Ultrapoor	Ultrapoor
Share by Ultrapoverty Status				
Formal Dwelling on Separate site	71.8	39.7	62.2	41.2
Other Formal Dwelling	17.4	22.0	12.1	6.3
Informal dwelling not in backyard	6.4	34.4	4.4	6.0
Other Informal Dwelling	0.8	3.9	2.0	3.1
Traditional Dwelling	0.2	0.0	13.3	42.0
Other	3.3	0.0	6.0	1.3
TOTAL	100.0	100.0	100.0	100.0
Share by Dwelling Type				
Formal Dwelling on Separate site	98.7	1.3	91.3	8.7
Other Formal Dwelling	97.1	2.9	93.0	7.0
Informal dwelling not in backyard	88.6	11.4	83.5	16.5
Other Informal Dwelling	89.4	10.6	81.8	18.2
Traditional Dwelling	100.0	0.0	68.8	31.2
Other	100.0	0.0	96.9	3.1
TOTAL	97.7	2.3	87.5	12.5

***HOUSING*:** Most of the non-ultrapoor in the Western Cape (89.3%) as well as in the rest of South Africa (72.7%) are resident in formal dwellings, as would be expected (Table 4). The remainder of the non-ultrapoor occupy mainly informal dwellings (e.g. in informal settlements) in the Western Cape (6.4%) while in the rest of the country they live mostly in traditional dwellings (14.6%). Although more than 38% of ultrapoor households in the Western Cape reside in informal dwellings, less than one in ten ultrapoor households in the country as a whole are informally housed. Instead, 43% of ultrapoor households in SA live in traditional dwellings, again reflecting the rural nature of ultrapoverty there. Perhaps an unexpected result, is the proportion of ultrapoor households resident in formal dwellings throughout the country (47.5%), and particularly in the Western Cape (61.7%). Although more than 60% of the Western Cape's ultrapoor households live in formal dwellings, it is amongst households resident in informal dwellings that ultrapoor households form a significant share. In contrast, ultrapoor households constitute a large proportion of households in each type of dwelling, particularly in informal and traditional dwellings.

***SUMMARY*:** The Western Cape's poor as well as the ultrapoor are most likely to be found in the peripheral Breede River, South Cape, and Central and Klein Karoo regions. Although the households in rural areas are more likely to be poor, most poor and ultrapoor households are situated in urban areas. Surprisingly, more than 60% of the province's ultrapoor households reside in formal dwelling, while 37% occupy informal dwellings and none live in traditional dwellings.

(b) Demographic Characteristics

***RACE*:** In Table 5, the racial incidence of poverty is presented. According to all three poverty lines, Black individuals and households experience the highest poverty rates: almost 49% of Black individuals are in the province's poorest 40% of households, while 13% of Western Cape Blacks survive on less than $1 per day. More than 8% of Black households have less than $1 per capita per day at their disposal. Coloureds are the next hardest hit group, with Asians and Whites least affected.

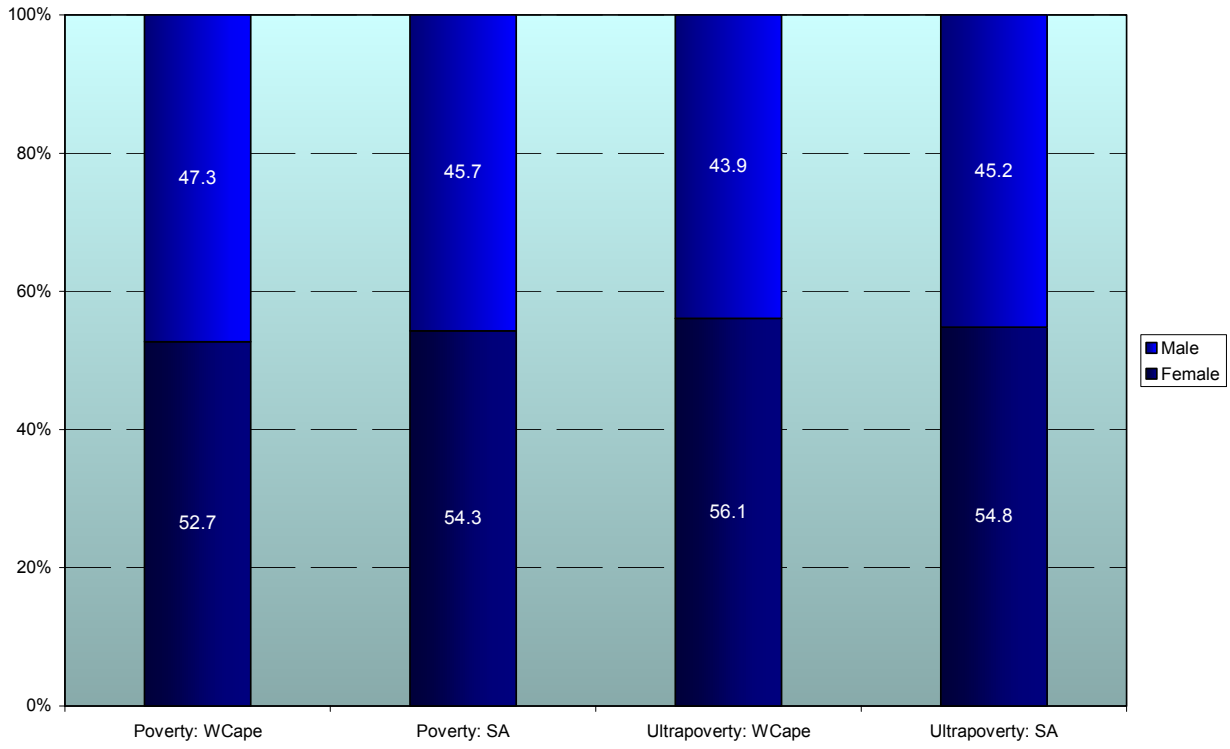
Due to the relative share of the Coloured population in the Western Cape, this group's poverty share in terms of the 40^{th} household percentile is 69%, far exceeding the combined shares of Blacks (29.9%), Whites (1.2%) and Asians (0.2%). However, Blacks represent more than three-fifths of the province's ultrapoor individuals and households, and together with Coloureds account for practically all ultrapoverty in the province. Despite this, the (ultra)poverty rates of Black and Coloured individuals and households in the Western Cape are generally far lower than they are in the rest of the country. Amongst Asians and Whites ultrapoverty is virtually unheard of, although the White individual poverty rate is higher in the province than in the rest of South Africa.

Table 5 – Poverty Incidence and Shares, by Race

	Race	INDIVIDUALS				HOUSEHOLDS	
		Poverty Rate	Poverty Share	Ultrapoverty Rate	Ultrapoverty Share	Ultrapoverty Rate	Ultrapoverty Share
Western Cape	Black	48.6	29.9	13.0	61.9	8.1	61.5
	Coloured	35.8	68.7	2.6	38.1	1.9	38.5
	Asian	6.4	0.2	0.0	0.0	0.0	0.0
	White	1.5	1.2	0.0	0.0	0.0	0.0
	Total	29.6	100.0	3.8	100.0	2.3	100.0
South Africa	Black	62.2	92.2	23.8	96.7	17.4	96.6
	Coloured	39.9	7.4	6.5	3.3	4.8	3.4
	Asian	6.6	0.3	0.2	0.0	0.0	0.0
	White	0.6	0.2	0.0	0.0	0.0	0.0
	Total	50.9	100.0	18.6	100.0	12.5	100.0

***GENDER*:** Females account for more than half of both the poor and the ultrapoor (see Figure 3). The ultrapoverty share of females in the Western Cape is slightly higher than the share in the rest of the country, while females account for a smaller proportion of the province's poor compared to the country as a whole. Although the gender shares of national poverty and ultrapoverty are very similar, females seem to be more heavily represented in the lowest income-expenditure groups.

Figure 3 - Poverty Rates and Shares by Gender



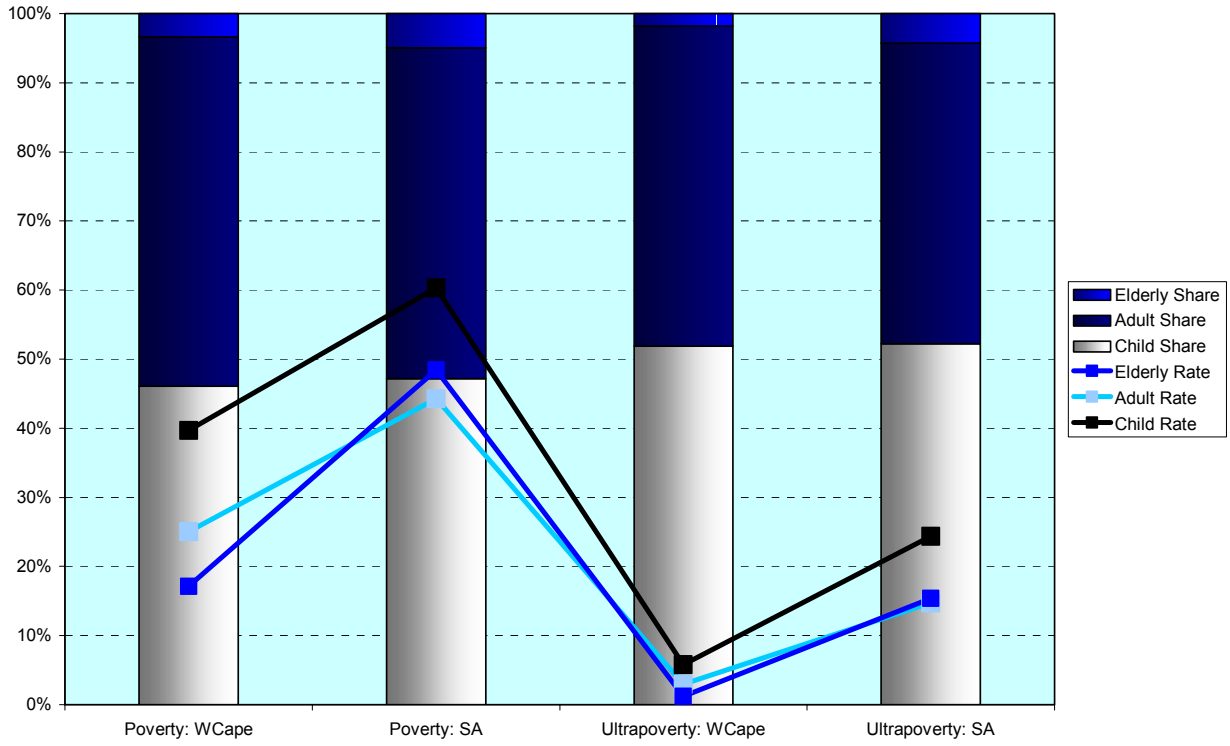


Figure 4 - Poverty Rates and Shares by Age Group

***AGE*:** The population of the Western Cape is composed of about 1.3 million children (defined as those under the age of 18 years), 2.2 million adults (those from 18 to 64 years of age) and 0.2 million elderly people (over the age of 65 years), 34.4%, 59.8% and 5.8% of the total respectively. Of the three groups, it is children who are most likely to be poor or ultrapoor (Figure 4). Their national poverty rate exceeds 60%, and although their position in the province is better than in the rest of the country, almost 6% of children are forced to survive on less than US$1 per day. As a result, both the poverty and ultrapoverty shares of children exceed their population share.

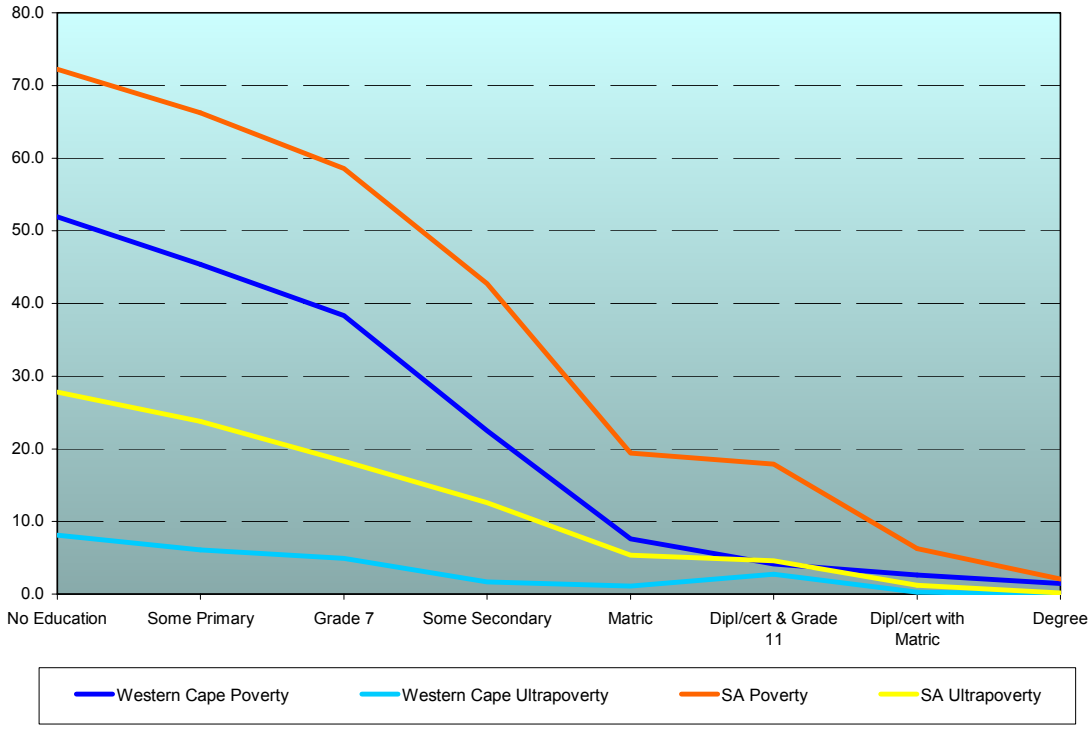
Adults experience much lower poverty and ultrapoverty rates. Nearly half of all adults in South Africa are poor, compared to about one-quarter in the Western Cape. Despite more than half of the Western Cape poor being adults, only 46% of the ultrapoor fall into this age group, both figures being lower than their share of the population. The elderly experience the lowest poverty and ultrapoverty rates in the province, and as a result bear less than their proportional share of (ultra)poverty.

In general, ultrapoverty rates are significantly lower in the Western Cape than they are in the rest of the country, although the elderly in the country as a whole have a higher poverty rate than other adults. The poverty shares are skewed even further towards children and the elderly in the rest of SA.

***LEVEL OF EDUCATION*:** It is clear from Figure 5 that a relationship exists between poverty and levels of education amongst individuals over the age of 18. The poverty rate for adults in the Western Cape with no secondary education is close to 40%, while the ultrapoverty rate is around 5%. Adults possessing incomplete secondary education experience a poverty rate of 23%, falling to around 8% for those with completed Matric. As levels of education rise, poverty rates continue to decline, with fewer than 2% of degree-holders classified as being

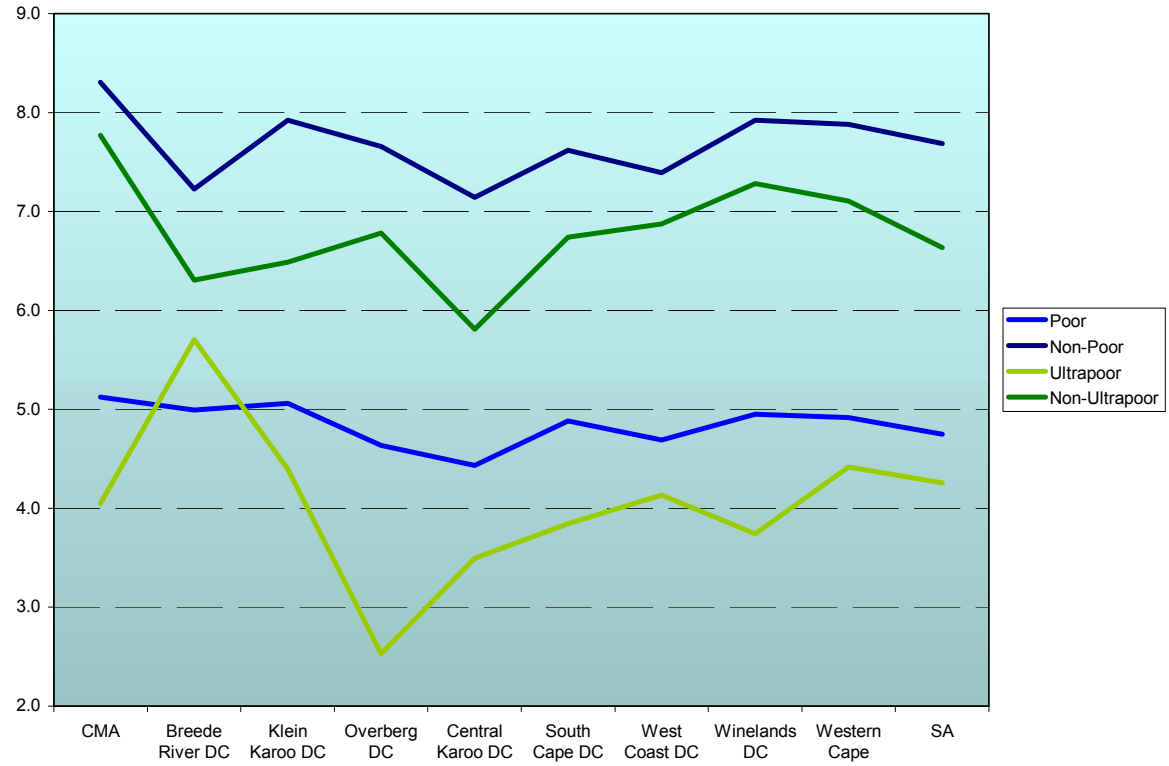
poor. In terms of ultrapoverty, it would seem that a secondary education holds the key to lower ultrapoverty rates: individuals with incomplete secondary education experience an ultrapoverty rate less than half that of those with no secondary education, while a Matric certificate lowers the ultrapoverty rate further. Almost no individuals with post-matric qualifications are ultrapoor.

Figure 5 - Poverty Rate of Adults by Highest Education Level



The average years of education of the poor, the non-poor, the ultrapoor and the non-ultrapoor are presented in Figure 6. At first glance, it is clear that the poorer people have a disadvantage relative to better off people in terms of years of education. On average in the Western Cape, poor individuals have 4.9 years of formal education, compared to the 7.7 years of the non-poor. These averages conceal significant regional variation. While the poor in the Winelands have five years of education, those in the Central Karoo have only 4.4 years. The non-poor in the CMA, and the Klein Karoo and Winelands have about 8 years of education, while those in the Central Karoo have only seven years.

Figure 6 - Average Years of Education



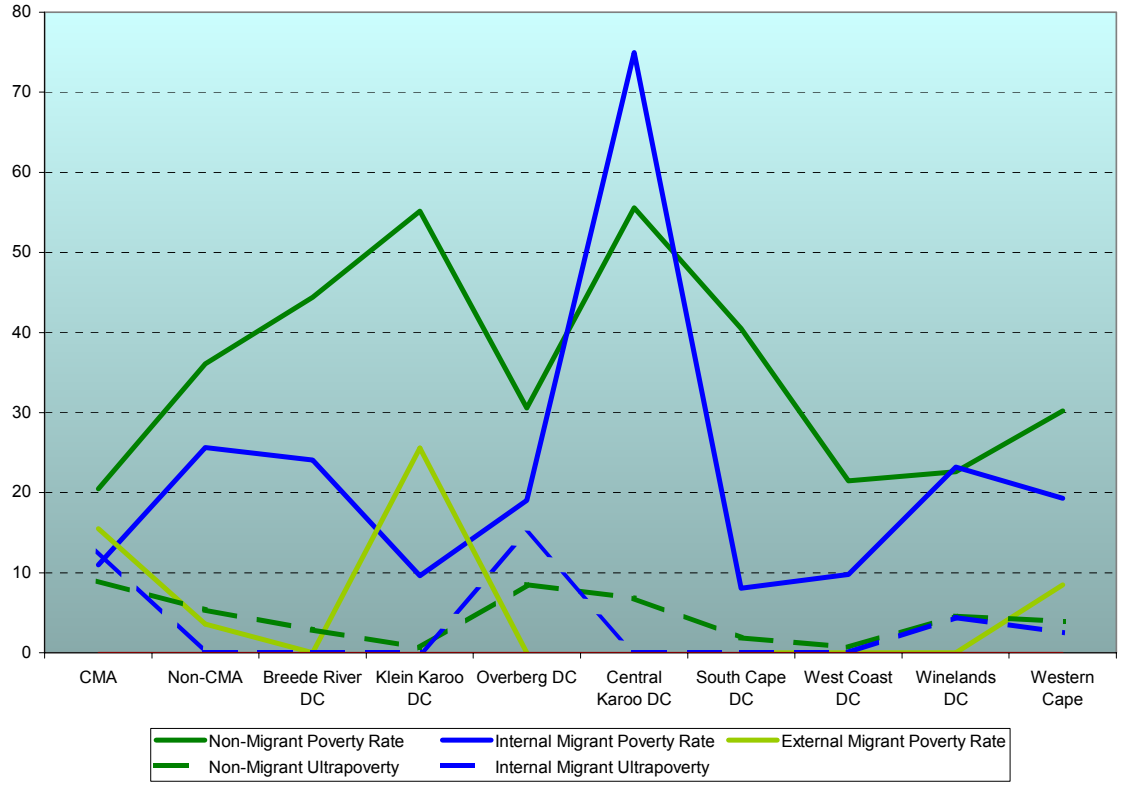
The ultrapoor have on average just 4.3 years of education, ranging from less than 2.5 years in the Overberg to almost six years in the Breede River. The non-ultrapoor on the other hand have almost seven years of education on average. Once again, it is the Central Karoo at the bottom of the scale with six years of education and the CMA at the top end at almost eight years.

***MIGRATION*:** One of the important groups to look at in terms of the impact of poverty is migrants. For our purposes, we have divided the residents of the Western Cape into three groups: immigrants to the province from other provinces (external immigrants); those who have migrated within the province (internal migrants); and those who have not migrated recently. Figure 7 shows the poverty rates for the three groups. Numbers for ultrapoor migrants are very low and inferences may therefore be inaccurate.

Non-migrants have the highest poverty rates, ranging from just over 20% in the CMA to more than half in the Klein and Central Karoo. In contrast, less than one-quarter of internal migrants can be classified as poor. It is only in the Central Karoo that the poverty rate of internal migrants at 75% is higher than that of non-migrants. Internal migrants are apparently more able to obtain higher paying employment than non-migrants. External immigrants have even lower poverty rates than internal migrants with less than 10% being poor. It must be remembered though that numbers for external immigrants are low, possibly leading to some inaccuracies.

A possible interpretation of these results is that better off individuals and households are more able to move from one area to another, while the poor are forced by financial constraints to remain in regions despite the fact that they are unable to provide them with sufficient income to escape poverty. It is therefore not simply a case of the poor not being receptive to market signals, but rather that they are unable to respond in ways which would improve their situations.

Figure 7 - Poverty Rates by Migrant Status



***SUMMARY*:** Although numerically, more Coloured households are poor, the incidence of poverty is highest amongst Black households, with this group constituting more than half of ultrapoor households. Females in the Western Cape have higher ultrapoverty rates than their counterpoarts in the rest of the country. Children bear the brunt of poverty and ultrapoverty in the province, especially considering their share of the provincial population. The low rates of poverty amongst the elderly give an indication of the success of old-age pensions in shielding this group from poverty. The poor and ultrapoor are significantly less educated than the non-poor, while migrants are also less likely to be poor than non-migrants. Policies targeting female-headed households (black and coloured), people with low levels of education and children, will probably contribute the most towards poverty alleviation.

(c) Economic Characteristics

***EMPLOYMENT STATUS*:** Table 6 gives the poverty and ultrapoverty rates and shares of Western Cape individuals over the age of 18 years, according to their employment status. It is clear that both poverty and ultrapoverty rates are generally higher amongst groups with no or little work. The unemployed and retirees suffer poverty rates of over 35%, while 22% of part-time workers are poor. Ultrapoverty rates are highest amongst the unemployed, the permanently unable and those workers who have been absent from work during the seven days preceding the survey. These three groups also have the highest ratios of ultrapoor to poor individuals: 13.6, 12.6 and 28.0 respectively, compared to about 2.7 for the other groups. It would appear that the pension system has been relatively successful in keeping retirees out of ultrapoverty, but not out of poverty.

Retirees constitute the largest group of the poor (32.9%), with the unemployed and full-time workers accounting for 32.5% and 24.3% of the poor respectively. Amongst the ultrapoor, the unemployed outnumber other individuals by two to one. Full-time work does not guarantee that an individual will escape ultrapoverty – even though the ultrapoverty rate is very low, this group's share of ultrapoverty stands at more than 15%. The permanently unable, while accounting for less than 5% of the poor, represent nearly 9% of the ultrapoor, reflecting the concentration of these individuals at the lowest income-expenditure levels.

Table 6 - Poverty Rates and Share by Employment Status of Individuals over 18 years, excluding Students, Western Cape

	POVERTY RATE	POVERTY SHARE	ULTRAPOVERTY RATE	ULTRAPOVERTY SHARE
Full Time	14.3	24.3	0.6	15.5
Part Time	22.1	5.1	1.3	4.3
Absent for last 7 days	11.2	0.4	3.1	1.6
Unemployed	36.0	32.5	4.8	65.0
Retired	35.4	32.9	0.9	4.9
Permanently unable	12.3	4.7	3.7	8.8
Total	23.9	100.0	2.0	100.0

Table 7 - Poverty Rates and Shares of Employed Individuals (ages 16 to 64), by Occupation and Region

	POVERTY RATE		POVERTY SHARE	
	CMA	Non-CMA	CMA	Non-CMA
Managers	0.0	1.7	0.0	0.0
Professionals	0.0	0.0	0.0	0.0
Technicians	0.8	1.1	0.3	0.3
Clerks	1.2	3.9	0.6	1.7
Service & Sales	5.0	16.4	1.6	7.4
Skilled Agriculture	0.0	3.1	0.0	0.4
Crafts	8.9	12.0	3.4	5.0
Machine Operators	8.8	12.0	3.0	5.1
Elementary	20.3	37.2	9.9	61.1
Total	6.6	19.7	18.8	81.2

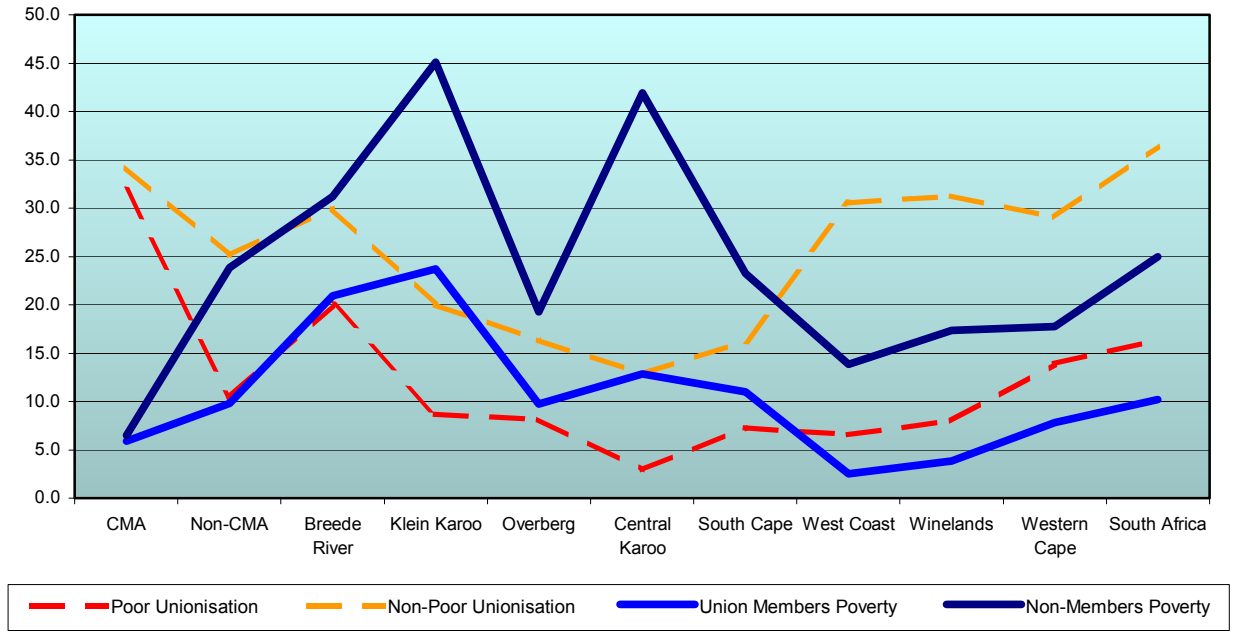
***OCCUPATION*:** There exists significant variation in the poverty rates of employed labour force participants not only across occupations, but also across regions (Table 7). Professionals and Managers experience the least poverty, while Elementary occupations are worst afflicted by poverty in both the CMA and Non-CMA regions. Poverty rates are lower in the CMA than outside it for all occupations. Extremely large discrepancies exist between the poverty rates in the CMA and outside the CMA for Services and Sales, Skilled Agriculture and Elementary occupations.

Less than one-fifth of the poor members of the employed live within the metropolitan area. More than seven in ten poor employed labour force participants are found in Elementary occupations, 86% of whom are resident outside the CMA. Machine Operators, Crafts, Service & Sales workers outside the CMA constitute a further 17.5% of Western Cape poverty.

***UNIONISATION*:** One of the aims of workers' unions is the improvement of the lot of workers in general, and of their members in particular. Therefore, in the analysis of poverty, the unionisation rates of workers are also of interest. Figure 8 presents the unionisation rates of workers in the Western Cape and South Africa. Amongst the poor, unionisation rates are consistently lower than those of the non-poor in all regions. Outside the CMA, unionisation rates amongst the poor range from more than 20% in the Breede River to less than 4% in the Central Karoo. In the West Coast and Winelands regions, the difference in the unionisation rates of the poor and non-poor exceeds 23 percentage points, and only in the CMA is the gap small (2.4 percentage points).

Figure 8 further presents the poverty rates of workers according to their union status. Poverty rates of non-members are consistently higher than those of members, except for CMA workers (although here the difference is marginal). The difference in poverty rates between members and non-members can, though, not be interpreted as a measure of the effectiveness of unions in improving the lot of their members.

Figure 8 - Unionisation Rates by Poverty Status, and Poverty Rates by Union Membership



***ECONOMIC SECTOR*:** The Agriculture, Forestry and Fishing sector is the economic sector in the Western Cape, as well as in the rest of South Africa, where the incidence of poverty is most severely felt. Figure 10 indicates that 40% of the workers between 16 and 64 years of age in this sector in the Western Cape are poor, compared with more than 55% in South Africa. On its own, this sector constitutes over 40% of poverty amongst workers between the ages of 16 and 64 years in the Western Cape, much more than its 16.4% share of employment.

Construction has the next highest poverty rate, but this sector's share of poverty at 9% is not much greater than its share of employment. Similarly, Community, Social and Personal Services constitute just under one-quarter of poverty, and also of Western Cape employment. Manufacturing and Wholesale and Retail Trade are two sectors with low shares of poverty relative to employment. Just two sectors, Agriculture, Forestry and Fishing and Community, Social and Personal Services, comprising just over 40% of employment in the Western Cape, account for about 65% of poverty.

Figure 9 - Poverty Rates of Workers, aged 16 to 64, by Economic Sector

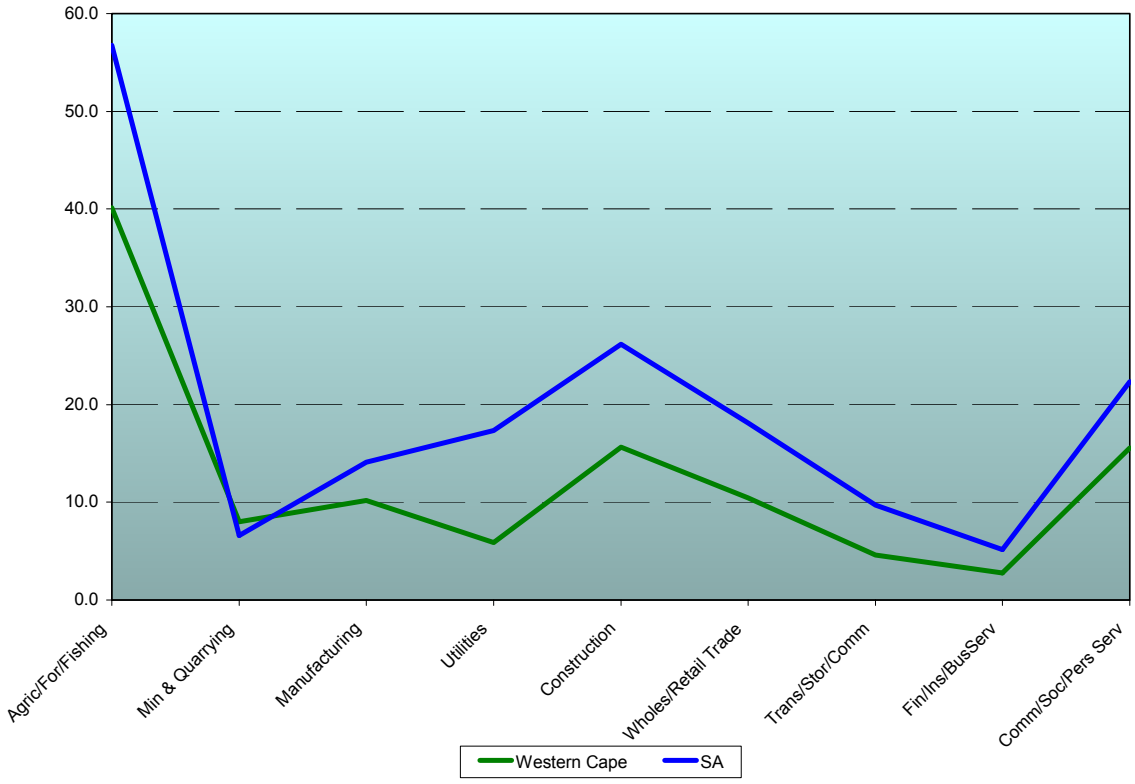
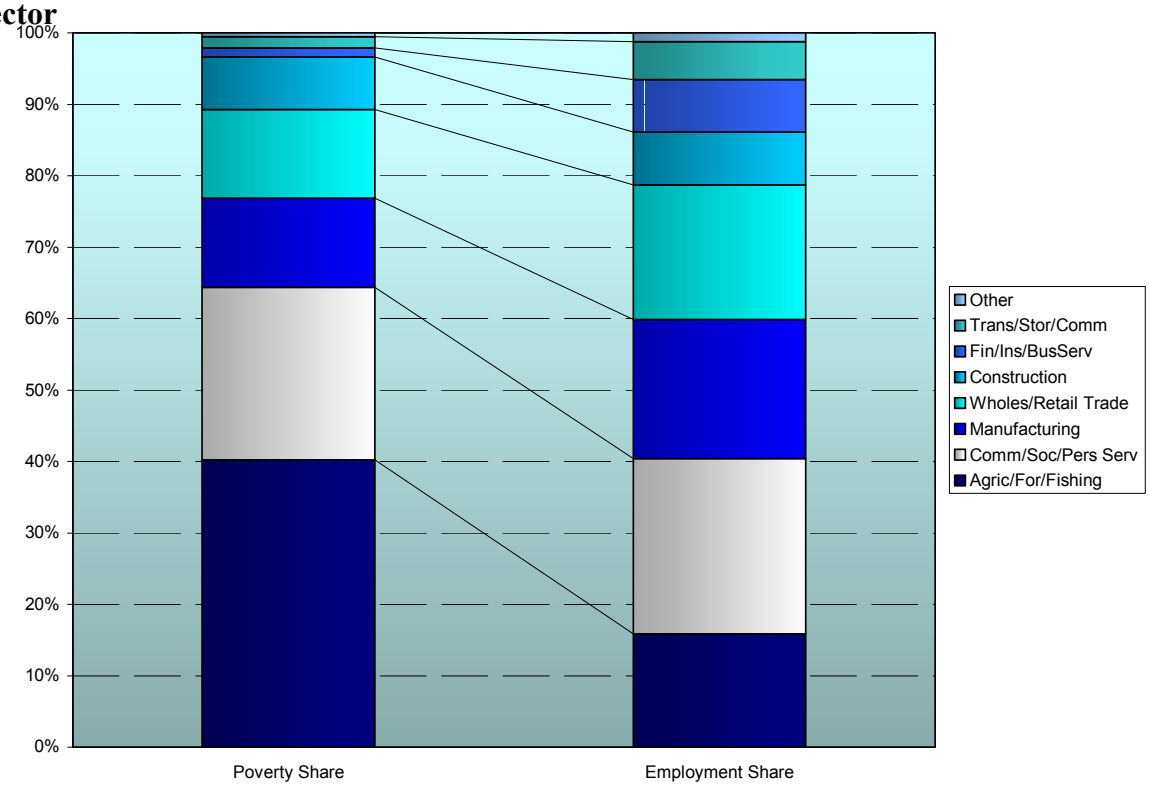


Figure 10 - Poverty and Employment Shares of Workers, aged 16-64, by Economic Sector

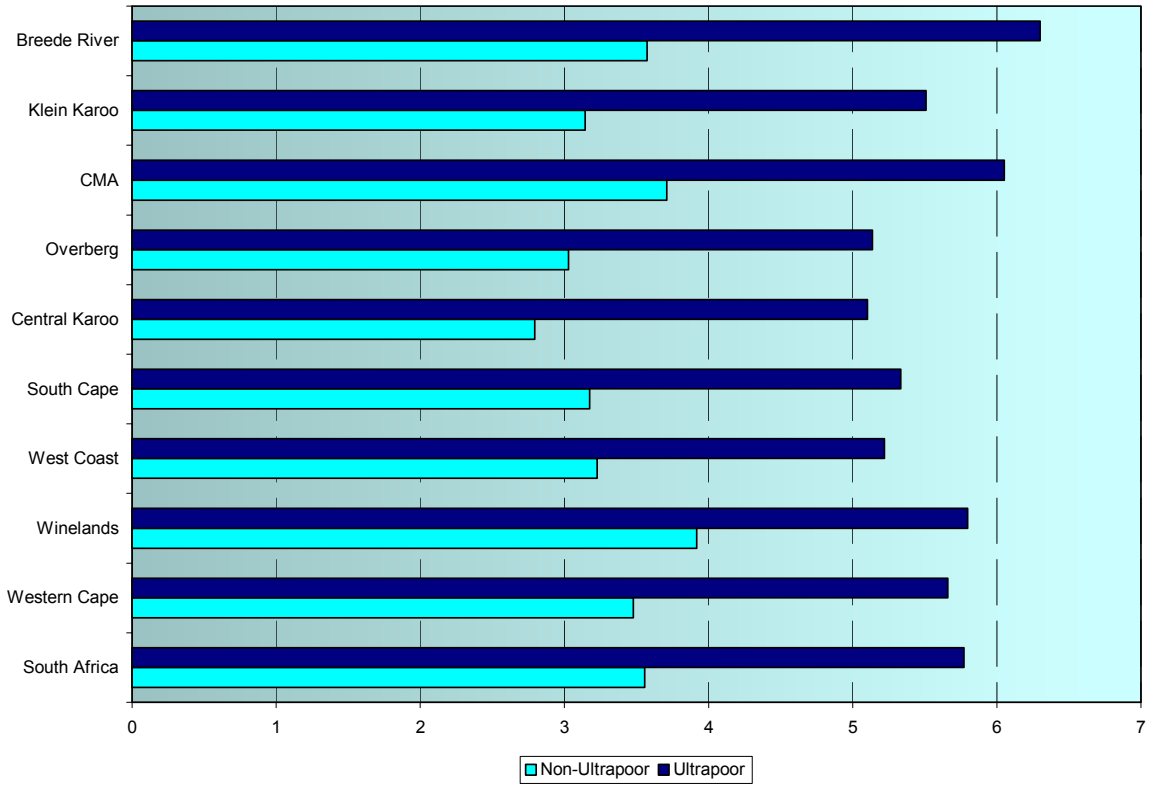


***SUMMARY*:** The data confirms that both poverty and ultrapoverty rates are generally higher among groups with no or little work. Generally, union members are less prone to being poor or ultrapoor than non-members. Workers in the Agriculture, Forestry and Fishing and Community, Social and Personal Services sectors, are most severely plagued by poverty and especially ultrapoverty in the Western Cape. Policies that target the unemployed, non-unionised workers and workers on the lower wage end of the above-mentioned sectors could contribute towards poverty alleviation.

(d) Household Characteristics

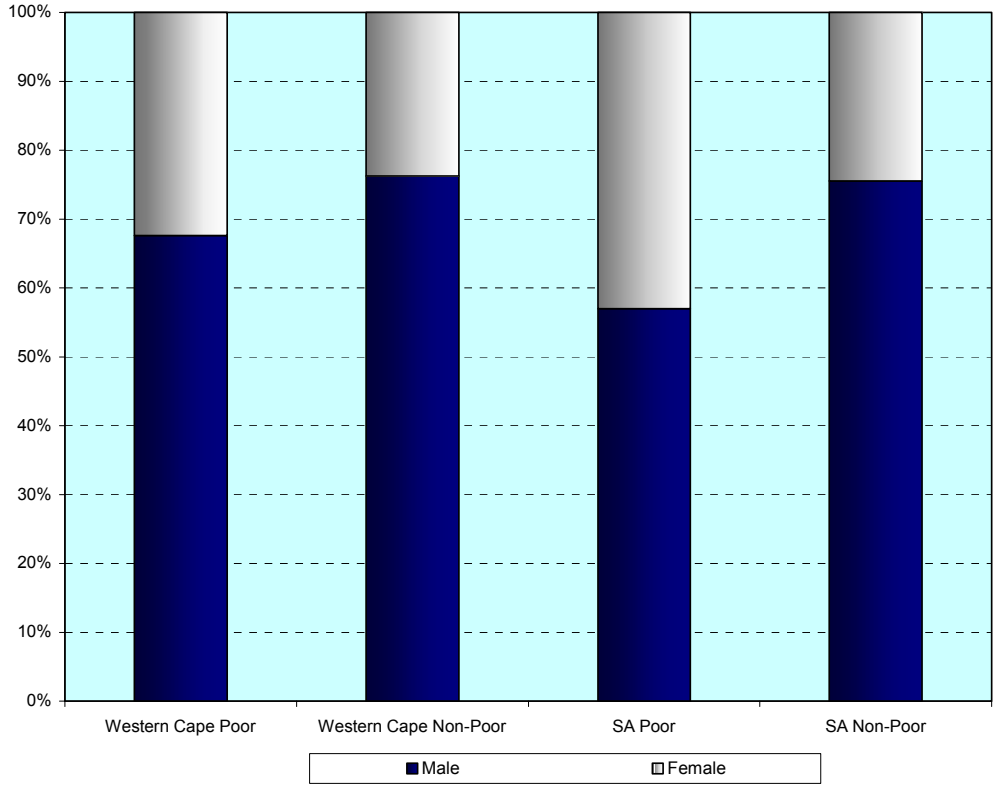
***HOUSEHOLD SIZE*:** Ultrapoor households are generally significantly larger than non-ultrapoor households, both in the Western Cape and in the rest of South Africa (see Figure 11). Both ultrapoor and non-ultrapoor households in the Western Cape are slightly smaller than those in the rest of the country. On average in the province, ultrapoor households consist of 5.6 people each compared to less than 4 people in each non-ultrapoor household. Regional variation in household size is significant. Whereas ultrapoor households in the Breede River and CMA consist of more than 6 people each, just over five people are resident in such households in the Winelands and Central Karoo.

Figure 11 - Average Household Sizes by Region



***GENDER OF HOUSEHOLD HEAD*:** The gender distribution of household heads is shown in Figure 12. Female-headed households are more likely to suffer from ultrapoverty than male-headed households, both in the Western Cape and in South Africa generally. While fewer than one-quarter of households in the Western Cape are headed by females, one-third of ultrapoor households are female-headed. A similar pattern can be seen in the rest of the country, although more ultrapoor households are female-headed than in the Western Cape.

Figure 12 - Gender of Household Head by Poverty Status of Household



5. INEQUALITY

South Africa has the dubious honour of having one of the world's highest Gini coefficients at 0.593 in 1993-4 (World Bank 2001: 283), an indicator of income or expenditure inequality, as a result of the country's now-discarded political system. The Gini coefficient can take on a value of between zero and one, with zero indicating absolute equality and one indicating absolute inequality.

Gini coefficients for the Western Cape are presented in Table 8. These were calculated according to the following formula:

$$G = \sum_{i}^{n-1} (F_i.\Phi_{i+1} - F_{i+1}.\Phi_i)$$

where F_i denotes the cumulative population share and Φ_i the cumulative income share of individual *i*, having arranged individuals in ascending order (Measures of Inequality 2002: 4). The coefficients were calculated using the average of each individual's income and expenditure.

The Gini coefficient for the province as a whole is over 0.60, indicating a highly skewed distribution of income and expenditure. This figure conceals a wide range of values obtained when looking at various segments of the population. Of the four race groups, Asians have the lowest Gini coefficient, 0.34, indicating a relatively equal distribution of income. The distribution in the White and Coloured groups is less equal, but it is within the Black community that inequality is worst, with a coefficient of about 0.52.

Regionally, inequality is very high, with no single region able to boast a relatively equal distribution of income and expenditure. The CMA and the West Coast have the lowest

coefficients at 0.561 and 0.568 respectively, while the Klein Karoo and Overberg are extremely unequal with coefficients of about 0.65.

Table 8 - Gini Coefficients for the Western Cape Province, by Race and Region

Western Cape	0.602	**By Region:**	
		- CMA	0.561
By Race:		- Non-CMA	0.623
- Black	0.515	- Breede River DC	0.603
- Coloured	0.447	- Klein Karoo DC	0.654
- Asian	0.339	- Overberg DC	0.649
- White	0.443	- Central Karoo DC	0.613
		- South Cape DC	0.624
		- West Coast DC	0.568
		- Winelands DC	0.605

6. ESTIMATION OF INCOME-EXPENDITURE FUNCTION

In this section, the per capita income and expenditure of households in the Western Cape is estimated using some of the variables utilised in section 4 to describe the poor. Per capita household expenditure and per capita household income are averaged to create the income-expenditure variable as used throughout this study. The dependent variable, lnpchhie, is the natural logarithm of per capita household income-expenditure, and the function is estimated, using OLS, as an earnings function of the following form:

$$Y_i = B_0 + B_1X_1 + B_2X_2 + \ldots + B_nX_n + u_i$$

where Y_i represents the dependent variable, X_i the various independent variables and B_i the respective coefficients, with the normally distributed error term, $u_{i,}$.

All the explanatory variables included are 0-1 dummy variables, except for age, education and skill level, and where relevant, all refer to qualities of the household head. Table 9 presents the results of the regression. Variation in the independent variables explains close to two-thirds of the variation in the independent variable (R^2=0.64), although it is important to remember that this does not indicate any causality. The coefficients are all significant at the 1% level, except for Rural, which is significant at the 5% level, and display the expected signs. The actual rand impact of the coefficients is calculated by raising *e* to the power of the product of the coefficient and the value of the variable. This fraction indicates the change from the base figure of R3,222 (= $e^{8.078}$, where 8.078 is the constant term).

Table 9 - Income-Expenditure Function Regression Results

VARIABLE	COEFFICIENT	RAND IMPACT	VARIABLE	COEFFICIENT	RAND IMPACT

Periphery	-0.250	-712	Grade 7 Incomplete	0.154	535
Rural	-0.079	-245	Secondary	0.390	1,539
Female	-0.144	-432	Matric	0.975	5,319
			Diploma *plus*		
Coloured	0.123	423	Grade 11	1.393	9,753
			Diploma *plus*		
Asian	0.234	850	Matric	1.220	7,688
White	0.967	5,249	Degree	1.380	9,591
Age	0.003	9	Unskilled	0.212	760
Union Membership	0.225	813	Skilled	0.343	1,319
			Highly skilled	0.587	2,573
Observations	3,208 households		F(17 , 3191)	355.76	
R^2	0.6432				

Note: All coefficients are statistically significant at the 1% confidence level, except for that of Rural, which is significant at the 5% confidence level.

The baseline per capita household income-expenditure of R3,222 refers to a household located in one of the four 'core' regions, in an urban area, headed by a Black male who is not employed[26], with less than a Grade 7 education and who is not a member of a union. This figure must further be adjusted for the age of the household head. Thus, if the household head is 40 years old, the household's per capita income-expenditure equals R3,596.

The location of the household in the periphery reduces per capita income-expenditure, as does being located in a rural area. Female-headed households earn and spend more than R432 less per capita than do male-headed households, while the household head's age has a very small, but positive, correlation with per capita income-expenditure. Increasing education and skill levels are associated with increasingly positive effects on per capita income-expenditure, as does union membership.

7. CONCLUSION

The purpose of a poverty profile is to obtain a better idea of exactly who the poor are so as to facilitate the design and implementation of poverty alleviation policies. So who is the 'representative poor individual' in the Western Cape? Firstly, she is an adult Coloured woman, living in an urban area. She lives outside the CMA, often in the poorer periphery (Breede River, South Cape, and the Klein and Central Karoo). She is poorly educated, with a primary education or less (in other words, under seven years of education), and has not migrated recently. She is either working full time or is unemployed. If she is employed, she is engaged in Elementary occupations, most probably in the Agriculture, Forestry and Fishing sector, and is not a member of a labour union. She is, finally, more likely to live in a large household, headed by herself or another female.

Poverty in the Western Cape, although less severe than that in the rest of South Africa, is not to be underestimated. The characteristics of the 'representative poor individual' described

[26] For skill levels, the variable is coded as follows: 0 = not working, 1 = unskilled worker, 2 = skilled worker, and 3 = highly skilled worker. Thus, the reference value for the skill variable is 'not working'.

above are based on the highest poverty *shares* identified in the study, which, as mentioned previously, may not be accurate. However, other groups have much higher poverty *rates*. The highest poverty rates are to be found in the periphery, in rural areas, amongst Blacks, females, children, the poorly educated, non-migrants, those permanently unable to work and the unemployed, amongst those in less-skilled occupations, non-union members and the primary and Construction sectors.

Although groups with the highest poverty rates often coincide with those with the largest poverty shares, this is not always or necessarily the case. A crucial decision for policymakers involved in poverty reduction is whether to target those groups with the largest shares in poverty within the Western Cape, or whether to target those with the highest incidence of poverty. This amounts to choosing between targeting groups that would result in the largest absolute reduction in total provincial poverty, or targeting the most harshly affected groups. This is a real problem, since taking the former route would, for example, result in policymakers targeting urban areas or Coloured individuals, whereas the latter would lead them to target rural areas or Black individuals.

7. REFERENCES

BHORAT, H., 2001. Public Expenditure and Poverty Alleviation: Simulations for South Africa. In: H. Bhorat et al., *Fighting Poverty: Labour Markets and Inequality in South Africa*, 155-170. Cape Town: UCT Press.

MEASURES OF INEQUALITY AND CONCENTRATION. Available [Online]: http://www.nuff.ox.ac.uk/Users/Temple/lecture2.pdf

RAVALLION, M., 1992. Poverty Comparisons: a guide to Concepts and Measures. *Living Standards Measurement Study Working Paper 88*. Washington DC: World Bank.

SOUTH AFRICAN RESERVE BANK, 1997. *Quarterly Bulletin - December*. Own publication.

STATISTICS SOUTH AFRICA, 1995. *The October Household Survey*. Pretoria: Government Printer.

WOOLARD, I, & LEIBBRANDT, M., 2001. Measuring Poverty in South Africa. In: H. Bhorat et al., *Fighting Poverty: Labour Markets and Inequality in South Africa*, 41-73. Cape Town: UCT Press.

WORLD BANK, 2001. *World Development Report 2001*. Washington DC: Own publication.

APPENDIX A – COMPOSITION OF DISTRICT COUNCILS

DISTRICT COUNCIL	MAGISTERIAL DISTRICTS		
Breede River DC	Ceres Tulbagh	Montagu Worcester	Robertson
Klein Karoo DC	Calitzdorp Uniondale	Ladismith	Oudtshoorn
CMA	Bellville Simonstown Kuilsrivier	Goodwood Wynberg Somerset West	Cape Mitchellsplain Strand
Overberg DC	Bredasdorp Swellendam	Caledon	Hermanus
Central Karoo DC	Beaufort West Prince Albert	Laingsburg	Murraysburg
South Cape DC	Heidelburg Mossel Bay	George Riversdal	Knysna
West Coast DC	Hopefield Vredenburg Van Rhynsdorp	Malmesbury Moorreesburg Vredendal	Piketburg Clanwilliam
Winelands DC	Paarl	Stellenbosch	Wellington

APPENDIX B – DISTRICT COUNCILS OF THE WESTERN CAPE PROVINCE