THE PERSISTENCE OF POVERTY IN POST-APARTHEID SOUTH AFRICA

ASSETS, LIVELIHOODS AND DIFFERENTIATION IN KWAZULU-NATAL, 1993-2004
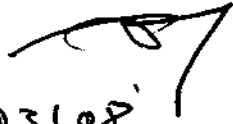
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Declaration

In accordance with the regulations of the University of KwaZulu-Natal, I, Julian May, declare that this PhD thesis entitled: 'The Persistence of Poverty in Post-Apartheid South Africa: Assets, Livelihoods and Differentiation In Kwazulu-Natal, 1993-2004' is my original research. It has not been previously submitted for any degree, and is not being concurrently presented in candidature in any University. All sources of literature have been duly acknowledged.

CANDIDATES SIGNATURE:

DATE: 02-03-08

Abstract

The situation in South Africa presents unique challenges to achieving sustained poverty reduction. Although it is an upper-middle-income country with a per capita income similar to that of Botswana, Brazil or Malaysia, a significant proportion of South African households have remained poor despite a plethora of government policies that target the less resourced. While estimates vary, over 22.9 million South Africans are categorised as being poor, with almost 2.5 million people suffering from malnutrition. Most analysts now agree that while poverty increased during the 1990s, some progress has been made in reducing both the incidence and depth of poverty after 2000.

This thesis argues that the economic and social dynamics set in motion by apartheid that produced this situation, may also have generated a low-level equilibrium trap from which some the poor in South Africa will find it difficult to escape. The thesis suggests that the explanation for this 'poverty trap' lies in what Sen has termed the exchange entitlement mapping that poor households face when attempting to use their assets/endowments. In other words, the processes that underpin the accumulation of assets, the opportunities to use these assets, and the returns obtained are structurally prejudiced against the poor. The implication is that the current experience of poverty leads to its reproduction and to a structurally persistent poverty.

The central research question of this thesis is then: "Did the extent, distribution and experience of poverty of the apartheid era persist in the immediate post-apartheid South Africa despite the efforts of government to foster pro-poor reforms?" The central policy concern is that if asset accumulation failure underpins persistent poverty, policies for those who are structurally poor should be differentiated from that which is directed at those who are transitorily poor. As an example, the policies of the South African government concerning the redistribution of agrarian assets (principally land and finance) may not be sufficient to assist the poor in rural areas, and may only increase intra-rural inequality.

The thesis draws on two principal data sources: the South African Participatory Poverty Assessment completed in 1997, and the KwaZulu-Natal Income Dynamics Study (KIDS) which contains panel data collected from the same households in 1993, 1998 and 2004. Using these data, the thesis identifies a typology of structural poverty classes. At the bottom of this typology are those trapped in poverty with an asset base that is inadequate to meet their immediate needs as well as their ability to accumulate further assets over time. Other are stochastically poor or non-poor, moving in and out of poverty according to their good or bad fortune. Finally some have never been poor and have the asset base to ensure that they remain in this position or indeed improve over time.

The livelihood strategies of households are used to differentiate households according to their participation in labour markets, farm and non-farm own production and access to social grants. The livelihood clusters that result are then matched to the poverty classes in order show differentiation among the households surveyed in KIDS. This allows for more nuanced policy recommendations that can be tailored to the needs of households experiencing different forms of poverty.

This thesis is 87 000 words in length excluding appendices.

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Acknowledgements

I must acknowledge my considerable debt to Prof. Michael Carter of the University of Wisconsin-Madison with whom I have been collaborating since our first steps towards understanding asset-based poverty in 1995. Michael encouraged me to return to academic life in 1997 and in many ways, was an informal supervisor during the long gestation period of this thesis. I must also thank Michael's family who have hosted me in Madison on numerous occasions, including three of my birthdays. In addition to learning much about econometrics, I have also gained a working knowledge of American Zinfandel and some skill in flying a Star Wars X-Wing Fighter.

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The respondents to the KwaZulu-Natal Income Dynamics Study (KIDS) surveyed in 1993, 1998 and now in 2004 deserve the acknowledgement not just for this thesis, but also for the growing body of literature that continues to make use of the information that they provide. In the 2004 wave of KIDS, we have made a special effort to provide feedback to those who participate in KIDS on the results of the different studies that have been completed. Each household was given a user-friendly summary of research findings translated into isiZulu, and information packs of planning information have been left with local authorities. Nonetheless, the patience of the respondents is remarkable as we probed into sensitive aspects of their daily lives, weighed and measured their children and took up almost three hours of their time in each wave of interviews.

Over time the KIDS consortium has grown and changed, so in order of appearance, thanks must go to: Lawrence Haddad, John Maluccio, Ingrid Woolard, Benjamin Roberts, Michelle Adato, Francie Lund, Phakama Mhlongo, Thilde Stevens, Anna van den Berg, Ian Timæus, Tania Boler, Myriam Velia, Nina Hunter, Cathy van de Ruit, Jorge Agüero, Masinghita Khandlela, Einar Braathen and Thabani Buthelezi. The work and energy of the survey teams at Development Research Africa ably led by Aki Stavrou in 1993 and 1998, and Anthea Dalimore in 2004 is also acknowledged. The funds received for KIDS

Dedication

Glossary of Acronyms

$	US dollar
AMPS	All Media and Products Survey
ANC	African National Congress
AsgiSA	Accelerated and Shared Growth Initiative - South Africa
BMR	Bureau for Market Research
CAPS	Cape Area Panel Survey
CBO	Community Based Organisation
CDF	Cumulative Distribution Function
CPIX	Consumer Price Index with excluding interest rates on mortgage bonds
CSG	Child Support Grant
CSS	Central Statistical Services
DFID	Department of International Development
DHS	Demographic and Health Survey
DLA	Department of Land Affairs
EA	Enumerator Area
ESD	Enumerator Sub-District
FAO	Food and Agricultural Organisation
FGT	Foster Greer and Thorbecke
GDP	Gross Domestic Product
GEAR	Growth, Employment and Redistribution Strategy
GGP	Gross Geographic Product
GHS	General Household Survey
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
HDI	Human Development Index
HHID	Household Identifier
HIPC	Highly Indebted Poor Countries
HPI	Human Poverty Index
HSL	Household Subsistence Level
IES	Income and Expenditure Survey
IFPRI	International Food Policy Research Institute
IMF	International Monetary Fund
IMR	Infant Mortality Rate
IPR	Institute for Planning Research
KIDS	KwaZulu-Natal Income Dynamics Study
LFS	Labour Force Survey
LOESS	Locally Weighted Least Squares
LSHTM	London School of Hygiene and Tropical Medicine
LSMS	Living Standards Measurement Survey
LSU	Livestock Unit
MDGs	Millennium Development Goals
MLL	Minimum Living Level
MTEF	Medium Term Expenditure Framework
NGO	Non-Government Organisation
NIBR	Norwegian Institute of Urban and Regional Studies
NICS	Newly Industrialised Countries
NIDS	National Income Dynamics Survey
OAP	State Old Age Pension Grant
OECD	Organisation for Economic Co-operation and Development
OHS	October Household Survey
OLS	Ordinary Least Squares
P^{α}	The Foster Greer & Thorbecke (FGT) class of poverty measures
P^{0}	Headcount
P^{1}	Poverty Gap
P^{2}	Squared Poverty Gap
PIR	Poverty and Inequality Report

PPA	Participatory Poverty Assessment
PPP	Purchasing Power Parity
PRA/PLA	Participatory Rapid/Rural Appraisal/ Participatory Learning Appraisal
PRSP	Poverty Reduction Strategy Papers/Plans
PSLSD	Project for Statistics on Living Standards and Development
R	South African Rand
RDP	Reconstruction and Development Program
SAIHS	South African Integrated Household Survey
SALDRU	South African Labour and Development Research Unit
SA-LSMS	South African Living Standards Measurement Survey
SA-PPA	South African Participatory Poverty Appraisal
SL	Sustainable Livelihoods
SMME	Small, Medium and Micro Enterprises
SSA	Sub-Saharan Africa
Stats SA	Statistics South Africa
UIF	Unemployment Insurance Fund
UN	United Nations
UNDP	United Nations Development Programme
UNCHR	United Nations Office of the High Commissioner of Human Rights
UNFPA	United National Population Fund

CHAPTER ONE
CONTEXT AND OBJECTIVE

"To those peoples in the huts and villages of half the globe struggling to break the bonds of mass misery, we pledge our best efforts to help them help themselves" (Inaugural Address of President JF Kennedy, 1961)

1.1 INTRODUCTION

In January 1961, the United Nations declared its first 'decade of development' focusing on increasing the growth rate of aggregate national income in developing countries while recognising the need to benefit the poorer sections of the population. Commenting on the poor record of this first decade of development in 1970, Robert McNamara, then president of the World Bank Group, argued for a "...whole generation of development that will carry us to the end of the century" (cited in Meier, 1970:4). In the decade to follow, another World Bank President, Alden Clausen, stated that "... a key and central aim of the World Bank is the alleviation of poverty" (Clausen, 1982) while in 1980, 1990 and again in 2000/1, 'Poverty' was the title of World Development Reports (World Bank, 1980; 1990; 2001a). At the start of the fifth decade after President Kennedy's inaugural address yet another World Bank President, James Wolfensohn, emphasised the need to "...create an environment in which you can ... give opportunity and empowerment and recognition to people in poverty" (Wolfensohn, 2000). Lending support to these statements, numerous international declarations have been made since the General Assembly's resolution 1710 (XVI) of 1996 committing most countries in the World to a range of laudable goals, all of which are appropriate if poverty is to be eliminated. Of these, the United Nations Millennium Declaration in 2000 and the commitment by 189 countries to the eight Millennium Development Goals (MDGs) was especially noteworthy.[1]

Despite these sentiments, at the beginning of the 21st century high levels of poverty have persisted in almost all regions of the world and especially in sub-Saharan Africa (SSA). In its PovertyNet WebPages, the World Bank reported that while the share of the global population categorised as being poor had declined during the 1990s, the actual number of poor people continued to rise, and had approached 1.2 billion by 2001, the most recent baseline available. Although Global Economic Prospects

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[1]/ The Declaration may be accessed at http://www.un.org/millennium/declaration/ares552e.htm.

Report of 2006 remains sanguine about achieving the MDG goal of halving world poverty, the prospects for sub-Saharan Africa are not promising. The Report predicts that this region is expected to contain 55 percent of the world's poor by 2030 representing an 80 percent increase on its share in 2000 (IMF/World Bank, 2007:78). Moreover, in 2003, and in contrast to the findings of other international agencies, the United Nations Population Fund (UNFPA) reported an unrelenting increase in the numbers of those that are poor in the world. From this it is clear, that however defined and measured, the concern for poverty, and poverty itself, has persisted for more than four decades while reasons for this intransigence remain poorly articulated and largely unresolved.

The persistence of poverty is also apparent in South Africa. On the eve of South Africa's transition to democracy, the country was described by international development agencies as an upper-middle-income country with a per capita income in 1991 similar to that of Botswana, Brazil, Malaysia or Mauritius (World Bank, 2001a; UNDP, 2000). However, it was estimated that over half of South Africans were poor, with almost 2.5 million people thought to be suffering from malnutrition (ANC, 1994:14). The South African Participatory Poverty Assessment (SA-PPA) conducted in 1996 concluded that the experience of the majority of South African households remained one of outright poverty, or of continued vulnerability to becoming poor (May *et al*, 1997:1).

Worryingly, despite the priority given to reducing poverty and inequality in 1994 by the incoming government, most studies have revealed that levels of poverty continued to increase in South Africa between 1993 and 2000 (Hoogeveen and Özler, 2004; Leibbrandt *et al.*, 2001:26-27; Leibbrant *et al.*, 2005: 13; Stats SA, 2002; van der Berg and Louw, 2003). The result has been an increase in the number of people categorised as poor between 1995 and 2000 by some 2 million irrespective of whether the poverty line used is the well known $1- or $2-per-day corrected for Purchasing Power Parity (PPP), or any of the various national poverty lines that have been proposed. Thus despite being one the 30 largest economies in the world in terms of Gross Domestic Product (GDP), with a population of some 16 million poor people as reported by the United Nations Development Program (UNDP), South Africa is home to the 16th largest number of poor people in among the 67 countries for which

comparative data are provided, and the fifth largest in SSA (UNDP, 2006). This, coupled with the gloomy predictions for poverty reduction in this region provides the motivation for understanding poverty dynamics in South Africa.

This thesis explores this persistence of poverty in South Africa between 1993 and 2004 through a case study of the province of KwaZulu-Natal, one of the poorer regions of the country. The focus of the research is on uncovering the dynamics of poverty, and in particular, those economic constraints that limit the ability of individuals and households to accumulate and effectively utilise their assets, and which result in differentiation among the poor. The thesis examines whether the economic and social dynamics set in motion by apartheid produced a low-level equilibrium from which some poor households in South Africa find it difficult to escape. This, it is argued, would result in persistent 'livelihood failures' underpinned by an 'asset accumulation failure' whereby poverty becomes structural for at least a segment of the population. Building on this analysis, the thesis goes on to explore whether shared characteristics can be identified for households that fall into a set of dynamic poverty categories. Finally, it is suggested that despite the uniqueness of post-apartheid South Africa, the extreme situation in the country produced by the discriminatory policies of the past may help to throw light on the conditions that result in persistent or chronic poverty in other unequal societies, especially those in SSA.

1.2 HYPOTHESIS AND RESEARCH QUESTIONS

1.2.1 Research Question

The central issue lying behind notions of persistent poverty in South Africa is whether there are households caught in a poverty trap from which they are unable to exit despite their strategising, endeavour and scrimping. If this is the case, in the language of Nobel Economics Laureate, Amartya Sen, the explanation for the poverty trap suggested by this thesis may lie in the exchange entitlement mapping that the poor confront when attempting to use their endowments. In the perhaps more accessible language of the sustainable development literature, the livelihood portfolio assembled by those who are poor fails due to the limited assets that they have at their disposal, the paucity of opportunities that are available to them, and the uncertainties and shocks that they encounter. The implication is that the differential experience of

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poverty itself is a factor that results in its reproduction. If this is so, then as Michael Lipton identified almost two decades ago, the broad category of 'the poor' should be deconstructed in some manner if more effective policies for poverty reduction are to be developed (Lipton, 1988).

Distinguishing the trapped or 'chronic-poor' from the 'transient-poor' is also a useful starting point for policy as there are significantly different implications for households that are trapped in this manner compared to those that are able to accumulate assets over time (Carter and Barrett, 2006; Hulme and Shepherd, 2003). For example, in the absence of complementary reforms in financial, input and commodity markets, the policies of the South African government for the redistribution of agrarian assets (principally land) may not benefit the chronic-poor in rural areas, and instead risk increasing intra-rural inequality. For the transient-poor, such transfers may require complementary policies that offer insurance against intermittent shocks, such as crop failure, ill health or theft. Likewise, policies intending to promote micro-enterprises may not improve the situation of transient-poor informal sector producers, and instead, may result in informalised labour practices as formal enterprises endeavour to cut their wage bills, thereby increasing the number of chronic-poor. From this perspective of policy formulation, the primary question of this thesis could be restated as: "Did the extent, distribution and experience of poverty of the apartheid era as reflected in money-metric measurements and access to assets and services persist for a part of the population in post-apartheid South Africa despite the efforts of government to foster pro-poor reform?"

An alternative and more opportunistic viewpoint might be that the rising poverty levels in South Africa observed between 1993 and 2000 were nothing more than a temporary legacy of apartheid, perhaps even due to error in the data collection process. In time these will diminish in the face of more efficient markets that result from pro-growth macro-economic policy tempered by appropriate social policy interventions and good governance. In many ways, this viewpoint can be said to have substantially informed the poverty reduction strategies adopted by the South African government during the first 10 years of democracy which have relied upon 'market-friendly' approaches.

The enquiry to be undertaken by this thesis can then be formally stated as follows:

Hypothesis: The conditions of deprivation in South Africa in the post-apartheid period produced social and economic dynamics that caused poverty to become structurally self-reinforcing for a part of the population. As a result, in the absence of fundamental reforms, poverty for some may become structural and self-perpetuating even if economic growth is achieved and some asset transfers do occur;

Alternatively:

Null hypothesis: The extent of poverty in South Africa in the post-apartheid period was the result of inadequate economic opportunities for the poor and inadequate access to essential services. As a result, policies that promote economic growth will reduce poverty on a broad front by offering prospects for employment, entrepreneurship and accumulation, as well as for greater delivery of services.

To explore this hypothesis, a number of key research questions are identified:

- Does recent literature support the notion of dynamic reproduction of poverty, in other words, a poverty that persists? If so, can an analytical framework for the investigation of such poverty be developed, along with instruments with which to measure it?

- What was the extent, distribution and experience of poverty in South Africa in the post-apartheid period, and what changes occurred in the first ten years after South Africa embarked on its transition to democracy in 1994?

- Is there evidence that poverty traps existed from which certain groups of the poor were unable to escape? In other words, can the broad group of 'the poor' be differentiated in some way between those who are chronically poor (trapped) and those who are transitorily poor (able to get ahead given enough time)?

- If so, what is the underlying asset portfolio available to those who are 'not poor', 'poor and able to get ahead', and 'poor and unable to get ahead'?

- How are the different groups using these assets in order to generate a livelihood strategy, with what effect, and how did this change over time between 1993 and 2004?

- Can categories of households be identified who share a common asset base and a concomitant set of livelihood activities, but who have different livelihood

outcomes in terms of their ability to escape poverty over time? What differentiation occurs, and how has this changed? And finally,

- What role potentially could be played by government policies when attempting to influence the outcomes being achieved by these different categories of households in terms of asset accumulation, sustainable livelihood strategies and their dynamic poverty status?

In answering these questions, the original contribution made by this thesis is fourfold:

- Firstly in the creation of the database used in this analysis: the data collected for the KwaZulu-Natal Income Dynamics Study (KIDS) created the first major panel study in South Africa while the third wave of data collection has produced the longest running panel in the country. KIDS has been placed in the public domain while the various publications detailing its methodology have provided a useful resource for the panel studies which have followed. The demonstrated usefulness of these data have contributed towards the decision to introduction of a National Income Dynamics Study (NIDS) being led by the Office of the President and scheduled to collect a first wave in 2008.

- Secondly, in the adaptation and synthesis of conceptual frameworks developed for the asset/vulnerability and sustainable livelihoods approaches with the capability approach developed by Amartya Sen. This brings together micro-economic and economic anthropological analyses on poverty dynamics that has used both quantitative and qualitative data.

- Thirdly, in the application of this framework to the analysis of structural poverty and the use of assets as a way of separating chronic/structural poverty from transitory/stochastic poverty provide new insight into the underlying dynamics of poverty and its persistence. Although the original conceptualisation of structural poverty was co-authored and published some years ago, in this thesis I have adapted the earlier work and extended the analysis from a 5 year time-frame to include the 2004 wave of data collection.

- Finally, the examination of livelihoods and differentiation of households by their livelihood strategy is a wholly new contribution that builds on work that I began

in 1987 using data from the former Transkei region of South Africa. This work makes use of a statistical procedure (cluster analysis) infrequently encountered in poverty analysis as a way of maximising the observed differences between households in terms of selected variables. For this thesis, I have chosen variables that define different livelihood classes derived from earlier attempts to differentiate the African population in South Africa. When linked to the poverty typology, alternative trajectories out of, and into poverty can be distinguished.

1.2.2 Thesis Structure

Having introduced the topic to be investigated, and outlined the central research questions for this thesis, Chapter Two examines alternative conceptualisations of poverty and tries to situate the current work within broader views on what constitutes poverty. The chapter examines the 'new agenda' for poverty reduction taking into account the approaches introduced as part of the Highly Indebted Poor Countries Initiative (HIPC), and in particular, the preparation of Poverty Reduction Strategy Papers (PRSPs). Chapter Three is the key theoretical, and thus the lengthiest, section of this thesis and moves on to examine the theoretical underpinning of persistent poverty. This chapter tries to understand why some households move in and out or poverty, whilst others remain permanently poor and to develop a framework through which this process can be understood. Following Moser (1995; 1998a) and others, an 'assets-vulnerability' framework is developed and linked to a livelihood map. Issues to be examined include the livelihood tactics that are adopted, impacts of shocks, life cycle changes, differentiation, adaptable livelihoods and coping strategies, asset accumulation and Sen's notion of entitlement failure. Noting that different conceptual frameworks may imply different indicators of poverty, issues of measurement are also covered in this chapter.

Chapter Four will detail the methodology used in the collection and compilation of the data that are used in this thesis. Three primary sources of information have been used of which the 1993 national living standards measurement survey (LSMS) undertaken by the South African Labour and Development Research Unit (SALDRU) and a repeat survey of a sub-sample of that study undertaken in 1998 and again in 2004 in the province of KwaZulu-Natal is the most important. Used as a panel, these data are known as the KwaZulu-Natal Income Dynamics Study (KIDS) and were

collected in collaboration with researchers from the University of Wisconsin-Madison, the London School of Hygiene and Tropical Medicine (LSHTM), the International Food Policy Research Institute (IFPRI) and the Norwegian Institute of Urban and Regional Studies (NIBR). These data are contextualised using the 1995 and 2000 Income and Expenditure Surveys (IES) undertaken by Statistics South Africa (Stats SA) supplemented by the October Household Survey (OHS) and Labour Force Survey (LFS) undertaken in 1995 and 2000 respectively.[2] In all instances, the quantitative data in this thesis are analysed using SPSS 11 (Chapter Five) and SPSS 13.0 (Chapters Six and Seven). Finally qualitative data collected for the South African Participatory Poverty Assessment (SA-PPA) during 1996 and 1997 will be used where appropriate. Data from the various October Households Surveys (OHS) conducted between 1995 and 1999 by Stats SA will also be referred to as well as the 1996 and 2001 Censuses. More detail concerning some of the technical choices made for this thesis are provided in Appendix One which will be frequently referred to in this chapter.

The poverty measures discussed in Chapter Two are then used to present a poverty profile of South Africa and the study region, KwaZulu-Natal, in Chapter Five using these data sets that will show the extent and distribution of poverty. Time series data are provided to show changing levels of poverty in South Africa as a whole and both money-metric and basic needs indicators are discussed. Qualitative data concerning the experience and perceptions of poverty are introduced from both the SA-PPA and the KIDS sub-sample in order to enrich this analysis.

Chapter Six describes a model of dynamic poverty. Elsewhere, in collaborative articles, I have looked at dynamic poverty using a production function based on household assets, and related achieved outcomes to this asset base and to the shocks that have been experienced by households (Carter and May, 1999; Carter and May, 2001; Adato, Carter and May, 2006). This chapter will summarise and update this analysis. Then using the asset-vulnerability matrix developed in Chapter Three, and the dynamic categorisation of poverty developed in Chapter Six, the 'asset portfolio' of poor and non-poor households is investigated, as well as that of the chronic-poor,

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[2]/ Data from the 2005 IES had not been released at the time of writing and it is not yet known whether these data will be comparable to earlier surveys due to a change in methodology from recall-based questions to a diary method.

compared to the transient-poor. Another lengthy chapter, this forms the core of the empirical work undertaken for this thesis.

Chapter Seven returns to my earlier work that examined the livelihood strategies that are adopted by poor households (May, 1987a; May, 1987b; May and Rankin, 1991; May, 1996). The KIDS data are used to show the extent of mobility and persistent poverty in KwaZulu-Natal by means of a transition matrix and distribution frequencies. This allows the poverty profile to be recast to show transient and structural (trapped) poverty levels. Further, the different livelihood activities of the various groups are examined as well as the way in which these are combined into a livelihood-generating strategy. Finally, concepts of differentiation among the poor will be re-examined based on their changing livelihood strategies. Adding to the range of ideas and concepts introduced in earlier work that I have published, this chapter breaks new ground in understanding the differentiation of poverty in South Africa.

Chapter Eight concludes the thesis, and looks at the policy implications of poverty that persists. In particular, the rationale for asset redistribution in South Africa, as well as reforms in input markets and commodity markets are re-examined in the light of the findings that have been presented. The recommendations of the Poverty and Inequality Report (PIR) that I directed and edited between 1997 and 1998 will be revisited in terms of their implications for poverty that persists (May, 2000). The thesis concludes by reflecting on the potential contribution of the forthcoming South African National Income Dynamics (NIDS) due to commence in 2008.

CHAPTER TWO
THE RE-EMERGENCE OF THE POVERTY REDUCTION AGENDA

...[there is an] urgent need for national strategies to reduce overall poverty substantially, including measures to remove the structural barriers that prevent people from escaping poverty, with specific time-bound commitments to eradicate absolute poverty by a target date to be specified by each country in its national context. (WSSD Programme of Action, 1995, paragraph 25).

2.1 INTRODUCTION

This chapter reviews the emerging international research and policy agenda on poverty since the mid 1990s to provide the context for this thesis. The chapter explores some of the reasons why poverty has once again been placed on the international agenda and why poverty dynamics are an important issue for investigation. This introduces the core argument of the thesis to be discussed in Chapter Three: that asset accumulation failure underpins poverty that persists, and that as such, policy for those who are structurally poor should be differentiated from that which is directed towards those who are transitorily poor. This concern is linked to debates concerning poverty, inequality, growth, and the alignment of macro-economic and micro-economic policy. The chapter goes on to examine the burgeoning literature on the Poverty Reduction Strategy Papers (PRSP) that represent recent debate concerning the role of governments and markets in facilitating improved human well-being.

2.2 A NEW POVERTY AGENDA?

2.2.1 Summits, Declarations and Policies

The initial commitment made by governments at the first World Summit for Social Development in relation to poverty eradication is contained both in the Copenhagen Declaration (Commitment 2(a)) and the Programme of Action (paragraph 26(b). In these documents, participating governments pledged to develop:

> ... national poverty eradication plans to address the structural causes of
> poverty, encompassing action on the local, national, sub-regional and
> international levels. These plans should establish, within each national
> context, strategies and affordable time-bound goals and targets for the
> substantial reduction of poverty and the eradication of absolute poverty
> (WSSD, 1995).

These commitments were later confirmed by the United Nations (UN) General Assembly in its resolution 50/107 (1996) on the Observance of the International Year for the Eradication of Poverty. Subsequently, the UN declared 1997 – 2006 as the "Decade for Poverty Eradication". Momentum was added by the Highly Indebted Poor Countries (HIPC) initiative, and the requirement of this initiative that Poverty Reduction Strategy Papers (PRSPs) be prepared by countries seeking debt relief or preferential finance.

This Decade for Poverty Eradication has taken place at a time when the international community is experiencing renewed interest in and commitment to poverty reduction. In the most noteworthy display, in 2000, following a proposal by the Development Assistance Committee (DAC) of the Organisation for Economic Co-operation and Development (OECD), 189 countries, including South Africa, committed themselves to the a set of measurable goals and targets in the Millennium Declaration and the Millennium Development Goals (MDGs) that it proposed for poverty reduction in 2015. These include halving the proportion of people living in extreme poverty, the provision of universal primary education in all countries, the reduction of infant and under-five child mortality rate by two-thirds and the reduction of maternal mortality by three-fourths (Faure, 2002).[3]

For Maxwell (2003:5), these declarations, policies and approaches constitute a 'new poverty agenda' that is made up by the MDGs; an international consensus poverty reduction summarised in the 2000/1 World Development Report; the PRSPs; new mechanisms and institutions for aid provision, including Medium-Term Expenditure Frameworks (MTEF), Sector-Wide Approaches and Poverty Reduction Support Credits; and finally, Results-Based Management and Impact Assessment.

The decade has also coincided with a burgeoning poverty literature including the

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[3]/ Other important events include the Doha Ministerial Declaration issued at the 2001 meeting of the World Trade Organization, the 2002 Monterrey Conference, and the 2002 Johannesburg World Summit on Sustainable Development.

publication of a second World Development Report on poverty, the release of a UNDP report on poverty, and as with many other countries, the publication of a National Human Development Report for South Africa (World Bank, 2001a; UNDP, 2000a; UNDP, 2004). It has also coincided with the release of better international quantitative data with which to monitor the extent of poverty on a global, regional and national basis (Deininger and Squire, 1996; Ravallion and Chen, 1997) as well as international qualitative data that documents the experience of poverty (Narayan, 2000). Alongside these developments, the capacity of many developing countries to collect and analyse national data has also substantially improved (May, 2001; May and Roberts, 2005).

At the same time, there have been significant strides made in rethinking poverty and a deepening sophistication in its conceptualisation and the approaches used for measurement (Blotvinik, 2001; Hulme and Shephed, 2003; Kanbur and Squire, 1999) There has also been a sharpening of critique which has challenged the conventional wisdoms often promoted by the international development agencies, drawing attention to the importance of inequality, the political economy of poverty, deficiencies in conceptualisation, measurement and data and the production of poverty (Birdsall and Londoño, 1997; Bracking, 2003; Reddy and Pogge, 2003; Øyen, 2002). This has been accompanied by more effective activism seeking alternative policies and interventions including the abolition of the World Bank (Jubilee, 2000; Danaher, 2001).

2.2.2 Global Poverty Trends 1981-2001

Part of the explanation for this interest has already been alluded to: despite commitments made to the contrary, however measured, global poverty has remained high throughout the last few decades, and by some measures, may have increased. Illustrating this using the improved data just mentioned, Table 2.1 shows information released by the World Bank on poverty levels between 1981 and 2001.

The table shows the percentage of the world's population categorised as poor.[4]

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[4] Data taken from http://iresearch.worldbank.org/PovcalNet/jsp/index.jsp. For the purposes of this table, the default absolute poverty line of $32.74 has been accepted which equates to $1 per day adjusted for 1993 Purchasing Power Parity. Chen and Ravallion (2000) provide a detailed discussion of the preparation of this data set. See also Chen *et al.*, (1994) for an earlier review and Reddy and Pogge (2003) for a critique.

Table 2.1: Global Poverty (<PPP$1 per day), 1981-2001

	1981	1984	1987	1990	1993	1996	1999	2001
East Asia and Pacific (EAP)	56.7	38.8	28.0	29.5	24.9	15.9	15.3	14.3
East Europe and Central Asia (EECA)	0.7	0.5	0.4	0.4	3.7	4.1	6.2	3.3
Latin America and the Caribbean (LAC)	10.3	12.4	11.6	11.9	12.2	9.4	9.7	9.5
Middle East and North Africa (MENA)	5.1	3.8	3.2	2.3	1.8	2.3	2.7	2.4
South Asia (SA)	51.5	46.8	45.0	41.3	40.1	38.9	34.1	33.7
Sub-Saharan Africa (SSA)	41.4	46.0	46.6	44.3	43.8	45.9	47.6	48.4
Total	40.4	32.8	28.4	27.9	26.3	22.8	21.8	21.1

Source: Povcalnet (http://iresearch.worldbank.org/PovcalNet/jsp/index.jsp); Chen and Ravallion (2004)

These data show a steady decline in the proportion of the world's population who earn less than PPP$1 per day, and are therefore categorised as being poor. When China is excluded from the analysis, this trend remains, but is less significant. There are important variations between regions, with poverty levels increasing until 1999 in Eastern Europe and Central Asia (EECA), and increasing until 1997 in sub-Saharan Africa (SSA), with a modest decline for a few years before climbing to a high of almost half the region's population in 2001. In South East and Pacific (EAP) and South Asia (SA), poverty rates consistently decline.

In terms of the absolute numbers of the poor, as shown in Figure 2.1 the situation is more complex. This figure makes use of an update of the same data base which includes poverty thresholds of $1 and $2 per day re-adjusted for Purchasing Power Parity in 2000, and for greater clarity, shows only the total, the figure for SSA and those for China and India. This shows that while the number of people living below $1 per day may have declined by 39 million people between 1981 and 2001, to just over one billion, 28 million people have been added to the world's poor population at the higher threshold taking this figure to 2.7 billion. Once again, there are important regional differences, and, unlike most other regions, the position in sub-Saharan Africa deteriorated for much of the period regardless of which threshold is used. In this region, between 1981 and 2001, the numbers in poverty grew by 15 million people at PPP$1 per day, and 23 million at PPP$2 per day.

Figure 2.1: Population below $1 and $2 per day, 1981-2001
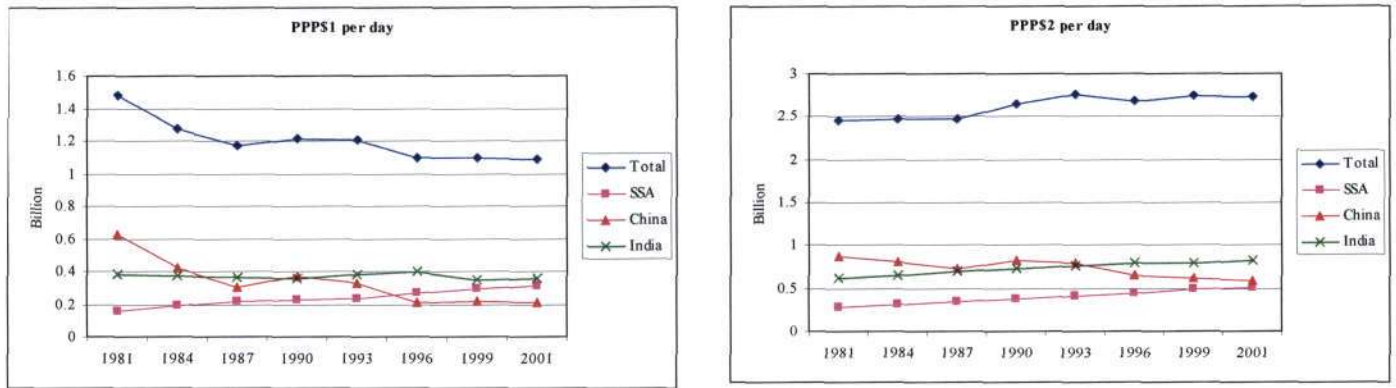
As numerous analysts have pointed out, poverty is more than income, and the Human Development Index (HDI) provides an alternative way of expressing changes in human welfare. The HDI is a composite index derived from life expectancy, adult literacy and economic well-being measured by GDP per capita.[5] Figure 2.2 show trends in the HDI between 1980 and 2002.

Figure 2.2: Human Development Index (1980-2002)
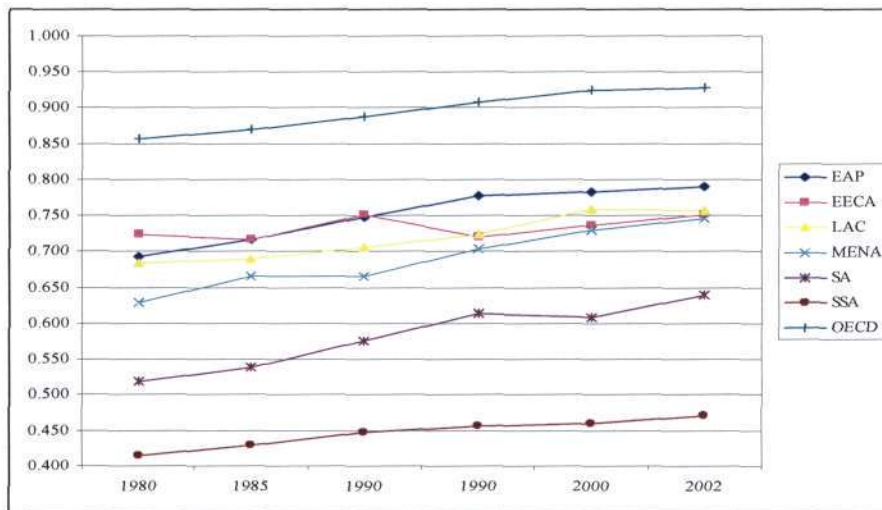
While these trends largely map onto the changes in income poverty, and indeed suggest that progress has been achieved in all regions in terms of the underlying

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[5]/ As with income based measures of poverty, the HDI has been subject to critique. See Ravallion (1997a) and Sagar and Najam (1998) as examples.

components of the HDI, the enormous and widening gap between SSA and the rest of the world is evident.

2.2.3 Growth and Poverty Reduction

Chen and Ravallion (2000:21) attribute this failure to significantly reduce poverty throughout the world to two related causes:[6]

- Although the global economy grew at around an average 2.5 percent per annum during most of this period, this growth was not evenly distributed and insufficient growth took place in the poorest countries;

- Persistent inequalities within the poorest countries meant that the poor were unable to participate fully in the benefits of that growth that did take place.

Certainly, as Table 2.2 shows, the average growth rates in Gross Domestic Product (GDP) confirm the first of these suggestions.

Table 2.2: Growth Rates in GDP, 1980-1998

Regions	Average Growth in GDP 1980 - 90	Average Growth in GDP 1990 - 98
East Asia and the Pacific	8.0	7.9
Eastern Europe and Central Asia	2.4	-2.9
Latin America and the Caribbean	17.7	3.6
Middle East and North Africa	2.0	3.0
South Asia	5.7	5.7
Sub-Saharan Africa	1.6	2.3
World	3.2	2.5

Source: World Bank, 2001a: 184.

However, while the second statement seems intuitive, empirical evidence supporting this view is less conclusive and has been the topic of a sometimes stormy debate over the past decade, and especially during the lead up to the World Bank's second World Development Report on poverty reduction. Specifically, the microeconomic and institutional mechanisms that link poverty with inequality remain an inadequately researched area. Moreover, there has been insufficient analysis of the distribution of wealth/assets and instead, income inequality has tended to be the favoured measure of inequality. However, at the cross-country level, even though the relationship between

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[6]/ See Reddy and Minoiu (2006a) for an interesting evaluation of poverty measurement as applied to China.

income inequality and growth is ambiguous (Banerjee and Duflo, 2003), the distribution of assets seems to be strongly associated with subsequent growth performance (Birdsall and Londono, 1997; Deininger and Squire, 1998; Deininger and Olinto, 2000). Furthermore, the ways in which economic markets are structured so that the poor are not able to benefit from economic growth are not well understood, nor as are the ways in which governments can influence this outcome.

Despite the energy directed towards poverty reduction, the prognosis for success is not promising. Calculating poverty elasticities and projecting human development indicators, and employing alternative projected long term regional economic growth rates, Hamner et al. (1999:561) conclude that a reduction in income poverty by 50 percent by 2015 is unlikely for most developing countries. Indeed, the situation for sub-Saharan Africa is particularly dismal where there is little chance that any of the poverty reduction targets will be met including those for human development. In reality this situation may be far worse than this given that these projections are based on trends prior to 1993, and thus do not take account of the direct impact of HIV/AIDS on life expectancy let alone its secondary impacts on livelihoods and well-being. Moreover, the authors stress that the pattern of growth is important, with pro-poor growth yielding more promising results as measured by poverty elasticity of growth.[7]

The global data presented so far suggest that achieving economic growth, and ensuring that the distribution of the benefits of this growth reach the poor are critical issues in the design of public policy that aspires to achieve a reduction in poverty. This raises a concern over the limits to government action more generally, and, in particular, that action which seeks pro-poor growth.

2.3 GOVERNMENT ACTION AND POVERTY REDUCTION

2.3.1 Pro-Poor Growth

Conventionally economic growth takes place if the total value of all goods and

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[7] Poverty elasticities refer to the percentage change in the proportion of people below a poverty threshold produced by a percentage change in economic growth. Thus a high elasticity of the poverty incidence with respect to GDP per capita implies greater efficiencies in translating economic growth into poverty reduction. In these circumstances, consistent per capita growth rates of 2.0 – 2.8 percent would achieve the international targets for income poverty by 2015 (Hamner et al., 1999:556).

services exchanged or purchased in an economy increases over some agreed time frame. Moreover, growth implies that resources have been used or transformed in some fashion that makes the end result more valuable in monetary terms. Changes in technology may mean that resources are used more efficiently, with the result that fewer resources are needed for the same or a better end product. As researchers concerned with sustainable development point out, it makes no difference whether the extra goods and services are beneficial or useful, or if it may have been better for the environment or for some segments of the population had they not been produced (Douthwaite, 2002).

Economic growth is also associated with other transformations including the accumulation of physical and human capital, shifts in the structure of economic production from agriculture to industry, and then to services, and lessening reliance on natural resources (Kaldor, 1963; Kuznets, 1955). Finally, growth also leads to increasingly complex institutions regulating the activities of individuals, states and markets. Growth is often accompanied by increasing urbanisation, increased water and energy usage, and more solid and water borne waste. These transformations also bring dynamics that impact upon the net result of economic growth and the distribution of its costs and benefits.

Turning to the question of how growth might benefit the poor, that is to say be pro-poor, the current consensus among many development economists insists that poverty reduction is mainly the result of economic growth, which in turn is the result of good economic policies. Empirical studies have shown that effective economic policies for growth include adherence to fiscal discipline and thus low budget deficits, maintaining a competitive currency and a positive balance of payments, low and stable inflation rates, openness to trade and the protection of property rights. Other policy options being recommended include privatisation, tax reforms and the removal of market controls such as subsidies on food and essential services, minimum wages and currency restrictions. In the light of this, it might be thought that pro-poor growth is also best achieved by the consistent application of these policies.

The notion of 'good growth' and 'bad growth' developed by 'green economists' can be usefully extended beyond the issues of sustainable development that are their immediate concern (Douthwaite, 2002). The questions become instead, how might

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economic growth translate into increased income for the poor, as well as into improvements in the other aspects of improved well-being that are considered part of poverty reduction (good growth)?[8] Or alternatively, what might result in less satisfactory growth in which the poor benefit little, benefit only in terms of certain aspects of well-being, such as income, while losing out on others, such as health status or leisure, or indeed, experience forms of bad growth that perpetuate or even produce poverty.

Taking the characteristics of good growth first: in many developing countries in which the subsistence economy has collapsed, the most direct way in which growth assists the poor takes place through the jobs that are created. This is particularly so when growth occurs in labour absorbing sectors of the economy such as agriculture, construction and in clothing and textile manufacturing. Policies that seek to attract foreign investment and to promote exports are often proposed as a way of dealing with high unemployment. This is certainly true of South Africa where employment creation remains at the top of the agenda of government, business and civil society and where unpopular macroeconomic reforms were introduced as the 'Growth, Employment and Redistribution' strategy (GEAR) in the hope of promoting employment.

A second route is by creating a better environment for the entrepreneurship and industry of the poor themselves and improved returns on the assets that they are able to access. This would apply to many of the chronically poor who probably have little potential to obtain employment, even if the economy expands, due to their low skills and resource base. Although the informal and subsistence agricultural sectors are generally included in the calculation of GDP, in many cases the contribution of these sectors is poorly estimated. Nonetheless many countries recognise the important role that is played by such production in boosting the incomes of the poor. Indeed, in South Africa, increasing employment in the informal sectors has been held out as evidence of successful job creation brought about by macroeconomic reforms, rather than as being one of the possible costs of adopting such policies when certain jobs are informalised. This route relies upon policies that build assets as well as improve the returns of the assets of the poor, and frequently makes use of various 'market assisted'

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[8]/ See also Ravallion's more critical review of the notion: 'good and bad growth' (Ravallion, 1997a).

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strategies for implementation. It seems reasonable to characterise South Africa's Accelerated and Shared Growth Initiative (ASGISA) as an example of this approach.

Also of help for the chronically poor, meaning those who are trapped in poverty and unable to improve their position through their own efforts, the greater revenue collected by the state through taxation on the expanded activity can be used for increased social spending as well as on further improvements to infrastructure utilised by the poor for production and reproduction. With growth, such expenditure can be achieved without the cost of increasing the budget deficit. Broadening systems of social security such as the Child Support Grant (CSG) introduced in South Africa in 1998 are among the policy options that might be considered as well as policies that ensure the provision of basic services such as South Africa's Community Water Supply and Sanitation Scheme that provides subsidised basic services. Increased revenue can also improve the capacity of the state to effect redistributive strategies such as land reform, thereby directly transferring assets into the hands of those who are poorly endowed.

A less direct impact is through the trickle down impact of the improved circumstances of the less poor and the rich who are able to consume and invest more. This might increase domestic demand, especially for services such as domestic labour and recreation, and promote the growth of labour intensive small and medium sized business.

And finally, there may be an indirect effect through a more general impact of the policies that have been adopted to promote growth, such as more stable prices, better access to the cheaper goods being imported, cheaper credit and reduced political instability and violence.

In contrast, with bad growth, greater output is achieved through unsustainable environmental, social or economic degradation. In terms of the environment, this is increasingly receiving attention as awareness is raised concerning pollution levels, the devastation of forests and other natural habitats and water crises in developing countries. Without effective control by governments, many countries are sacrificing their natural capital in an effort to attract investment and reach short-term targets for job creation. While the long term consequences of this are clear, such degradation

also brings short term costs to segments of the population who still rely upon the environment for aspects of their livelihoods, or as the source for meeting their basic needs. Furthermore, the least well off tend to be those who are forced to work in, or to live near, hazardous environments due to the absence of alternatives. Man-made environmental catastrophes resulting from inadequate safety regulation also impact disproportionately on the poor. While Bhopal is probably the best known of these, many examples may be given including asbestos poisoning in the Northern Cape province of South Africa.

However, bad growth need not only be associated with environmental degradation and a second aspect of bad growth relates to the increased costs arising from structural changes in the economy. For example, while the urbanisation that accompanies economic growth may bring better opportunities for employment and work, an unintended consequence is that many services once obtained directly from the environment must now be purchased, while opportunities for own-production are reduced. There are also new costs levied on obtaining services. The example of user tariffs on water supply and the escalating cost of water provided through the private sector are examples. Once again, South Africa provides a useful example, in which some researchers claim that the recently privatised water supply in Johannesburg has compelled the municipality to cut the water supply of 800 households per day as a result of non-payment (MacDonald, 2002: 3).

Some mass produced products may 'crowd out' local production and local technologies and undermine the capacity of the poor to gain a return from their own assets. If this does take place, there is a good chance that labour-absorbing forms of production and distribution may be negatively affected, and local entrepreneurship displaced. An example is the collapse of the low cost clothing industry in KwaZulu-Natal in the face of cheap imports, and the subsequent loss of thousands of jobs in this sector, or the importation of cheap long-life milk with negative consequences for dairy producers and their labourers.

'Crowding on' of costs to future generations, other countries or to other sectors is a feature of economic growth that is often overlooked. The assumption that the adoption of growth friendly policies by all countries or regions results in a win-win situation flies in the face of much economic theory which holds that there are almost

always winners and losers. At best, such policies might simply defray the costs associated with their adoption (the example of environmental degradation has already been mentioned), or crowd on the costs to other regions, or to those less able to influence policy. Examples might be small town industries unable to compete with mass produced imports nor able to lever mediating support from the government (Hart, 2002).

The social costs of bad growth can be linked to the presence of poverty producing forces as described by Øyen, (2002) whereby growth in some sectors or places either requires immiseration elsewhere, or has the unintended consequence of this.[9] Once again, the development of South Africa's minerals industry is a glaring example of the adoption of poverty producing policies by the apartheid government to ensure a supply of cheap labour to the mines (Wolpe, 1972). Other examples include the social impact of environmental degradation on indigenous populations in South America or the forced removal of populations arising from the construction of large dams in Asia. Structural reforms that lead to the closure of labour intensive industries are also poverty producing forces that may be unavoidable. Once again the case of the clothing sector in the KwaZulu-Natal Province of South Africa is an example in which the removal of tariff barriers and apartheid era incentives resulted in massive job losses (Palmi, 2007).

Having outlined some of the mechanisms that condition whether growth is good or bad, meaning pro-poor as opposed to poverty producing, it is now necessary to look more closely at the recent evidence that argues that growth is indeed good for the poor. This might give some clues as to which policy options best ensure that poverty reduction is maximised.

2.3.2 Growth, Poverty Reduction and Inequality

An important resource now available to researchers concerned with poverty reduction and growth is the large multi-country data base of household surveys and national statistics compiled by the World Bank (Deininger and Squire, 1996). With the correction of these data to ensure that variations in prices and methodology can be

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[9] Interestingly, Reddy and Minoiu (2006b) suggest that the failure to reduce poverty in many parts of the world might have been an unintended consequence of China's success in reducing poverty.

taken in account, and the use of sophisticated econometric modelling techniques, comparative analysis can now be undertaken of trends and the impact of differing contexts or different policy options. After a careful analysis of the relationship between changes in per capita GDP on the incomes of those at the bottom end of the income distribution, World Bank economists Dollar and Kraay (2000) use these data to conclude that the effect of growth on the incomes of the poor is no different in rich countries than poor ones, and that the poverty-growth relationship has remained consistent over time. They then go further to claim that policy induced growth is as good for the poor as it is for the overall economy. Despite making a number of bold policy statements on the basis of their findings, they conclude that very little is known about the causes of changes in the distribution of income.

Dollar and Kraay use per capita GDP as a measure of growth and their results refer to the elasticity of average incomes in the bottom quintile with respect to average income. That is to say, poverty is defined in a relative sense and is a constant proportion of all the countries included in their data regardless of the level of income. Growth is seen to be good for the poor if the average per capita income of the bottom quintile increases at the same rate or more as that of average per capita income of the total population. They say that the improvement in the incomes of the poor from growth is not sequenced, and thus is not due to the trickle down effect in which improved benefits to the rich eventually led to benefits being accrued by the poor. Instead, this is argued to follow from an improved environment for the poor to increase their own production and income.

Dollar and Kraay claim that 80 percent of the variation in the incomes of the poor is due to variation in overall per capita incomes, and that just under half of the growth of the incomes of the poor is explained by growth in mean incomes. They show that the income of the poor does not fall disproportionately compared to the average person during crisis, that is, in times of recession, the average income of the poor does not fall more so than the non-poor. They use this to disprove the notion that crises are particularly hard on the poor, although they do concede that a proportional fall at a lower income might be harder on the poor.

Having shown that increased economic output has a positive impact on the income of the poorest quintile of the income distribution, Dollar and Kraay then try to identify

the policies being adopted by countries that have managed to achieve this. A core set of institutions and policies are examined, including the usual formula: fiscal discipline, macroeconomic stability, openness to trade and the protection of property rights. The adoption of these policies is found to contribute towards increasing the likelihood that the incomes of the poor benefit from an increase in average incomes. Finally, Dollar and Kraay investigate the impact of social spending and of formal democratic institutions using an index of voice and accountability. They conclude this analysis by describing the reduction of government consumption as being 'super pro-poor' and conclude that the income of the poor is not influenced by the presence of democratic institutions. However, once again they do point to the fact that research has been mixed about the impact of social spending and say that such expenditure may not have been well targeted towards the poor. Dollar and Kraay end by concluding that the standard pro-growth macro-economic policies are good for the poor as they raise mean incomes with no significant effect on the distribution of income.

At one level, Dollar and Kraay provide a simple and useful message: there is nothing intrinsically negative about raising mean income in terms of its effect in raising the income of the poorest quintile of the population. However, the usefulness of their analysis is undermined by a tendency to overstate the implications of their findings and understate the sometimes quite substantial limitations of their methodology. In particularly, they tend to blur the difference between the measure of poverty that they use (the income of the poorest quintile) with the broader notion of improved well-being of those in absolute or chronic poverty. Rather, it seems as if their concern with 'debunking myths' leads their analysis back into the restrictive mantra of "Fiscal discipline, Macroeconomic stability, Openness to trade and Protection of property rights" and into some sweeping statements derived from doubtful indicators of social and political structures.

However by demonstrating that there is nothing intrinsically wrong with the expectation that expanding economic output will lead to a reduction in poverty, this research does allow a fresh start to be made in the examination of pro-poor growth. Admittedly, to move from accepting that growth does lead to an improvement in the incomes of the poor to an assertion that growth is the solution to poverty reduction is

questionable. In their conclusion, Dollar and Kraay are in fact careful to note that growth is not all that is needed to improve the quality of life of the poor, though they make no mention of what else might be needed. Furthermore, other researchers have noted that poverty elasticities of growth vary widely and that the impact of growth on absolute poverty is thus unclear. Empirical studies use these results to demonstrate that Millennium Development Goals (MDG) of poverty halving cannot be achieved simply through growth and that that the poverty reducing impact of growth depends crucially on the distribution of income (Dagdeviren *et al.*, 2000; Hamner *et al.*, 1999; Hamner and Naschold, 2000; Ravallion, 1997b).

The Dollar and Kraay analysis demonstrates that there is a need to look beyond the broad policies that facilitate economic growth, and that deeper investigation is required to identify the different benefits and costs of growth and how these are distributed. Obviously, recognising that promoting growth through the standard package of economic policies is important. However, if this is at the cost of policies that might better reduce poverty in a sustainable fashion, there is a need to find the correct balance of policies and to fine tune the extent and sequence in which they are applied.

Indeed, as Lipton (1997) has shown, it is evident that the major thrust of the development debate over the past decade regarding the relationship between growth, development and the reduction of poverty and inequality has shifted significantly. Traditionally, there has been a broad consensus that growth would be helped by and/or associated with increasing inequality; a notion often associated with the (in)famous hypothesis by Kuznets (1955).[10] This was contested by scholars emphasising the importance of 'growth with equity' and redistribution as a basis for subsequent growth (Adelman, 1995).

More recently, theoretical arguments that link aggregate growth to inequality have led to renewed interest in this debate. While some models maintain that redistribution would reduce growth (Persson and Tabellini, 1994), a broad stream of literature now suggests that redistributive efforts by government could, through increased investment

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[10]/ Kuznets (1955) hypothesised that inequality would widen during the earlier stages of economic growth, but, in time, would again narrow, hence forming an inverted U when mapped against per-capita income. That this hypothesis was developed without any supporting evidence is often overlooked.

by the poor, actually lead to higher growth (*cf.* Aghion *et al.*, 1999, Bardhan *et al.*, 2000).

While it is agreed that no single blueprint exists for how to simultaneously achieve growth and address poverty and inequality, Lipton (1997) points out that analysis has converged on a number of important themes. Of these, the questions of whether economic growth is a necessary and sufficient condition for a reduction in absolute poverty, and, further, whether growth leads to a reduction in inequality, have received considerable attention.[11] Despite Deininger and Squire's preparation of the reliable international data set already described which permits such analysis, a conclusive empirically based analysis of the correlation between particular rates of growth and rates of inequality has yet to be presented.

However, there is evidence that inequality can have a dampening impact on growth, as well as on poverty reduction. Research has shown that countries that start with significant inequality experience lower growth rates than those that start relatively equal. This is because inequalities in physical, financial and human assets may result in micro-economic inefficiencies that constrain poor people from participating effectively and efficiently in the economy. This could lead either to inequitable growth or, depending on the depth of poverty and inequality, to low growth. Conversely, available evidence suggests that the argument for poverty reduction through the trickle down from broad-based growth does not seem to hold, at least in the case of sub-Saharan Africa (Hamner *et al*, 1999). Even where growth has been of sufficient scale to make a reduction of poverty possible, the failure to generate sufficient employment has undermined its impact on poverty. Indeed, the positive impact of growth upon the reduction of poverty may be dampened at higher levels of inequality (Bruno *et al.*, 1996:11). Equally though, while conceding that high inequality may be bad for growth, some analysts find that changes in inequality, whether up or down, are not necessarily good for growth (Banerjee and Duflo, 2003).

Of special relevance to this thesis, Deininger and Olinto (2000:2) point out an

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[11] The UNDP, the World Bank and independent researchers have undertaken various studies. See for example Bruno *et a.l* (1996), Anand and Kanbur (1993a, 1993b) and Bourguignon *et al.* (1991). Lipton (1997) provides a useful summary of the emerging consensus about the definition, measurement and policies for the reduction of poverty while Piketty (1999) brings together theoretical literature in support of this argument.

important shortcoming of much of this analysis linking growth and inequality. Although most of the theoretical analysis concerning the relationship between growth and inequality identifies the link between distributional issues and economic growth as being through differential access to assets, the majority of empirical studies look only at income. This can be taken one step further since the ways in which assets are used and accumulated may result in the persistence of poverty over time, forcing our attention onto the processes that determine household livelihoods and the markets that structure the relationship between assets and income.

The UNDP (1997:72-74) has offered several explanations as to why a converse relationship might hold, that is, that poverty reduction might facilitate economic growth. Several of these lend support to the view that asset distribution, accumulation and use are central to the growth-poverty reduction nexus. As poverty tends to result in behaviour based on risk aversion, the reduction of poverty might increase willingness to take entrepreneurial risks. Poverty also tends to restrict spatial mobility, as those who are poor lack the resources required to move in search of better opportunities, transport their produce to markets, or carry the costs of a sustained job search. In addition, high levels of poverty limit the investment in human capital, especially in terms of the education and health status of children. Finally, poverty also brings with it increased vulnerability, with the result that assets are permanently lost when households face shocks such as injury, theft or natural disasters.

The experience of the East Asian countries in particular, indicates that one of the dimensions which have buttressed their high economic growth rates has been the implementation of policies which focus on a more equitable human resource development in terms of human capital, especially education and health. Increasing the access of the poor sections of the society to productive assets is a related dimension. Specifically, the Newly Industrialised Countries (NICs) of East Asia had a range of state-led interventionist policies which focused on human resource development, mild financial repression such as keeping interest rates low but positive and directed credit and selected industrial promotion policies which focused on non-traditional exports (Chandra, 1997). In many cases, government action went well beyond the conventional set of stabilising macro-economic policies to include asset redistribution of which land reform was a common strategy. This raises the question

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of whether conditions have changed to the point that such direct state action is no longer possible or desirable for poverty reduction.

2.3.3 Is Macro-economic Stability Sufficient for Poverty Reduction?

Despite the criticisms often levelled at the Bretton Woods institutions, a major component of advice frequently given by these institutions to governments is in fact on how to promote pro-poor or good growth. For the International Monetary Fund (IMF) for example, this is growth that is:

> ...sustainable, that brings lasting full employment and poverty reduction, that promotes greater equity through greater equality of opportunity, that militates against marginalization, and that respects human freedom, the diversity of cultures, and the environment (Camdessus, 1995).

To achieve these goals, most IMF and World Bank economists recommend a standard set of policies mentioned earlier that are expected to produce specific economic reforms: macroeconomic policies that focus on monetary, fiscal and exchange rate policies that achieve macroeconomic stability. The macro imbalances to be avoided include high and variable inflation, high government deficits and the overvaluation of currency, and restrictions placed on the movement of tradables and capital. Structural economic reforms refer to policies that promote efficient resource usage and provide incentives for competition and for private enterprise. These include policies that remove barriers to trade and to investment, and promote the transfer of ownership of certain state enterprises to the private sector.

Although this 'Washington Consensus' is frequently disparaged, few policy analysts would disagree with the underlying potential of such macroeconomic policies to avoid bad, poverty producing, growth. High inflation negatively affects those who rely upon wages as the principal source of income and who are unable to save in high interest earning accounts.[12] It also prejudices those with a limited ability to purchase goods on credit while eroding the tax base, and consequently the ability of government to sustain social expenditure. Finally high inflation has an adverse impact

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[12]/ What constitutes 'high' inflation is not clear. Hyper-inflation seems generally thought of as inflation that exceeds three digits; extremely high inflation has be referred to as between 50 and 100 percent; high inflation somewhere between 20 and 50 percent and moderate inflation 5 to 25 percent (Piana, 2001). Most countries strive for inflation rates well below the top end of the later category.

on the investment decisions of the rich and the poor. While the wealthy may try to invest in off-shore accounts, the poor may invest in unproductive stockpiles as a hedge against future price increases.

Overvaluation of an exchange rate can negatively affect the incomes of the rural poor whose livelihoods are often dependent upon exports of agricultural commodities, and will also reduce the competitiveness of other low cost exports. Of course, under-evaluation can also prejudice the poor by raising the costs of imported inputs, such as oil and technology, while also increasing the costs of products that are consumed nationally as well as being exported (Dorosh *et al.*, 1996). An example is food, especially grains, in South Africa where the exchange rate crisis in 2001 provided a boom for exporters, but also had a knock on effect whereby local food prices increased by 20 percent during 2002.

Spending by government that is far beyond available resources may lead to excessive borrowing from banks by government, which in turn fuels inflation and results in a substantial portion of government's resources being allocated to service interest payments. Consequently, most would agree that countries need to balance their budgets and that budget deficits should stay small. However, as a former structural adjustment advocate, Jeffery Sachs, has argued, the budget austerity that this requires means that impoverished countries cannot keep their populations alive because budgets for essential services such as health, education, food transfers and so forth are so small (Sachs, 2001). Debt servicing further erodes these budgets, while policies designed to seduce international investors may cause resources to be allocated towards meeting the needs of the wealthy and the foreign. Chossudovsky (1998:302) notes that cutting expenditure on these services even impairs the collection of information on poverty. He provides an example of declining recorded infant mortality in sub-Saharan Africa in the face of closing health clinics and the laying off of health professionals.

Perhaps ironically then, calls for government action on poverty reduction such as those contained in the Copenhagen Declaration came at a time when it is also clear that the options for such action had become increasingly constrained. The influence that governments could bring to bear on the path of economic growth was eroded throughout the 1980s and 1990s. In particular, governments became less able to direct

the ways in which the distribution of the benefits of growth were allocated. Traditionally, resource limitations have been the constraint most often cited by governments. These include both the lack of financial resources as well as the institutional capacity with which to implement policy. While these remain important, global trends, macro-economic conditions and the changing institutional context are also believed to have closed off possibilities while narrowing the range of policy options open to governments. Opposition to 'Globalisation' thus became a rallying call for advocacy concerned with the plight of developing countries and continues to play a role in international negotiations.

However, it is noteworthy that throughout the 1990s the argument that economic growth will automatically resolve poverty was challenged from both the perspectives of neo-classical economics and political economy. Examples of the former include ul Haque (1994) and Goldsmith (1995) while a special edition of Third World Quarterly (1996, 17[4]) provides an edited volume with examples of the latter analysis. Dutt *et al.* (1994) provides useful empirical support from both perspectives while the events leading up to the preparation of the 2001 World Development Report show that the debate is far from being resolved (Dollar and Kraay, 2000; Kanbur and Lustig, 1999). Some economists argue that economic reform and fiscal prudence is not enough to achieve pro-poor growth. Sachs (2001) for example, sees four pillars to the escape from poverty, of which economic reform is only one. A second pillar is having a population that is healthy and educated enough to participate in the global economy. This is a big order given the need for several forms of literacy including computers and communications not to mention a high degree of economic literacy. Many poor countries face widespread disease (malaria, HIV/AIDS, tuberculosis and cholera to name a few), they have degraded tropical soils, or in the case of South Africa, soils degraded from policies of forced over-crowding into labour reserves, and they have a scarcity of clean water. Many believe that poor countries cannot clear these hurdles on their own and that budget support rather than project support is needed.

The third pillar identified by Sachs is technology. Despite the rhetoric of the 'market', developing countries spend substantial public funds on research and design. With their budget constraints, there is no way in which this can happen in poor countries in which universities and other research institutions remain critically short

of research capacity. Linked to technology is access to information at a cost affordable to the poor and in a medium accessible to the poor.

The fourth pillar is structural change. This does not refer to the structural adjustment promoted by the IMF and World Bank during the previous two decades, which many argue have contributed towards diminished capacity for governance and increasing poverty. Instead, in this context structural adjustment refers to policies that change the underlying structures that produce goods and services in an economy, and that distribute the benefits of this production. Examples might include export diversification, moving up value chains in which more processed goods are produced or identifying new sectors in which a competitive edge can be achieved.[13]

This is a question about the type of growth that is being pursued, identifying sectors and forms of production that have are likely to reduce poverty. The underlying rationale is to move away from a limited base of primary commodities, already shown to contain 'growth retarding', and 'poverty producing' tendencies, and gaining access to the markets of rich countries that are sheltered by tariffs. Equally important are mechanisms for avoiding, or at least managing, the destruction of local industries through imports from other poor countries, equally desperate to find markets in countries more open than Europe and the USA. Not mentioned by Sachs, but potentially a component of structural adjustment, is the possible need for considered policies that promote the redistribution of assets, whether land or access to finance, both of which have been important in South Africa.

Another pillar also not mentioned by Sachs is recognition of the historical slate. Many poor countries are plagued by the results of disastrous policies from previous regimes, often arising from the absence of democratic rule. The impact of 40 years of apartheid rule is an example; the impact of wars in many other parts of Africa is another. Decisions by governments too disempowered or disinterested to contest bad advice given by the international agencies, or by elites who stand to benefit might be a third example. However, a clean slate is obviously an unachievable requirement, and instead what is required is the recognition that the context within which policies are

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[13]/ Movement up a value chain implies that raw materials are further processed within the country and that higher value items are thus exported. This increases the jobs resulting from the production or extraction of raw materials. A South African example is the export of wood pulp rather than timber for paper production.

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expected to operate will vary from country to country, and will change over time. This is one of the reasons why generalised analyses such as the Dollar and Kraay study fail to provide sufficient information for policy development.

To fill this gap, microeconomic analysis, policy reforms and interventions will also be required if the poor are to improve their position. These would need to involve interventions that improve the access of the poor to productive assets such as land reform, infrastructure and financial services, as well as measures that reduce the costs of production, including transaction and information costs. To an extent some of these policies are already in place in South Africa. However, in the case of some, implementation has been slow (land reform) and for others, the benefits have largely been captured by the non-poor (privatisation). However, the development of such policies rests on an inadequate knowledge base. The linkages between macro-economic and micro-economic policies have received little attention globally while the real operation of markets remains another area in which insufficient information has been collected, while the determinants of the behaviour of poor producers and consumers are most often assumed without being empirically analysed.

From this discussion, it seems reasonable to conclude that the role of government in facilitating pro-poor growth is more complex than neo-liberal polemic would have us believe. Instead, the results of high economic growth and rapid reduction in poverty and inequality have been achieved through a combination of market-oriented and interventionist policies. It also does not seem evident that inequality will always have a neutral effect on poverty reduction outcomes from growth. In particular, inequalities in asset distribution have been found to be negatively related to poverty reduction. Of interest then is how states and markets operate to support or hinder pro-poor growth. This implies balancing the previous focus on macro-economic policy with appropriate micro-economic interventions that assist those at the bottom of the income distribution to derive greater benefit when using the assets that they do possess.

2.3.4 Microeconomic Policy, Markets and Poverty

The World Development Report produced in 1997 was an early acknowledgement by the World Bank that the previous over-emphasis on the market may have been

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inappropriate, and that there is a need for more effective state action if growth is to result in the reduction of poverty (World Bank, 1997a). Underlying this is recognition of the complexities involved in the relationship between macro-economic strategy and micro-economic conditions, especially those affecting the operation of markets. The change in emphasis can be seen in new approaches adopted by many other donors including the Sustainable Livelihoods (SL) framework used by DFID, UNDP and GTZ, each of which recognises that occasions may arise when policy reforms are required to modify the workings of markets. Indeed, second generation PRSPs show an increasing tendency to extend state intervention beyond simply the provision of basic social services and to include the regulation of markets.

There are many reasons why there seems to have been some shift away from the pure neo-liberal agendas of the early 1990s. Some of these come from economic theory which demonstrates that markets will only tend to work well when important institutions are in place. If these institutions were present, and if markets were perfect, it might be expected that poverty would be reduced in the manner anticipated in much of the foregoing discussion through the 'trickle-down' of the benefits of economic growth. Furthermore, it could also be expected that the rate at which both poverty and inequality could be reduced could be increased by policies that simply transfer assets, such as land or finance, from the wealthy to the poor. Beneficiaries would be able to buy in any complementary resources that they might need to make use of their new assets, including finance or insurance. This is the world anticipated by policies that propose reduced state intervention and reliance upon market forces.

However, unlike the abstract world of economic text books, empirical experience has shown that an unqualified belief in the market is misplaced in the real world and that there are many ways in which economic growth can be achieved. One source of concern can largely be ascribed to the absence of some markets, or the presence of distortions in the markets that do exist, some of which are inherent, others the result of previous polices. Views tend to converge on several sources of market failure that account for this and that might call for forms of state intervention. These reasons include the existence of externalities, the costs of technology development, the impact of risks and uncertainty, the 'thinness' or 'lumpiness' of certain markets and information asymmetries (Spence, 1976). Political economists also point to cronyism,

the ability of powerful interest groups to influence both government policy and markets, and the social, economic and political marginality of those who are poor (Bond, 2000; Krueger, 2002).

As a result, the rate of return that can be achieved from different assets by different activities has physical, institutional and political dimensions. While exchange activities, for example, have agro-climatic and technical determinants, the rate of return that is realised from these activities is also based on the rules that structure the markets in which these exchanges take place. The concept of 'real markets' is useful in this regard as a way of drawing attention to the specific set of power and institutional relationships which constitute real markets, as compared to the abstract notion of perfectly functioning markets (Harriss-White, 1990; Mackintosh, 1996). Furthermore, markets may also be missing, such as when financial markets do not extend to those without collateral, or when property markets do not exist under conditions of communal tenure in rural Africa, or when plots are simply occupied without being owned in shanty or informal settlements on the urban fringe. Markets may also be thin when there are few buyers or sellers, barriers to entry or low volumes. When distress sales of livestock take place in isolated areas, the absence of buyers results in low local prices. The same situation occurs when small-scale farmers attempt to sell surplus crops that are not consumed locally or when large numbers of informal sector hawkers attempt to sell the same products to low income consumers.

The rise of new institutional economics has supported views that economic exchange is not simply about anonymous markets but is a form of social and political interaction. As such, a variety of types of economic exchange are recognised, which are shaped by, or embedded in, social and cultural variables such as institutions of kinship, social stratification and organisational form. Karl Polanyi distinguished a typology of three types of economic exchange: reciprocal, redistributive and market. While, Polanyi argued that only the last was not embedded in social-structural or cultural-structural relationships (Polanyi, 1944: 57), Granovetter (1985) and more recently Barber (1995) contend that all forms of economic behaviour are embedded in social structure, although they differ on the exact nature of this structure. At issue is the extent to which the partners in a form of exchange are free to operate as *homo economicus*: "...economising, rationalising individuals, considering only price, not

other obligations, buying cheap and selling dear, treating all buyers and sellers impersonally, equally and honestly" (Barber, 1995: 398). For Granovetter, social structure appears to be limited to networks of interpersonal exchange, whereas Barber is concerned with wider structures of kinship, stratification, gender and class. Indeed, Barber goes further, and holds out the social embeddedness of economic action as a way of meeting the challenge of what he refers to as the "absolutisation of the market" (Barber, 1995:388). Finally, the embeddedness of economic activities is recognised as carrying costs, which vary as development proceeds, and which may offset, or change the distribution of the benefits of economic exchange.

Gore (1993:433) points out that the rules affecting these interactions are determined in a number of different ways requiring that household and individuals enter into different processes and procedures of claiming. Some of these claiming systems can be legally enforced and are backed by the power of the state. Others are backed by 'moral' rules, and are largely found within domestic units, kinship structures and neighbourhoods. Thus, while the claims that the household is entitled to make are largely determined by formal rules concerning claims made for work, on the state for welfare, or through the sale of produce and petty commodities, there is a 'division of entitlement' within the household which determines the allocation accruing to individual members. These are largely based upon social conventions, and negotiations/struggles that occur within the household. Examples of these social conventions would be those governing the rights of migrant members of the family to share in peasant production, and the reciprocal claims of household members on the migrant's wage. Two distinct sets of claiming system can therefore be identified: those in which the state plays a determinant role, and those in which the state is unable to play a direct role. Gore (1993) refers to these as the governmental and non-governmental sites of rule making and rule enforcing.

These arguments have close parallels in the earlier work of Rein (1983) who used a wider conceptualisation of claims whereby individuals assemble a package of income through their effective claiming from a range of sources, including from markets. The state, private sector and domestic group are identified as the major institutions against which claims can be made. Rein emphasises that this claiming is an active and strategic process by which individuals demand, extract, request or enforce their bids

for resources, operating as individuals, households and in wider groupings such as community associations, trade unions and pressure groups. In this way, claims become another type of asset used by households to ensure their food security (Swift, 1989).

In addition, Rein stresses that the process of claim packaging is linked to the dynamic and fluid nature of household composition. This is particularly important in view of debate over the permeability of household boundaries, power relations within the household and the allocation of labour by the household (Ginwala *et al.*, 1991; Kabeer, 1991; Guyer and Peters, 1987). In essence, these writers argue that negotiations and conflict integrally affect individual claims on income over the assets that exist within the household. Clearly, there will be trade-offs between the possible activities that can be engaged upon, both in terms of the activities themselves, as well as between the interests of the members of the household itself. Put differently, these activities constitute the livelihood strategy of the household, which is an outcome of decisions and conflict over the use of the household's assets. The strategy that results may well benefit some members of the household at the cost of others. Furthermore, like any strategy, its composition and success will be determined by the constraints and opportunities that are available to the household as a whole and to the individual members.

As a further complication, an individual's position outside the household can affect the division of entitlement within the household due to the increased power that person has in negotiating intra-household distribution. An example would be the greater say that an employed woman might enjoy over the returns from the use of household assets. Feminist analysts have also pointed out that the power of the individuals within the household is affected by state enforced legal rules which authorise particular patterns of power relationships within the household. An example of this is legislation that assumes that the household head and principal breadwinner is male and that assets such as land are owned or controlled by a male head, or legalisation that requires that the head of household, usually male, can enter into contracts, such as for the sale of crops or to access credit (Guyer and Peters, 1987; Haddad, 1995; Kabeer, 1991).

A conclusion that seems to follow from this discussion is that poverty measurement

itself would be better thought of in terms of access to assets and (real) markets rather than simply access to income. This is not a new idea. Writing in the mid 1980s, Townsend (1985: 661) recommends the use of total resources, meaning an income equivalent of wealth and income in kind, as a measure of deprivation. Indeed, Zimmerman and Carter (1996) suggest that a dynamic asset poverty line may be identified which they term the "Micawber Threshold". This divides those able to engage in a virtuous Victorian circle of accumulation from those who cannot. Named after David Micawber of Charles Dickens' *David Copperfield* who encouraged young lads to sacrifice and accumulate, Zimmerman and Carter (1996) use this threshold to evoke the idea that there may be types and depths of poverty from which not even a forward looking willingness to sacrifice and save can eradicate.

Certainly, empirical evidence supports these arguments and in many countries throughout the world, governments have adopted policies that systematically distorted almost every economic market and social institution: apartheid in South Africa being an extreme example of these. In these circumstances, sanguine assumptions about the impact of economic growth on poverty, even if supported by redistributive strategies, seem at best heroic. Instead, research suggests that the majority of the poor face markets that are thin or missing. Moreover, in virtually all economies, it can be argued that many markets remain strongly influenced by existing positions of power and influence in the institutions through which they operate, as well as by the differential access of the various users to information concerning these markets.[14] Indeed, in many instances, the poor have not benefited from market-oriented macroeconomic policy reforms because the underlying institutional context has remained the same. Only the last half of the 1990s has mainstream development analysis begun to focus more seriously on the impact of inadequate or asymmetric information as a hindrance to development.

2.4 CONCLUSION

Recent policy thinking has begun to recognise that even when the macroeconomic conditions may appear to exist for efficient markets, underlying microeconomic conditions may mean that the operation of markets is not neutral. Strengthening the

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[14]/ Internationally see Carter and Zegarra (1995). In South Africa, see May *et al.* (1995); May and Amin (1995) and Vaughan and Xaba (1996).

abilities of poor people to fight poverty by building their assets has been argued to be one way of responding to these considerations when developing pro-poor growth strategy. This requires that an incentive structure be put in place fostered by macroeconomic policy that increases the flow of resources to the poor in order to enhance and protect their access and use of economic assets such as land, credit, and housing. Health services and educational opportunities are complementary actions that build human capital. In addition, the racial, gender, spatial and other inequities inherent within society need to be understood so that policies at least do not exacerbate or perpetuate them. Finally, effective policies, institutions and processes need to be adopted that are responsive to the situation, activities and requirements of the poor.

Of particular relevance for this thesis is the increasing recognition that poverty cannot be solved by macro-economic policies alone, at times from surprising quarters (Manuel, 2003; Williamson, 2003). Instead, poverty reduction requires both institutional development to support governance and micro-economic policies to improve the benefits that the poor derive from their assets and enterprise. Related to this, the increasing recognition that poverty is a not a static condition among individuals, households or communities, and instead, poverty varies in space and time in terms of its conditions, effects and causes lends support to the need for more nuances and tailor-made policies. Poverty should also therefore be expressed in terms of the relative difference between groupings of people under different economic and political regimes. How poor people engage with complex markets, how assets are used and how assets are accumulated are the themes to be analysed in the remainder of this thesis.

CHAPTER THREE
MEASUREMENT AND BEYOND: FINDING A DYNAMIC ALTERNATIVE

*I do not have a house. I do not have strength. I do not have a husband at home.
I like to farm but I do not have power to plough with a tractor or buy fertiliser,
because I do not work.* (Mrs. H. Sikhakhane: participant in the SA-PPA)

3.1 INTRODUCTION

A dynamic analysis of poverty brings additional problems and topics for investigation
to those described in the previous chapter. This chapter will return to the theme of
persistent poverty raised in Chapter One. The chapter will note that the conventional
approach such as that just reviewed relies on a conceptualisation of poverty that is
essentially static in nature. However, persistent poverty requires an analytical
framework that reveals the underlying dynamics of poverty and the chapter will
review Amartya Sen's entitlements approach to the analysis of poverty, drawing out
the notions of 'assets and livelihoods' as a dynamic approach to the analysis of
poverty that persists. Elsewhere this form of poverty has been described as chronic
poverty, a terminology that this thesis will adopt for those who remain poor over time.

Alternative approaches to measuring poverty are then discussed. Money-metric and
threshold measurement is compared to ill-being/well-being measures, with poverty
lines falling into the former group, while basic needs and human development indices
are seen to fall into the latter group. Finally, the chapter goes on to outline the
possible causes of the persistence of poverty and discusses poverty traps. Two groups
are important to this analysis, those that are permanently poor and those that slip into
and out of poverty. The chapter concludes by providing an analytical framework for
the thesis based on assets, livelihoods and vulnerability and re-examines previous
attempts to differentiate the poor population of South Africa.

3.2 POVERTY AND POVERTY THAT PERSISTS

3.2.1 Defining Poverty

Despite the billion or more people still living in poverty described in Chapter Two,
and the renewed attention on poverty reduction, the definition of poverty remains the
subject of debate amongst policy analysts. In a review of more than 40 national

poverty studies a pragmatic mix of three approaches were found to be commonly used when trying to operationalise poverty definitions (May, 2001). Firstly poverty conceptualised as the inability to attain an absolute minimum standard of living reflected by a quantifiable and absolute indicator applied to a constant threshold such as a minimum income line that separates the poor from the non-poor. By necessity, measurement is quantitative relying upon surveys of income and consumption, and the threshold used is most often related to those used for international comparison, such as $1-per-day or $2-per-day corrected for Purchasing Power Parity (PPP) in some way.

Poverty may also be conceptualised as being the lack of resources with which to attain a socially acceptable quality of life. This approach places emphasis on a relative indicator which would vary according to the standards of the society being measured, and may also take into account distributional issues. A minimum amount, such as a national poverty line may be used, but unlike a $1-per-day, this is usually adjusted to take into account changing needs, preferences and national standards of living. Measurement is usually quantitative, although frequently subjective or qualitative approaches may play a role in setting definitions and standards.

Finally, poverty may be conceptualised as being constrained choices, unfulfilled capabilities and exclusion. Measurement is recognised as being complex and, as yet, there is no generally accepted approach being used although institutions such as the UNDP have begun to explore alternative methodologies. Qualitative and participatory research techniques frequently play a central role but, as yet, there is no agreed approach to determining a measurable threshold.

Relative poverty has sometimes been related to the distribution of income or wealth and thus as being equivalent to inequality while the absolute definition of poverty sees some scientifically determined minimum required for human survival. In the case of the first approach, the poverty of an individual is thus relative to the well-being enjoyed by others, while in the case of the second, poverty has a universal form that holds across time and space.

However, in their debate over absolutist and relativist approaches to defining poverty, both Townsend (1985) and Sen (1985) adopt a more nuanced approach and place

emphasis more usefully on the dynamics of poverty and wealth and the social determination of deprivation. Thus Townsend (1985: 659) stresses that the necessities of life vary over time and space, they are adapted as changes occur in society and in the products of society. Commodities required by people are thus relative in the sense that changes in institutions, technology and social structure are all influences upon the relationship between needs and resources. Thus poverty lines should not simply be updated by price changes, but also in terms of what is included in the bundle of goods that make up the poverty line. What constitutes well-being in one time period, or in a country, may not be sufficient in another context. This is agreed to by Sen who states that the issue of absolute deprivation is not fixed by comparisons made with others who may be more or less deprived, but rather by capabilities which refer to what a person can or cannot do or be. As Townsend wrote:

> ...poverty can be defined objectively and applied consistently only in terms of relative deprivation. Individuals, families and groups can be said to be in poverty when they lack the resources to obtain the types of diet, participate in the activities and have living conditions and amenities which are customary, or at least widely encouraged or approved in the societies to which they belong. Their resources are so seriously below those commanded by the average individual or family that they are, in effect, excluded from ordinary living patterns, customs and activities (1979:31).

Over time then, this social construction of need suggests that social norms and values determine what goods and services constitute essential needs while at the same time, social structures determine the allocation of the resources with which these needs are met. Relative poverty in this sense is not about comparison with others in a society, but is rather comparison with what is socially and culturally accepted or required in a particular society at a particular point in time. Being relatively poor compared to others in a community may have some bearing on capabilities if this translates into an inability to meet the accepted norms of that community (such as participation in feasts or religious events). The issue here is not being less able to perform these activities than others, but instead whether these obligations/standards can be met or not. As will be discussed in more detail in Chapter Four and in the Appendix, this approach is adopted by this thesis.

3.2.2 New Directions: Entitlements and Exclusion

Although a fuller discussion of Sen's seminal analysis of the underlying causes of the

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Bengal Famine of 1943, and the subsequent book co-written with Jean Dreze, (Sen, 1977, 1981; 1985; Dreze and Sen, 1989) will follow, it is useful to introduce this notion at this point. Sen's work stresses the relationship of people to the resources that they have and the commodities that they require in meeting their basic sustenance requirements. In the terminology of the entitlement approach, 'ownership endowments' (land, labour, products, welfare rights) are exchanged for 'commodity bundles' (food, services, facilities) through a process of 'exchange entitlement mappings' (the labour and other markets, bureaucratic processes). A person's advantage in the framework is judged by their capabilities, that is to say, what they can or cannot do, or can or cannot be (Sen, 1985:670; Clark, 2005). The resources that are required to achieve some minimum level of capability may vary over time and by community.[15] Entitlements failure results when the commodities bundles that are exchanged for endowments fall short of what is required to achieve the set of desired capabilities. While debated, a minimum set is not identified by Sen, although several writers have put forward some options (Clark, 2003; Nussbaum, 1995; Rawls, 1988; Saith, 2001a).

In many studies based on the perceptions of the poor, in addition to physical attributes such as health and senses; mental attributes such as skills and imagination; and social aspects of poverty include alienation from community and kin and a sense of powerlessness. This view has some parallel with the concept of social exclusion that has been the subject of debate concerning poverty in Europe. In this analysis, social exclusion is seen to focus "primarily on relational issues (such as) the lack of social ties to the family, friends, local community, state services and institutions or more generally to the society to which an individual belongs" (Bhalla and Lapeyre, 1997:417; Saith, 2001b). Townsend (1985:665) talks of social needs such as being able/unable to fulfil the roles of parent, kin, citizen, neighbour and so forth. As Townsend argues, the poor not only consume less, but also change their behaviour

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[15]/ While Sen's work has been enthusiastically adopted by many analysts of poverty, Gasper (1993) cautions that usage of the entitlements approach can lead to the mutation of the original terminology used by Sen. As a result, entitlements theory is not only used to analyse hunger and absolute poverty, but is extended to analyse entire patterns of resource distribution, power and environmental impact. While these are critical issues requiring analysis, the entitlements approach is not necessarily the most appropriate for these tasks and can lead to analyses that are confusing and even misleading (Longhurst, 1994:17). Nonetheless, on balance, as Devereux (2001) concludes, Sen's conceptualisation of poverty has enormously advanced the debate.

(Townsend, 1985:662). Being ashamed to appear in public and not being able to participate in the activities of the community are also noted by Sen as being aspects of deprivation (Sen, 1985:169, 161). In this way, exclusion may be posed as being the opposite of social integration.

The concept has both economic and social dimensions. While the economic dimension refers to exclusion from the opportunities to earn income, the labour market and the access to assets, the social dimension refers to participation in decision making, access to social services and access to community and family support (Figuaroa, 2001). At one level then, social exclusion can refer to the exclusion to the rights of citizenship, while at another the concept refers to relationships within families and communities. The usefulness of the concept is the support that it lends to the importance of social relationships in resource allocation. Social exclusion may thus be linked to the existence of discriminationary forces, such as racism, and the outcome of market failures and unenforced rights. Alternatively, it could be argued that exclusion is a consequence of hierarchical power relations, in which group distinctions and inequality overlap (de Haan, 1998:13).

Recent attempts to take the views of those who are poor into account have added support to the criticisms of a universal approach to conceptualising poverty. This type of research, usually termed participatory appraisals, starts with the premise that understanding the lived experience of poverty is an essential element to formulating policy that deals with the dynamics and persistence of poverty.[16] In policy analysis and social research, the non-poor usually construct definitions of poverty. As Chambers has noted these definitions show a bias to what is measurable, comparable, and conforms to the concepts and realities of professionals from dominant disciplines and regions of the world (Chambers, 1993:7-8.). In the process, the multi-faceted experience of the rural and urban poor is reduced to measures based purely on constructs of household-level income and consumption: what Chambers terms 'income-poverty'

All of these approaches have merits: some are easier to calculate and to interpret,

while others draw out the links between economic growth, social structure and human well-being. Rather than seeing these as competing methodologies, it is generally accepted that the different approaches reflect the multidimensional nature of poverty and should be used in combination. Thus a consensus on the definition and measurement of poverty has been suggested, the components of which include:

- Recognition that for policy purposes, poverty may be defined as private consumption that falls below a defined minimum level;

- Recognition that low levels of capabilities (such as literacy and life expectancy) are major components of poverty, but that these are best measured separately rather than amalgamated with consumption measures; and finally,

- Recognition that the lack of consumption is better measured than lack of income (Lipton, 1997).

From this, it is evident that analyses that require quantification or a numeric measurement tend to prefer a money-metric and absolute approach to the measurement of poverty as a means of operationalising poverty comparisons. This accepts that money is commonly, but not always, the means of indirectly translating inputs into human development. Money is seen as the means of purchasing some of the direct means to well-being, such as food, clothing and shelter, and a threshold amount can be estimated that serves as a poverty line separating the poor from the non-poor. Analyses that look at other dimensions of poverty and are concerned with issues of causation and consequence are less concerned with money-metric measurement and may use qualitative or participatory methodologies in combination with more quantitative approaches. Most poverty profiles being developed for the PRSPs discussed in Chapter Two, as well as in many other policy strategy documents, have taken an eclectic approach, and combine a variety of definitions and measurement methodologies.

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[16]/ Participatory appraisals usually make use of a suite of data collection and data sharing tools variously referred to as Participatory Rural Appraisal, Participatory Rapid Appraisal and Participatory Learning Appraisal (PRA or PLA).

3.2.3 Underdevelopment and Poverty Production

However, although competing conceptualisations might be accommodated in an the eclectic approaches necessary for policy analysis, it is less easy to achieve this when attention is switched to the causes of poverty. While Amartya Sen's view of entitlement failure, to be discussed in more detail later, may provide part of the answer, not all causes of poverty are as benign. In addition, as Bracking (2003) points out, in many contexts apparent exclusion may actually signal inclusion on adverse or prejudicial terms, an idea supported by du Toit's ethnographic study of farm-workers in the Western Cape province of South Africa (du Toit, 2004). Certainly for a thesis examining poverty in South Africa, the notion of underdevelopment and of poverty production cannot be avoided. In a well known statement Andre Gunder Frank, an early theorist of underdevelopment, argued that "...economic development and underdevelopment are the opposite faces of the same coin" (Frank, 1969:9). He went on to describe underdevelopment as an interlocking and exploitative relationship that extends capitalist exchange into the periphery, placing emphasis on unequal exchange. This argument was later critiqued by Marxist and post-Marxist theorists such as Laclau (1971), Amin, (1976) and Wallestein (1976) who argued for more nuanced views of articulation between capitalist and non-capitalist conditions and relations of production and in some cases called for 'de-linking' from capitalist economies as the solution.

Both underdevelopment and its subsequent critique provide support for the need to examine poverty production. As Øyen has argued, it is the 'intentionality' of poverty production that is central to the concept (Øyen, 2002: 5). Whether intentionality can easily be ascribed to 'systems, patterns, networks, discourses' is then an important question. The definition of poverty production as "...the process by which individuals with identifiable actions directly or through participation in institutional practice or other patterns of behaviour increase individual or aggregate poverty" offers a clue as to how the link between the production of poverty and social and economic systems can be researched.

The definition of poverty that is used is important if this link is to be properly understood. If poverty is simply some absolute threshold, then poverty production

would be the forces that push people below this threshold, or that trap those that are already below. It is conceivable that poverty production occurs when these actions permit some who are poor to escape while others remain trapped, or when some who were non-poor are pushed below the threshold. If poverty is a relative threshold, then it is conceivable that actions that expand what society deems to be a minimum level of well-being, but which do not expand the ability of those without resources to attain this level, might also be thought of as being poverty production. This links poverty to notions of persistence or of being, becoming or remaining capability poor.[17]

This idea has a particular resonance in the South African context in which both the colonial and apartheid policies have been analysed as leading to the systemic under-development of the African population in order to foster higher levels of accumulation among the white population. Underdevelopment as an explanation of persistent poverty arose from perspectives that argued that either through imperialism, or through relationships of unequal power, extractive relationships evolved between the core economies and those on the periphery. This argument regards under-development and un-development as being different. While un-development was at worst the benign neglect of certain regions or groups, underdevelopment referred to a situation in which assets and resources are being used, but in a way that is structurally not to the benefit of the poor or, indeed, is to their detriment. In South Africa these notions of destruction, subsumption and extraction have been applied to the analysis of the relationship that existed between the white controlled agro-industrial complex at the core, and the agricultural and trading activities undertaken by the black population on the periphery, especially those living in the former 'Homeland' areas (Bundy, 1972; Wolpe, 1972).[18]

Thus for South Africa, examples of poverty production might be the asset stripping of apartheid era policies, factor markets that favour those with resources at the cost of those that are poor, actions that undermine the assets of those that are poor such as

[17] Although it is recognised that poverty production may also related to non-economic dimensions of being poor, such exclusion, disempowerment and further marginalisation, the focus of this proposal is on factors that produce economic poverty viewed within a capabilities perspective.
[18] The terminology is deliberate: Homeland is taken to refer to the eleven geographic areas set aside for African residence by the Apartheid government. 'Bantustans' refer to the political structures that administered these areas, some of which were given nominal independence. After 1994 these areas were merged into the provincial structures of South Africa.

their health or the value attached to their knowledge or human capital. It might be also argued that macro-economic policies that provide opportunities for the non-poor while cutting off opportunities for the poor could be cast as poverty production.

3.2.4 Chronic Poverty

A response to the problems encountered with conventional approaches to poverty and the importance of taking account of the underlying causes of poverty including poverty reduction, is one that recognises the time dimension of poverty. Research using longitudinal data has shown that although some individuals or households are permanently poor, others move into and out of poverty (Lipton and Maxwell, 1992:10, Baulch and Hodinott, 2000; articles in a special edition of World Development, 2003 especially the conceptual framework provided by Hulme and Shepherd, 2003). At a general level, uncontrollable shocks that harm livelihood and food security can be distinguished from long term trends that may undermine livelihood and food security. Examples of the former include drought, war, death of a breadwinner, ill health and theft. Examples of the latter include life-cycle changes, racial and gender discrimination, environmental degradation and macro-economic trends. The result of the dynamics is that poverty persists despite the passage of time during which it might have been anticipated that those who were initially poor might have had the opportunity to accumulate and progress.

In his earlier work Sen (1983) made mention of the difference between those who are achieving relatively less than others, or as opposed to those that are achieving absolutely less because they are falling behind others. In the more colourful language of Zimmerman and Carter (1996) already mentioned, the 'Micawber Threshold' is a dynamic asset poverty line. This growing interest in poverty that persists represents a potentially important departure, moving away from the measurement of static poverty towards a concern with reasons for persistence of poverty and socio-economic mobility.

This form of poverty is increasing being referred to as 'chronic poverty' which may be thought of as referring to those who are trapped in deprivation, unable to progress from this situation over time, lacking the assets, skills or social networks to take up new opportunities being offered as a result of expanded economic output or

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government intervention (CPRC, 2004). This will be the terminology adopted and expanded by this thesis later in this chapter and in Chapter Six.

As yet there is no consensus over the best way of identifying and analysing chronic poverty, with some researchers resorting to costly-to-collect panel data and others adapting a poverty threshold to reflect some category of ultra-poor, usually by halving the poverty line (*cf.* Baulch and Hodinott, 2000 for a review). In both cases, the assumption is that a poverty threshold exists below which people are unable to accumulate and thus can never expect to escape poverty, and that poverty of this kind is inter-generational, passing from parents to their children.

3.3 MEASURING POVERTY

Actually measuring these alternative notions of poverty can also be approached in different ways. This section reviews the various approaches commonly used actually to measure poverty. The section considers both money-metric based measurements as well as outcome-based measures. In particular, the alternative formulations of composite indicators are examined.

3.3.1 Income, Expenditure or Consumption and the Poverty Line

Money-metric approaches to poverty typically make use of household income, expenditure or consumption over a reference period. While income refers to the flows of money into the household from wages, grants, retained profits and received remittances, some of which may have to be imputed, household expenditure refers the flows of money from the household as purchases of food and non-food items, transmitted remittances and savings. Consumption is somewhat more restricted and usually limits food items to those actually used over a reference period. A consumption approach has been used in the analysis reported in this thesis.

As already discussed, the poverty lines applied to this money-metric indicator can be relative, absolute or some combination of the two. Relative poverty lines can be developed based on a percentage cut-off point in the welfare distribution, below which some proportion of the population is located. This might be the income below which the bottom 40 percent of the population is located or calculated as some

percentage of median income. As noted earlier, poverty in this sense is conflated with inequality, and, as a result, it is difficult to identify changes in poverty over time and space. Determining the actual cut-off point is also a somewhat arbitrary decision and, for these reasons, this approach to the development of a relative poverty line is not developed further in this thesis.

Analyses that require quantification or a numeric measurement as a means of operationalising poverty comparisons tend to prefer a money-metric approach to the measurement of poverty, whether absolute or relative. One of the most common definitions of deprivation is the inadequate command over commodities, proxied by consumption, expenditure or income (Lipton, 1997:1003). Money is commonly, although not always, the means of translating inputs into human development. It is the means of purchasing some of the direct means to well-being, such as food, clothing and shelter, money metric poverty lines frequently define the minimum level of consumption required and individuals or households falling below the threshold are considered poor. Indeed, some argue that consensus appears to have been reached that the most reliable indicator of well-being is private consumption, scaled according to adult equivalence, perhaps adjusted for household economies of scale, and summed to the household as the unit of analysis, then calculated as a ratio of the threshold income required to purchase some minimum basket of goods.

In the past, the World Bank promoted the notion of "$1-a-day" as an international threshold intended for comparisons to be made across countries which can be adjusted for Purchasing Power Prices (PPP). The critique of the "$1-a-day" poverty line already mentioned argues that the measure is inherently flawed and likely to have distorted global poverty estimates (Reddy and Pogge, 2003). Among other concerns, their contention is that the selection of commodities in the basket are not grounded in a meaningful definition of poverty, nor are the purchasing power factors employed adequately and matched according to national currency equivalents. Chossudovsky (1998) vigorously criticises this norm noting that it departs from the notion of a threshold income, does not take account of actual living standards or requirements, and conceals double standards in the measurement of poverty whereby different standards for poverty lines are applied to developed countries and developing countries. As Chossudovsky (1998), Reddy and Pogge (2003) and others have

forcibly argued, this notion of a universally applicable measurement of poverty continues to be widely used and risks both under-stating the severity of poverty and of misrepresenting trends.

Several attempts have been made to respond to this challenge, and a promising direction is suggested by Jean Olsen Lanjouw's excellent review article (Lanjouw, 2001). Lanjouw presents an approach which she describes as an absolute poverty line. The methodology derived from Ravallion (1994) involves scaling up a food poverty line for non-food purchases using observed consumption patterns. Two ways of doing this are discussed: an approach described as traditional in which the total expenditure of those households whose food expenditure is equal to the food poverty line is taken to be the poverty threshold, or an austere approach of taking the non-food expenditure of households, whose total expenditure is equal to the food poverty line and adding this to the food poverty line to form the poverty threshold. The implication is that the non-food items that are purchased are believed to be sufficiently important to the household that they are willing to relinquish food, or to further scrimp on their preferred food consumption on order to obtain these items (Lanjouw, 2001: 8-10).

Lanjouw depicts this in Figure 3.1 in which adding the distance between the food poverty line, z, and the food expenditure of households who total expenditure is z, (a), results in the austere poverty line.

Figure 3.1: Scaling up the Food Poverty Line
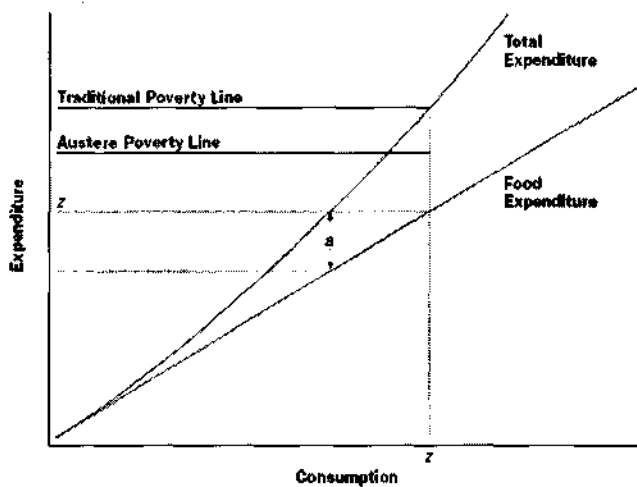
However, as May and Roberts (2005: 484) point out, whichever method is adopted, this introduces a relational notion into the poverty line since non-food purchases are likely to reflect society-wide preferences. Thus, a general improvement in the well-being of society may, in time, mean that items previously considered as being luxuries eventually come to be regarded as necessities, worthy of sacrifice in order to obtain. In this sense, this poverty line becomes a relative line as captured by the debate between Sen and Townsend. This expenditure will then vary between countries, over time, may be more or less minimalist in what is included as being essential and affected by issues such as tastes and cultural norms.

Despite their advantages, one-dimensional indicators of poverty such as those implied by a money-metric approach may not adequately address the complexity of poverty. As an example, it is quite possible to have a large monetary income but have no access to education, potable water or adequate health care. Household income or expenditure only adequately reflect individual material well-being if the household has access to a market at which it can purchase all goods at given prices, and although consumption can take account of home produced items and gifts, this is still confined to food needs only (see the discussion in Ravallion, 1995). Many aspects of well-being are not acquired through market transactions, especially in developing countries, and as such, deprivation in these aspects will not be accounted for. Examples include safety, environmental conditions and resouces obtained from common property. The importance of gifts and charity as a way of survival is another aspect of such support. Moreover, some goods, like safe and available water, sanitation and safety are indivisible and have public good components that make it impossible for a single household to marginally purchase more of such goods. Who controls the income is another concern relating to intra-household distribution and power relations. Women in an apparently well-off household may not have an equal share in the households resources, as might be the case with fostered or step-children.

3.3.2 Non Money-metric Approaches

Sen (1992) and the UNDP (1990) have rejected a money-metric approach to the conceptualisation and measurement of poverty as being unreliable. This they argue is

because well-being is better thought of in terms of people's ability to realise their full human capabilities over time. This view accepts that for development to occur, economic growth should not be seen as an end in itself, and emphasises that growth is the means by which the capabilities of people can be improved, and thereby the choices open to them can be enlarged (UNDP, 1990:109).

As one way of measuring outcomes, the United Nations Development Programme (UNDP) has constructed the **Human Development Index (HDI)**, a composite index mentioned in Chapter Two that is based on social indicators.[19] The index claims to measure the outcomes of development (health, knowledge and expanded choice) rather than inputs (health services, schools and income). In developing the HDI, the UNDP followed the principle that the goal of development should be to enable people to live long, informed and comfortable lives. The HDI was devised to determine how nations compare when these factors are taken into consideration. The index is thus a composite of three factors: longevity (as measured by life expectancy at birth); educational attainment (as measured by a combination of adult literacy and enrolment rates); and standard of living (as measured by real GDP per capita). The HDI indicates the relative position of a country (or region or group) on an HDI scale between 0 and 1. Countries with an HDI below 0.5 are considered to have a low level of human development, those with an HDI between 0.5 and 0.8 a medium level and those of 0.8 and above a high level of human development.

In attempt to operationalise Sen's notions of capabilities, the Human Development Report of 1996, introduced a Capability Poverty Measure (UNDP, 1996). The measure was an arithmetic mean of three non-income 'capability' indicators: the proportion of children under five who are underweight; the proportion of births unattended by trained health personnel and female illiteracy. Blotvinik (2001: 15) argues that these indicators are not easily distinguishable from classic basic needs indicators and suggests that this reflects the difficulties of implementing Sen's approach.

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[19] As already mentioned, the HDI has both its champions and its critics. Its multi-dimensional nature makes it intuitively appealing, and it is certainly a useful way of highlighting the disparities that exist between countries, geographical areas or groups. Others, however, have criticised the HDI for its (of necessity) arbitrary choice of indicators, weights, and implicit trade-offs (Ravallion, 1997a).

The Human Poverty Index (HPI) was presented in the Human Development Report 1997 as re-conceptualisation of the Capability Poverty Measure and uses a similar approach to measure deprivation in basic human development. The variables used are the percentage of people expected to die before age 40, the percentage of adults who are illiterate, and overall economic provisioning in terms of the percentage of people without access to health services and safe water and the percentage of under-weight children under five (UNDP, 1997).

A related approach uses assets as a way of determining capabilities. Indeed, the idea that poverty is better measured in terms of access to resources than simply using income is not new. Indeed, writing in 1985, Townsend (1985:661) recommends the use of total resources, meaning an income equivalent of wealth and income in kind, as a measure of deprivation. This notion is central to this thesis and will be returned to later in this chapter and in Chapter Six.

Finally poverty measurement can also be undertaken by directly asking respondents about their perceptions of what constitutes an acceptable standard of living and building these into the definition of the threshold income.[20] This 'subjective' approach has also been termed a social mode of analysis and has been largely operationalised through Participatory Poverty Assessments (PPA).[21] Specifically, the iterative and flexible mode of enquiry involved is particularly suited to highlighting the historical and process dimensions of poverty. Such rapid appraisal methodologies using participatory techniques are argued to lead to the timely delivery of information on the complex realities of the poor and local solutions for the reduction of poverty. When these are used by organisations with on-going relationships and capacity on the ground, this can also lead to local action.

The approach draws on various traditions of research including applied anthropology, Rapid Rural Appraisal, agro-ecosystems analysis and most recently Participatory Rural or Learning Appraisal (PRA/PLA). Although the origins of the methodology

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[20]/ See Hagenaars and de Vos (1988) for a discussion of this approach and Pradhan and Ravallion (2000) for an application.

[21]/ PPAs have been carried out in connection with World Bank country Poverty Assessment exercises in a number of countries including South Africa. For further information see Norton and Stephens (1995). Narayan (2000) provides a useful summary of the results of the many PPAs eventually undertaken.

are predominantly rural, and generally related to participatory planning of natural resource management, they are increasingly used in a variety of contexts, including urban research and poverty research. Much of the early development of these approaches took place within a context of participatory community development rather than policy research, and was carried out by NGOs in Africa and South Asia.

PPA methodologies claim to use local people as analysts rather than informants while those who are outsiders, the researchers, act as facilitators. Their role is that of stimulating examination of issues by local research participants, while striving to avoid adopting a dominant mode in behaviour or attitudes. Group contexts for research are used, often differentiated according to different social categories (women, men, elders and so forth). This frequently requires the visual sharing of information using maps, institutional diagrams, causal flow diagrams, seasonality diagrams and matrices.[22]

PPA is said to empower marginalised communities and groups by encouraging them to analyse local conditions, giving them confidence to assert their priorities, to present proposals, to make demands and to take action. PPA is also held to enable the expression and integration of local social diversity in otherwise standard programmes and to pursue community-based processes for development, including appraisal, planning, implementation, monitoring and evaluation. This takes place through the identification of local priorities for research and by encouraging organisational changes. PPA is said to assist with policy review, both within organisations and governments, through new, timely, and more accurate insights from field-level discussions and planning (Guijt and Cornwall, 1995:2). Certainly, an approach based specifically on the perceptions, experiences and aspirations of the poor can complement more conventional research to deal with some of the problems associated with objective measurements of poverty.

3.3.3 Problems with Poverty Measurement

Whichever approach is adopted, the measurement of poverty faces a number of important conceptual difficulties. While many of the measures discussed above refer

to the poverty of a household as a bonded unit, the concept of the household itself is contentious, and although the household remains the unit of analysis for this thesis, some discussion of the problems is essential. The boundaries of the household, the division of power within the household, and the division of labour within the household and the dynamic nature of households are all issues about which potentially reductionist assumptions have been made.

This confusion of the nature of the household has led to misleading conclusions regarding the vulnerability of poor households and their members. As an example, the popular use of the household as the standard unit of analysis in surveys has led to a perhaps unwarranted attention on female headed households, being a readily identifiable means of introducing gender into analysis. However, this distracts attention away from the circumstances of the majority of women in rural areas who live in household in which a male is the *de jure* head (Russell, 1993:760). Moreover, while the orthodox notion of the household assumes a household structure that is applied consistently in all places and at all times, empirical studies would suggest otherwise, and the structure and dynamics of households and intra and extra-household capabilities have been found to be more diverse and complex. Indeed, for some analysts such as Strauss (1986:298), household size and composition may be thought of as endogenous and as an institutional response to a set of missing land, credit and information markets. Members of the household are linked by ties that add trust and accountability to economic relations and help overcome fears of moral hazard in common cropping and stocking activities. In the context of South Africa, others have raised similar concerns in respect of the formation and splitting off of new households being an endogenous process (Case and Deaton; 1998, Klasen and Woolard, 2001). This has been observed earlier and elsewhere, and Knight (1980) and more recently Crehan (1992) suggest that households may vary in terms of composition due to economic hardship. Households often need to reduce their number of dependants because they cannot be supported, leading to a mobility of residence. Spiegel (1987), Sharp and Spiegel (1985) and Ardington (1988) provide evidence of this in South Africa and show that if the source of income is lost, individuals may disperse to join households that do have an income. Similarly, when a new source of

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[22]/ For a fuller discussion of the background and practice of PRA see Chambers (1994a, 1994b, 1994c).

income is accessed, individuals may break away from households to establish their own household (Ardington, 1988). These moves that are made in search of income are not confined to rural areas only and similar processes have been found in dense informal settlements (Annecke, 1993; Ross, 1995).

In support of this, feminist researchers have shown the household to be a complex and dynamic concept, with boundaries that are constantly shifting and that it is also not a bounded entity in terms of residence (Kabeer, 1991). Anthropological evidence also confirms that the composition of the household in Southern Africa varies in terms of residence changes not only due to life cycle changes, but due to economic and social factors as well (Sharp and Spiegel, 1985; Russell, 1993). This permeability of household boundaries has been described by many researchers, and indeed Murray (1987:246) is of the opinion that rapid 'internal' changes of household membership were a distinct feature of households living in the former Homelands of South Africa. As a result of these changes, numerous studies have reported that poor communities in South Africa are characterised by a wide diversity of household structures (Ardington, 1988; Ross, 1995). These dynamics have been shown to persist well into the post-apartheid era (Hosegood *et al.*, 2005).

Related to changes in household structure, 'double rootedness' has been used to describe the resulting patterns of migration and dual residence in which individuals have stakes in households in rural and urban areas, or multiple households within urban areas. Dual residence is a strategy adopted by many households as a means of keeping their options open in rural and urban areas, thereby sharing risks between these areas (Mayer and Mayer, 1961; Bank, 1995; Cross *et al* (1992a, 1992b). Double rootedness thus implies that the experience of poverty may be split spatially across several homesteads, as well as, socially, across different households. Consequently, a loss of income or an adverse event in one of the households may well have negative implications elsewhere. It also means that if one household deliberately withholds income from another that is dependent upon it, the former holds power while the latter is rendered powerless. At the same time, this mechanism helps to smooth out fluctuations in income and limit the consequences of adverse events as this serves as a form of consumption smoothing.

Many poverty analysts, including Sen, have been concerned about this question over the distribution of resources within the household (Haddad and Kanbur, 1990). Quantitative and qualitative research has shown that the experience of poverty is differentiated within the household. Income, power and assets have been found to be unequally distributed within the household, suggesting that poverty may occur within households in a differential manner. Gender itself is an important factor affecting changing household structure and Preston-Whyte (1988) has suggested that domestic units may be structured around a core of women, even if the *de jure* head of the household is male. The South African situation is further complicated by the close links between and within rural and urban areas already described, whereby individuals are linked to more than one household (May *et al.*, 1997:76). This link may occur via remittance payments, marriage, childcare services and so forth, which are in turn distributed unequally within the receiving household. Access to assets such as land or livestock also may influence power relations in the household. Where agriculture is undertaken, some scope is provided for women to exercise control of some resources and place themselves in a stronger position *vis-à-vis* men (Haddad and Kanbur, 1990). Where these resources are absent, the subordination of women is a more direct reflection of gender relationships in a patriarchal system.

Finally, the notion of community is extremely tenuous in most developing countries as the homogenous behaviour that it implies is extremely problematic. In much of Africa, forced relocations, refugees and high levels of migration, mobility and pervasive violence have all contributed towards undermining social cohesion. The result is that many communities are extremely divided with little commonality in terms of needs and aspirations.

Besides divisions within the community over resources and power, households and individuals within households have differential access to community support networks. In part, this is owing to inadequate resources required for participation in these networks being owned, and in part, is an outcome of the divisions within the community itself. Hence, to assume that all individuals belong to a nuclear family or a homogenous, harmonious community is problematic.

3.4 A Framework for the Analysis of Persistent Poverty

Despite improvements in the methodologies used, measurement is only the first step required for the analysis of the dynamics of poverty. Identifying the assets used by the poor, the ways in which these are used, and the constraints and opportunities encountered when using assets are next steps in the evolution of a dynamic approach to poverty. Returning to the concepts adopted by those writing from an 'entitlements' perspective can serve as a useful point of departure.

3.4.1 Entitlements and Capabilities

As already mentioned, Sen's entitlement approach is framed in the general terms of the multi-dimensional commodity bundles which an endowment can command which has proven difficult to demonstrate empirically. However, much of the dynamism and insight of the entitlement approach can be retained by thinking more simply about the one dimensional real income which an endowment bundle can command and the distinctive patterns of vulnerability which characterise the real income claiming mechanisms utilised by agents. For example, a semi-subsistence peasant farmer (endowed with unskilled labour and land) and a semi-skilled artisan (endowed with labour, human capital and tools) may on average be able to command the same commodity bundles (that is, they may have the same real income and budget sets on average). However, they are subject to very distinctive forms of vulnerability and poverty risk. The peasant farmer is exposed to production shocks (direct entitlement failures), while the artisan is subject to the risk of sales constraints and changes in the price of the commodity he sells relative to the price of subsistence goods (what Sen calls trade entitlement failure). Sen's (1981) analysis of Bengal famine shows that precisely these two groups, peasants and artisans, had distinctive histories, with the latter suffering trade entitlement failures and bearing the brunt of the famine-related deaths.

This relational conceptualisation of poverty is also by no means unique to Sen, and other analysts have employed similar ideas. Contemporary social theory offers two useful concepts that can assist such analysis (Giddens, 1981; Siegel and Alwang, 1999). Firstly, adopting an 'actor perspective' investigates how individuals manage their assets, socially defined rights and opportunities in situations of varying risks.

This mode of analysis can be thought of as a focus on the resources and skills that people have; what they do with these resources; and how this shapes the social and economic environment in which they are located. In the language of Sen, the concern here is with 'endowments' and 'capabilities' and an implicit recognition that those who are poor are not simply victims unable to react to their situation. The poor are seen to be enterprising individuals constantly on the search for new and better opportunities. The role of the state is largely confined to creating an enabling environment for their talents to unfold.

In contrast adopting a 'systems perspective' when analysing poverty requires that we look at models of social and economic systems in order to understand changes in the constraints and opportunities that influence the success or failure of individual and household actions. Here, the focus shifts to the 'exchange entitlement mapping' or alternatively, the context within which livelihoods adopted by the poor operate and the outcomes that follow from these. Where the former group look for virtuous cycles of personal development, this group emphasises vicious cycles and the inability of those who are poor to cope.[23] For some, the cause of these poverty traps may be found in personal attributes, an example of which is the "culture of poverty" proposed by Oscar Lewis in the 1960s that emphasised the lack of self-esteem, fatalism and risk aversion found among slum dwellers and the homeless (Lewis, 1959). However, structural variables also contribute towards this vicious circle, and within neo-classical economics, some recent theoretical analyses explore the circumstances under which some poor agents may get caught in a poverty trap from which neither time, or the opportunity to save and accumulate assets will deliver them.

The asset-vulnerability framework advanced by Moser (1998a) and others provides a useful means of operationalising a systems perspective of poverty at a household level that takes account of assets and capabilities and recognises the potential role played by wealth and power inequalities noted by analysts such as Deininger and Olinto (2000).[24] Underpinning this framework is research that has shown that poor people are often among the most vulnerable in society because they are the most exposed to a

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[23]/ Siegel (1999) provides a useful summary of these debates.
[24]/ See Crehan (1992) for a comparison of livelihoods approaches that rely upon similar examination of assets and activities.

wide range of risks. Their low income means that they are less able to save and accumulate assets, which in turn restricts their ability to deal with a crisis when it hits. An asset-vulnerability framework, then, goes beyond a static measurement of the poor, and aims toward classifying the capabilities of poor populations to use their resources to reduce their vulnerability (May *et al*, 1997; Moser, 1995; Moser, 1998a; World Bank, 2001b).

This framework recognises three important activities undertaken by the poor based upon their own knowledge and understanding of their environment. Firstly, that the poor engage in the active management of a complex asset base; secondly, that the poor engage in diversified livelihood activities while endeavouring to make ends meet, and thirdly that the poor engage iterative processes of response and adaptation to external and internal events that change their day-to-day environment. From the perspective of an asset-vulnerability framework, the more assets people command in the right mix, the better returns they are able to achieve and the greater is their capacity to buffer themselves against external shocks (May *et al.*, 1997; Moser, 1998a).

Following from this framework, several questions present themselves for investigation. Firstly, what is the asset portfolio available to the poor? Second, what livelihood strategies, exchanges and claiming are undertaken by the poor based on these assets?[25] Finally, what is the nature of the vulnerability of those who are poor, and what coping strategies are adopted to manage risk and uncertainty?[26]

I will discuss each of these in turn and return to this conceptualisation in the empirical analysis that follows in Chapter Seven.

3.4.2 Assets

Moser (1998a:14-16) describes a 'fivefold asset-vulnerability' which she lists as labour, human capital, productive assets, household relations and social capital. However, this framework neglects at least one important category of assets commonly

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[25] Recall the discussion in Chapter Two (Section 3.4) where the contribution of Rein (1983) was noted. In this context, claiming refers to the assembly of an income package through effective claims made on a range of sources, including from government and markets.
[26] Derived from Sen, 1984: 509-510.

used by many poor households, those derived from the natural environment. The framework also unnecessarily separates labour from human capital, and household relations from social capital. The Sustainable Livelihoods framework that is used by DFID deals with some of these concerns, while retaining the fivefold approach. Here livelihood assets are seen to comprise human, social, physical, financial and natural capitals. This framework also has a number of short-comings. Firstly, what Figuaero (2001) has termed political and legal capital is subsumed under social capital, although the mechanisms for acquiring and using these assets may well be very different from that used for social capital. The result is that resources that might be derived through citizenship rights or political patronage are obscured. Secondly, the linkages and complementarities of the different assets are not drawn out or related to the different markets that structure access and use of these assets. For these reasons an adapted framework is suggested comprising five broad categories of productive assets, each of which contain distinct sub-groups:

- Human capital and capabilities, including labour power, skills and capacity for agency, learning and adaptation;

- Social, legal and political capital, including moral claims through household relationships, legal claims such as pensions and grants, access to authority and societal norms including charity;

- Natural resources, including privately owned land, common property and the environment;

- Physical capital, including, machinery/plant and infrastructure.

- Financial capital, including savings, insurance, food stores and money owed by debtors.

The components of these can be summed up into the map of the potential 'asset portfolio' of individuals and households shown in Figure 3.2.[27]

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[27] The broad idea of this asset map was suggested by Singh (1996) and adapted by drawing on the analysis of Gore (1993); Figuaroa (2001); Hulme, Moore and Shepherd (2001); Moser, (1995); Moser (1998a); Maxwell and Smith, (1992) and Reardon and Vosti (1995). Maxwell and Smith's (1992:16) category of productive capital has been included in this framework as financial capital.

Figure 3.2: An Asset Map

ASSET MAP/PORTFOLIO				
Human	**Social, Legal & Political**	**Natural**	**Physical**	**Financial**
Labour	Legal claims on the state & private sector (*eg.* Pensions & grants)	Land	Agricultural equipment and other machinery & tools	Savings, Investments and Loans
Technical, administrative & entrepreneurial skills	Legal & moral claims on household & community (*eg.* household relations)	Ground & surface water	Livestock	Insurance
Health & nutritional status	Access to community networks, decision-making power & structures (bonding social capital)	Common property (*eg.* Communal grazing land & woodlots)	Housing & other buildings	Crops on the fields
Knowledge/education	Access to extra-community networks decision-making power & structures (bridging social capital)	Ground cover & its bio-diversity (*eg.* forests & wildlife)	Productive infrastructure (*eg.* roads & irrigation)	Food stores
Capacity for agency, adaptation & learning	Culture & value systems (*eg.* capacity for trust, altruism or rule breaking)		Social infrastructure (*eg.* Schools & energy or water reticulation)	Household durables, jewellery & other 'unproductive' assets

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This 'road-map' of assets shows that the distinction between social and economic assets is less sharp that is often implied. As an example, the existence of social networks can facilitate the use of more obvious productive assets, especially those that have to be managed on a communal basis. Likewise, human capital can enhance the returns that can be achieved from assets such as land or cattle through greater technical skills or better health. Furthermore, the absence of certain forms of wealth may undermine the position of individuals or households, leading to reduced ability to recover from shocks and negative long term trends.

Two terms in the figure require further clarification. Firstly, human capabilities have been included to broaden the conventional view of human capital, which tends to focus on factors that improve productivity in the formal labour market. Human capabilities thus include the skills and abilities that are used in reproductive activities, such as child care, livelihood activities that occur outside of the labour market, such as vegetable gardening, and broader capabilities that assist humans to achieve their desired goals. This point is reflected in Sen's more recent thinking (Sen, 1999).

The second term, social capital, has had an extraordinary rise to prominence since its entry into development literature in around 1993 and has refocused attention on issues relating to social and institutional assets such as reciprocity, trust, and association. Much of this work draws on the research of Robert Putnam for whom social capital "...refers to features of social organisation such as networks, norms and social trust that facilitate co-ordination and co-operation for mutual benefit" (Putnam, 1993:36). More recently, the "Social Capital for Development" Homepage, defines social capital as "the norms and social relations embedded in the social structures of societies that enable people to co-ordinate action to achieve desired goals".[28]

James Coleman made a useful contribution towards an operational definition of social capital for an analysis of the micro-economic implications of social capital for poverty dynamics. Social capital is seen as being those aspects of social structure that act as resources to individuals and groups, assisting them in achieving their interests. Coleman's emphasis is thus on the social institutions and organisations that bind

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[28]/ The address for the homepage is http://www.worldbank.org/poverty/scapital/index.htm. Several review articles provide an overview of the many empirical studies. Useful examples are World Bank (1997b, Chap 6); Wall, *et al.*, (1998) and from a critical perspective, Fine (1999).

individuals and groups, and extends to relationships of authority (Coleman, 1990:302, 311). These institutions may be argued to represent both a concrete expression of the social context within which economic activity is embedded, as well as an important medium through which linkages can be formed.

Rapid social, demographic and economic change can undermine the basis for trust and reciprocal relationships and the nature of social capital might change along with the extent to which different groups might benefit from its use. This has been argued by some analysts to lead to the 'erosion' of social capital (Moser, 1998b; May and Rogerson, 2000). Social capital can also have negative outcomes. As Coleman (1988:S105) and others recognise, certain forms of social capital may constrain desired actions such as innovation, and "... that a given form of social capital that is valuable in facilitating certain actions may be useless or even harmful for others" (Coleman, 1990:598).[29] A final and important issue relates to the gendered nature of social capital. Seron and Ferris (1995) argue that men secure economic gains due to their implicit gendered social capital that presumes that private lives (reproductive lives) are secondary and are taken care of by others (women).

The identification of social capital has not been without critique. The difficulty of measuring such capital has received attention, while many question whether networks, social norms and values and the like can ever constitute capital (Fine, 1999). Since this thesis is primarily concerned with the relationship between access to assets and chronic poverty, a narrow, and thus easily measurable, definition of social capital is adopted for the purposes of the empirical section of this thesis. This definition focuses on institutions as an important and observable source of social capital and thus has the potential to act as an acceptable proxy measure. Social capital is seen as referring to the social (and perhaps political) institutions that improve economic efficiency for groups of economic actors, through building trust, facilitating information flows and providing an arena for decision-making. As a category of assets, legal claims, such as pensions, in the case of South Africa many of which are constitutionally embedded, are included as social, legal and political capital since these share many of the characteristics of social capital as defined above. Further, the estimation of poverty classes is based on more conventionally measured assets (land,

finance, transfers and human capital) and the other proxies for social capital are only reported in the poverty profiles of these classes.

3.4.3 Livelihoods

The assets just discussed form the basis for what Sen (1981) termed 'entitlement mapping'. This mapping defines the set of commodity bundles that can be claimed on the basis of a given asset, or in Sen's language, endowment. This may be either through direct use of the endowments, or by using them to claim other commodities through market and other forms of exchange. An alternative, and perhaps more conventional way of describing this process is as a livelihood strategy that involves a combination of assets, productive activities, the exercising of socially defined rights, such as access to charity or publicly provided social security, the use of the environment and access to common property, and the coping or adaptive actions undertaken to protect present and future production and consumption. In their widely used definition of livelihoods, Chambers and Conway mention most of these elements:

> (A livelihood) comprises the capabilities, assets (stores, resources, claims, and access) and activities required for a means of living; a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation (Chambers and Conway, 1992:7-8).

Households and individuals thus engage in a range of activities, such as wage employment, agricultural production, non-farm entrepreneurship or claiming, that make use of the resources that they have available. (also *cf.* Lipton, 1997, Maxwell and Smith, 1992). The combination of these activities or 'tactics' make up the household's livelihood strategy, which in turn will map onto a set of outcomes. As described by Sen, some of these tactics involve an exchange process whereby services are performed or goods produced which may be exchanged for a cash income or for recipient goods and services. Other livelihood options may include the consumption of self-produced goods, and there is also the possibility that some activities may involve no productive action at all, but involve no more than measures that stretch

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[29]/ See also Harriss and de Renzio, (1997); Holland, (1998:67); Humphrey and Schmitz, (1996:20) and Beall, (1997:960).

existing resources a little further. The sustainability of the strategy that is adopted is determined by the extent to which it generates the means of living while at the same time enhancing or at least maintaining the quantity and quality of the assets that are available.

In addition, the importance for poor households of a diversified livelihood strategy involving a number of these activities has been argued by several analysts (*cf.* Ellis, 1998; Frankenburger *et al.*, 2000) while Maxwell and Smith (1992) note that this diversification of income sources is a key factor influencing the well-being of poor households. Through diversification, households are able to buffer themselves against risk in vulnerable environments. Indeed, von Braun (1989) has suggested that diversification may entail a fair amount of specialisation within the household according to gender or age. That is to say, different household members may engage in different income earning tasks: women engaging in horticulture, men in wage labour, the young in hawking and the elderly in craft work. Likewise, different coping and adaptive tactics are also undertaken by different members within the households, women perhaps managing the diet of the household, men queuing and fighting for access to food aid.

In order to assemble a livelihood strategy, households are seen to be choosing between these activities and tactics, as well as attempting to combine them, into a strategy for their survival, and hopefully accumulation. By diversifying their livelihood strategy, households can be seen to be trying different tactics that are hoped to generate an adequate and sustainable livelihood for all members. Diversification permits the management of risk, seasonality and market failures, as well as a way of coping with times of crisis. However, as Ellis (1998:1) notes, diversification involves more than simply undertaking more activities, and also includes changes to property rights, social and kinship processes and institutional structures. Clearly, there will also be trade-offs between the possible tactics that can be engaged upon, both in terms of the activities themselves, as well as between the interests of the members of the household itself. As such, the power relations within the household, and the manner in which these are determined, would form the basis of this livelihood packaging.

The livelihood strategy that is adopted is then an outcome of decisions and conflict over the use of the household's resources. This strategy may well benefit some

members of the household at the cost of others. For example, as Davies (1996) and many others suggest that the burden of coping strategies tends to fall disproportionately on women. Furthermore, like any strategy, its composition and success will be determined by the constraints and opportunities that are available to the household as a whole and to the individual members.

It is also important to recognise that the determinants of the rate of return that can be achieved by the different activities have both physical and institutional dimensions. While exchange activities, for example, have agro-climatic and technical determinants, the rate of return that is realised from these activities is also based on rules which structure the markets in which these exchanges take place. The literature on labour market segmentation offers a potentially useful point of departure from which this complex landscape of economic transactions can be examined.

Labour market segmentation argues that the labour market is not homogenous and instead may offer structurally different rules, opportunities, security and terms of trade for different types of work, and for different groups of work-seekers. Originally applied to developed countries to describe the operation of internal labour markets in which administrative rules and norms apply (Doeringer and Piore, 1971) and later by Giddens (1981) and Littler (1982) to describe class structure, labour market segmentation has also been employed in the analysis of the South African labour market. Burawoy (1975) uses a similar analysis to examine the experiences of migrant labourers during the apartheid era in South Africa, while Kraak (1995) more recently suggests that apartheid era labour market policies may continue to shape the South African labour market.

A segmented labour market approach often divides the labour market into a primary and a secondary component. The primary labour market is defined as that in which jobs are well paid and secure, and workers have prospects of career advancements. The secondary market is defined as everything which the primary labour market is not. Jobs in the secondary market are low paid and offer little security and opportunities for upward mobility. It is suggested that claiming systems in each of these markets also differ, with unionisation being more common in the primary labour market, incomes more secure, and greater and more varied protection against age and ill health. Casual labour can also be included in the secondary labour market.

Most analysts recognise that a dualistic notion of the labour markets is inadequate, noting that the boundaries between different groups of work or work-seeker are fuzzy, and that it is more likely that a continuum of options will exist (Devey *et al*, 2003; Standing *et al*, 1996). In addition, the different segments are not independent and may articulate, in some fashion, the existence of one segment of the labour market reliant upon the existence of the other. Nonetheless, this approach offers a potentially useful way with which the diversity of activities and tactics undertaken by individuals and households can be analysed, and argues differentiation emanates from the type of activity being undertaken rather than from the characteristics of the person undertaking the activity.[30]

Figure 3 represents an attempt to translate the foregoing discussion into a Livelihood Strategy Map to complement the Assets Map already presented and extends the segmentation of labour markets into other categories of livelihood activity: farm production, non-farm entrepreneurial production, claiming and non-monetary livelihood strategies.[31] Recognising the informalised nature of much of the South African economy, the continuum of activities and tactics encompasses primary, secondary and subsistence dimensions, and, not shown but a possible outcome of any of these tactics, is failure.

Figure 3.3: A Livelihood Strategy Map

Strategy	←Continuum of Activities and Tactics→		
	Primary	**Secondary**	**Subsistence**
Waged Work	High wage, secure employment	Low wage, insecure but regular employment	Low wage, insecure and casual employment
Farm Entrepreneurship	Commercial Farming	Family farm with market production	Subsistence & survivalist home consumption
Non-Farm Entrepreneurship	Capitalist, professional & artisan self-employment	Informal economy small and micro-enterprises	Survivalist, especially in service sector activities
Claiming	Contributory social protection (right of membership). Non-contributory social protection (right of citizenship).	Claiming from household members (legally enforceable claims such as child support)	Claiming from family & community (moral claims, charity)
Non-monetary	Claiming formal common property rights Claiming constitutional or human rights	Claiming customary common property rights Claiming other customary rights	Managing household composition Unpaid domestic work Scrimping Begging

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[30]/ Although there is some resonance with the notion of a 'First' and 'Second Economy' that has recently received attention in South Africa, this does not accept the implied dualism and suggests that different activities can have more or less of the characteristics of primary, secondary or subsistence.
[31]/ The broad idea for this map was suggested by Frankenberger, *et al.*, (2000) and adapted following Burawoy's (1975) discussion of the South African labour market.

As with the assets, the activities and tactics shown in this map lie on a continuum using criteria implied by the literature on labour market segmentation. The boundaries will be blurred in reality and a person or household may simultaneously engage in more than one strategy or tactic. Nonetheless for the purposes of analysis, activities can be said to have the characteristics of a primary market if:

- they emanate from enterprises and institutions that are formally regulated and which face a stable demand for the commodities and resources that are being produced or being made available;

- are the result of enforceable contracts are entered into between those providing the commodities, resources or services being sought and those seeking to make use of these, including contracts derived through the rights of citizenship;

- they have an eligibility requirement, whether in the form of specific skills or education, access to capital or membership criteria; and,

- they involve regular and predictable payments.

In these activities, higher productivity or better claiming is likely to be rewarded with higher returns and the chance of advancement over time.

Activities have the characteristics of a secondary market if:

- they emanate from enterprises and institutions that are not formally regulated;

- they involve activities in which the demand for the commodities or services produced is highly variable;

- there is little security in terms of the rights over property, conditions of employment and terms of trade;

- contracts are usually informally defined and are not legally enforceable;

- there is a low or 'general' eligibility requirement; and,

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- payments are irregular and variable.

For these activities productivity or better claiming does not necessarily translate into higher returns and there is little chance for advancement.

Finally, activities are considered to be subsistence when:

- they are short-term; casual, and without enforceable contracts;

- in which the demand for the commodities or resources is infrequent;

- they have very low or no eligibility criteria; and,

- they are subject to few, if any, rules, including those governing payment.

In these activities returns are low and there is no chance for improvement and they are often undertaken in what has been described as the informal and domestic economies.

Since waged work has already been discussed, it is useful to elaborate a little further on what is meant by the other four categories of livelihood tactics. Entrepreneurial farming strategies refer to all forms of agricultural production, including that which is undertaken for own consumption, as well as for sale. Clearly there are substantive differences between various forms of agricultural production and the exchange of agricultural commodities. Primary agricultural activities include: agri-enterprises which produce crops for sale, and operate as independent businesses; contract agriculture where owner-cultivators enter into formal or informal production and sale agreements with agro-industrial corporations and family farming with high input production and where exchange includes sales made through formal marketing channels. Secondary agricultural activities include family farming which involves low input production where exchange takes place but is limited to networks within the community, while subsistence agriculture refers to agriculture production that is undertaken for survivalist purposes only such as community and home gardens, minimal input dryland cultivation and the keeping of small herds or poultry.

The role of the last two forms of agricultural tactics in South Africa has been the subject of debate as is witnessed by the two-volume collection edited by Lipton *et al.,* (1996a; 1996b). While some argue that agriculture holds out some prospect of

reducing unemployment, others are concerned that the promotion of small-scale agriculture may become unsustainable if pursued too vigorously. Qualitative research from the SA-PPA lends support to the notion that agricultural cultivation is an important survivalist livelihood tactic for the poor. The cultivation of land, particularly garden plots, is a significant safeguard for many rural households, and it seems that agriculture in many parts of South Africa is more important for poor households than quantitative surveys have implied. This cultivation is probably limited to the areas in which there is sufficient rainfall to permit dry-land cultivation (May, et al, 1997). In the arid areas, agricultural was treated with scepticism and regarded as an extremely risky livelihood option, while in the relatively high rainfall area of KwaZulu-Natal, both men and women indicated that farming was their most important source of income. The risks associated with cultivation were a reported as being a deterrent to engaging in agriculture. These differing views on the importance of agriculture show that cultivators are able to use land and other agricultural assets to a varying degree of success and risk according to their agro-climatic zone. For the analysis which will be presented in this thesis, secondary and subsistence cultivators are regarded as those unable to manage environmental uncertainty in the same manner that the wealthier primary cultivators are able, either through irrigation or through crop insurance.

Primary non-farm entrepreneurial activities refer to formal sector small and medium enterprises (SMMEs) while secondary non-farm entrepreneurial activities refer to micro-enterprises which might comprise the sale of anything from clothing to handicrafts. Subsistence activities refer to the survivalist sub-sector of SMME's such as street trading and hawking. Previous research in South Africa has shown that two-thirds of this group are to be found operating in small shops or spazas with the balance working on the street (Devey et al., 2003). This also includes the making of clothes, furniture, handicrafts, baskets, brooms and the building of houses, as well as the production and sale of certain crops through intermittent markets. The construction and home crafts sub-sectors appear to be the two most important categories of this form of micro-enterprise in South Africa, with one third of each of this group engaging in such activities. Finally, there are also niche markets in the service sector. This refers to specific services that have a competitive advantage when performed by micro-enterprises. In urban areas, such activities have typically

included car washers, backyard mechanics, taxis, child minders, room letting and money lending (May, *et al.*, 1997). In rural areas, these activities extend to traditional medicine, craft work and the like. It is also possible that certain highly paid activities would fall into this category, such as lawyers, architects and the like.

Primary claiming activities are important in South Africa which is unusual amongst developing countries in that it has a well functioning state-funded and managed social protection system. The Old Age Pension (OAP) and Child Support Grant (CSG) are the most important components, the first of which has a high coverage amongst the elderly. The CSG introduced in 1998 is rapidly gaining in importance. Claiming these rights from the state in the form of pensions and disability grants has been shown to be of critical importance to household incomes (Case and Deaton, 1998).

The use of secondary and subsistence forms of claiming through social networks is an important form of livelihood tactic: A key feature of apartheid, resulting from legislative controls on the urbanisation of African South Africans, was the system of oscillating migrant labour. Although the period from the mid 1970s to the mid 1980s witnessed the rapid collapse of the enforcement of the various influx laws, migration for employment remains an important aspect of many rural people's lives, as does the reliance of the rural household upon a share of the migrant's income in the form of a remittance. As such, effective claiming of this remittance from migrants is an important livelihood tactic. Payments may be regular (monthly or more frequent) or irregular (less frequent than monthly, or remittance made in kind). Moreover, in the past, and perhaps still, urban wage earners invest substantially in rural assets such as livestock and agricultural production, and women also use remitted money to fund petty commodity production (Murray, 1987; Sharp and Spiegel, 1990).

In addition to these activities which are usually measured by quantitative surveys, albeit with varying success, at least three critical types of non-monetary entitlement-generating tactics are often not adequately dealt with. These include the use of common property; unpaid domestic labour which refers to work performed largely by women, which although not paid, contributes significantly to the household livelihood strategy; and a disparate bundle of activities and tactics in which households engage in order to either stretch their income, or gain access to additional entitlements. Families, individuals and communities have devised and adapted to a variety of

survival tactics within their states of poverty and vulnerability. Migration, flexible household structure, begging, scrimping and seasonal adaptation are all tactics for survival engaged in by large numbers of South Africans. These are far harder to pick up using quantitative methodologies and their detection and analysis must rely upon qualitative research techniques.

3.4.4 Vulnerability and Shocks

Vulnerability is the last of the components in the asset-vulnerability framework and refers to the negative outcomes of processes of change and has been defined as "...a dynamic concept generally involving a sequence of events after a macroeconomic shock" (Glewwe and Hall, 1998:184). This definition appears too narrow from an asset-vulnerability perspective since both the shock and the events that follow may also be microeconomic, social, environmental or political, and may take the form of either long-term trends or cyclical processes such as seasonality. To broaden this definition, four dimensions of vulnerability that require analysis are proposed. Firstly the nature of the social unit concerned, its capacity to both withstand the negative effects of the process concerned, and its ability to recover its position afterwards. This is often referred to as the resilience of the social unit (Davies, 1996; Rakodi, 1995; Swift, 1989). The second dimension is the source, nature and duration of the threat. Next, the risk or uncertainty associated with responding to the threat, often referred to as the sensitivity of the social unit. The final dimension is the nature of the risk management, response, or coping strategy.

Poor households throughout the world manage vulnerability by pursuing a mix of livelihood strategies (Devereux, 1993; Maxwell and Smith, 1992). These aim to increase their income flows and stocks of assets (accumulation strategies), to spread risk through livelihood adjustments or income diversification (adaptive strategies), to minimise the impacts of livelihood shocks (coping strategies) and, in the extreme, to prevent destitution and death (survival strategies).

Such household risk management strategies can change the vulnerability of the poor and near poor over time. While adaptations to risk, the responses to shocks, and measures undertaken to recover from negative events might lower observed poverty, such coping strategies can also increase vulnerability over the longer term. For

example, as depicted in Figure 3, vulnerable households often resort to tactics that deplete or slow their accumulation of productive assets (such as skipping meals, taking children out of school, or over-harvesting natural resources). Although this behaviour can help households lessen the immediate impacts of risk, it can result in dynamic inefficiencies that lower mean incomes (and possibly increase the variability of incomes) in subsequent time periods, and thereby perpetuate the vicious cycle of poverty. This can also lead to negative externalities and, as a result, such behaviour is sometimes termed 'destructive coping strategies. The lack of assets, the failure of markets, and lack of public interventions to provide for efficiency-enhancing risk management strategies have adverse consequences for development and inhibit efforts to reduce poverty through broad-based growth.

With respect to the first of these dimensions, the analysis of vulnerability must start with the assets that can be called on to withstand or mitigate the impact of the threat in question. Assets interact with risk in several ways. Firstly, the sources of risk affect households through their impact on the value and productivity (and variations in the value and productivity) of assets. Thus, risks are transmitted to household through their assets. Households also tend to reallocate their assets in response to risk. These reallocations affect short-term returns and the variability of returns. They also have an impact on the longer-term vulnerability of the households *via* their impact on savings and investments. Linked to this, a household's risk attitudes are, to a large extent, influenced by its asset portfolio, with wealthier households tending to be less risk averse, more efficient in resource allocation, and better situated to handle risk-related losses (Morduch, 1995). Conversely, research has long found that poor households tend to be risk averse (Anderson, *et. al.*, 1977; Paxson, 1990). To rephrase Moser's (1998a:3) summary: the more assets that individuals, households and communities have, and the better that they are managed and the less vulnerable they are; the greater the erosion of their assets, the greater their insecurity and the risks that they face.

Sources of risk include natural hazards like drought, commodity price fluctuations, illness and death, poorly functioning or missing input and output markets, sudden changes in policies, changing social relationships, unstable governments and armed conflicts. Some events, like drought, simultaneously affect many households in a

community or region. This can be termed 'covariate' or 'community-wide' risk and refers to the extent to which an individual, community or sub-group, structure or geographic area is likely to be damaged or disrupted by a disaster (UNDP, 1990; *cf.* von Kotze and Holloway, 1996 for an application to South Africa). Other risky events, like most illnesses, are specific to individuals or households, and can be thought of as 'idiosyncratic risk'.

Furthermore, while some threatening events may be thought of as occurring randomly, there are a wide range of events which impact particularly severely on the poor, while in other cases, the poor are particularly at risk. In this context, 'risk' refers to stochastic (uncertain) events and outcomes with known or unknown probability distributions that may cause losses in household welfare. Many of these may be thought of a 'shocks' and are an important trigger leading to, or adding to, the impoverishment of households and individuals. Other types of risk are structural in nature and follow from the circumstances in which social actors may find themselves.

Responding to risk and uncertainty are universal characteristics of life. However, a number of mediating factors may increase or decrease the propensity of the poor to being exposed to risk. In trying to distinguish some conditions specific to the urban poor, Moser (1998a:4) identifies three characteristics that differentiate the poor in urban compared to rural areas. Restated as continua, these can be extended to cover most poor people. The first is the degree of commoditisation, meaning the extent to which essential goods and services are acquired through market transactions rather than through own-production. This can also be thought of as the degree to which the sale of labour is the sole means of deriving an income: in other words, the proletarianisation of the poor.

The extent to which social fragmentation has taken place is a second mediating factor. In communities in which there is a high level of trust, social cohesion and reciprocity, support networks are likely to be stronger and offer both a buffer to negative events, and a source of information. Indeed, as already noted, social capital can be thought of as an asset in its own right. Households that face a confined risk pool, that is the network that households can draw upon for assistance in managing the impacts of risk, are likely to be less able to respond to negative events. Groups range from the household itself, a subset of households within a community, an entire community, an

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extended household with members in and outside the community, a group of communities, a region in a country, a country, and can also be multi-national or international. The 'assistance' can be through formal or informal arrangements using a variety of instruments. The risk management strategies adopted by poor households may tend to be inefficient and can have negative implications for social welfare and equity. Finally the degree of exposure to environmental hazards is the last of the characteristics identified by Moser. At issue here is the extent to which the environment acts as a buffer, or as a source of risk.

When shocks occur, the poorest households are faced with certain trade-offs that are often extremely unfavourable. Those that experience shocks are said to engage in various coping strategies to reduce the effect of the shock on income. These strategies are as diverse and complex as the livelihood strategies of the household and depend on the prevailing social and economic climate, cultural norms and practices, and the political environment within which the household finds itself. If these measures are insufficient, a household may be required to reduce consumption or increase its labour supply, which could involve working more hours and using more members. The household composition will determine the amount of labour that can be activated, and it is often women and children who are called upon for this purpose at times of crisis. Austerity measures, such as withdrawing children from school, which have negative implications for long-term well-being, could also be part of the household's response to a shock. Such measures often result in short-term benefit, and an unfortunate high long-term cost, by compromising economic and human development prospects. While these responses are largely economic, coping with shocks often requires social support: families may move in together, the endogenous nature of household formation discussed earlier (Devereux, 1993; Davies, 1996).

Davies (1996) offers complementary insights from an anthropological perspective that shows how a poverty trap situation can emerge for asset-poor households. Davies notes that there are three forces that interact when households experience an economic shock: sensitivity; resilience and susceptibility. While the first refers to the depth or the severity of a shock on a household's well-being, resilience refers to the ability of the household to recover from the shock. Susceptibility refers to frequency with which shocks take place and all three factors determine the vulnerability of the

household. Those that are highly sensitive to shocks, with a low resilience, are in an extremely hazardous state. They may be forced to sell off or neglect productive assets in order to survive. Over time, the third dimension becomes important: the susceptibility of the household to multiple shocks. Households that are highly susceptible face multiple shocks over time, and may ratchet down over time to the point at which they eventually become trapped in a situation of structural poverty.

The choice of coping strategy is dependent on the cause of the shock, while proximate and structural factors also play a role, as well as the type of livelihood system. Naturally, household criteria such as the number of members, household composition and control of resources also play a role. Whether it is a community wide shock, or whether it is localised to a small number of households also influences the choice of strategy. Fundamentally though, income is the crucial determinant of which strategies are used. Wealthier households are likely to have formal insurance measures to cope with a shock such as death, while the same will not be true of households that are less well off. In addition, these households claim more than poorer households, and, ironically they are able to mobilise assets more readily, although such strategies are clearly more important for poorer households (Stewart, 1988).

Households will therefore devise strategies from the range of resources that are available to them. However, the response of the household also depends on its capacity to respond to changes in the external environment. Internal life-cycle factors such as birth, marriage and death, as well as social cohesion which is embedded in household and intra-household level relationships, and community level trust and collaboration, all affect a household's ability to respond to shocks (Moser, 1998a).

Households demonstrate a wide array of coping strategies that have two broad effects: to prevent costs from increasing and to manage costs so that the negative impact on household livelihood is minimised (Sauerborn et al., 1996). Chambers (1983) for example describes survival strategies of 'the poor' in terms of three options: exit (migration or educating children); voice (organisation, protest, collective negotiation or force); and loyalty. This last involves working within the local society and is probably the most common strategy of the poor as the others are often too risky. Corbett (1988) reveals that a striking feature of many case studies on coping behaviour is that not only do households plan how they are going to respond, but there

is also a distinct sequence in what they do. Some responses are more likely to be adopted at the start of the crisis, while others may be adopted later. The order in which these responses are selected will be a significant part of the household's overall coping strategy, and may have important consequences for the welfare of some or all of the household members.

The use of the term coping strategy has proved to be problematic since it implies that the household does in fact cope. Many households in fact do not actually cope in these circumstances. In addition, private and social welfare losses result both from the risky events and from household strategies to manage the risk. It has also been shown that coping strategies may also become less effective over time and even detrimental to the household in the longer term (Davies, 1993). Poor households have also been shown to pay a higher cost (actual outlays and opportunity costs) for reducing, mitigating, and coping with risk (Zimmerman and Carter, 1995). Finally, poorer households tend to adopt risk management strategies that concentrate in lower risk and lower return assets, which can lead to a poverty trap and exacerbate asset and income inequality (Binswanger and Rosenzweig, 1989; de Janvry *et al.*, 1991; Jalan and Ravallion, 2002). In particular, poor households will require reasonable assurance that market activities will not penalise their family's access to food before household decision-makers will risk market orientated production.

Finally, Corbett (1988) notes that in most studies of coping strategies the household is taken as the unit of analysis since it is assumed that decisions about production, investment and consumption are primarily taken at the household level. However, it is also quite likely that different views may be held by different members of the family about this according to perceived responsibilities. Child-carers, most likely women, are likely to be more risk adverse in the short run, while migrant men may be more concerned about long term investments for their return.

3.5 ASSETS, LIVELIHOODS AND DIFFERENTIATION

Writing in the mid 1970s, Lionel Cliffe offers a useful starting point for drawing these themes together. He warned that the tendency of researchers to analyse social survey results in terms of aggregate statistics reinforces the popular misconception of African society as being classless, and free of conflict (Cliffe, 1977:195). Writing a little

later, John Iliffe (1987) makes the following remarks on poverty dynamics in Africa:

> Examination of the sources [of poverty] suggests that two levels of want have existed in Africa for several centuries. On one level have been the very large numbers – perhaps most Africans at most times – obliged to struggle continuously to preserve themselves and their dependants from physical want. These will be called the poor. On another level have been smaller numbers who have permanently or temporarily failed in that struggle and have fallen into physical want. These will be called the very poor or destitute. Of course, there was no sharp dividing line between them. Yet the distinction has cross-cultural validity (Iliffe, 1987:2)

Understanding the dynamics of poverty would then also require that an appropriate differentiation be developed, not to simply pigeon-hole social groups in a convenient typology, but rather to understand their systemic relationships to the overall structure of society and the way in which these impact upon livelihood security. In order to achieve this, the population would need to be sorted into categories in an analytically rigorous manner. This could involve no more than stratification by some variable, such as income or land-holding. However, stratification using the former reveals only the outcomes of the livelihood strategies adopted by individuals and households, and stratification by the latter simply indicates the distribution of endowments but not the use to which these are put. It is argued therefore that simple stratification does not yield very satisfactory results, as this merely indicates that at a particular moment in time, certain households have greater access to resources than others and would tell us little about the tactics that households engage in as a way of survival, and the constraints which limit their choices. Rather, an approach that is more sensitive to the dynamics of persistent poverty is necessary.

The examination of the activities and tactics adopted by individuals and households when assembling claims presented earlier offers a more promising entrance to understanding the dynamics of livelihood generation. These strategies may be seen as representing the combinations of choices made by households when attempting to make the best use of the endowments which are available to them. The outcome of these strategies then represents relative success in the utilisation of endowments, or alternatively, the outcome of an 'exchange entitlement mapping' as described earlier and which result in the differentiation of the population under investigation.

From this, it is proposed that one way in which groups/classes can be distinguished

within society is through the common strategies for survival that are compelled by the endowments available to these groups. Elster (1986) frames this as endowment-necessitated behaviour, meaning the activities that households and individuals must undertake in order to make the best use of what they own when generating a livelihood. Identifying this behaviour should assist in indicating how inequalities are entrenched over time, leading to the emergence of strata, factions, and classes.[32]

In a complementing argument, several analysts have argued there are structural causes of chronic poverty that result in the inability to make a minimum level of investment to maintain or enhance the different assets. Such adverse 'initial conditions' have been termed 'investment poverty' by Reardon and Vosti (1995:1498) or 'economically persistent poverty' by Zimmerman and Carter (1995). These structural causes produce unfavourable outcomes for some people, and therefore result in persistent vulnerability and poverty, maintaining existing economic and social inequalities. Several categories of such structural conditions can be identified of which asymmetric markets that discriminate against the less well-off are perhaps the best known. This refers to situations where the allocation of costs and benefits of exchange occurs in a manner that consistently prejudices the least well-off. The lumpiness of finance markets is a frequently cited example, whereby small sums of money cannot be easily obtained from the formal financial sector, forcing poor households to make use of informal money-lenders at high interest rates. Information markets have more recently been included as another example of asymmetric markets while transaction costs have also been identified as being another important cost to fall asymmetrically on the poor (Bardhan, 1989; Hoff and Stiglitz, 1990; Jaffee and Morton, 1995).

As already mentioned, demographic change also plays a role in this analysis, and include the household life-cycle itself as the members of a household age, the labour available to the household changes, as may the number of consumers dependent upon the household's assets. Changes to household structure are also a coping strategy when members leave or join the household in search of better opportunities while its human capital may be eroded over time through illness, injury or continuous

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[32]/ These are used as analytical constructs rather than as descriptive categories. Strata may be viewed as broad social categories lacking cohesion, factions are groups which share economic interests and may act as social forces, whereas classes are classically defined as aggregations of people who have a

pregnancies.

In addition, since households are not static entities, but change in composition and size over time, their demographic life cycle is also of interest. This has been linked to consumption smoothing (Modiglaini and Brumberg, 1954), a household development cycle (Chayanov, 1966; Shanin, 1972), income distribution (Murray, 1987), and class formation (Cooper, 1982). Speigel (1982) and others have criticised much of this analysis as being demographically determinist, and Deaton and Grosh (2000) note the difficulties in actually measuring life cycles. However household life cycles remain a useful mechanism for understanding the dynamic nature of rural households and will also need to be taken into consideration.

These forces do not act independently and are often linked and mutually reinforcing. Some may operate in a single period setting, such as when individuals without adequate water and sanitation suffer greater sickness and hence will have lower incomes in this period. However the connections between income and capabilities-based measures are best understood from a dynamic or multi-period perspective. For example, individuals who have few assets and inadequate drinking water and may be exposed to greater risks and suffer more frequent income shocks will ultimately be precluded from accumulating the skills and assets needed to establish a trajectory that will permanently enable them to escape from a poverty trap.

All of these factors are argued to produce differential asset accumulation failures whereby the forces above combine to reduce the ability of the less well-off to accumulate, use and protect their assets over time despite their effort and saving. An emerging economics literature provides some support for this conceptualisation of dynamic poverty (Banerjee and Newman, 1994; Dasgupta, 1997a, 1997b; Zimmerman and Carter, 1995). In all these analyses, vulnerability and imperfect markets play key roles in preventing initially poor agents from using time as a way to build up asset stocks and achieve a high level of well-being. Effectively, it is argued, initially poor agents are caught in a poverty trap in terms of their available assets and their vulnerability to negative events. This is a situation from which neither time or the opportunity to save and accumulate assets will deliver them.

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common location in the relations of production (Poulantzas, 1978; Therborn, 1983).

Modifying Davies' analysis, these different asset-vulnerability trajectories can be depicted as follows:

Figure 3.4: Trajectories of Vulnerability
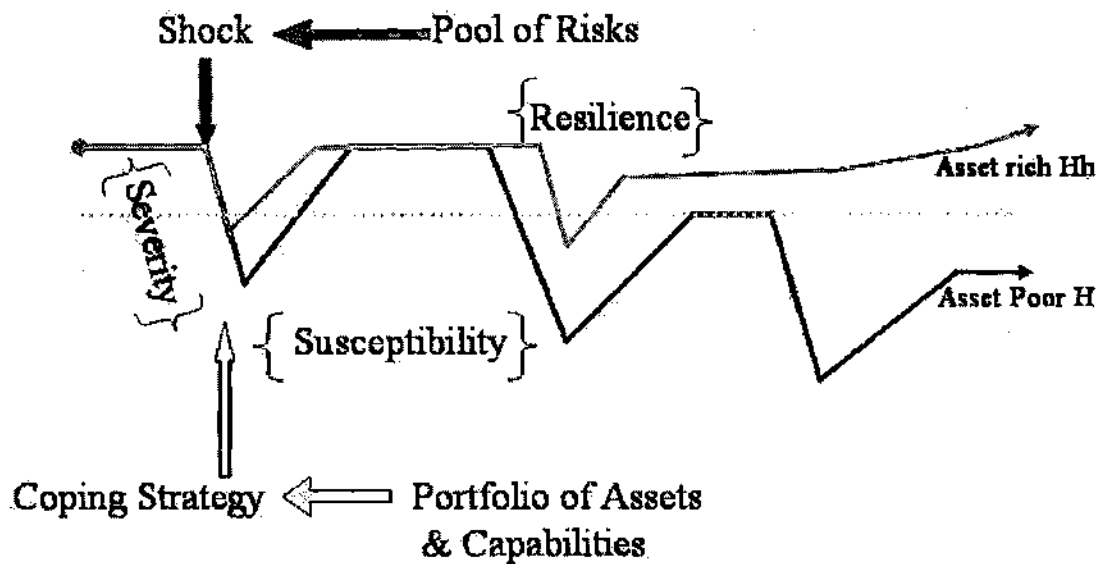
Source: Adapted from Davies (1996).

Two households starting at the same level of well-being, facing similar risks, but with different underlying asset portfolios are depicted as having experienced a shock. The extent to which each household is affected by the shock reveals the severity of the shock, and provokes a coping strategy that draws on the household's portfolio of assets. This allows each household to return to their initial level of well-being, although the asset-poor household is depicted as taking longer to do so, as well as having being affected more severely. Both households experience a second shock, although the asset-rich household is depicted as being less susceptible (it is longer before this household experiences its second shock), and more resilient (the household is able to recover to its initial position more quickly). Indeed, extending Davies conceptualisation of the production and reproduction of poverty, the asset-rich household is able to avoid some shocks altogether, while the asset-poor household becomes increasingly unable to recover to its initial position, and ultimately moves from being poor only occasionally, to becoming chronically poor.

Thus although accumulation failure rests at the heart of Davies' understanding of persistent structural poverty, her analysis also reveals how differentiation follows

from different asset bundles, livelihood activities and experience of vulnerability. Although asset rich households may spend spells below the consumption poverty line, they are better able to return to their initial position, are affected less, recover more quickly and are able to avoid certain shocks. They thus remain on a successful accumulation trajectory over time. In contrast, asset poor households eventually ratchet below the consumption poverty line to become enmeshed in a poverty trap, unable to maintain or build assets, and, indeed, may have to shed assets as a coping mechanism. In this way, these households experience asset accumulation failure which results in widening differentiation.

Socio-economic differentiation has received some attention in Southern Africa, although little has been done in recent years. Previous studies have confirmed both the extent of differentiation as well as the determinant role played by access to formal wage earning opportunities. Heron (1991), investigating only households involved in agricultural production, links economic differentiation to access to livestock, with higher maize yields being achieved and greater areas being planted by households with more stock. Southall (1980) stresses the role played by efforts to 'reform' apartheid policy during the 1980s in the creation of entrepreneurial groups whereas Murray (1987) notes that apartheid policy both limited and distorted the process of differentiation for the bulk of the rural population within the former Homelands. Extreme demographic instability arising from forced removals, 'Betterment Planning', and oscillating migration, as well as complex patterns of survival necessitated by the harsh conditions prevalent in these areas meant that household life cycles had an insignificant impact upon the household.[33]

3.6 A MODEL OF DYNAMIC POVERTY

To bring these themes together within the framework of asset-vulnerability, a change in a household's well-being over a period of time can be thought of as having three components. Firstly, changes in the quantity or quality of assets available to the household. Secondly, changes in the output and outcomes derived from the assets either through productivity changes (a shifting outwards of the production function), diversification or changes in the terms of exchange or costs of transaction. Finally,

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[33]/ Betterment Planning was a system of villagisation in South Africa that entailed forced removals and often dispossession of land and livestock. *Cf.* Yawitch (1981) for a full account.

changes in a diverse set of factors that include unobservable characteristics of household members such as entrepreneurship, good or bad luck, and the shocks that have affected the household's asset base or livelihood activities. In each case, external forces may improve or adversely affect the household, its assets or the terms of trade that it faces.

From the perspective of an assets-vulnerability framework, the implication is that economic vulnerability may preclude those who are poorly resourced from ever realising their full potential as economic or social agents. A parallel implication is that there may be some minimum level of assets below which it becomes impossible to overcome structural constraints, and thus to accumulate assets or improve productivity. If so, the starting point for a dynamic analysis of poverty is developing a way in which this asset threshold can be identified and measured.

Looking for explanations why some encounter poverty that traps while others accumulate, Carter and Barrett (2006: 185) suggest three possible reasons why a positive relationship between wealth and marginal returns might exist:

> 1) the underlying income generating process may itself directly exhibit increasing returns to scale, either because the primal technology exhibits locally increasing returns or because input (output) prices, or transactions costs are negatively (positively) related to scale over some significant range;
>
> 2) some high return production processes may require a minimum project size such that only wealthier households can afford to switch to and adopt the high return process; and
>
> 3) risk and financial market considerations may cause some lower wealth households to allocate their assets so as to reduce risk exposure, trading off expected gains for lower risk, thereby making expected marginal returns to wealth lower for lower wealth households. (Carter and Barrett, 2006: 187).

Attempting to show the accumulation failure that might result from any of these, Carter and May (2001) developed a model of poverty.[34] Motivated by narratives concerning the life-time experience of poverty contained in the SA-PPA, the first step in this analysis is the construction of an asset-based poverty threshold that replaces

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[34]/ While I contributed towards the conceptual development of the model discussed in this section and the subsequent empirical analysis as an equal co-author, it should be noted that the econometric specification of the model was undertaken by Michael Carter. *cf.* Carter and May, 2001 for detail.

the standard consumption-based money-metric poverty line discussed in earlier and Appendix Two, and which will be used for the poverty profile to be presented in Chapter Five. To do this, the standard poverty line is rephrased so that the threshold is again denoted as $\underline{c}$, whereby a household, i, is said to be poor in period t if:

$$(1) \qquad c_{it} \leq \underline{c}.$$

This single-period poverty analysis can be thought of in terms of realised levels of wellbeing, c_{it}, and the various measures discussed earlier can then be applied to produce a poverty profile that can show the incidence, depth and severity of poverty in terms of distance from the threshold. This is the conventional and static approach to poverty measurement that is widely used in most of the poverty profiles prepared for poverty reduction strategies such as those being advocated in the PRSP processes being undertaken in many developing countries.

An alternative approach is suggested by Carter and May (1999) who directly estimate $\hat{c}(A)$, that is to say, the expected consumption level, $\hat{c}$, for a household given its assets, A. These would consist of the human, social, natural, productive and financial capitals to which household members have access as described in the Asset Map shown earlier. This estimation is used to explore the structural or asset basis of poverty by developing 'asset-based poverty lines', ($\underline{A}$), defined as:

$$(2) \qquad \underline{A} = \{A \mid \hat{c}(A) = \underline{c}\}.$$

Thus $\underline{A}$ is the combination of assets that yield an expected level of well-being exactly equal to the single-period poverty line: $\underline{c}$.

Carter and May (2001) then go on to define an asset-based multi-period poverty line ($\underline{J}$) as:

$$(3) \qquad \underline{J}(\underline{u}, \delta_p) = \left(\sum_{t=0}^{\infty} \delta_p^t \underline{c} \right),$$

where t indexes years and δ_p is a discount factor. $\underline{J}$ is then the present value of a sequence of poverty level living standards.

From this, the standard definition of poverty is extended to a multi-period context in which a household is defined as being dynamically poor if:

(4)
$$J^*(A_{0i}) < \underline{J}$$

A household is thus dynamically poor if their expected long-term stream of well-being, $J^*(A_{0i})$ is less than the certain equivalence value of a stream of single- period poverty living standards. This is conditional on optimal accumulation behaviour in which the household must balance current needs with anticipated future needs and the anticipated ability to meet these.[35]

This notion that there are initial asset positions from which successful accumulation and upward mobility are not possible suggests a dynamic equivalent to the single-period asset poverty line defined in (2) above. Carter and May (2001) define this dynamic asset poverty line, $\underline{\underline{A}}$ as:

(5)
$$\underline{\underline{A}} = \{A \mid J^*(A_0) = \underline{J}\}.$$

The figure of asset-trajectories developed by Davies shown Figure 3.4 in can be reworked to depict this model of dynamic asset poverty:

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[35]/ In this approach, an economic model of inter-temporal choice underlies the proposed chronic poverty line. If a household i at time t has a vector of assets, A_{it}, in every period, it is assumed that the household chooses consumption (c_{it}) and investment (I_{it}) in order to maximise its discounted stream of expected well-being. Carter and May (2001) use Bellman's equation to show the dynamic optimisation problem as follows:

$$J^*(A_{it}) \equiv \max_{\{c_{it}, I_{it}\}} u(c_{it}) + J^*(A_{it+1})$$

$$subject\ to$$

$$c_{it} = F(A_{it}, \varepsilon_{it}) - P_t' I_{it}$$
$$A_{it+1} = A_{it} + I_{it} - \Theta_{it}$$
$$A_{it+1} \geq 0$$

where $J^*(A_{it})$ is the true value function for the underlying optimal problem and defines the maximal discounted stream of future livelihoods that household i can expect given a starting asset endowment of A_{it} and optimal future behaviour. In choosing its current period consumption, c_{it}, the household faces a trade-off between current $(u(c_{it}))$ and future well-being $(J^*(A_{it-1}))$. Included in this equation are the stochastic income shocks ε_{it} and stochastic asset shocks, Θ_{it} that the household will also confront over time. $F(\bullet)$ is a generalized earnings or livelihood function while P_t, is the vector of given market prices at which all assets and entitlements can be sold. Since it is defined in terms of expected utility, the chronic poverty line, $\underline{J}$ is sensitive to the degree of transitory poverty risk that the household faces in the future.

Figure 3.5: Modelling Trajectories of Vulnerability
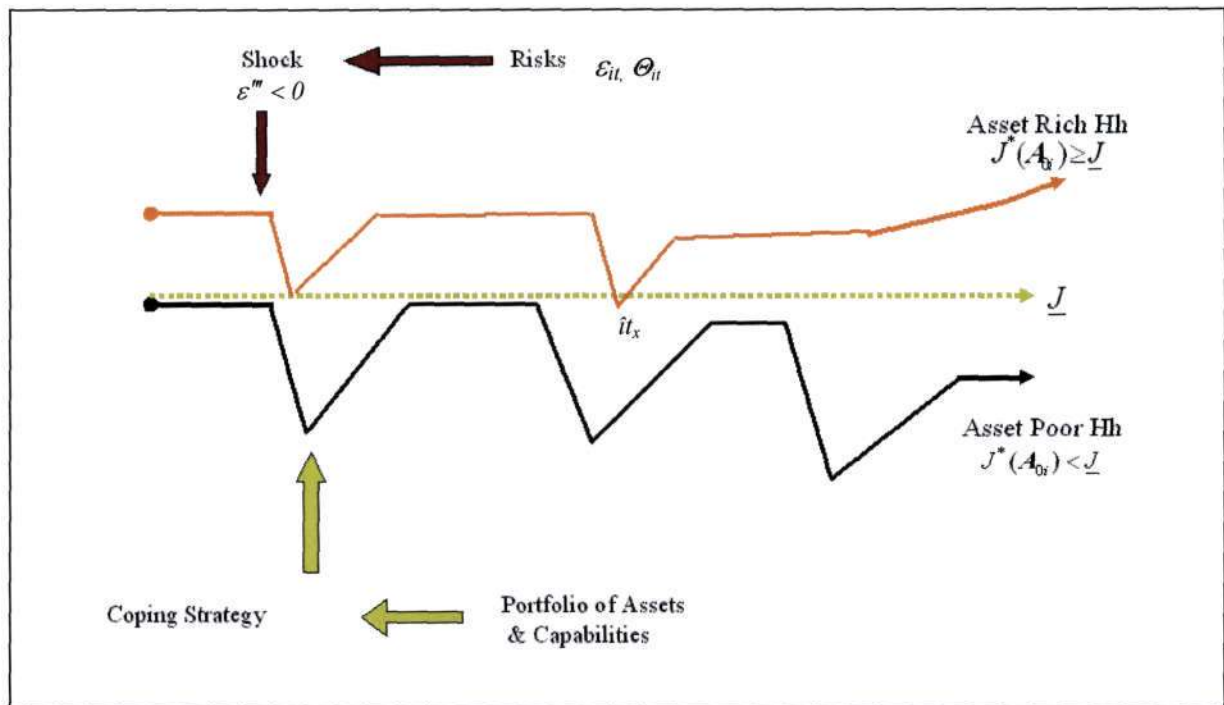
Now the difference between the two households over time can be more clearly seen. Although initially depicted as starting from the same income level, the asset poor household actually lies below the dynamic asset poverty line, while the asset rich household lies above it. Since this line divides those asset combinations from which successful accumulation and escape from poverty is possible, from those combinations from which it is not, that is to say, where $\underline{A} < \underline{J}$, the asset poor household finds itself on a downward trajectory despite successfully coping with the negative income or asset shocks that it has encountered, while the asset rich household continues on a upward trajectory despite having experienced similar negative shocks. More importantly, the time taken to recover from the shock increases for the asset poor household, while the ability of the household to recover to its initial position declines. Using this approach, Carter and May (2001) are able to provide an alternative and dynamic analysis of the poverty typologies conventionally generated by the empirical literature that has used longitudinal or panel data to examine poverty.

As already mentioned, studies using multiple observations on the well-being of a sample of households often distinguish between chronic and transitory poverty (Hulme and Shepherd, 2003). A household that is observed to be poor using a criterion such as the consumption poverty line shown in (1) above in each wave of

observation is said to be chronically poor. Households that move between poor and non-poor categories are labelled transitorily poor.

In terms of Carter and May's (2001) analysis, an alternative conceptualisation is possible in which households can be divided between those that are structurally poor (with asset holdings below $\underline{A}$), and those that are structurally non-poor (with asset holdings above $\underline{A}$) irrespective of the consumption level at which the household is observed at a particular point in time. The structurally poor can in turn be subdivided between those that are caught in a poverty trap below $\underline{\underline{A}}$, unable to accumulate; and those that are not trapped, are able to accumulate and thus are eventually able to escape from poverty. Finally, at any point in time, households may be stochastically poor (such as a household with asset holding $A''' > \underline{A}$ that that has received a shock, $\varepsilon''' < 0$, and is likely to return to its expected livelihood level in time, $\hat{c}(A''') > \underline{c}$); or, stochastically non-poor (such as a household with asset level A'' that receives an windfall, $\varepsilon'' > 0$, but that is also likely to return to its expected livelihood level of $\hat{c}(A'') < \underline{c}$).[36] The asset rich household at moment it_x would be an example of the former situation.

If this conceptualisation applies, different kinds of households could be inappropriately grouped together were the conventional chronic and transitory poverty concepts to be used, especially in short panels with observations at only two or three points in time. Included in the conventional transitory category will be households that were initially structurally poor but who have escaped structural poverty through effective asset accumulation. Also in this category will be households that were never structurally poor but who in one period were stochastically poor, as well as households that were structurally poor in all periods but who once were stochastically non-poor. Similarly, the conventional chronically poor category could include households caught in a poverty trap as well as those twice observed to be stochastically (but not structurally) poor.

Distinguishing between these different types of chronic and transitory poverty is

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[36]/ It should be noted that households would only be observed to be stochastically poor if they lack access to the capital and, or insurance markets needed to defend their living standards against such shocks (cf. Udry, 1994 as an example).

important for a variety of reasons. A society in which even structural poverty is transitory is clearly very different from a society in which large numbers of the poor are caught in a structural circumstance of persistent accumulation failure. The policy implications clearly also differ between the two circumstances. In one, time is an ally that eventually eliminates chronic poverty and interventions can be confined to reducing the time required to achieve this upward mobility, and social protection policies that alleviate the ill effects of transitory poverty. In the other, time merely oversees the reproduction of a chronically poor class and structural changes, such as asset redistribution or market reforms, may be required if poverty is ever to be eliminated. In analysing a hypothetical economy in which such class-based poverty is to be found, Figueroa (2006:4) describes such dramatic change as a foundational shock. Potentially South Africa's transition to democracy in 1994 may well have been such a society-wide shock.

3.7 CONCLUSION

A consensus that has emerged over the last decade sees poverty as generally being characterised by the inability of individuals, households, or entire communities, to command sufficient resources to satisfy a socially acceptable minimum standard of living. Poverty is thus characterised by the inability of individuals, households, or entire communities, to command sufficient resources to satisfy their basic needs. However, attention is being increasingly directed to notions of persistent or chronic poverty, and away from the static measurement of the number of households who fall below some threshold.

Assets, livelihoods and asset based vulnerability have been put forward as a way of understanding these dynamics. Whether viewed through the language of Sen's entitlement approach, or through the more conventional approach of assets and livelihood tactics and activities as described in this chapter, measurement is difficult as it refers to potential circumstances rather than to concrete conditions, Nonetheless, understanding the different forms of poverty, and the characteristics of those who find themselves in these different positions, is of particular importance to policy makers concerned with the long term eradication of poverty. Finally, as a concept, vulnerability tends often to capture the concerns of the poor to a greater extent than other concepts concerned with the analysis of deprivation, as it speaks to the

prevailing insecurity of livelihoods and of the person.

A differentiation analysis, suggested by the work of *inter alia*, Chayanov and Lenin, and in Africa, Cliffe, Murray and Spiegel, provides a hopeful direction for the analysis of livelihoods, assets and vulnerability, breaking away from the tendency to aggregate the experiences of those categorised as poor. Some work has already been undertaken in South Africa which has shown the promise that this mode of analysis offers. These themes will be returned to in the forthcoming chapters which will attempt to recast the analysis of poverty in post-apartheid South Africa in a way that is both dynamic and structural.

CHAPTER FOUR
METHODOLOGY AND RESEARCH DESIGN

One of our most daunting socio-economic issues is the great gap in development and income between people and communities. South Africa now has one of the most unequal distributions of income in the world; but still more disturbing are the millions of South Africans who have to make do with pitifully low incomes (Minister of Finance, BJ du Plessis, 1991 Budget Speech cited in Loots, 1992:459).

4.1 INTRODUCTION

Despite the comparatively high level of institutional development in South Africa, an important adjunct of apartheid was the absence of credible and comprehensive data on the social and economic conditions facing the majority of the population. Research exercises such as the 1994 Carnegie Conference on poverty helped to shed light on the conditions in the former Homeland areas, but were based on small area-specific studies rather than on a national data-base. As a result, the policies of the newly elected government, including those concerned with poverty reduction, required a substantial new data gathering exercise. The previous regime of colonial and Nationalist governments had little interest in collecting information of this nature and, indeed, often suppressed data that depicted conditions of poverty and oppression. This took the form of both direct censorship and the neglect of data relating to important social indicators including vital registration, census data and living standards data. For example, between 1976 and 1994, official statistics excluded the 'TBVC states', the Homelands of Transkei, Bophuthatswana, Venda and Ciskei that were given nominal independence by the South African government. This automatically excluded a large proportion of the poor from official statistics. While surveys continued to be undertaken in these areas, the commissioning and release of both reports and data were often subject to the whims of the Bantustan governments.[37]

Various studies and data 'panel-beating' exercises, such as those undertaken by the Development Bank of Southern Africa (DBSA, 1987a, 1987b, 1991, 1994), tried to fill this information gap using imputations and local survey data, but it was not until the 1993 Project for Statistics on Living Standards and Development (PSLSD) that a

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[37]/ Once again the terminology is deliberate: Homeland is taken to refer to the geographic area, Bantustan to the political structures that administered these areas.

comprehensive household data base for development was created. Since then, a similar data gathering exercises have regularly been undertaken by Statistics South Africa (Stats SA) (the former Central Statistical Services) including an annual household survey, originally known as the October Household Survey (OHS) now the General Household Survey (GHS), a twice yearly Labour Force Survey (LFS) and an Income and Expenditure Survey (IES) in 1995, 2000 and 2005 which is now to be repeated every three years. Long-form censuses in 1996 and 2001 provide additional data, while two Demographic and Health Surveys (DHS) have been conducted through the Department of Health.

Despite their usefulness in other ways, cross-sectional studies such as these and the PSLSD are unable to address a variety of questions, particularly those concerning dynamic processes, important to policy researchers and practitioners. With this motivation, the KwaZulu-Natal Income Dynamics Study (KIDS) was undertaken in 1998, and repeated in 2004. The objective of this chapter is to describe the methodologies used to develop alternative data sets for this purpose, including KIDS. These are the primary data used in this thesis.[38] The advantages and limitations of using a longitudinal database compared to the more commonly available cross-sectional data will be discussed. These provincial level data are supplemented by information collected for the South African Participatory Poverty Assessment (SA-PPA) undertaken during 1995/6 (May, *et al.*, 1997) and by national data gathered as part of South Africa's official statistics system. The underlying approach and methodologies used in the former study are described. However, before doing so, the other data-sets available for poverty analysis in South Africa will be briefly reviewed starting with the PSLSD.

4.2 DATA FOR POVERTY ANALYSIS IN SOUTH AFRICA

4.2.1 PSLSD 1993

The first South African national household survey, the PSLSD, was undertaken in the

last half of 1993 by a consortium of South African survey groups and universities under the leadership of the South African Labour and Development Research Unit (SALDRU) at the University of Cape Town (PSLSD, 1994).[39]

> The principal purpose of the survey ... was to collect hard statistical information about the conditions under which South Africans live in order to provide policy makers with the data required for planning strategies to implement such goals as those outlined in the Government of National Unity's Reconstruction and Development Programme (RDP). (PSLSD, 1994: i)

Similar to the Living Standards Measurement Surveys (LSMS) that have been undertaken by the World Bank in more than 100 developing countries (Grosh and Munoz, 1996; Deaton, 1997), the main instrument was a comprehensive household survey collecting a broad array of information on the socio-economic condition of households. Among other things, it included sections on household demographics, household environment, education, food and non-food expenditures, remittances, employment and income, agricultural activities, health and anthropometry (weights and heights of children aged six and under). In addition to the household questionnaire, a community questionnaire was administered in each cluster of the sample to collect information common to households in an area, such as school availability, health care facilities, and prices for various commodities.

The 1993 sample was selected using a two-stage self-weighting design. In the first stage, clusters were chosen proportional to population size from census enumerator sub-districts (ESDs) from Census 1985 or approximate equivalents where these were not available. In the second stage, all households in each chosen cluster were enumerated and then a random sample of them selected (see PSLSD, 1994 for further details).

An important component of the design, as with any household survey, was the definition of a household. To account for the complexity of the South African

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[38]/ The only other longitudinal household survey that predates the transition to democracy in South Africa of which I am aware is a small scale study in Nkandla (Ardington, 1983, 1988 and 1995). More recently the Cape Area Panel Survey (CAPS) collects data from households in the Western Cape at a more frequent interval than KIDS, and demographic surveillance sites have been established at Hlabisa in KwaZulu-Natal and Agincourt in Mpumulanga (Woolard and Leibbrandt, 2006:57). A small panel survey has also been undertaken near Bloemfontein in the Free State (Booysen et al, 2002). A National Income Dynamics Study (NIDS) is currently being planned for implementation in 2008.

situation with its history of residential restrictions and migrant labour, a two tiered definition for household members, resident or non-resident, was formulated based on time spent in residence. According to PSLSD (1994), *resident household members*, were defined as i) those who had lived "under this roof for more than 15 days of the last 30 days *and* (ii) when they are together they share food from a common source (i.e., they cook and eat together); *and* (iii) contribute to or share in, a common resource pool (*i.e.*, they contribute to the household through wages and salaries or other cash and in-kind income or they may be benefiting from this income but not contributing to it, *e.g.*, children, and other non-economically active people in the household)." The household was also defined to include *non-resident members* who were those that satisfied conditions ii) and iii) but who needed only to have lived "under this 'roof' or within the same compound/homestead/stand at least 15 days out of the past year." Only information pertaining to the household roster was collected for these members (age, gender, relationship to head, education and so forth). Only limited information was collected from non-resident household members.

The process of collecting these data and their subsequent analysis have been immensely useful in both the capacity strengthening of the South African policy research community and ultimately in guiding South African policies since the first national elections. The PSLSD has had an important role in guiding policy; for example, the allocation of state revenue between South Africa's nine provinces has drawn extensively on the data as have targeted poverty programmes such as the Community Based Public Works Programme (May and Rogerson, 2000:215). As with all such surveys of this magnitude, however, PSLSD is not without its problems and researchers must be aware of and acknowledge these. These are reviewed later in this chapter but see also, for example, Standing *et al.*, (1996).

On its own, the 1993 survey is then a good example of a cross-sectional survey, a single period representative survey, and continues to serve as a benchmark for such studies in South Africa. However, there are important limits to the policy research questions that can satisfactorily be dealt with using such data.

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[39]/ Also referred to as the South African Integrated Household Survey (SAIHS), the South African Living Standards Measurement Survey (SA-LSMS), and the PSLSD/World Bank survey.

4.2.2 Official Statistics, 1994-2004

The PSLDS helped initiate a full revision of South Africa statistical services, starting with a Presidential Project on social statistics established as a part of South Africa's Reconstruction and Development Programme (RDP). A task team was commissioned to redraft the Statistics Act which determines the structure, standards and governance of the statistical agency. Among other recommendations, this team also recommended that a more user-driven approach be adopted by the statistical agency, with greater accountability to an independent Statistics Council appointed by the Minister responsible. This led to wide ranging reforms of the former Central Statistical Services (CSS), and the emergence of a restructured agency, Statistics South Africa (Stats SA) in 1996.

Of the many studies that are undertaken by Stats SA, the 2000 LFS, the matching data from the 2000 Income and Expenditure Survey (IES) that used the same sample, the various OHS data, and the 1996 Census have the most direct relevance for this thesis. The LFS/IES uses a sample of approximately 30 000 households and is designed to be generalisable at the magisterial district level. The OHS had a similar sample size and was undertaken from 1994 and was discontinued in 1999 when it was replaced by the GHS. The OHS 1998 survey is most frequently used in this thesis as a base against which to compare the second wave of the KIDS study. In this year, a sample of 20 000 households was drawn in 2 000 enumerator areas (EAs) (that is 10 households per enumerator area). A two-stage sampling procedure was applied and the sample was stratified, clustered and selected to meet the requirements of probability sampling. The 1996 Population Census was used as a basis for the weighting and household weights were calculated by using the reciprocal of the inclusion probabilities. Unless otherwise stated estimates of the characteristics of the total population in this thesis are from the 1996 Census as a mid-point between the first two waves of the panel data.

Turning to the census data, as with most of the other data collected during the later period of the apartheid regime, the Census's of 1985 and 1991 were deeply flawed. This was due to a combination of inadequate planning, design inefficiencies and poor implementation (Khalfani *et al.*, 2005:15-17). The Censuses of 1996 and 2001 attempted to rectify these problems, and, while not without controversy, offer perhaps

the best data available since the 1970 census.

The results of the 1996 Census reveal that the South African population amounted to some 40.6 million, which was estimated to have increased to 43.3 million by 1999 (Stats SA, 2001:13) while Census 2001 estimated a population of 44.8 million (Stats SA, 2003). In 1996, just less than 78 percent of the population were African, 9 percent coloured, 2.6 percent Indian and 10.5 percent were white.[40] Further, Census 1996 suggests that the non-urban areas of South Africa had a population of some 18.7 million people or 46.1 percent of the country's total population.[41] The results of the 1996 census imply that the proportion of South Africa's poor residing in the non-urban areas was smaller than had been previously thought. Nonetheless, it seems that the absolute numbers of the rural population is not likely to shrink over the next decade and the overall trend remains a growth in the number of African non-urban households of about 1 percent per year.

4.2.3 The South African Participatory Poverty Assessment

The data above has been supplemented by information collected by the first participatory poverty assessment undertaken in South Africa, the 1996/7 South African Participatory Poverty Assessment (SA-PPA).[42] The Participatory Rural Appraisal (PRA) methodology discussed in Chapter Three was used to formulate and answer a number of the research questions of relevance for this thesis.

The objective of the SA-PPA was to provide a fuller and more integrated understanding of poverty from the perspective of those who are poor and to fill the gaps which a quantitative study such as the PSLDS cannot readily explain. In particular, the multi-dimensional experience of being poor, and the perceptions of those in this situation towards the causes and relief of their poverty could not be assessed from the available data in the PSLDS and the subsequent cross-sectional studies. In particular, the SA-PPA attempted to enhance, enrich and complement the

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[40]/ In line with most research on South Africa, the population group categorisation used in official statistics has been adopted in this thesis (Stats SA, 2001:9).

[41]/ With the introduction of municipalities throughout South Africa, the previous definition of 'urban' as areas in which there was a formal authority becomes redundant. Stats SA plan to make use of a population density definition for Census 2000 which will result in problems of comparability. This has not yet been released and thus these are the most recent figures for urban and non-urban areas.

[42]/ Some of the material used in this section has been taken from May *et al.*, (1998) for which I was the lead author.

picture of poverty provided by other sources through focusing on a number of specific objectives. Firstly, the SA-PPA set out to explore local conceptions of poverty, vulnerability and relative well-being in poor urban and rural communities (as well as local understandings of the causes/determinants of those conditions). This includes the view of 'the poor' as well as the view of those who are delivery agents, policy makers and researchers. The SA-PPA also sought to draw out what people who described themselves as poor see as the most significant constraints that they face; how their understanding of these constraints determines their use of resources and services; and their perceptions of the most effective actions for poverty reduction which can be taken by i) individuals or families, ii) communities, iii) government agencies, iv) other institutions. Once again, this includes the view of those who are delivery agents, policy makers and researchers. The provision of information on the intra-household component of poverty including gender and generational aspects was another issue that was included. Finally, the SA-PPA hoped to provide information on dynamic dimensions of poverty and vulnerability which are of critical importance to the poor, and which are particularly suited to investigation through qualitative and participatory research methods. Examples of these include: intra-household aspects of poverty, including the survival strategies of the poor in relation to different types of risk/vulnerability including seasonal stress and various kinds of shocks; and time-depth analyses through life-history constructions.

The approach that was adopted by the SA-PPA reflected recognition of the wealth of experience that already existed in South Africa at the time of the study in terms of participatory forms of research and development. As such, it was decided that simply contracting researchers and research organisations to undertake research in pre-determined areas would not be an appropriate approach. Instead, NGOs, CBOs and academics who had been involved in poverty research, and in 'on-the-ground' development initiatives, were invited to submit proposals for funding which would build on their existing work.

Eventually, the SA-PPA included fifteen studies and involved some 45 researchers from 20 organisations. Work was undertaken with 25 communities, ten of which were located in KwaZulu-Natal, seven in the Eastern Cape and four in the Northern Province. The study covered sites in seven of the nine provinces of South Africa

excluding only Gauteng and the Free State. Judging the actual number of participants in the studies is difficult, since a large group does not necessarily imply that all who attended the workshops and meetings actually participated. Nonetheless a rough estimate suggests that the SA-PPA included about 1400 people.

4.3 BUILDING PANEL DATA IN KWAZULU-NATAL

4.3.1 The Case for Longitudinal Data

Despite the dissatisfaction sometimes expressed about the pace of change in South Africa, it is clear that South Africa has undergone a dramatic economic, political and social transformation. Therefore, with increasing urgency, policy makers are keen to learn how South Africans have coped with these various changes, something the PSLSD survey alone cannot do. One way to learn about how South Africans are faring is to carry out another representative household survey on a new sample (namely a new cross-sectional survey). Provided the sample frame is current, this type of survey has the desirable property that it is representative of the overall population at the time of the survey. Current representativeness is especially important in a country whose population is growing and whose people are migrating, as appears to be the case in South Africa in recent years. This approach, referred to as repeated cross-sectional surveys, is adopted by Stats SA in the annual October Household Surveys (OHS) already discussed. Much has been learned from these surveys, with for example, Budlender (1999a) providing a useful update of South Africa's poverty profile based on the 1995 OHS and five-yearly IES conducted in same year. Leibbrandt and Woolard (1999) use two cross sections (PSLSD and 1995 IES) to compare different measures of poverty within and across time. Klasen and Woolard (2001) use several cross-sectional surveys to assess trends in unemployment in the 1990s. By design, the samples used in these studies are representative 'snap-shots' of their respective time periods. Therefore, they can be used to analyse changes over time for indicators such as rates of poverty for the general population.

Cross-sectional surveys cannot, however, answer a number of important dynamic questions. For example, while they can tell us whether poverty rates are decreasing, increasing or holding level, they cannot tell us about the fate of individual households over the period. Suppose cross-sectional surveys at two points in time reveal that the

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poverty rate is the same in each period. This could be the result of the same households having been in poverty in 1993 and 1998. Alternatively, it may be that some households exited poverty over the period, while an equal number entered. As already discussed, such distinctions, missed by cross-sectional surveys, might be very important in determining an effective policy response which may differ for chronic (the first case) versus transitory (the latter) poverty (Chaudhuri and Ravallion, 1994).

To better understand what is happening to individual households over time, or the dynamics of their situation, a different type of survey is required in which *the same* households interviewed in the first period are re-interviewed in the subsequent survey.[43] Typically referred to as longitudinal or panel surveys, with this sort of information one can determine whether the same or different households are in poverty in the two periods and an examination of the processes underlying these transitions can be made. Several well-known panel data sets exist which have been used to analyse a range of issues. Selected examples include the determinants of income mobility using the Cote d'Ivoire Living Standards Survey (Grooteart and Kanbur, 1995), access to rural assets using the International Crops Research Institute Semi-Arid Tropics Village Level Studies in India (Gaiha and Deolalikar, 1993) and the influence of family history on children's well-being using the Panel Study of Income Dynamics in the United States of America (Brooks-Gunn *et al.*, 1993). In a special edition of the Journal of Development Studies, Baulch and Hoddinott (2000) provide a useful review of further examples.

In sum, an important advantage of longitudinal surveys is that they allow us to analyse the dynamic behaviour of individual households, something not possible with standard cross-sectional surveys. A second advantage is that in many econometric analyses, longitudinal data enable us to control for unobserved, time-invariant characteristics of households that may bias efforts to estimate causal relationships using cross-sectional data (May and Roberts, 2001:100). For example, observing or measuring a family's preferences and priorities for educating their children is difficult to achieve in a single-period survey. It is quite likely that families that put a high priority on education will work extra hard to obtain income needed to pay school fees. However, when cross-sectional data is used in an effort to discover the impact that

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[43]/ Part of this section is derived from May and Roberts (2001) for which I was the lead author.

family income has on education, it is likely biased results will be obtained because the families that are observed with the highest income may also be those who prioritise education the most. Estimates derived from such data will thus tend to overstate the impact that income transfers would have on educational decisions of families that give only an average priority to education. In contrast, with longitudinal data, panel data methods can be used to control for time invariant preferences along with other family characteristics and thereby obtain unbiased estimates of the impact of income on education.[44] Numerous other examples relating to similar endogenous problems of choice are possible, including variables often taken as given, such as household size and composition as already discussed.

Despite these advantages, it must be stressed that unlike cross-sectional surveys that are always representative samples for their particular point in time, longitudinal surveys, including the one described below, cease to be representative of the overall population after their first survey round. The representativeness of subsequent rounds is diminished further in rapidly changing countries and due to the sample attrition that inevitably occurs over time. Of equal concern are the problems associated with distinguishing real trends in the data from the noise produced by respondent, fieldworker and other sources of measurement error. Methods are being developed to assist with the identification of such error and some of these are discussed further in Appendix One.

4.3.2 The KwaZulu-Natal Income Dynamics Survey (KIDS) 1998

With the aim of addressing research questions concerning the dynamics of poverty in South Africa, households surveyed by the PSLSD in KwaZulu-Natal province in 1993 were re-surveyed from March to June, 1998, and again in March to August, 2004 by

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[44]/ This latter advantage must be balanced with an associated disadvantage that many estimators that take advantage of panel data's capacity to control for unobserved characteristics are quite sensitive to measurement error.

the KwaZulu-Natal Income Dynamics Survey (KIDS).[45] The re-survey was directed

by a research consortium including the University of Natal, the University of

Wisconsin, the London School of Hygiene and Tropical Medicine and the

International Food Policy Research Institute and the methodology has been detailed

elsewhere (May *et al.*, 2000; May *et al.*, 2007). This section will thus summarise the

major features of the study.[46]

The choice of KwaZulu-Natal was in part the result of practical considerations

including a confluence of research interests, resources, and the feasibility of locating

the households interviewed in 1993. However, this approach is not without

justification. Although generally cautious about the feasibility of maintaining

rigorous panel data, Deaton (1995:1805) suggests that surveys based on such

opportunism may well be the most promising line of research of this nature.

In 1993, the KwaZulu-Natal portion of the PSLSD sample was representative at the

province level, conditional on the accuracy of the 1985 census and other information

used as the sampling frame, and contained 1558 households of all races located in 73

sampling points or clusters, 23 in the former 'white' province of Natal and 50 in the

former Homeland of KwaZulu. To ensure comparability, the 1998 household

questionnaire largely followed the 1993 version, though there were some important

changes.[47] One of these was a greater focus on individual (as opposed to household)

ownership of assets and control over their use so that gender-differentiated analysis is

possible. A second underlying change was an expanded emphasis on the set of

individuals not living in the household but economically linked to it. Finally, four new

sections were added including economic shocks (both positive and negative), social

capital (including group membership, kin networks, civic engagement, and trust),

assets brought to marriage, and household decision making.

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[45]/ In 1998 financial support for the KIDS project was provided by the United States Agency for
International Development (Office of Women in Development - Grant Number FAO-0100-G-00-5050-
00 Strengthening Development Policy through Gender Analysis); the BASIS/CRSP project at the
University of Wisconsin-Madison, and a University Partnership Grant); the Ford Foundation; the
National Research Foundation (NRF); and the Development Bank of Southern Africa. The assistance
of SALDRU must also be acknowledged. The third wave of KIDS undertaken in 2004 was funded by
DFID, the Mellon Foundation, NRF; Norwegian Research Council and USAID. For the record, I was
involved in data collection in 1993, one of the three project directors in 1998 and led the collection of a
third wave of data in 2004. The latter data were released into the public domain in June, 2006.
[46]/ Part of the section is derived from May *et al* (2000) for I was the lead author.
[47]/ All three questionnaires are available at www.sds/ukzn.ac.za and so are not provided as appendices.

The household questionnaire was necessarily quite involved and to ensure data collection accuracy, survey enumerators were trained for over two weeks including practice interviewing on non-sample households. In the field, the questionnaire took close to three hours on average to complete, often requiring repeat visits in order to overcome respondent fatigue. To the extent possible, the new sections on economic shocks and social capital were replicated in 69 community level surveys.

Given the various purposes for the study such as the analysis of income generation, child health, and so forth, the identification of 'main' decision-makers within households was very important to enable the collection of longitudinal data on them. In 1993, PSLSD recorded a head for each household. The head could be either a resident or a non-resident member of the household and was simply that person designated by the survey respondent to be the household head. The 1993 enumerator training manual offers no additional guidance or criteria for this designation. While in many instances it might be correct to assume that this 'self-declared household head' corresponds to a main decision-maker, given the cultural diversity and complexity of households in South Africa, this may be not always accurate. For example, in three generation households, the survey respondent might declare the eldest the head but an employed middle aged child is really the primary decision-maker. To capture some of these complexities, the research team felt an expansion on the self-declared concept was necessary. This was done in an *ex-ante* fashion, through analysis of the 1993 data, and *ex-post* during the 1998 survey.

These individuals who are likely to be key decision-makers are termed 'core' persons. A household member was designated *ex-ante* as a core person if he/she satisfied *any* of the following criteria:

1) A self-declared head of household (from 1993)

2) Spouse/partner of self-declared head of household (from 1993)

3) Lived in a three generation household *and all of the following were true:*

   • Child, child-in-law, or niece/nephew of self-declared head

   • At least 30 years old

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- Have at least one child living in household

4) Spouse/partner of person satisfying criterion (3)

Therefore all heads of households and spouses of heads are automatically included and in some three-generation households, adult children are included. The rationale behind this was to go beyond what might more conventionally be called heads of household. While the 1993 survey identified such an individual for each dwelling, analysis of this headship data revealed that the head was almost inevitably the oldest resident of the dwelling. While the decision-making power and social status of these individuals is doubtless real, the concern was that focussing solely on them would result in overlooking other relevant household decision-makers. This concern is supported by a number of studies of the problems associated with the 'head of household' concept in South Africa (Ardington and Lund, 1994; Budlender, 1999b) although Posel (2001) presents a convincing argument in favour of using self-declared headship. For the purposes of this thesis, three headship categories will be discussed: *de facto* male heads – the self-declared resident male head; *de facto* female head – the spouse of the self-declared migrant male head or a female designated as head when a female head was a migrant, and; *dejure* female head – the self-declared female head.

Prior to beginning fieldwork, a list of the core persons in the household was identified using the criteria above. These people were to be tracked to their new dwelling units if they had moved. This designation was pre-printed on the household roster. This methodology should mean that fewer key decision makers in the household are missed than if only the self-declared heads were focused upon. In addition, guidelines were provided for designating new core persons to avoid missing other key decision makers in the household.

Another important aspect of the 1998 re-survey is that, when possible, households which had moved were tracked, followed, and re-interviewed. While the tracking procedures were somewhat more involved the main elements were that core persons were to be followed if they had moved and were no longer regarded as members of the household.[48]

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[48]/ See the KIDS 1998 field worker training manual for details which is also available at http://www.sds.ukzn.ac.za.

4.3.3 KIDS 2004[49]

The third wave of data collection was undertaken in 2004. As before, the study is based upon the original 1993 household socio-economic questionnaire and includes the collection of anthropometric data on children. New modules include the administration of a literacy test to children aged 7-9 years, a module on employment histories and one on the Child Support Grant (CSG). In addition, several existing modules have been expanded or amended, including those on deaths in the household, on health and caring, on social capital, and on children.

Using the same approach as in 1998, the strategy was to identify and survey the households of the core members of the original panel of households. Where core household members now live apart, all the households that they had joined or had established were followed up wherever feasible. Moreover, it was decided to refresh the panel by designating the adult children of core household members who have established their own households and now have children of their own 'next-generation' cores and to survey their households as well. In addition, core members' children aged less than 18 years who are being cared for by other households were also tracked in order to investigate the welfare of foster children and increase the number of children on whom longitudinal information is available. In the survey documentation, these three groups of households are referred to as C (core), K (adult children of cores who have children and established their own households) and N (children aged less than 18 of cores who are being cared for by others). The questionnaires for the C and K households are similar, although the latter form includes questions about the parents of next-generation core members that had already been collected from the original core members in earlier waves. For the N group of households, the questionnaire covers only information on the household's composition and expenditure, the characteristics of the dwelling and the characteristics of the children themselves. The bulk of the analysis in this thesis confines itself to C households unless otherwise stated.

As with the 1993 wave of data collection, the pilot study of the redesigned questionnaire was conducted in November, 2003 with PSLSD households from the Umzimkulu district of Eastern Cape and households in the Cato Manor settlement in

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[49]/ Part of the section is derived from May *et al.* (2007) for I was the lead author.

Durban . An improved community-level questionnaire was developed which collected information from key respondents by means of focus group discussions. To complement this information, geo-referenced data on the location of every household was collected using Global Position System (GPS) devices and a secondary data base compiled of existing geo-coded information, including access to services and facilities. Finally the qualitative component of the study was strengthened to include key informant interviews, focus group discussions and community and household case studies that combine ethnographic and structured interviewing techniques.

A scan of eligible households was undertaken in February, 2004 prior to the main fieldwork. It involved visiting all households to be surveyed to gather information about household membership and migration, including households in the three clusters in which fabrication had been suspected. The scan found that 916 core persons could be located, 469 children of core persons had established their own households, and 242 foster children were living with other households. This gave a provisional count of 1713 households to be interviewed, 113 more than originally estimated. The scan located a number of households from the three suspect clusters and interviews were conducted with them in 2004.

Unless otherwise referenced, all KIDS data in this thesis refers to 865 African and Indian core households in the PSLSD data base that were surveyed in 1993, 1998 and 2004. The sample size of each table represents the number of households from this group for which information is available. In specific tables and figures, the 469 next generation households have been included in the analysis and are indicated as such. Unless indicated otherwise, the PSLSD data refer to all population groups in all provinces that were surveyed in 1993 and are weighted according to the 1991 Census. Also, unless indicated otherwise, all OHS'98 individual data has been weighted by the variable PERSWGT. In addition, unless stated otherwise, the white and coloured sub-samples have been excluded from each data set to ensure comparability with the KIDS data. Finally, unless reported otherwise, differences between the three waves of KIDS are not statistically significant.

4.3.4 Ethical Approval, Community Feedback and Data Collection

Each wave of the study underwent ethical review and the fieldwork in 2004 was

approved by the ethics committees of all three universities involved with regard to issues such as confidentiality, anonymity, the right of refusal and signed informed consent. Respondents were asked in 1998 whether they were willing to be revisited. Only those that agreed were approached in 2004. Respondents were given the opportunity to withdraw from the interview at any point or to refuse to answer specific questions. An incentive was given to the respondent in each household irrespective of whether they participated, but always at the end of the interview. It included household cleaning products and food. Respondents were also given a user-friendly, local language leaflet outlining the study and previous results. The interviewers' training included a session that dealt with ethical issues, including those that might arise in measuring the heights and weights of children and testing their literacy and numeracy.

Permission to work in the survey areas was obtained in advance from the relevant administrative authorities (municipal offices and/or traditional leaders). They were provided with information packs that contained summaries of the results from the previous waves of data collection and also included development-related material sourced from government and NGOs. Enumerators carried identification, introduced themselves to respondents and provided letters of support from the research team's universities and the Department of Social Development. The questionnaire and an informed consent form were translated into isiZulu and back-translated into English, to ensure consistency of interpretation, and administered in the language of the respondent, either English or isiZulu. Approval was obtained from their legal guardian(s) for the participation of children under 14 years of age before any data collection took place. Oral consent was sought from children that were old enough to understand the request that was being made.

Two weeks of intensive interviewer training was undertaken in March 2004. Fieldwork commenced immediately thereafter. During the fieldwork, check backs to households were undertaken by both the contracted survey company and independently by the research team. Measures adopted to ensure the collection of high-quality data include a ratio of one supervisor to four fieldworkers, a requirement to complete only an average of one interview each day, the collection and capturing of detailed administrative information concerning the interview and quality control

processes, and a comprehensive in-office quality control procedure. The questionnaire was completed over two visits for more than three quarters of the households: the average time for the first visit was two hours and that for the second visit was 1.2 hours, with an average total contact time of 2.8 hours per household.

Some 90 percent of the interviews were conducted by the end of July 2004 and a preliminary version of the data was delivered to the data checking team in September for scrutiny. Review of these data identified a few systematic problems with the field procedures and further interviews were undertaken to improve the follow up of households that had moved between 1993 and 1998, between 1998 and 2004, or between the scan of eligible households and the actual field work in 2004. These interviews also collected full information on deaths in those households where all the core persons had died. Fieldwork was concluded on 10 January, 2005 and the data were placed into the public domain in June, 2006 after being cleaned.

4.3.5 Attrition Rates in KIDS

The extent and nature of sample attrition is a crucial question for analysis using longitudinal data as the impact of this might be be both systematic and difficult to detect. As discussed in May *et al.*, (2000) and Maluccio (2000) analysing the 1993-98 panel, any response rate less than 100 percent implies some sample bias as households that might remain in the sample may have different characteristics from those which do not. These might be characteristics that can be observed, unobserved or even unobservable by the researcher. In theory, three factors underlie the level of attrition in a panel study: the mobility of the target population, the success with which those who move are followed and interviewed, and the number of refusals. In practice, additional attrition may arise from other problems or errors in the fieldwork (both in earlier rounds and in the index one). A number of protocols were put in place to minimise attrition in the 1998 and 2004 re-surveys.

The combination of core persons, of which there were often more than one in an original 1993 household, and tracking movers meant that it was possible for original households to split and for the split-offs to remain in the sample. In the field, for 36 original 1993 households in the sample, two (or more) interviews were completed in 1998. As a result, it is possible to analyse the sample as a panel of households

(ignoring or possibly recombining the split-off households) or as one of Core persons.

As already mentioned, in total, the original PSLSD survey included 1558 African, Indian, coloured and white households in KwaZulu-Natal. Of these, 165 white and coloured households were excluded from the sample frame of KIDS due to the sampling biases that seemed likely given the small sample size and the distribution of the clusters that were sampled. This produced a target of 1393 households to be interviewed in 1998. Four households were confirmed to be extinct in that all household members found in 1993 had died. A further 216 households could not be located by KIDS in 1998, of which 164 were African, while 137 mostly African households were initially removed from the data set as these were suspected as having been fabricated either in 1993 or 1998. Careful checking of the data and of the field records suggested that this event was unique although three suspected clusters were removed pending further investigation. The third wave of KIDS undertaken in the first half of 2004 visited the clusters in which fabrication was suspected. Although attrition rates were high in these clusters, careful investigation in the field found valid reasons for this and no firm evidence of fabrication. These clusters have therefore been reinstated in the 2004 release of KIDS.

Thirty six households had fragmented, splitting into two, and in three cases, three households. Thus an additional 42 households were surveyed that contained core household members. When the analysis uses the waves of data as cross-sections, these split-off households have been included and not re-combined unless specified otherwise. Finally, five outliers with very high monthly incomes compared to their monthly expenditures have also been excluded.[50]

In 2004 tracking of the next generation was undertaken whether or not the parental core members were alive. Therefore, unlike in 1998, the household-level response rate in the third wave of KIDS incorporates 1993 'dynasties' where all the core members have disappeared or died but information was obtained on the households of children of core individuals who had established a new family (K group) or on core individuals' underage children who had been fostered out of the original household (N

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[50]/ In three of these cases, the household had received a retrenchment package or inheritance, in the remaining two cases, members of the household were running shops and drawings from the business appears to have been confused with the turnover. The Household Identification numbers (HHID) of these cases were 1970120, 2030080, 2100070, 2280140 and 2140090.

group).

Of the 1354 households interviewed in 1993, the second wave in 1998 found 1132. May *et al.* (2000) and Maluccio (2000) describe the response rate in 1998 in more detail. The third wave of the study interviewed 865 households containing core individuals. These core members originated in 760 of the original households or dynasties interviewed in 1993. The 865 core households represent 95 percent of such households initially identified as traceable in the scan. In 180 of the 760 dynasties that were traced, information was also collected on one or more next-generation households that had split off from the parental household. In addition, one or more households were surveyed containing children fostered out by 132 of the dynasties. However, interviewing next-generation households in 2004 (K and N groups) reduced the attrition of individuals but not of the dynasties themselves.

Although KIDS 2004 failed to track any surviving core members, information was obtained on a further 81 of the 1132 dynasties contacted in 1998 by conducting an interview in one or more next-generation (K or N) households containing children of the core individuals. In almost 60 percent of these dynasties, the interviews established that all the core members of the original household had died and provided information on these deaths. This sub-set of the original households has become extinct according to the study's definitions, rather than having been lost to follow up.

In total, 2004 data exist for 74 percent of the dynasties contacted in 1998 and 62 percent of the eligible households interviewed in 1993. It is important to note that, although we only traced 841 dynasties, far more than 841 questionnaires were completed: in addition to the 105 additional core households generated by splits, the 2004 wave obtained data on 49 extinct core households, 319 next-generation households (68 percent of those identified by the scan) and 193 households containing foster children (41 percent of those identified by the scan). The main reason for the high rate of attrition of foster children is that they are very mobile. The interviewers usually located the household identified in the scan as the child's home, but often found that the child either had never lived there or had already moved elsewhere.

The attrition rate of 26 percent of dynasties between the second and third waves of the study is higher than that between 1993 and 1998. Aging of the core members and the

impact of HIV/AIDS on adult mortality suggest that one reason why a lower proportion of dynasties were tracked was that more core households had ceased to exist because the last core member died than in between the first two waves. Also, increasing levels of internal and external migration in South Africa may be making households more difficult to track. For comparison, the LSMS Cote d'Ivoire panel survey in the late 1980s suffered more than 10 percent attrition in only one year (Grootaert and Kanbur, 1995) and the Peruvian (Lima) LSMS lost track of more than 40 percent of the original sample after five years (Glewwe and Hall, 1998). On the other hand, the second wave of the Indonesian Family Life Survey successfully re-interviewed more than 93 percent of the sample after four years (Thomas *et al.*, 1999).

Most surveys of this type that are carried out in developing countries report low refusal rates. This is true in the KIDS survey: only eleven re-contacted households refused an interview. Many surveys in developing countries do not attempt to track movers. Had that strategy been followed, only 80 percent of the target households would have been re-interviewed. Put another way, the tracking procedures yielded a 25 percent reduction in the level of attrition between the surveys.

Re-interview rates were higher in urban areas, where 90 percent of the target households were re-contacted. In large metropolitan areas, a sub-set of the urban sample which are characterised by more permanent housing structures and street addresses, re-interview rates were highest. There was less success when re-interviewing Indian households, over 20 percent of which had moved between the survey rounds.

For more than one third of the households that were not re-interviewed, information collected verified the household had moved but was not detailed enough to allow tracking to a new residence. For the remaining households, however, there was simply no trace of the household, and no one approached in the community recognised the name of any household members when presented with the 1993 household roster. Maluccio (2000) shows that it is important to distinguish between these two groups: those who are known to have moved and those who seemingly left no trace. While the loss of the former group may be regarded as attrition, the prospect that the latter group may represent bogus interviews has to be acknowledged as was found for at least two clusters of the KIDS clusters when a subsequent round of

qualitative data collection revealed that 36 households had been fabricated in both 1993 and 1998.

Overall, those not re-interviewed were significantly more likely to be Indian rather than African, have higher per capita income, higher per capita expenditure, more educated household heads, and more durable assets. Obviously these variables tend to be correlated, and the comparisons suggest that the attrition present in KIDS is non-random (Maluccio, 2000). This fact, together with the limitations of the original 1993 sampling frame and the criteria used to define core members, implies that the KIDS study is not a representative sample of the Africans and Indians living in KwaZulu-Natal from 1998 onwards. In particular, it is likely to necessarily under-represent 'younger' households formed since the first survey. While this is a downside of any panel study, the gains from a longitudinal dataset are considerable if analysed and interpreted with care.

4.3.6 Quantitative/Qualitative KIDS

In 2001, KIDS was supplemented by an in-depth study of a sub-sample comprising 50 households. These households were purposively selected from seven of the KIDS sampling points according to their poverty status.[51] Respondent households were identified which fell into four different dynamic poverty groups identified by Carter and May (2001): those that were poor in both periods (chronic poor); poor in 1993 but not in 1998 (got ahead); not poor in 1993 but poor in 1999 (fell behind) and not poor in both years (never poor).

Taking advantage of the qualitative methodology, between four to six hours were spent in each household, usually split over several days. The interview was organised around the development of a Household Events Map with household members though which key events in the household could be identified over the period 1990 to 2001. This was supported by a semi-structured interview.

4.3.7 Limitations of the PSLSD Data

While considerable effort was made to ensure the integrity of the original PSLSD, the

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[51]/ See Adato *et al.*, (forthcoming) for a more detailed discussion of the methodology of the qualitative study.

subsequent KIDS and the SA-PPA, a number of problems with these different data must be recognised. The first of these relates to the spatial characteristics of the households that are included in the survey. More than a decade after the transition to democracy in South Africa, debate continues over the definition of urban and rural in South Africa. In the current policy debate, rural areas are defined by the Department of Land Affairs as "...the sparsely populated areas in which people farm or depend on natural resources, including the villages and small towns that are dispersed through these areas. In addition they include the large settlements in the former Bantustans created by the apartheid removals, which depend for their survival on migratory labour and remittances" (DLA, 1997:1). As noted earlier, Stats SA are currently reviewing the definition of urban and rural using a standard United Nations approach based on population density and urban functionality but have yet to release new guidelines.

The PSLSD defined three area categories on the basis of Census 1985 with some adjustments taken from Census 1991. These area codes were: metropolitan, referring to the urban areas of Gauteng, Durban and Cape Town; urban referring to those areas which are proclaimed as urban in the Population Census; and non-urban, referring to the rest of South Africa. In terms of the data in focus, the distinction between rural and peri-urban settlements within the classification non-urban is not clearly drawn out. For example, an area such as Ezakheni in KwaZulu-Natal is included in the non-urban classification, although it could be more appropriately considered to be a peri-urban area, given its close proximity to the urban area of Ladysmith, its population density and its relatively well developed service infrastructure. This means that the non-urban data does not simply refer to rural communities, but also to areas which may be functionally described as being urban, even if their official status is rural. Secondly, there may be differences in the nature of service provision to peri-urban areas when compared to deep rural areas and the data may not give an accurate representation of conditions and needs in rural areas. For this reason, when referring to official statistics and to the KIDS data, in this thesis the term 'non-urban' is used to distinguish the earlier formal definition of Stats SA from functional definitions such as that provided by the Department of Land Affairs (DLA), while urban refers to the metropolitan and urban codes of PSLSD.

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The population figures used in the sample design of the PSLSD were based upon the results of the 1985 Population Census, and then re-weighted to Census 1991. However the 1996 Census suggests that earlier Census data, and subsequent projections, have tended to over-estimate the size of the South African population (Khalfani *et al.*, 2005:18). More importantly for this study, it seems possible that the number of *poor* people has been overestimated, since the size of the rural population and of the poorer provinces (such as the Limpopo Province) is smaller than expected. Conversely, measures such as disease incidence rates (including HIV/AIDS), crime rates and perhaps adult illiteracy may have been worse than previously thought.

Another problem with the full PSLSD data concerns the small sample sizes in Western Cape, Gauteng and Northern Cape. This has had two implications, the first being that the results of the survey cannot be generalised to all of the nine provinces with any confidence. Consequently, in most instances the data is not analysed regionally in this report, although it is very likely that poverty profiles in South Africa will have a strong regional variation. It is important that this is borne in mind when considering regionally specific policy implications and for this reason the OHS data may be more reliable. However, this problem obviously does not affect the KwaZulu-Natal based KIDS data.

In addition to these specific problems, in some areas, and for some questions, there is a concern that the data has been poorly collected, coded and cleaned. The anthropometric data in the 1993 round of data collection is one area of concern. This has meant that analysis has had to be confined to more robust techniques, and that certain themes planned for analysis have had to be scrapped, chiefly an examination of the changing well-being of children as a window into poverty. These problems were addressed in 1998 and in the 2004 wave of KIDS.

Despite this, a comparison of the data with similar studies undertaken in South Africa indicates similar results in a number of critical areas, including income, demographic composition and survival strategies. For example, while the mean household size of all African rural households found by the PSLSD was 5.2, smaller than that found by the 1992 KwaZulu Income and Expenditure Survey which reported a *de jure* household size of 7, and a *de facto* size of 6.2 (DRA, 1993a). Indeed, closer examination of the PSLSD data indicates a similar tendency for households in

KwaZulu-Natal to be larger than elsewhere in South Africa.

Furthermore, mean incomes found by the PSLSD compare favourably to those found by other research. For example, this study reports a monthly income for African rural household of R811.82 in 1993, the 1992 KwaZulu-Natal study reports a monthly income of R788.31 in 1992 and the National Energy Study reports a monthly income of R796.15 in early 1993 (DRA, 1993a; DRA, 1993b). For these reasons, the PLSLD database extended into the KIDS panel study is seen as a useful and largely reliable primary resource for this research.

4.3.8 Exclusion of Whites and Coloured Populations

As mentioned, it was decided not to re-survey the white and coloured households in 1998 or 2004. While there were minor advantages to retaining these groups, such as the maintenance of overall sample size and the value of sampling all ethnic groups in the province, in fact the sample size of these two sets of households was too small to permit comparative ethnic analyses.[52] Moreover the households in these groups are entirely located in a small number of clusters (due to the general lack of spatial integration of the population), which appear to be non-representative at the ethnic group level.

4.3.9 Problems relating to Income and Expenditure[53]

As discussed in Chapter Three, an analysis of changes in money-metric well-being is confronted with the choice of indicator, in this case between the reported incomes and expenditure. A detailed discussion of the data is provided in Appendix One, and the findings support the views of many analysts of poverty data who agree that consumption is a more reliable and consistent indicator due to fluctuations in income over time and the tendency to under-report income (Deaton, 1997, Lipton and Ravallion, 1997). In the case of KIDS this problem will have been exacerbated by the change in the questionnaire just noted and the estimates of income and expenditure

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[52] There were 112 white households totalling 295 individuals and 53 coloured households totalling 249 individuals in 1993. As an example of the impact of the problems of sample size and representativity, at a 95 percent confidence level, the mean expenditure for Africans was between R1191.25 and R 1284.92 while that for whites was between R3582.28 and R4475.27, a difference of 7 percent of the mean for Africans and 22 percent for whites.
[53] Part of the section is derived from Agüero et a., (2007). I was the lead author for the analysis that has been included.

have been a concern for many analysts using the first two waves of KIDS.

While the expenditure data suggest an increase in poverty between 1993 and 1998, the income data show the reverse. As will be discussed in Chapter Five, using the three waves of data for core households only, Agüero et al., (2007: 6) report the headcount index of poverty (P^0) using expenditure increased from 0.52 in 1993 to 0.57 in 1998, before falling to 0.47 in 2004, whereas when income is used, the headcount declines continuously from 1993. This suggests a complex pattern of under/over-reporting at least between 1993 and 1998: income may be under-reported at lower levels and over-reported at levels closer to the poverty line or expenditure may be over-reported at lower levels and under-reported at levels closer to the poverty line.

One concern arises from the fact that the 1998 and 2004 KIDS questionnaires were modified modestly in order to ensure more accurate reports of both earned and unearned income. For example, in the later surveys, prompts were used to encourage respondents to report income from economic activities, "...no matter how small or temporary." The agriculture module was also redesigned and more carefully implemented in the later survey periods. Another possible explanation for the discrepancy between the income and expenditure measures is that expenditures were over-reported in 1993. There is some basis for this possibility. The 1998 and 2004 surveys collected all food expenditure data on a 30-day recall period. In contrast, the 1993 survey allowed respondents to choose between seven-day and 30-day recall periods on a commodity-by-commodity basis. In an experimental test of the impact of recall period on expenditure reporting, Scott and Amenuvegbe (1990) found that shorter recall periods lead to higher reported expenditures (also see Tarozzi, forthcoming; Deaton and Grosh, 2000). While forcing a seven-day recall period on low frequency food purchases will logically lead to an over-reporting of these expenditures, it is important to recognize that the 1993 data used in the KIDS study allowed respondents to choose the recall period (a choice that did not exist in the Scott and Amenuvegbe experiment).

Closer analysis of the KIDS 1993 data show that in fact the longer 30-day recall period was used by over 60 percent of respondents for 23 out of the 30 food commodity groupings. The only two commodities for which more than 60 percent of respondents used the 7-day recall period are milk and bread, two commodities that

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probably really are purchased at high frequency.[54] Deflating those food expenditures reported on a 7-day basis as suggested by the Scott and Amenuvegbe findings does reduce the extent to which expenditure declined between 1993 and 1998 but does not reverse the trend of increasing poverty.

Another way to explore the reliability of the expenditure measure is to examine the behaviour of the food expenditure share. Within each period, the food share declines, as would be expected, as total expenditure increases. The food expenditure share also declines across years for all expenditure deciles, a somewhat surprising finding for the lowest three expenditure deciles as real total expenditures fell for each of those lowest deciles. Inspection of the South African Income and Expenditure Surveys for 1995 and 2000 reveals a similar pattern. While a decline in food share as total expenditures fall stands at odds with the conventional wisdom, it may well accurately reflect the South African reality during this period. First, black communities became increasingly better served by public transport and by cheaper supermarkets over the 1993 to 2004 period, suggesting that prices for food paid by poorer households may have declined even though national food prices increased at a somewhat higher rate than all commodities. In addition, and as discussed in Section 2 above, the end of apartheid permitted black families to obtain better (and more expensive) housing as well as better access to credit. The relaxation of this constraint on non-food expenditure would also predict a decline in the food share (as would the availability of new goods, such as cellular telephones), over the 1993 to 2004 period.

In these circumstances, deciding which approach to poverty measurement is most believable is not immediately apparent. However a choice has had to be made for this thesis, and based on the discussion provided in Appendix Two, this thesis will therefore use monthly expenditure data from 1993 and the consumption (for food) plus expenditure (for non-food) data from 1995, adjusted for household size and composition, when measuring or predicting well-being. Unless otherwise specified, all amounts are expressed in 2000 prices adjusted as explained in Appendix Two.

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[54]/ Several fresh fruit categories were also reported using the 7-day recall period in just over half the cases.

4.4 DECIDING ON A POVERTY LINE

As the principle research question of this thesis is concerned with persistent poverty, and, in particular, the relation between assets and poverty, much of the analysis in this thesis relies up a threshold amount, which, as mentioned in Chapter Three, separates the poor from the non-poor. Choosing this threshold is not as simple in South Africa as would be the case in some countries since, in mid-2007 there was no official poverty line although this issue was under investigation by Stats SA and the National Treasury.

South Africa actually has a long history with income measures of poverty, dating back to work undertaken on the Poverty Datum Line in the 1940s and the path breaking work of Hilstan Watts in Durban in the 1960s (Watts, 1967). Two widely used lines dating back to the apartheid era are the Household Subsistence Level (HSL) calculated by the Institute for Planning Research (IPR) and the Minimum Living Level (MLL) calculated by the Bureau for Market Research (BMR). Both measures use a standard if simple approach whereby a hypothetical minimum shopping basket is identified which will allow a minimum food energy intake to be satisfied. This is then valued in different areas, weighted by the size of the household, thereby allowing the calculation of a minimum household income that would permit the purchase of this shopping basket. Both measures have a second line, which is taken to include more that this minimum basket. While there is a slight difference in the income level that is set as the poverty line, in terms of methodology it seems difficult to distinguish any critical difference between the HSL and MLL when selecting a poverty line.

These measures have had a somewhat chequered history, having been inappropriately used as a means whereby minimum wages have been set. While this is perhaps not problematic in itself, the poverty measures have been racially based, thereby implying acceptance of differential incomes favouring whites.[55] Moreover, the poverty lines have been, and still are, available for purchase, restricting access to this information, rather than being a public good which is readily available. Nonetheless, poverty lines do provide a useful starting point from which the situation of the poor can be described, and as such, it is felt that is important to make use of one of the available

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[55]/ The HSL has moved away from this definition, and their latest publications now define poverty lines for 'low income' households and 'low-middle income' households.

lines that take into account local diets, cost of living and locally accepted standards. Leibbrandt and Woolard (1999) present a useful comparison of alternative measures applied to different datasets.

A choice had to be made for the purposes of this thesis, and as is motivated for in Chapter Five, I have decided to use a threshold proposed by Stats SA (2007b) in a discussion document as my preferred poverty threshold. A fuller explanation of the adjustments that have been made in thresholds previously used is presented in Appendix Two (Section 2.3) in order to calculate adult equivalence and take account of economies of scale as well as a discussion of the preferred poverty measure, the class of poverty measures developed by Foster, Greer and Thorbecke (1984).

4.5 CONCLUSION

The analysis of chronic poverty imposes special data requirements. While useful, cross-sectional surveys of the type undertaken by most national statistical agencies do not provide the type of information that is required. In South Africa, the university based KwaZulu-Natal Income Dynamics Study (KIDS) does offer this opportunity. Although limited to one of South Africa's nine provinces, the study has gathered information from a region characterised by relatively high levels of poverty, from households located in both urban and rural areas, as well as in former Bantustan and white controlled districts. Although not representative of the population of KwaZulu-Natal in 1998 or 2004 (and perhaps not even representative in 1993 given the problems of census taking in the apartheid era), attrition rates are within acceptable limits, although small, and perhaps poorer households are more likely to have been missed in the second wave of the survey.

The period covered by KIDS, 1993-2004, is a particularly important period in South Africa. Besides the political transition from a non-democratic, segregated society, this is also a period in which the South African economy re-integrated with the global economy at a time when the Washington Consensus style of policies described in Chapter Two dominated. Dealing with the challenges of a new political system, an economy weakened by decades of protectionist policies, and a balance of payments crisis, the new government opted for a home-grown structural adjustment programme. Doing so constrained government's capacity to intervene for poverty reduction, and

allowed the poverty producing legacy of apartheid policies to continue to shape the experience of the poor. The data collected by KIDS opens a window on this period while allowing an analysis of poverty dynamics during a time of profound structural change.

CHAPTER FIVE
POVERTY AND DIFFERENTIATION IN SOUTH AFRICA

When the boers arrived they killed the people's livestock in order to dispossess them. The boers said that they had bought the farms and now owned them and that the farm-workers were not allowed to own livestock. The people had fruit trees on their land, but people were sent with tractors to destroy the trees. If a farm-worker was too old or unable to work they were chased off the farm. Former farm-worker, participant in SA-PPA)

5.1 INTRODUCTION

This chapter examines the context, extent, distribution and nature of poverty in South Africa and in the study area, KwaZulu-Natal, in the years leading up to and following the first democratic election in 1994. A variety of data are used that have been gathered since the immediate pre-transition period of 1990-1994. The objective is to summarise the historical context within which poverty dynamics have taken place in South Africa, and to give an overview of the poverty profile within which the KwaZulu-Natal Income Dynamics Study (KIDS) study should be sited. The quantitative analysis in this chapter makes use of the October Household Survey (OHS) of 1995 and 1998, the Income and Expenditure Survey (IES) of 1995 and 2000, and the national data from the 1993 Project for Statistics on Living Standards and Development (PSLSD). Qualitative information from the 1996 Participatory Poverty Assessment (SA-PPA) is also included.

5.2 POVERTY AMIDST PLENTY: THE APARTHEID LEGACY

In common with many countries, the inability of many in South Africa to satisfy their essential needs while a minority enjoys extreme prosperity stems from diverse sources. However, the specificity of the South Africa situation has to be acknowledged in which four decades of apartheid legislation built on the earlier policies of the Colonial and Union government were directed at the extraction of cheap labour and racially based differentiation (Wolpe, 1972; Legassick, 1975; Terreblanche, 2002). The result of this institutionalised discrimination can be thought of as a process of state-driven underdevelopment that encompassed dispossession and exclusion for the majority of South Africans. Wilson and Ramphele (1989:204, 230) conclude that such policies of deliberate impoverishment distinguished the experience

and dynamics of poverty in South Africa. As such, apartheid, and the legislation and institutions through which this ideology was implemented, operated to produce poverty and extreme inequality.

5.2.1 The Assault on the Poor

Although once a subject of debate,[56] it is now accepted (if sometimes forgotten) that the fundamental premise of apartheid was the extraction of cheap labour, initially for the mining industry, and later for all facets of the development of capitalism in South Africa. To achieve this goal, and to contain mounting resistance to the apartheid government, a wide range of institutions and legislation were introduced, many of which regulated the livelihoods available to the African population. However, the concept that separate land areas should be set aside for Africans in South Africa predates the founding of a modern economy in South Africa, and evolved from the policies followed by early white settler governments who set aside land initially known as 'native reserves' and later as Homelands. This was institutionally formalised by the Union Government in 1913 with the passing of the Land Act. At this time, it was never seriously envisaged that the African population should remain limited to the land that had been set aside for their use.[57] However, with the victory of the National Party in 1948, the segregationist views of this party were translated into the policy of apartheid and a wide range of legislation was introduced between 1949 and 1959 to balkanise South Africa into a number of ethnic based territories or Homelands each with some measure of nominal political independence. These culminated with the Bantu Self-Government Act of 1959 that ushered in the Bantustans, one of which administered the 'self-governing' region of KwaZulu. Enforcing segregation meant that large numbers of people were forcibly removed from 'Black Spots' into the Homelands. This term referred to areas in which African households were living but were located in that part of South Africa designated for white residence. In some instances, these 'Spots' were found on commercial white owned farms, but in most cases, the Black Spots were freehold land for which the residents had been issued certificates of occupation by the colonial governments. An

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[56] This debate is perhaps best encapsulated by a comparison of Hobart-Houghton (1964) and Wolpe, (1972).
[57] As evidenced by the Native Land Commission of 1916, the Economics and Wages Commission of 1925 and the Native Economic Commission of 1932 (Nattrass, 1988).

estimated 475 000 people were removed from Black Spots between 1960 and 1983.[58]

In addition to forced removals, the introduction of 'Betterment Planning' during the 1960s and 1970s led to many communities losing their access to land within the Homelands. Although Betterment Planning was put forward as a way in which previously dispersed residential patterns would be consolidated into residential, arable and grazing land, in many areas land was never reallocated after the consolidation process, housing stock was lost, and restrictions were placed on livestock ownership (Yawitch, 1981).

The social conditions in the former Homeland areas of South Africa that resulted from these policies are widely known and have been documented by numerous researchers (cf, Simkins, 1984; Nattrass and May, 1986; Wilson and Ramphele, 1989 and the many papers prepared for the 1984 Carnegie Conference on Poverty). By 1993, almost 75 percent of those categorised as being poor were to be found in the rural areas while over 70 percent of rural African households existed in conditions which could be described as inadequate or intolerable in terms of their access to shelter, energy, water and sanitation (May et al., 1995).

In describing the impact of 'apartheid's assault on the poor', Wilson and Ramphele (1989:204, 230) identified the broad strategies of deliberate impoverishment that distinguished the experience and dynamics of poverty in the apartheid-era South Africa during the 1960s, 1970s and 1980s. These included the impact of apartheid policy and legislation that stripped and eroded assets, especially human capital and land, distorted economic markets and social institutions through race and gender discrimination, and resulted in violence and destabilisation. Furthermore the opportunities available to individuals, households and communities were undermined through neglect, over-crowding, environmental degradation, the mismatch of resources and opportunities, discrimination and social exclusion. Finally, the role played by a disabling state also formed part of this experience, which included the behaviour and attitudes of government officials, the absence of information concerning rights, roles and responsibilities, and the lack of accountability by all levels of government (May et al., 1997).

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[58]/ The reports produced at the time by the Surplus People's Project document this history (SPP, 1983).

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This legacy of inequality and poverty shaped the nature of South Africa's economy and society at the time of the transition in 1994. It is not surprising therefore, that narrowing inequality, breaking down the barriers that hamper participation in the economy and reducing poverty have been a consistent theme of the democratic South African governments since this time. The Reconstruction and Development Programme (RDP) launched as the flagship programme of the first African National Congress (ANC) government singles out rural development as a central concern. Many policy statements of government departments have stressed the importance of reducing poverty, and considerable effort has focused upon the development of a range of policies including extending social protection, housing subsidies, a land reform programme, public works programmes and access to essential services. Broadly, a central thrust of government rhetoric has been to increase the access of the poor to those assets that were previously denied them, or, indeed, stripped from them in the past.

5.2.2 Poverty in South Africa: 1990-1994[59]

As comprehensive information concerning levels of poverty and inequality was not collected by the apartheid government, the 1993 PSLDS study provides insight into conditions in South Africa immediately prior to the transition to democracy in 1994. Calculating a headcount ratio, this study found that almost half of the population, some 19 million people, were categorised as poor using a national consumption-based poverty line with over 60 percent of Africans being poor compared to just one percent of the white population (Klasen, 1997). The World Development Report of 2000 uses the same data to show that 11.5 percent of the South African population lived on less than PPP$1 per day, while 35.8 percent of the population lived on less than PPP$2 per day (World Bank, 2001a:64). At that time poverty rates in South Africa could thus be compared to countries such as Bolivia (11.3 percent), Colombia (11.0 percent) or Cote d'Ivoire (12.3 percent) in terms of the PPP$1 per day measure of poverty.

An alternative approach that can be used to place South Africa's poverty and social deprivation in an international context is to compare indicators of social development in South Africa with countries with similar income levels. These indicators are useful

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[59] Parts of this section are derived from Parts of this section are derived from Agüero *et al.*, (2007) and May and Woolard (2005). I was the lead author in each of these papers for the analysis reported here.

both for inter-country and inter-regional comparisons, as well as being a way to chart long-term trends. As Table 5.1 shows, immediately after the democratic election in 1994, many of South Africa's socio-economic indicators compare poorly with those of other countries ranked as middle-income in terms of their per capita GDP.

Table 5.1: Social Indicators from selected middle-income countries (1995)

Index	South Africa	Chile	Mexico	Malaysia	Turkey	Algeria
HDI Rank	107	38	54	59	85	106
Life expectancy (years)	52.1	75.3	72.6	72.5	69.8	69.6
Adult literacy	85.3	95.8	91.4	87.5	85.1	66.7
Combined enrolment	93	78	71	66	62	72
GDP per capita ($)	9401	9417	9023	9068	6974	5308
HDI Value	0.695	0.76	0.796	0.782	0.742	0.697
Population (2000) million	43.3	15.2	98.9	22.2	66.7	30.3
< $2 PPP poverty line	35.8	8.7	37.7	na	18	15.1
% pop using improved water	86	94	86	na	83	94
% 1 yr old immunised against measles	82	96	95	88	80	83
Infant Mortality	55	10	25	8	38	50
Under 5 Mortality	70	12	30	9	45	65
Gini Coefficient	59.3	56.6	53.1	49.2	41.5	35.3

Source: UNDP, 2002; World Bank, 2002

All the countries to the right of South Africa in the table had a similar per capita GDP to South Africa, yet generally they performed far better on indicators such as life expectancy, infant mortality and adult illiteracy. For example, Algeria had a similar HDI rank, but had a per capita GDP that was almost half that of South Africa, while Turkey had a per capita GDP that was three quarters that of South Africa, it had a similar percentage of the population below the PPP$2 per day poverty line and ranked 20 countries ahead of South Africa in terms of the HDI score.

One explanation for these statistics lies in the long-standing levels of income and wealth inequality that have persisted in South Africa. As an example, in a creative attempt to deal with the problems of inadequate data during the apartheid era, McGrath (1984:56) analysed a mix of census and survey data from the mid 1970s to yield an estimated Gini coefficient for South Africa of 0.68. McGrath goes on to argue that an unequal distribution of wealth was an important determinant of this distribution of income. Using data from 1993, South Africa was described by the World Bank as among the world's most unequal economies using the PSLSD to estimate a Gini coefficient measuring 0.59, higher than all of the countries shown in

Table 5.1.

This level of inequality reflected the racial divisions in South Africa and carries over to poverty outcomes as is shown in Table 5.2 for 1990 for selected social indicators when differentiated by race.

Table 5.2: Comparison of Social Indicators by Race (1990)

Social Indicator	White	Col'd	Indian	African	S.A. Total
Male Life expectancy at birth 1990	69	59	64	60	62
Female Life expectancy at birth 1990	76	65	70	67	68
% of deaths 5 years and younger	12	19	13	20	-
Infant Mortality Rate	9.0	26.0	11.0	51.0	-

Source: Health Systems Trust (1996).

In all of the outcome indicators, the white population performed substantially better than did the other race groups. Both male and female life expectancy for whites exceeded that for Africans by almost a decade. The Infant Mortality Rate (IMR) is an especially useful social indicator with which to chart socio-economic progress and shows that the IMR for whites was 9 per 1000 in 1990, while that for the African population was 51 per 1000, on a par with Zimbabwe and Kenya.

5.2.3 Poverty in South Africa: 1995-2000

Despite a proliferation of poverty studies since 1994, South Africa has yet to develop either an official money-metric poverty line or some other indicator of deprivation and exclusion. A recent analysis of poverty by Stats SA uses a measure that appears to be based on a legal minimum income to qualify for certain subsidies such as a housing grant (Stats SA, 2000). The result is some uncertainty as to the extent and distribution of poverty and the subject of debate even within government. Moreover much of the data available are under-utilised while even simple descriptive statistics show variation between the different surveys that is more likely due to sampling or design error than to actual trends. Part of the explanation for this lies in differing interpretations of the most appropriate measure of well-being, as well as in different sampling, survey and analytical methodologies. However the quality of field work, data capture and subsequent quality control are all cause for concern.

Notwithstanding these problems, a sense of South Africa's poverty profile during and

immediately after the period covered by the 1993-1998 KIDS study can be shown. At PPP$11 240 per annum in 2001, South Africa's per capita GDP corrected for purchasing power parity (PPP) placed it as one of the 50 wealthiest nations. However the strikingly poor social indicators of the country persisted as revealed by the Human Development Index. Figure 5.1 shows the HDI for South Africa between 1990 and 2003, and reveals that these poor human development outcomes have persisted since 1993 despite South Africa's political transition, and indeed worsened in the recent past.

Figure 5.1. South African Human Development Index (1990-2003
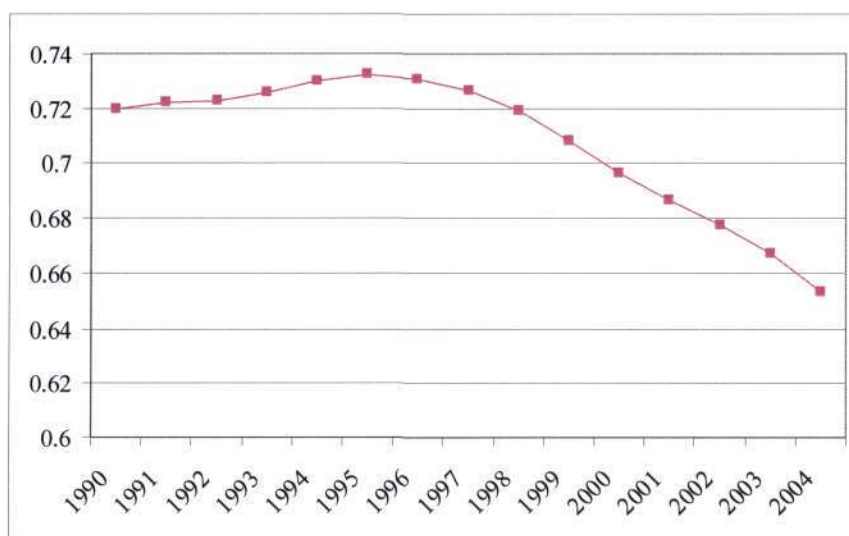
South Africa ranked 121st of 177 countries in terms of its HDI in 2004, down on its ranking of 93rd in 1992. Despite being among the 35 largest economies in the world, the country now has life expectancies among those of the 30 worst economies while projections of mortality suggest that these will deteriorate further as deaths from the AIDS epidemic increase (UNDP, 2004; Dorrington *et al.*, 2001:25). As the UNDP (2004:28) notes, the number of people infected with HIV/AIDS reached 5.6 million in 2001 and this figure continues to rise. As a result of this, and in the absence of an effective treatment campaign, South Africa is one of a handful of countries that has experienced a decline in the HDI since 1995. The HDI also continues to reveal significant spatial and racial differences within South Africa with the gap between the index of the poorest and richest provinces having widened (UNDP, 2004).

The Human Poverty Index (HPI) also showed a significant increase from 1995 to 2001 for South Africa. The HPI in 1995 was 16.4 which had increased to 22.3 by 2001, showing a worsening of human poverty (UNDP, 2004).

Most attempts to measure poverty based on a minimum acceptable level of consumption have tended to confirm that the incidence of poverty has worsened since 1994. As a starting point, Woolard and Leibbrandt (1999) adopt a range of thresholds to provide a rigorous analysis of poverty in South Africa in the period until 1995.[60] Using data from the 1995 IES, they conclude that some 40-50 percent of South Africans could still be categorised as poor in 1995, while 25 percent could be categorised as ultra-poor. They also found that the poverty rate was far higher in rural areas than in urban (65 percent of individuals compared to 22 percent) and 27 percent of rural dwellers were below half the poverty line, and thus were likely to also be chronically poor in the sense of being unable to escape poverty over time (Woolard and Leibbrandt, 1999:59-60). In line with other studies, the Eastern Cape emerged as the poorest province in South Africa, containing 27 percent of those likely to be chronically poor while KwaZulu-Natal and Limpopo Province accounted for 19 and 17 percent of the ultra-poor (living on below half of the poverty line) respectively. Also in 1995, the poverty gap, the measure of the depth of poverty, which can be used to show the amount needed annually to eliminate poverty through a perfectly targeted transfer to the poor, was about R15 billion per annum, or about 4 percent of GDP. In the case of the two poorest provinces, Eastern Cape and Limpopo Province, the poverty gap amounted to 11 percent and 21 percent of the provincial Gross Geographic Product (GGP) respectively (May et al., 2000).

In collaboration with the World Bank, Stats SA has completed an ambitious exercise to link the results of the 1996 Population Census with income and expenditure data collected in 1995. In this first attempt by a government agency to map poverty, a poverty line of R800 per month per household has been used, while a Household Infrastructure Index constituted from eight variables has been calculated. The components of the index show access to facilities and services such as access to electricity, water, telephones, refuse removal, type of dwelling unit and monthly

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[60] For most of their analysis Woolard and Leibbrandt (1999:56) settle on the Household Subsistence Level and $1 a day 'International' line (R3509.00 and R2200 per annum per adult equivalence in 1995 Rand). The latter may be thought of as the ultra-poverty line.

expenditure. A second index, the Household Circumstances Index is also calculated, constituted from three variables, unemployment, average household size and children under five years of age. This information is shown by province in Table 5.3.

Table 5.3: Official Poverty Statistics by Province (1996)

Province	Imputed Headcount Ratio	Imputed Mean M'thly Exp.	Ratio Mean National Exp.	Ratio of Hhd Infrastructure Index	Ratio of Hhd Circumstances Index
Gauteng	12%	R4270	1.53	0.67	0.91
Western Cape	12%	R3816	1.37	0.48	0.49
Mpumalanga	25%	R2394	0.86	0.94	0.89
KwaZulu-Natal	26%	R2579	0.92	1.32	1.68
N. Cape	35%	R2396	0.86	0.36	0.42
North West	37%	R2137	0.77	1.18	0.83
Limpopo Province	38%	R1855	0.67	1.58	1.45
Eastern Cape	48%	R1702	0.61	1.67	1.69
Free State	48%	R1819	0.65	0.81	0.64
South Africa	**28.5%**	**R2789**	1.00	1.00	1.00

Source: Stats SA (2000:26, 76), based on 1995 IES and 1996 Population Census

According to these data, KwaZulu-Natal was no longer among the poorest provinces in 1996, and had moved to the fourth wealthiest, at least in terms of the headcount ratio. To some extent, this change is due to the different methodologies used by Stats SA in this calculation in which income in kind is under-estimated. Specifically, this means that incomes in the Free State are likely to be understated as many of the large number of farm-workers in this province receive payment in food, shelter and services. Nonetheless, it is noteworthy that after the Free State and the Limpopo Province, KwaZulu-Natal scores the lowest on a Household Infrastructure Index based on access to essential services and second lowest on the Household Circumstances Index, although mean expenditure in this province is 92 percent of the national average.

Analysis using the 1996 Population Census data also suggests that inequality persisted throughout the first part of the 1990s and estimates the Gini coefficient for income to be as high as 0.68: worse than that of Brazil and of 33 other developing countries (Marais, 1998: 106). Expanding on this, Woolard and Leibbrandt (1999:22) show that six percent of South Africa's population accounted for over 40 percent of income in 1995.

Changes in the incidence and severity of poverty and inequality between 1995 and

2000 are less clear and have been the source of debate. Drawing on several of the large sample surveys collected by Stats SA between 1994 and 1998, Budlender (1999: 93) was probably the first to suggest that both poverty and inequality had increased, a finding supported by an official publication using the results of the 2000 IES (Stats SA, 2002). Certainly much attention was given in the media to the observation that the average annual per capita income in 1995 was reported to be R12 135 adjusted to 2000 prices, at first glance higher than the per capita income of R11 755 per annum reported in 2000: a difference that is in fact not statistically different.

Several attempts have been made to explore the changes in income or expenditure distribution depicted by the IES of 1995 and 2000. For example, May and Hunter (2005) use the expenditure data from the 2000 IES to show the continued high levels of inequality in South Africa. They report that the top decile in the distribution account for 49 percent of total expenditure compared to eight percent for the bottom four deciles, and conclude that there had been little change in inequality since 1993. This finding supports that of Fedderke *et al.*, (2003: 16) when using expenditure data, although inequality is found to have increased when income data are used. Moreover, employing the standard Gini coefficient and Theil entropy measure, and unusually, Parato's a measure, they do find some evidence of increasing inequality among African households. This, they argue, hides a decrease in inequality among the bottom third of the income distribution and an increase in inequality among the middle third of the income distribution (Fedderke *et al*, 2003:19). Interestingly, the analysis of Parato's α measure led Fedderke *et al.*, (2003: 22) to suggest that there may have been a redistribution of income from the higher income groups to those below, and to hint that South Africa's redistributive policies might have had some success in transferring income from the wealthiest portion of the population to the less well-off.

Arguably in the boldest attempt to make use of the unadjusted IES data for the analysis of income distribution, van der Berg and Burger (2002:10-11) try to take account of shifts in social spending in terms of their impact on the distribution of income adjusted for non-cash transfers. Noting that per capita incomes of wealthier Africans had almost caught up with the white population, they calculate a Gini coefficient for South Africa of 0.66 for 2000, similar to most other studies including that of Fedderke *et al.*, (2003). Turning their attention to the impact of social

spending, they show that social spending to the African population has increased from 51 percent in the immediate transition period to 80 percent in 1997. When income is calculated to take account of South Africa's relatively progressive taxes and for the strongly progressive non-cash transfers that are made, they argue that the Gini coefficient can be re-estimated to 0.44. In particular, they conclude that fairly good targeting of old age pensions and disability grants have resulted in rural areas receiving an unusually fair share of social spending compared to the situation in many developing countries. However, they do not attempt to measure the impact that this social spending might have had on the well-being of the poor, noting that the quality of the service delivered substantially determines this. As an example, while inequalities in terms of inputs to education have narrowed, the outcomes in terms of education attainment have not (van der Berg and Burger, 2002:18).

However many analysts have raised serious concerns with the quality of the data collected by the IES of 2000, pointing to methodological and weighting problems and evidence of sloppy fieldwork and data processing (Meth and Dias, 2004:61; Simkins, 2004; van der Berg and Louw. 2003). This has complicated the preparation of a poverty profile for the 1995 to 2000 period since a variety of data cleaning and poverty measurement techniques have been adopted in attempts to resolve these problems. In additional, estimates have been produced that are based on incomes or expenditures, calculated for households, per capita and adult equivalents.

In an initial and modest endeavour to manage data quality problems by removing outliers, van de Ruit and May use a PPP adjusted $1 a day poverty threshold and conclude that the poverty headcount had increased from 11.5 percent of households in the PSLDS of 1993 to 19.8 percent in 2000, about 8.9 million people (van der Ruit and May, 2003:23).[61] Using the IES data but adopting a different methodology and poverty threshold, van der Berg and Louw (2003:18) calculate a headcount ratio of 37.9 percent implying that the numbers in poverty reached 17 million people in 2000, an increase of 1.2 million people from 1995.

Meth and Dias (2004) employ a mix of procedures to adjust for data problems and a mix of IES and OHS/GHS surveys to concur that the numbers of people who can be

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[61]/ All of these analyses calculate poverty and inequality in terms of 'per capita' or 'per adult equivalent' scales, and include an adjustment to take account of household economies of scale.

categorised as poor had risen between 1995 and 2000. They find that the numbers of people in the lower of two expenditure groups identified as encompassing the potentially poor increased by about 2.9 million people between 1995 and 2000 while the numbers in the higher band increased by 1.4 million people (Meth and Dias, 2004:63). Thus they calculate a headcount of 49.1 percent and estimate that there were 22 million people in poverty in 2002, an increase of at least 2.4 million from the 1999 GHS when the same methodology is applied. Attempting to take account of transfers to the poor from government in the form of water, electricity, health care, housing, sanitation, education and transport, they amend this estimate to an increase of 2 million people (Meth and Dias, 2004:81).[62]

May and Woolard (2005) use a version of the 2000 IES that was cleaned by Global Insight and subsequently by Woolard and then re-weighted by Simkins (as described in Simkins, 2004). They also make use of a poverty threshold proposed for South Africa known as the Household Subsistence Level (HSL) first developed in the 1980s which has the advantage that it was estimated separately for urban and rural areas. Their results are shown in Table 5.4.

Table 5.4: Poverty measures derived from IES (1995 & 2000)

	1995	2000
Headcount index (P^0)	0.32	0.49
Income Gap measure (P^1)	0.12	0.22
Sen Poverty Index	0.24	0.39

Source: May and Woolard (2005) calculations on IES 1995 and IES 2000

Reporting the headcount, Poverty Gap, and the Sen Poverty Index[63] for expenditure, May and Woolard (2005: 7) show an increase in the headcount from 32 percent of the households in 1995 to 49 percent in 2000, an increase in the Poverty Gap from 0.12 to 0.22. The Sen Index is useful for revealing trends of convergence or divergence for those below the poverty line and shows increase from 0.24 to 0.39. In contrast to Fedderke *et al.*, (2003), this suggests an increase in inequality within the poor given that the Sen Index advances towards the Poverty Gap measure over time.

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[62]/ Referred to as a social wage.
[63]/ The Sen Poverty Index is the average of the headcount and the income-gap measures weighted by the Gini coefficient of the poor (Sen, 1992). If there were no income inequality among the poor, the Gini coefficient would be zero and the Sen Index would reduce to the income-gap measure. Conversely, if only one household among the poor had all the income, the Gini coefficient would be equal to one and the Sen Index would reduce to the headcount.

In what is probably the most thorough attempt to use the IES data to produce a poverty profile for South Africa, Hoogeveen and Özler (2004:7) use methodologies to derive a cost-of-basic-needs poverty line in addition to the commonly used PPP$2 per day threshold.[64] Using the latter and the expenditure data, they report a increase in the headcount ratio from 32 percent of South Africa's population in 1995 to 34 percent in 2000, implying that 22.9m South Africans were living on less than PPP$2 per day in 1995 rising to 25.2m in 2000, an increase of 2.3 million. They also show an increase in both the Poverty Gap index and the severity measure of poverty (0.11 to 0.13, and 0.05 to 0.07 respectively (Hoogeveen and Özler, 2004:32). However once again data problems dog this analysis, and as Fedderke et al., (2003:12) observe, these findings might be sensitive to the choice of data that are used and the methodologies that are adopted for data cleaning and measurement.

Finally, and more directly related to the approach adopted by this thesis, Aliber (2001:33-40) uses official statistics and the KIDS panel data to distinguish a number of groups who can be described as being chronically poor and attempts to estimate the size of each. Based on Roberts' (2001) analysis of the KIDS, Aliber estimates that approximately 950 000 rural African households are chronically poor and estimates that another 50 000 rural coloured families are also in this category. Just under 770 000 African female-headed households are estimated to live in chronic poverty and around 250 000 female-headed households of other races are thought to be in chronic poverty in addition to those that are among the rural poor. A further 38 000 disabled-headed households are chronically poor. Aliber (2001:40) concludes that, in 2000, at least 18 to 24 percent of all households in South Africa were chronically poor or highly susceptible to chronic poverty, a total of some 2 million households or 10 million people. By 2010, he suggests that AIDS may contribute to the chronic impoverishment of between 26 and 33 percent additional households, bringing the total share of chronically poor households to between 24 and 30 percent.

Aliber's analysis begins to open up a discussion on different forms of poverty in general and chronic poverty in particular, but does not go into detail concerning poverty dynamics and the reasons for this persistent or chronic poverty. For this, the perceptions of the poor themselves may be a good way in which an appropriate

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[64] There are numerous versions of this paper which was first written around 1993. This appears to be

conceptualisation of chronic poverty in South Africa can be derived.

5.2.4 Poverty in South Africa: 2000-2004

Data for the period between 2000 and 2004 are limited, but some initial findings suggest that the poverty rate may be on the decline. Van der Berg *et al.*, (2005) use data derived from the All Media and Products Survey (AMPS), a market research survey, to show a substantial decline in rate, depth and severity of money-metric poverty during the period 1995 to 2004. These same data also show consistently higher levels of inequality. Meth (2006) uses data from Stats SA's GHS and LFS to critique the results of the marketing survey. However, he concludes that it is likely that there has been a decline in the headcount poverty index, albeit one that is far more modest than that suggested by the marketing data.

Reacting to results such as those just discussed the South African government has correctly argued that poverty is multi-dimensional, and that access to services has the effect both of improving the well-being of poor households, and also of reducing their exclusion or vulnerability to adverse relations of inclusion. Examining the trends in this, May and Woolard (2005) provide four indicators of service delivery for the years 1995 and 2003 and compare changes in access by income group. The indicators that they use are the percentage of households with access to piped water (either inside their dwelling or on the stand), the percentage of households living in permanent structures, the percentage of households with electricity (from mains) and the percentage of children aged 7-17 enrolled in school. In the case of access to quality housing, all of the lower income groups have experienced marked improvements, with each expenditure group (except the very highest) experiencing an improvement of between 11 and 14 percentage points. In the case of access to electricity, the improvements have been enormous and the three lower expenditure groups have all benefited in a very similar pattern. Improvements in access to piped water have been somewhat less well targeted towards the very poor. Whereas access to piped water increased from 28 percent to 79 percent (an increase of 51 percentage points) for the expenditure group R800 to R2499, the increase was only 40 percentage points for the lowest income group R0-R399. Finally, in the case of school enrolments, the increases have been highest among the poorest groups. From perspective then of basic

the most recent version.

service delivery, the gap between the poor and non-poor has narrowed in the post-apartheid era although it must be cautioned that these data do not comment on the quality of the service, or on whether the supply of the service has been disconnected. A similar result concerning improved access to services is reported by Bhorat *et al.,* (2004).

From the perspective then of basic service delivery, the gap between the poor and non-poor has narrowed in the period up to 2004 although it must be cautioned that these data do not comment on the quality of the service, nor on whether the supply of the service has been disconnected.

5.2.5 Perceptions of Poverty: 1996

In comparison to the confusion that arises from use of official statistics and quantitative measurement, a surprisingly consistent view of poverty emerged from the South African Participatory Poverty Assessment (SA-PPA) conducted during 1995/6. Poverty was perceived by the approximately 1400 participants to encompass a number of key dimensions with income comprising only one dimension. Thus poverty was manifested by too little food, large numbers of children, inadequate and crowded shelter, and finally, exclusion from community self-help structures. In contrast, wealth is manifested by good housing and the ownership of appliances and the use of more efficient forms of energy. This is consistent with Sen's (1981) point that income is an input to well-being whereas commodities and capabilities are the critical outputs that people care about.

Poverty was also seen to include alienation from the community whereby the poor are described as being isolated from the institutions of kinship and community. The elderly who were without care from younger family members are seen as poor, even if they have a state pension which provides an income that is relatively high by local standards. Similarly, young single mothers without the support of older kin or the fathers of their children were perceived to be poor. A major fear associated with HIV/AIDS is the fear of social isolation that would result for a household and individual if the knowledge of infection became public: "A person with AIDS suffers a lot because there will be no communication whatsoever because people will get afraid of him and he end up without friends" (May *et al.,* 1996:114). This causes

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many to hide the fact of infection thereby hampering efforts to bring the issue into the open and so to further public education.

Participants also saw the inability to provide sufficient or good quality food for the family as an outcome of poverty. Households where children went hungry or were malnourished were seen as living in poverty. The poor were also perceived to live in overcrowded conditions and in homes in need of maintenance. Having too many children was seen as a cause of poverty, not only by parents, but by grandparents and other family members who had to assume responsibility for the care of children. The poor were described as lacking access to safe and efficient sources of energy. In rural communities, the poor, particularly women, walk long distances to gather firewood. In addition, women reported that wood collection increases their vulnerability to physical attack and sexual assault. Significantly, the poor perceived lack of employment opportunities, low wages and lack of job security as major contributing factors to their poverty. Finally many poor households were characterised by absent fathers or children living apart from their parents. As a result, households were split over a number of sites as a survival strategy (May, *et al.*, 1996:122)

There were also strong generational and gender dimensions to the experience of poverty but in both cases these are frequently tied to other specific situations. For old people, for example, being the primary source of support (through the pension) for grandchildren when the parents are absent is a specific misfortune. Old people without pensions are also uniformly seen as poor. For women a state of single motherhood without access to support from older kin or husbands/fathers of their children is generally seen as denoting a state of poverty. Conflict between genders and across generations is a consequence of this. Finally, male misuse of resources is often blamed for a household's poverty which generally refers to alcohol and drug abuse, as well as wasting money on tobacco.

5.2.6 Political and Macro-Economic Context 1994-2004

The 1994 to 2004 period covered by the data used in this thesis overlaps the presidencies of Nelson Mandela and Thabo Mbeki and a brief contextualisation is necessary before leaving this discussion. During this eventful period, the South African government's orientation toward addressing the problems of poverty and

inequality underwent some marked shifts, in language and emphases, if not in substance. The 1996 closure of the Office of the Reconstruction and Development Programme (RPD) signalled to some at least symbolic reduction in the priority given to improving the access of the majority of South Africans to adequate shelter, sanitation and education. While programmes to provide such social services continue to reside within relevant ministries, in this period the dominant acronym in South African public policy debate shifted from the RDP to the GEAR (Growth, Employment and Redistribution), the label attached to the government's macroeconomic stabilisation and structural adjustment framework.

The macroeconomic environment obviously conditions the economic possibilities for individual households. During the 1960s the South African economy grew at some six percent per annum, while total employment grew by nearly three percent per annum, in line with population growth. However, by the late 1980s the real economy was shrinking, as was formal sector employment. This trend was briefly reversed after the country's first democratic elections, with sustained growth throughout 1995. But by the middle of 1998, economic growth fell to less than 0.5 percent per annum as is shown in Figure 5.2 and to -1.6 in per capita terms.

Figure 5.2: Percentage Change in GDP and GDP per capita (1994-2004)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
GDP	3.2	3.1	4.3	2.6	0.5	2.4	4.2	2.7	3.7	3.1	4.8
GDP per capita	1.0	0.9	2.1	0.4	-1.6	0.2	3.6	0.3	1.7	0.3	4.5
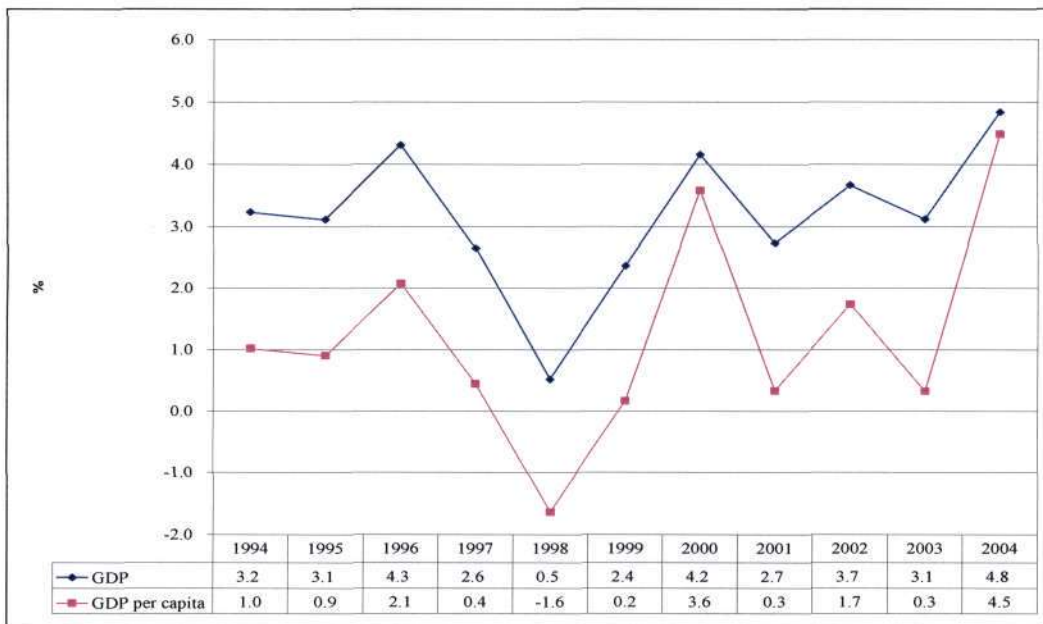
Source: Stats SA (2007a) and own calculations.

However, the subsequent period of KIDS sees a more favourable trend, with positive,

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if at times weak per capita growth peaking to 4.5 percent in 2004 due to both the rate of expansion of the economy and slowing population growth. As a result, throughout much of the period between the first two waves of the KIDS survey, aggregate growth was scant, limiting the income earning opportunities for the majority of South Africa's population. In the second period, prospects for income earning activities may have improved at the same time as government expenditure on social welfare increased.

According to the various Labour Force Surveys (LFS), formal employment declined by some 12 percent, or some 642,000 jobs, between 1993 and mid 1998 (CSS, 1994; Stats SA, 1998b; Stats SA, 2000). Job losses were highest in those sectors that largely employ unskilled labour, with the manufacturing sector suffering a 6 percent loss in jobs between 1993 to 1998, compared to 21 percent in construction and 27 percent in mining (Stats SA, 1999, Stats SA, 2001 and CSS, 1994).[65] This has been followed by a period of job creation, with the number of formally employed increasing by almost 2.5 million between 1998 and 2004, half of which took place in the formal non-agricultural sector (May and Meth, 2007; Stats SA, 2005).

Turning to unemployment, Stats SA uses a narrow and an expanded definition of unemployment, both of which are internationally recognised. The narrow 'official' definition considers people within the economically active population as being unemployed if a) they did not work during the seven days prior to the interview; b) want to work and are available to start work within a week of the interview;[66] and c) have taken active steps to look for work or to start some form of self-employment in the four weeks prior to the interview.

The expanded definition of unemployment excludes criterion c) which means that it includes 'discouraged' work-seekers who are eager to work but who have so little expectation of finding work, or who lack the resources to move to the areas where jobs might be found, that they have not actively sought work in the past four weeks.

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[65] Klasen and Woolard, (1999:27) have shown serious deficiencies with South African official statistics on employment trends, and draw attention to periods of job creation during the study period. Meth (2003) raises similar concerns about more recent statistics from the various LFSs.
[66] This restriction was not included in the OHS 1995 (Stats SAb, 2002:8) and thus creates difficulties in comparability with subsequent surveys.

Figure 5.3 provides both these unemployment rates during this period.[67]

Figure 5.3: Official and Expanded Unemployment (1994-2004)

	94	95	96	97	98	99	00	01	02	03	04
Official	20.0	16.5	20.3	22.0	25.2	23.3	25.8	29.5	30.4	28.0	26.2
Expanded	31.5	29.3	34.4	37.4	37.5	36.2	35.9	41.5	41.9	41.8	41.0
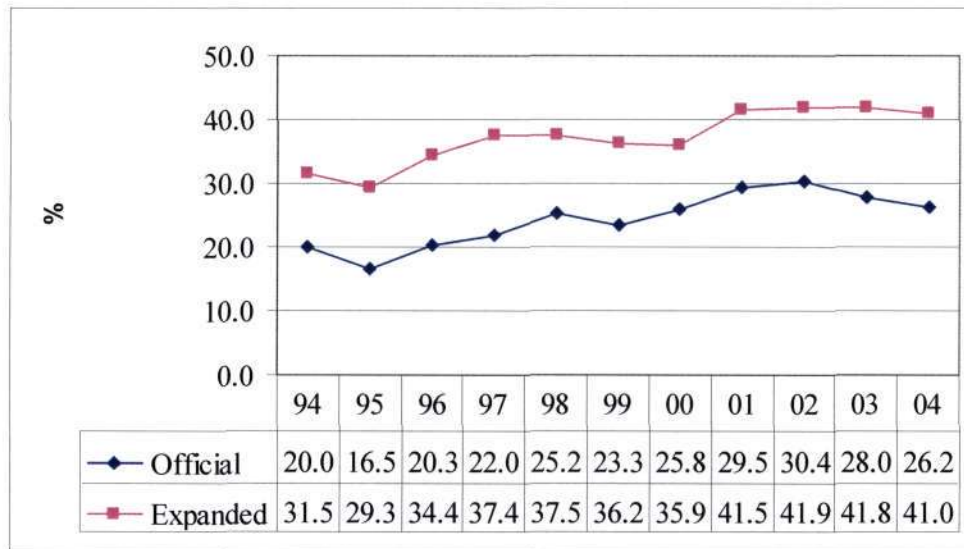
Source: OHS for 1994-1999, LFS for 2000-2004, all available at http://statssa.gov.za.

Whichever definition is preferred, the picture that emerges is discouraging for most of the survey period. According to the narrow definition, 20.0 percent of the economically active population were unemployed in 1994 climbing to 25.2 percent in 1998 before peaking at 30.4 percent in 2002. The expanded definition the figure shows unemployment rising from 31.5 percent to 41.5 percent.

The South African government's response to the earlier period of poor economic performance has been constrained both by international economic trends as well as by inherited fiscal realities. The apartheid government left a total public debt of R189.9 billion of which foreign debt amounted to some R5.2 billion (SARB, 1996). Between 1993 and 1998, some 6.7 percent of GDP, and 24 percent of the budget, was annually absorbed by interest on this debt. Further, in line with the conservative macroeconomic stance taken by the GEAR, government contained growth in public expenditure and reduced its public-sector borrowing requirement from 9.3 percent of GDP in 1993/4 to 3.4 percent in 1998/9 and just 1.5 percent in 2003/4. Despite this fiscally conservative stance, there was an increase in the share of total expenditure going to social services during both Mandela and Mbeki's presidencies. With a

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[67]/ The unemployment rate is the number of unemployed divided by the economically active population multiplied by 100.

decrease in the budget share allocated to military expenditures, the social services share rose from 54 percent in 1994 to 59.9 percent of non-interest spending in 1997/98 and 59.2 percent by 2003/4 (Ajam and Aron, 2007:773). Of this allocation, education has received the largest share followed by health, social security and housing (Hunter *et al.*, 2003; Ajam and Aron, 2007). Of particular importance was the increase in social grants payments, with an increase in the number of beneficiaries from 2.9 million in 1994 to over 7.4 million people in 2004 (Manuel, 2004). Especially noteworthy was the introduction of a Child Support Grant (CSG) in 1998.

In 2004, at the end of the period under investigation, the government unveiled the Accelerated and Shared Growth Initiative – South Africa (AsgiSA) (Office of the President, 2004). The goals of AsgiSA are to halve poverty from about one third of households in 2004 to less than one-sixth of households by 2014; to halve unemployment from about 30 percent in 2004 to lower than 15 percent by 2014; and to stimulate the economy to expand at an average that is over 4.5 percent per annum until 2009 and then over six percent after 2010. To achieve this, the government has identified a number of interventions including infrastructure programmes, sector investment strategies, improvements in the provision of education and skills, support for the 'second economy' and interventions to support small, medium and micro-enterprises (SMMEs). AsgiSA also maintains a focus on macro-economic stability and on institutional development in public administration issues and delivery.

5.3   DIFFERENTIATION IN SOUTH AFRICA

Within this context of state sponsored poverty production, it is surprising that relatively few studies have attempted to empirically disaggregate South Africa's African population into identifiable groups based on livelihood strategies. An earlier attempt is that of Innes and O'Meara (1976) who identified five groups from survey data in the former Transkei bantustan based on their own estimations rather than any comprehensive data set.[68] These groups comprised:

- Non-farming households which made up 8.4 percent of all households in the Transkei;

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[68]/ The source of their data is not evident in the paper.

- Households who were able to feed their household in a good year which were a group of 23 percent of all households;

- Households who could never produce enough to feed themselves comprising 60 percent of all households;

- Households who are able to sell a surplus which made up 8.4 percent of households; and finally,

- A small group of 0.1 percent of households who were producing exclusively for the market.

Bembridge (1990) attempted a similar breakdown also using household survey data from the former Transkei.[69] He proposed four categories of rural households:

- Resource poor households: Comprising about 31 percent of rural households in the rural areas of the former Transkei who have no arable land or grazing rights;

- Smallholders: Comprising about 56 percent of rural households in the former Transkei who operate at and below subsistence levels, and who do not usually sell produce;

- Progressive small-scale farmers: Comprising about 13 percent who adopt some technology and who sell produce and/or livestock some of the time, and,

- Market-orientated commercial farmers: Comprising about 0.2 percent who make a living from farming.

Building on an earlier rural typology undertaken in the Transkei and later in the KwaZulu Homeland, (May, 1987b; May and Rankin, 1991), May *et al.*, (1995) identify four broad social classes based upon an empirical classification.[70] Noting that the groups identified were not intended to be mutually exclusive, and, indeed, that it is quite feasible that households may pass through different groups over a life-cycle, they drew out the following strata within these groups:

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[69] The sample size was 505 and collected in 1980 from selected sites in Transkei. The data were not collected in a drought year.

[70] The sample size was 3055 and collected as a regional Income and Expenditure Survey in 1992 from all 26 magisterial districts in KwaZulu-Natal. The data were collected during a drought year.

Rural Dwellers : This group comprised households who use land solely for residential purposes, that is they do not cultivate any land and do not have large livestock (cattle, horses, donkeys) or small livestock (goats, pigs, sheep). Two sub-groups were identified:

- Marginalised households: Likely to be households in direst poverty; ageing households; female headed households; households without a breadwinner; households where the major barrier to agricultural production is absolute poverty. This group was estimated to make up 15 percent of the rural population;

- Urbanising households: Likely to be households with both husband and wife who are migrants; households in denser settlements which are near to major urban areas; households where the major barrier to agricultural production is lack of interest in agriculture as an economic tactic. This group was estimated to make up 20 percent of the rural population.

Rural Producers: Households who rely upon the land to provide a minor part of their subsistence needs make up these strata. These are households who are engaging in agricultural and/or pastoral tactics which supplement other economic activities. Three sub-groups were defined:

- Peasantariat: Likely to be households where the 'breadwinner' is a migrant or commuter but maintain some form of agricultural activity; households who are engaged in a variety of tactics, in other words, not specialising in any one economic activity other than wage labour; households in which the major barrier to agricultural production is available labour time. This group was estimated to make up 45 percent of the rural population;

- Micro-entrepreneurs: Likely to be households involved in hawking, trading and production tactics, which are able to source capital from wage-earning members; households with working adult sons, which have succeeded to some extent in penetrating market-based activities. Agriculture will be one of a mix of activities undertaken by these households who are estimated to make up 10 percent of the rural population;

- Emerging farmers: Likely to be households with small herds of stock, both large

and small and/or are cultivating small plots of land; households showing some signs of specialising in a form of agricultural activity; households in which the head of the household has not/no longer migrates although remittances may be received from a relative; households where the major barrier to agricultural production is the lack of sufficient agricultural resources. This group is estimated to make up seven percent of the rural population.

Farmers: Finally, there are households who use land as an important means of generating an income, that is, land usage complements other economic activities and could be a viable alternative. Two groups were identified:

- Subsistence farmers: Likely to be households who have smaller plots of land but are farming efficiently and therefore able to produce for their own consumption; smaller households; households who are ageing but have land or livestock; households where the major barrier to agricultural production is the lack of more specialised resources and labour power. This group is estimated to make up one percent of the rural population;

- Commercial farmers: Likely to be households with larger plots of land and/or larger herd sizes; households where the "breadwinner" is a full time farmer; households who are marketing their products; households where the major barrier to agricultural production is the lack of capital, specialised knowledge and markets. This group is estimated to make up two percent of the rural population.

All of the studies above have their limitations. Besides being dated and geographically specific, the Innes and O Meara study is focused on an explanation of elites during the era of 'grand apartheid' and offers little explanatory value for a more generalised discussion of social class. While there are apparent similarities between the typologies of May and Bembridge, there is a profound difference in their approaches. Whereas May *et al.,* (1995) refer to 'rural dwellers' implying not only the lack of resources, but also the functional dislocation of this group, Bembridge (1990) emphases that this group are 'resource poor' households. Again, while the group described by the former as the 'peasantariat', and the latter as 'smallholders', are almost identical in size, the intention of May's group is to draw attention to the nature of the group as the so-called 'awkward class' referred to by Bernstein (1979). For this

reason, Bembridge's typology can be seen as somewhat more benign than that of May's, insofar as it seeks no analytical explanation of its composition.

Nonetheless, in addition to the dramatically changes in political and economic context, May's study has a number of important problems. The study is based on regionally specific income and expenditure data which was never intended for an entitlements based analysis and covers only the rural population. In consequence, many important issues cannot be explored, and in view of the specificities of the rural KwaZulu-Natal situation, the results of the study cannot be safely generalised. Moreover, the study fails to draw out the link between the tactics that are chosen for the typology, and endowments that are available to the household. As a result, it is difficult to discern if the social classes drawn out by May are indeed based on behaviours necessitated by the endowments available to the household, or are demographically determined in the classic Chayanovian sense. In addition, this approach stops short of linking the typology to an analysis of livelihood security, making policy recommendations difficult.

5.4 CONCLUSION

The data discussed in this chapter show the peculiar poverty profile of South Africa in the post-apartheid period, and of KwaZulu-Natal, the province in which the case study has been undertaken. Although some social indicators suggest improvement, especially since 2000, South Africa still lags behind countries of similar economic strength, and has experienced a decline in its HDI in recent years due to falling life expectancies, a result of the HIV/AIDS epidemic. Triangulating information from the SA-PPA with the PSLSD data reveals a striking similarity between the subjective responses of the poor and results of objective measurement exercises using indicators such as income and caloric intake. Poor households suffer deprivation not only in terms of income, but also in terms of implications of their situation. As a result, a significant proportion of their budgets must be allocated towards the purchase of essential services, they experience overcrowding, economic dependency and low educational attainment. What is revealing about perceptions of the poor is that poverty is expressed in terms of the shared characteristics of different groups in communities, principally the way in which these groups go about generating their livelihoods and the constraints that they face in doing so. Taken together, the data confirm that the

post-transition government faced an enormous challenge in reducing poverty, and that high and probably increasing levels of poverty persisted for much of the period covered by the KIDS study.

Irrespective of the dominant policy orientation, or shifts therein, a decade is relatively little time to resolve social problems of the magnitude measured by the 1993 PSLSD survey. Moreover, as Leibbrandt *et al.,* (2001:1) argue, the data on social indicators and poverty in South Africa suggest an economy that remained "…highly inefficient in terms of converting economic resources into equitable social welfare outcomes" between 1993 and 1998, the period of the KIDS survey, whereby the country's relatively high GDP per capita did not result in reduced numbers of people in poverty or improved social indicators.

CHAPTER SIX
ASSET-BASED POVERTY DYNAMICS IN KWAZULU-NATAL

6.1 INTRODUCTION

The discussion presented in Chapter Five provided a brief description of the extent and distribution of poverty and inequality in South Africa between 1990 and 2004, as well as qualitative information concerning the perceptions and experience of the poor collected in 1996/7. Earlier in Chapter Three, care was taken to define poverty as being more than having an income that is below some specified threshold amount. Although the description of poverty did attempt to broaden the scope of the poverty profile, this mode of analysis remains essentially static in nature. Importantly, it continues to look upon poverty as a deficiency, usually of income, that could be resolved by appropriately targeted transfers. This is in contrast to a poverty that is the outcome of social and economic structures: a poverty that is 'persistent' or in the language of some analysts; 'produced' and even 'perpetrated' (Øyen, 2002). As such, poverty risks, however widely defined, reveal little of those factors which will lead to the production, reproduction and persistence of poverty.

While the comparatively new literature on poverty transitions offers some solutions to this shortcoming through its focus on chronic versus transitory poverty, the analysis in this chapter argues that such analysis still does not identify those who are structurally mobile from those who may be caught in a poverty trap. The chapter returns to the 'systems perspective' of poverty analysis discussed in Chapter Three (Section 4.1). As described in Chapter Three (Section 6), by merging elements of Sen's entitlement approach with the economic theory of the household in imperfect market environments (however these are produced), non-parametric estimates of the mapping between household endowments and poverty can be presented which reveal two new dimensions of the poverty problem. The first of these is the existence of an asset poverty line. This refers to those bundles of measurable endowments (or portions of the endowment space) that map into entitlements, which, for this thesis, are measured as levels of living below a consumption poverty line. The second dimension refers to patterns of constraints (reflected in the topography of an entitlement map) that limit the ability of those who are poor to accumulate and effectively utilise the assets and

endowments that they do have. In this way their situation becomes self-perpetuating, resulting in structurally persistent poverty.

A sharper understanding of poverty along these dimensions promises to inform poverty reduction strategies focused on asset redistribution and accumulation. Related strategies would include those that seek to weaken constraints limiting the effectiveness with which the poor are able to use the assets and endowments they do possess, in other words, strategies that facilitate the entrepreneurship of the poor. Having developed and refined a new contribution to the analysis of persistent poverty, the chapter ends by providing an alternative typology based on a dynamic conceptualisation of structural poverty and examines some of the reasons why households may have experienced a change in their well-being. This will be used in Chapter Seven to explore the livelihood characteristics of those who fall into the different categories of this alternative approach to poverty dynamics.

6.2 POVERTY IN KWAZULU-NATAL: EVIDENCE FROM KIDS 1993-2004[71]

I will start by examining the extent, depth and severity of poverty of the households surveyed by KIDS using standard static money-metric measures and access to services. Although representative of the African and Indian populations of this province in 1993, it must be remembered that panel data are generally no longer representative of the population in subsequent waves of data collection. KIDS is no exception to this as is illustrated by Appendix One (Sections 1.1 and 1.2) that provides a comparison of basic demographic indicators using the middle wave of KIDS and the OHS of 1998. The aging profile of core households in the KIDS cohort is evident, along with larger household sizes reported in KIDS. The KIDS cohort is also less well educated and less likely to be employed.

6.2.1 Incidence, Depth and Severity of Poverty in KIDS

At the outset, it should be noted that the results in this section will differ from previously published work due to a number of refinements made to the data and the

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[71]/ Parts of this section are derived from Agüero et a.,l (2007), May et a.,l (2007) and May and Woolard (2007). I was the lead author in each of these papers for the analysis reported here.

collection of the third wave of data. In particular, to allow comparison with the poverty profile provided in Chapter Five, I have chosen to make use of a poverty threshold developed by Stats SA rather than the poverty line based on the Household Subsistence Level (HSL) developed by the University of Port Elizabeth (IPR, 1993).[72] In calculating the revised measures, a household has been deemed poor if its monthly per-capita expenditure or income (inflated or deflated to 2000 prices) [73] and represented as c in the subsequent discussion, fell below the poverty line (z) of R322 per month per person suggested for South Africa by Hoogeveen and Özler (2004).[74]

The use of the Stats SA threshold has changed the magnitudes reported previously but not the trends. No comparable data are available from the OHS'98 as income/consumption data were not gathered by this survey, although as discussed in Chapter Five (Sections 2.3 and 2.4), comparison with the 2000 IES and various GHS data suggested a similar trend of increasing poverty during the immediate post-apartheid period. In addition, as also discussed in Chapter Five (Section 2.4), there is evidence of a reduction in poverty in the 2000-2004 period.

Also worth noting, the HSL for 1998 suggests that the cost of the fixed items (housing, fuel and transport) contained in the basket have risen more rapidly than the price index calculated for food items using the KIDS data. This is also suggested by the national CPIX data which also shows a higher index for price changes between 1993 and 1998. As such, the adjustment for inflation using the national rate may understate the extent of poverty since the KIDS sample is drawn from the poorer segment of the population.

Table 6.1 shows estimates of poverty for households surveyed in all three waves of

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[72] The methodology of Stats SA's threshold is detailed in Hoogeveen and Özler (2004) and in Stats SA (2007b). For comparison the methodology of the threshold previously used is provided in Appendix Two which include explanation of adjustments to the community-specific price index, equivalence scales and household economies-of-scale parameter. It should be noted that Hoogeveen and Özler propose a per capita based threshold and do not make any adjustment for adult equivalence or household economies of scale. While these are significant shortcomings, I have chosen to opt for comparability with national statistics rather than adjusting the poverty line. While this will affect the scale of poverty and potentially the profile of those who are poor, the underlying poverty dynamics that are the focus of this thesis will be unaffected.

[73] The deflators used were taken from the Consumer Price Index (CPIX) produced by Stats SA for the month in which field work commenced. These were 1.605 for 1993, 1.143 for 1998 and 0.812 for 2004.

[74] Hoogeveen and Özler (2004:7) suggest several options and I have chosen to use their 'lower bound' estimate.

KIDS using the P^α class of poverty measures reviewed in Appendix Two (Section 2.3). Two approaches have been adopted for the measurement of poverty: firstly using the reported expenditure (consumption in 1998 and 2004) on a basket of food and non-food items, and secondly using reported income from a range of sources including imputed income from home production.[75] Although both approaches are used in the literature, expenditure/consumption-based reporting has tended to be preferred as it is argued that this approach is both less prone to under-reporting, and takes account of consumption-smoothing.

Table 6.1: P^α Measures for Core KIDS Households

	Measure	1993	1998	2004
Expenditure	P^0	0.51	0.57	0.47
	P^1	0.20	0.26	0.22
	P^2	0.09	0.14	0.12
Income	P^0	0.65	0.54	0.52
	P^1	0.36	0.29	0.28
	P^2	0.24	0.28	0.20
n=847				

The headcount index of poverty (P^0) using expenditure increased from 0.51 in 1993 to 0.57 in 1998, before falling to 0.47 percent in 2004. When income is used, the headcount declines continuously from 1993. The poverty gap index (P^1) increases from 0.20 to 0.26 and then declines to 0.22 using expenditure, but also declines continuously when income is used. Finally, the poverty severity index (P^2) increases from 0.09 to 0.14 before recovering slightly to 0.12 using expenditure. The income-based measure repeats this pattern and the trends between 1998 and 2004 are consistent in terms of both income and expenditure-based measures.

The disparity between income and expenditure-based measures between 1993 and

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[75]/ I have referred to the summed data from Sections 3 and 4 of the PSLDS and KIDS questionnaires (variable 'totexp' in all years) as expenditure/consumption. This is accurate since the questions differ between 1993 and the later waves. In 1993 respondents were asked about their expenditure: "I have a list of different kinds of food that people may have eaten during the past week or month. As I read each one, I'd like you to tell me whether or not it was bought or consumed in this household during the past month: What was the amount spent or quantity purchased in the last period? How much was received as a gift or as a payment/eaten from own production in the last period?" In 1998 and 2004 respondents were asked about their consumption: "I have a list of different kinds of food that people may have eaten in the past month. Was [...] eaten by this household in the past month? What was the value of [...] eaten from purchases/home consumption in the past month?" See Agüero *et a.,l* (2007) for a discussion of the possible impact of this change and Scott and Amenuvegbe (1990) for an analysis of the impact of using different recall periods. In the forthcoming analysis I will refer only to expenditure when using this variable.

1998 is of concern, with P^0 increasing using expenditure, and declining using income, and P^2 increasing for both income and expenditure for this period, with the income measure reporting more severe levels of poverty than expenditure. The discussion in Chapter Four (Section 3.9) provided some indication of the reasons for this disparity.

In these circumstances, deciding which approach is most credible is not immediately apparent, and for the remainder of this section, I will present descriptive results using both perspectives. In Appendix Two (Section 2.1) I argue for the use of an expenditure based approach, suggesting that this measure produces results that are consistent with most other analyses of poverty undertaken in South Africa, is the preferred approach in the literature, and produces a better fit when regressed against household assets. For these reasons and for greater clarity, I will use only expenditure for the analysis of poverty dynamics.

Turning to the characteristics of those who are poor, the P^α class of poverty measures have been disaggregated in Table 6.2 by location into non-urban and urban (towns and metropolitan) households. This table reports the persistent geographical concentration of poverty that exists within KwaZulu-Natal, similar to that found for South Africa as a whole.[76]

Table 6.2: P^α Measures for Core KIDS Households (by Location)[77]

Variable	Measure	Urban			Non-Urban		
		1993	1998	2004	1993	1998	2004
Expenditure	P^0	0.27	0.29	0.19	0.64	0.72	0.62
	P^1	0.10	0.09	0.07	0.25	0.34	0.29
	P^2	0.05	0.04	0.03	0.12	0.19	0.17
Income	P^0	0.37	0.24	0.27	0.79	0.69	0.64
	P^1	0.17	0.12	0.15	0.45	0.37	0.35
	P^2	0.10	0.32	0.11	0.30	0.25	0.24
$n=$		293	293	293	574	574	574

[76]/ As noted in Chapter Four (Section 2.1), due to the sample frame of the original sample, the official classification of areas used in the 1985, 1991 and 1996 censuses was followed by the first wave of KIDS in which non-urban refers to areas that were historically not in the demarcated municipal authorities. By and large this corresponds with rural settlements although there are important exceptions. In 2001, Stats SA indicated their intention of abandoning this definition in favour of a population density classification. The 2004 KIDS data have been released with a population density option (pop_den in the file population_ density_2001_public_release). For consistency with previous analysis and other studies, I have chosen to retain the original classification for this thesis.

[77]/ Chi square tests show that the headcounts for urban and non-urban areas are statistically different.

In all three years, the risk of being an expenditure poor household in a non-urban area is more than double that experienced by urban households. The headcount ratio shows that households in non-urban locations in the province experienced a considerable increase in the incidence of poverty in the intervening five years between the 1993 and 1998 waves of data collection, before falling to below the 1993 level. The urban areas experienced a moderate increase in P^0 between 1993 and 1998 which was also followed by a decline. The depth of poverty rose in the non-urban areas, although not in the urban, as did the severity of poverty. This implies that poverty did not only become more pervasive in non-urban areas, but that the severity of the poverty was deepening. In the urban areas, where there has been little change in the level of poverty, those that are poor became progressively less impoverished between 1993 and 2004 with the average shortfall decreasing from 5 percent of the poverty line to 3 percent. The income data broken down by urban/non-urban show much the same pattern as for the total, with a decreasing incidence of poverty between the first two waves followed by an increase. In income terms, non-urban poverty stood at a massive 79 percent of the population in 1993, and decreases continuously to 64 percent by 2004, while the P^2 for urban areas increases (surprisingly) between 1993 and 1998, to above the level of the non-urban measure. This suggests a further explanation for the disparity between income and expenditure in 1993 and 1998: significant under-reporting of urban based incomes.

Table 6.3 provides the same set of P^α measures broken down by the sex of the household head.

Table 6.3: P^α Measures for Core KIDS Households (by Sex of Household Head)

Variable		*De facto* male			*De facto* female			*De jure* female		
		1993	**1998**	**2004**	**1993**	**1998**	**2004**	**1993**	**1998**	**2004**
Expenditure	P^0	0.22	0.36	0.29	0.22	0.47	0.39	0.32	0.47	0.34
	P^1	0.06	0.12	0.13	0.06	0.15	0.18	0.09	0.17	0.16
	P^2	0.03	0.05	0.07	0.02	0.07	0.11	0.04	0.08	0.09
Income	P^0	0.35	0.29	0.31	0.71	0.63	0.41	0.64	0.48	0.35
	P^1	0.15	0.12	0.17	0.33	0.31	0.24	0.31	0.23	0.19
	P^2	0.09	0.15	0.13	0.19	0.19	0.16	0.19	0.18	0.13
	n=	*535*	*516*	*429*	*164*	*103*	*100*	*323*	*409*	*39?*

Almost all of the P^α values for income and expenditure-based measures are higher for *de jure* female-headed households than *de facto* male and female-headed households in all three years, in line with Klasen's (1997) finding for South Africa, as well as

with the majority of research in sub-Saharan Africa (*cf.* Lachaud, 1994; Haddad, 1995).[78] While most types of household have experienced a decrease in terms of their well-being between 1993 and 1998 followed by an improvement between 1998 and 2004 as reflected by any of these expenditure-based measures, the decline in the fortunes of *de facto* female headed households between 1993 and 1998 is particularly striking for all of the poor. As before, when income is used, a consistent improvement in well-being over the 11 year period is found for all household types and all measures other than for P^2. Noteworthy is the extraordinarily high headcount for *de facto* female headed households when using an income-based measure with 71 percent of these households recorded as being poor in 1998.

6.2.2 Living Conditions

Improvements in the delivery of services have been identified by Statss SA as an important achievement of the post-apartheid government (Stats SA, 2001). As is shown in Table 6.4, positive changes have consistently taken place in the access of the surveyed households to the set of services gathered in the PSLDS and subsequent waves of KIDS which can be defined as Living Conditions indicators.

Table 6.4: Living Conditions indicators for Core KIDS Households

Year	Have electricity connection	Live in formal house	Piped water supply	Toilet on stand	Own house	Median people/ room
1993	42.5	67.3	37.2	76.6	87.0	1.4
1998	64.8	n/a	41.5	67.2	88.7	1.2
2004	74.5	85.2	50.7	86.3	90.4	1.0
n=847						

The most notable progress is in electricity connections, which improved between 1993 and 2004, from being available to 43 percent of the sample to 75 percent. This is followed by the percentage of the sampled households who live in formal housing,

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[78]/ *De facto* female headship refers to households in which a non-resident male head was identified. Chi square tests show that the headcounts are statistically different for households with a *de jure* male head compared to those with *de facto* and *de jure* female heads. Foolishly, the KIDS research team decided to exclude this question in 2004 and I have imputed household headship for 2004 by assuming that, if alive, the reported head from 1998 will still hold this position. The data for 2004 thus exclude households in which the head had died between 1998 and 2004. Although not shown, P^α values for these households did not display any noteworthy variation from those of the total sample.

which increases from 67 percent to 85 percent of the sample. Improvements in access to piped water have been more modest, while the percentage of households with access to a toilet in the dwelling or on the stand inexplicably declines between 1993 and 1998, perhaps due to definitional changes during fieldwork, before increasing to 86 percent of the sample. Finally, some progress has also been made in the percentage of households who report owning their house and in room density, measured as the median number of people per room.

While the overall picture is quite positive, some caution is in order. Information was not gathered concerning whether utility connections were operative, or whether they had been shutoff. Also, home ownership may be less positive than it appears as the tenure rights involved may mean that the building cannot be sold nor used as collateral. Nonetheless, the picture suggested by the KIDS data concerning services is one of progress in a number of the key goals outlined by the Reconstruction and Development Programme (RDP) in 1994.

6.3 POVERTY TRANSITIONS: KIDS 1993-2004

The extent and depth of poverty just shown uses conventional static money-metric instruments. This analysis treats the data as if they represented two cross-sectional surveys such as the OHS and IES data also described in the same chapter. The KIDS data can now be used to operationalise the dynamic model of poverty discussed in Chapter 3 (Section 6) in the context of KwaZulu-Natal. In this section, I begin by describing the data using cumulative distribution function (CDF) that allow inspection of changes in the entire distribution of well-being between 1993 and 1998 and by the transition matrix approach favoured by most analysts of panel data. The data can then be examined more broadly through a joint distribution frequency that maps mobility. Finally, I will modify and then apply the Carter/May typology of structural poverty for the period 1993-2004.

6.3.1 Cumulative Distribution Functions[79]

Despite the relative sophistication of the Foster, Greer and Thorbecke (FGT)

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[79] This section is derived from May et al., (2007) for which I was the lead author and Agüero et al., (2007) for which I was a joint author and contributed significantly to the analysis reported here.

measures, as noted in Chapter Three, the conclusions that are reached may still be affected by the choice of poverty line. A cumulative distribution function (CDF) resolves this problem by testing whether differing poverty lines are robust in that the poor are consistently identified and ranked whatever poverty line is used. If the CDF's of the indicators for different groups do not intersect, then one group can be definitively considered to be poorer than the other/s.

Figure 6.1 provides this information for the three waves of KIDS showing the normalized per-capita expenditures for adult children and for the core or parent households from which they emerged.[80] The figure uses a normalised real household expenditure measure, defined as total household expenditures, adjusted to 2000 prices, and divided by the Hoogeveen and Özler poverty line. Normalised expenditures equal to one thus indicate that household expenditures exactly equal the poverty line for the household; a measure of two indicates that household expenditures represent a level of well-being that is twice the poverty line, and so on.

Figure 6.1: Cumulative Distribution Function for KIDS Households
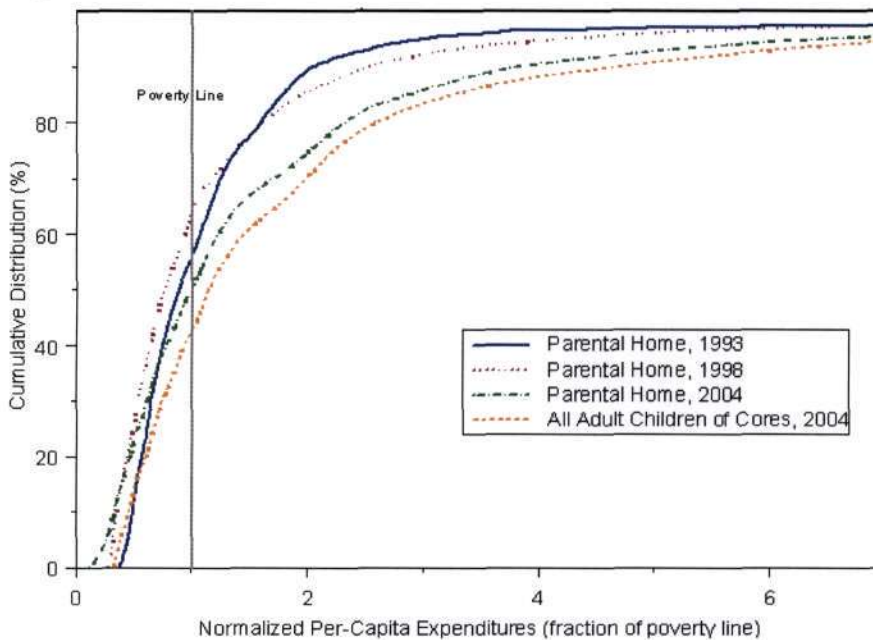
The CDFs for the parents shows an increase in poverty from 1993 to 1998, and then a reversal of this trend from 1998 to 2004.[81] First order dominance cannot be

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[80]/ Only data on those adult children who still had at least one core parent alive in 2004 are used to create the figure.
[81]/ Statistically, the hypothesis that core households with adult children have the same expenditure distribution as all core households cannot be rejected based on Kolmogorov-Smirnov tests.

concluded since it is apparent that the CDFs for the three years cross over. However, as noted by Jenkins and Lambert (1997), second order dominance can be shown since the data for 1998 lie to the left of those for 1993 until approximately twice the threshold. As a result, it is possible to conclude that households in 1998 are poorer than households in 1993 for all poverty lines up to twice the threshold that has been used. Likewise it is possible to conclude that households in 2004 are wealthier than households in 1998 for all poverty lines that exceed half the threshold used.

However, as can be seen, the CDF for the next generation lies everywhere to the southeast of the 2004 CDF for the parents, indicating that the next generation is doing better than their parents. However, given that slightly more than half of the next generation adult children live with their parents, and have the same recorded living standard as their parents, Figure 6.2 suggests that the segment of the next generation that has established independent residences is likely doing even better than Figure 6.1 would indicate. In order to explore this issue, Figure 6.2 compares the CDF for this group with the next generation sub-cohort that continues to live with their parents. As can be seen, the former group is much better off than the latter.

Figure 6.2: Economic Well-Being of the Next Generation
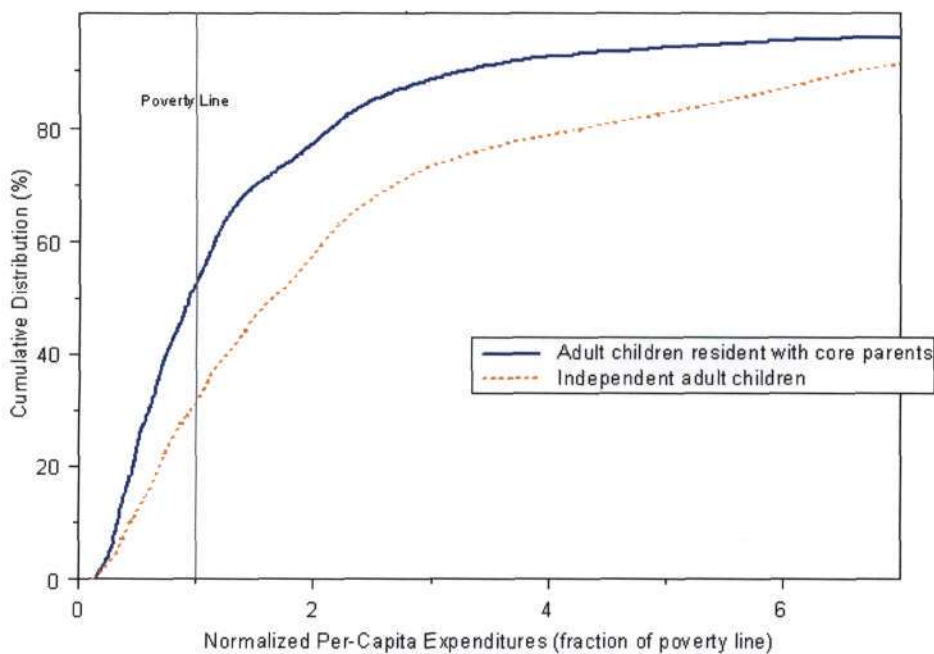
There are several possible explanations for the differences between these two groups. First, it may be that adult children with independent residences are better educated and otherwise more successful economically. Alternatively, it could be that adult

children still at home have family responsibilities that keep them at home (to support parents or other needy family members).

These results lend support to other findings from South Africa that the formation and splitting off of new households may sometimes be endogenous (Case and Deaton; 1998; Klasen and Woolard, 2001). There is thus at least some evidence that the next generation, like their parents, is bifurcating into two distinct groups. Additional analysis of these data, especially concerning whether parents' status is transmitted to their children, is clearly required but is not the business of this thesis.

6.3.2 A Transition Matrix Approach[82]

The conventional transition matrix approach is the next step necessary to complete this analysis. Transition matrices, depicting the position of households interviewed in all three rounds in the income distribution over time, are a widely used and simple way to represent movement in and out of poverty.[83] Table 6.5 shows the transition over the full 1993 to 2004 period, while Table 6.6 shows the changes between 1998 and 2004.

Each household in Table 6.5 is assigned to a row based on its 1993 normalised expenditure measure. Thus, the first row contains the 129 households whose 1993 level of well-being was less than half the poverty line. In the second row are the 218 households whose level of well-being was greater than half the poverty line but less than the poverty line. The other rows are defined similarly using the well-being limits shown in the table.

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[82]/ This section is derived from Agüero *et al.*, (2007) for which I was a joint author and contributed to the analysis reported here.

[83]/ Examples include Grootaert and Kanbur (1995) in Cote d'Ivoire, Glewwe and Hall (1998) in Peru and Roberts (2001) using the KIDS data. Chaudhuri and Ravallion (1994) is an example of an alternative approach using classification matrices.

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Table 6.5: 1993 to 2004 Transition Matrix for Core KIDS Households (% of row)

1993 \ 2004	< 0.5 PL	< 1 PL	<1.25 PL	<1.5 PL	<2.5 PL	>2.5 PL
<0.5PL (n=129)	**38.0**	34.1	10.9	3.1	8.5	5.4
< 1PL (n=218)	26.8	**31.9**	11.4	10.4	11	8.5
<1.25 PL (n=111)	26.1	27	**12.6**	1.8	16.2	16.2
< 1.5 PL (n=69)	11.6	20.3	5.8	**7.2**	18.8	36.2
< 2.5 PL (n=161)	10.6	15.5	8.1	4.3	**23.6**	37.9
>2.5 PL (n=79)	1.3	10.1	3.8	3.8	7.6	**73.4**

The columns of Table 6.5 are defined using households' 2004 level of normalised well-being, and thus permit us to see the fate of each household over the 1993 to 2004 period. Looking across the first row, 38 percent of the households whose 1993 standard of living was less than half the poverty line are just as poor in 2004. Another 34 percent of these households have modestly higher standards of living in 2004 (still below the poverty line, but above half of it). The remaining 28 percent of these households now enjoy standards of living in excess of the poverty line. The main diagonal cells of the transition matrix are highlighted in bold and show the fraction of households in each row that have not changed their well-being category (for example, 73.4 percent of households that had living standards in excess of 2.5 times the poverty line in 1993 were still above that level in 2004).

Table 6.5 as a whole reveals several distinctive patterns of mobility, with more than 60 percent of households that were poor in 1993 remaining poor in 2004. While there is some upward mobility amongst those who were initially poor, there is also substantial downward mobility (53 percent) amongst those just above the poverty line. These figures are consistent with the existence of a core group of persistently poor

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people, surrounded by a somewhat smaller group of sometimes poor who move in and out of poverty over time, an argument made earlier by Carter and May (2001). The two expenditure groups just above the poverty line appear to be quite unstable. Roughly 40 to 45 percent of households that had expenditures between 1.0 and 1.5 times the poverty line in 1993 enjoyed expenditures more than 1.5 times the poverty line in 2004. Another 40 percent or so of these households had fallen below the poverty line in 2004, with the remaining 10 to 15 percent holding onto those middle positions. This pattern of apparent bifurcation (with some households slipping to a low level equilibrium and others rising toward a high level equilibrium) is consistent with that identified by Adato *et al.*, (2006) based on the 1993 to 1998 KIDS data supplemented with qualitative information from 2001.

Consistent with studies of the earlier rounds of the KIDS data, those households who were well above the poverty line in 1993 largely maintained their positions or moved ahead over time. On average, households with expenditures more than 2.5 times the poverty line in 1993 experienced a 61 percent income growth over the 11 years of the study. Nearly 40 percent of the households that had expenditures in 1993 between 1.5 and 2.5 times the poverty line moved ahead substantially over time and the mean expenditure of this group grew by a massive 160 percent. Again consistent with the findings by Adato *et al.* (2006), there is little downward mobility amongst these better-off groups.

Not surprisingly, the combined effect of these mobility patterns is to increase income inequality, a finding consistent with those of Hoogeveen and Özler (2005) and many others analysing South Africa's income distribution since 1995. Among the KIDS households, the Gini coefficient measure of inequality in the distribution of household expenditures has risen steadily from 0.42 in 1993, to 0.50 in 1998 and a remarkably high 0.57 by 2004. As discussed by Carter and May (2001) and in more detail by May *et al.*, (2004), this increase in income inequality is neither surprising nor an unambiguously bad thing, although at some point high levels of inequality may affect economic growth rates and social stability.

Table 6.6 displays a transition matrix using the core KIDS households for the more recent history of the KIDS households showing the 1998 to 2004 period.

Table 6.6: 1998 to 2004 Transition Matrix for Core KIDS Households (% of row)[84]

1998 \ 2004	< 0.5 PL	< 1 PL	<1.25 PL	<1.5 PL	<2.5 PL	>2.5 PL
<0.5PL (n=221)	**40.7--**	37.6	4.5	3.2-	8.6+	5.4++
<1PL (n=275)	25.5---	**32.1-**	11.7	8.4	13.5++	8.8++
<1.25 L (n=82)	17.3	24.7---	**9.9**	11.1-	22.2+++	14.8+
<1.5 PL (n=68)	16.2++	16.2---	25+++	**8.8**	13.2	20.6+
<2.5PL (n=109)	3.7-	12.8---	11.9	5.5-	**22.9-**	43.1+++
>2.5PL (n=113)	0	5.3	3.5-	2.7	11.5--	**77+++**

In addition to the row percentages, the Table also provides a simple coding scheme that indicates how the 1998 to 2004 transitions differ from the 1993 to 1998 transitions. As described elsewhere (May *et al.*, 2000; Carter and May, 2001), the 1993 to 1998 period saw substantial increases in poverty and slippages at the bottom end of the income distribution, with substantially more improvement at the top end. The 1998 to 2004 period saw some moderation in this trend. As can be seen, much less downward mobility occurs among the poorest households in the later period than during the 1993 to 1998 period. For example, while 24.7 percent of households that were just above the poverty line in 1998 had fallen below the poverty line in 2004, this fraction is more than ten percentage points lower than the corresponding transition figure over the 1993 to 1998 period (the figure from the 1993 to 1998 transition matrix, not shown here, is 38 percent). More generally, downward mobility and chronic poverty rates for the three lowest well-being categories (while still high)

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[84]/ Changes from the 1993 to 1998 transition matrix are indicated by '+'s' and '-'s.' An element which is between 2.5 and 5 percentage points lower is indicated by a '-'; between 5 and 10 percentage points lower by a '--'; and, greater than 10 percentage point decrease by a '---'. Similarly, '+' means between 2.5 and 5 percentage higher; '++' between 5 and 10 percentage points higher; and '+++' more than 10 percentage points higher.

are not as unfavourable as they were for the earlier sub-period of the KIDS study.

The fourth well-being category (those households whose 1998 expenditures were between 125 percent and 150 percent of the poverty line) shows a mixed pattern, with some elements of downward mobility increasing and others decreasing. Finally, the pattern of upward mobility amongst the relatively well-off (already apparent in the 1993 to 1998 period) has become even more pronounced during the more recent period.[85]

Table 6.5 and Table 6.6 can be simplified and Table 6.7 records the percentage of households observed in all three waves broken down by the number of poverty spells that they have experienced, showing this information for expenditure and for income.

Table 6.7: Poverty Spells for Core KIDS Households

Poverty Status* '93-'98-'04	Income- based	Expenditure- based
P-P-P (Chronically Poor)	22.8	26.6
P-P-N (Upwardly mobile?)	10.5	5.0
P-N-P (Transitorily Poor)	4.6	6.6
P-N-N (Upwardly mobile?)	8.4	10.3
N-P-P (Downwardly mobile?)	4.0	6.9
N-P-N (Transitorily Poor)	11.0	4.3
N-N-P (Downwardly mobile?)	3.7	12.5
N-N-N (Never Poor)	34.9	27.9

* P indicates Poor; N indicates Not-Poor
n=867

Using income data, individuals that were observed to be poor in all three waves form a somewhat lower proportion at 23 percent than when the expenditure data are used (27 percent). The reverse applied to the never poor group. Two groups can readily be thought of as being transitorily poor, those that experienced a single episode of either poverty or non-poverty in 1998, although it is always possible that this episode was in fact the result of measurement error. Two groups may well be upwardly/downwardly mobile in that they are observed to be poor/non-poor for one wave and are then observed as being non-poor/poor in the subsequent waves. Finally, it is difficult to

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[85]/ The possibility of measurement error cannot be excluded. Glewwe (2005) proposes a methodology for uncovering the degree to which overall observed mobility is the result of measurement error. Following his method, Agüero *et al.,* (2007) find that measurement error in one or more of the waves accounts for at least 14 percent of all mobility and could account for as much as 60 percent of mobility between 1993 and 1998. This situation is less extreme for the 1993 to 2004 period as measurement error accounts for no more than 4 percent of mobility between 1998 and 2004. This is detailed in Appendix Two.

categorise the two remaining groups who are observed as poor/non-poor for two waves before being observed as non-poor/poor. This might depict upward/downward mobility, an episode of good or bad fortune or measurement error. This is where the usefulness of a matrix based approach becomes limited and alternatives must be sought. Nonetheless, and as is seen elsewhere in the world, it is possible to conclude that the poor includes a large group of households who cycle in and out of poverty (Bane and Ellwood, 1986; Ruggles and Williams, 1989).

Taken together, the tables showing poverty dynamics present a picture of money-metric mobility for the majority of the KIDS sample, some instances of those furthest below the poverty line able to improve their situation, if not to escape to a position above the line, but generally a deterioration in well-being between 1993 and 1998 as expressed by consumption, especially for those near to the poverty line and an improvement for all groups in the 1998 to 2004 period. Of course, because this is longitudinal data and neither the 1998 or the 2004 rounds are representative, however seductive, statements about overall poverty rates in KwaZulu-Natal cannot be made. In addition, the extent to which measurement error might be driving this result is also a concern. Nonetheless, this result provokes further investigation to ascertain whether these changes are simply the result of measurement errors in one or either of the surveys, a product of the money-metric approach that has been adopted or if they are both robust and can be explained using the theoretical tools developed in this chapter.

6.3.3 Mobility and Mobility Tests

The analysis in the prior section does not provide information about whether initially poor households have become systematically worse off over time, or whether the matrix has been generated by significant upward and downward mobility in which initially poor and non-poor households have swapped places in the income distribution. As a first window into this question of mobility, Carter and May (2001) extend the visualisation offered by the CDF already shown to graphically portray the estimated joint distribution of well-being (expenditures divided by subsistence needs) using the KIDS data for 1993 – 1998 and May *et al.*, (2007) update this to 2004.

Figure 6.3 provides these contour graphs showing the joint distribution of well-being for two of the pair-wise comparisons that are possible ('93 with '98; '93 with '04).

These graphs may be thought of as mobility planes, and as with the transition matrix, the axes refer to a normalised expenditure measure. In this instance, the *x*-axis uses a logarithmic scale to display a household's 1993 consumption as a percentage of its subsistence needs. Prior to estimating the joint distribution of well-being, May *et al* (2007) rescaled the data by taking the natural logarithm of the expenditure per-capita measures used in the prior analysis.[86] The spread of the contours reflects the distribution of well-being.

Figure 6.3: Joint Distribution of Well-Being – 1993, 1998, 2004
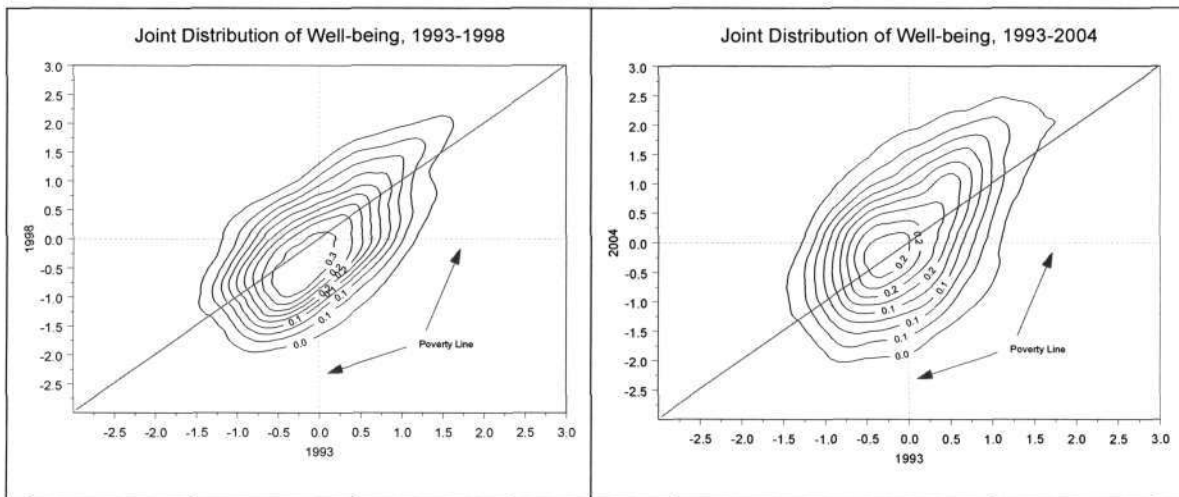
In addition to rendering the data in a visually useful fashion, Carter and May note that:

> …estimation of the joint density removes noise from the data and use the LEP non-parametric kernel estimator with an optimal bandwidth. The greater the height of the estimated surface over a portion of the mobility plane, the greater is the estimated probability that a family occupies that portion of the mobility space (Carter and May, 2001:1996).

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[86]/ As has often been noted, income distribution is approximately log-normally distributed and taking the logs, as is done here, re-scales the data so that the non-parametric kernel estimator can adequately represent the shape of the joint distribution. Because of this rescaling, a household whose per-capita expenditures exactly equal the poverty line will have a well-being value of zero. Positive values indicate well-being levels above the poverty line, negative values signal living standards below the poverty line. The southeast (or bottom left) quadrant in the figure thus contains households who are twice poor, and who might be thought of as being chronically poor in the manner described by Hulme and Shepherd (2003). The top left and bottom right quadrants are the transitory poor, while the top right are the never poor. Finally, note that the 45-degree line drawn across the figure represents positions of no change. A position above the 45-degree line represents upward mobility, while positions below the line show downward mobility.

The overall picture is that the 1998-2004 transition undid some of the downward movement seen in the 1993-1998 transition and documented by Carter and May (2001). In contrast to the 1993 to 1998 period, the mode of 1993-2004 joint distribution lies to the northwest of the 45° line and the distribution is more symmetric, suggesting that there has been an improvement in upward mobility for those close to the poverty line. Nonetheless, there is still plenty of spread indicating downward mobility and transitory poverty for many, as well as widening inequality.

Also apparent from Figure 6.3 is that a large clump of initially poor households have either held steady or fallen behind during the 11 year period. To return to the language of conventional poverty dynamics analysis, these households are chronically poor. Upward mobility appears concentrated among households that were initially better off, and a smaller but important clump of households can be seen to be pulling away from the immobility line. Together these two observations suggest that a pattern of class-based mobility underlies the shift in the cumulative distribution of income shown in Figure 6.1 as the probability of getting ahead is correlated positively with initial income level.

While the estimated joint distribution of well-being permits the full pattern of mobility to be seen, it does not easily permit simple tests to be undertaken that will determine the degree to which the visually distinct patterns of mobility across initial income classes are in fact statistically significantly different from each other. However, to return to the transition matrix given in Table 6.5 and Table 6.6, mobility information is provided in the form of the percentage of households in each 1993 well-being class (given by the rows of the table) that was observed in the 1998 well-being classes (the columns of the table). Following Hout (1983), Carter and May (2001) then examine whether these observed transition frequencies between 1993 and 1998 are sufficiently different from what would be expected under various models of homogenous or class-independent mobility that models can be rejected. The simplest such model is one of perfect mobility in which a household's destination in the 1998 income distribution is independent of its 1993 starting position. Perfect or class-independent mobility is rejected as the p-value for the L^2 statistic is less than 0.0001.

Rejection of this model of perfect mobility is not, however, especially surprising. It is quite likely that households will tend to maintain their initial position due to inertia

rather than exhibiting upwards or downwards mobility. Pursuing this Carter and May (2001) go on to to test a range of hypotheses and conclude that their results consistently reject the restrictions of increasingly less-restricted models that ask whether there are any common mobility patterns that cut across classes. Even the most general model tested (the 'Quasi-Diagonals' model in Hout's language) is rejected at the 5 percent level, giving a clear indication that the mobility patterns are heterogeneous across income classes. Not only is the 1993 livelihood position significantly related to 1998 income position, but as suggested by Table 6.5, the upward and downward mobility patterns are highly different across initial income classes. Unable to statistically accept any of the restrictions implied by commonly used mobility models, the observed transition matrix frequencies may be used as the best estimates of the mobility pattern.

The observed shift in the CDF seen in Figure 6.1 between 1993 and 1998 is thus the product of a relatively large group of chronically poor and a process of bifurcation among those just above the poverty line in 1993, with just over half that group falling behind, and the others holding steady or moving ahead. As a final test, Carter and May (2001) examine the longer run implications of this class-based mobility pattern under the assumption that income distribution between 1993 and 1998 follows a stationary Markov process. Once again the data give clear evidence of a pattern of downward mobility. These tests then give some reassurance that a substantial part of the mobility observed in the transition matrixes presented earlier is in fact real changes in well-being and not simply due to the rather precarious endeavour of data collection from households using quantitative instruments.

6.4 MEASURING DYNAMIC POVERTY IN KWAZULU-NATAL

6.4.1 Applying the Dynamic Poverty Model 1993-1998

While the combination of the transition matrices in Table 6.5 and Table 6.6, the poverty spells shown in Table 6.7 and the mobility planes in Figure 6.3, provides information on the incidence of chronic versus transitory poverty, and on mobility patterns across a well-being distribution, it is still not possible to determine whether the mobility of the transitorily poor is the result of successful accumulation, or whether this is simply driven by stochastic factors. More is still needed, and as a

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point of departure, I will first summarise Carter and May's (2001) analysis of the stochastic and structural factors that shape poverty transitions between 1993 and 1998 and thereby separate the stochastically poor from the structurally poor. I will then modify and extend this analysis to include the 2004 wave of data collection.

Underpinning Carter and May's empirical analysis is their treatment of the shocks experienced by households over time. As already alluded to above, two types of shocks can be related to mobility and poverty transitions. Firstly, those that impact on the income stream that is derived from household assets which may be defined as ε_{it}. Examples of such income shocks may be an unexpected bad harvest due to drought or additional income from a business due to unexpectedly higher prices. To emphasise that these shocks refer to occasions when the use of available assets does not lead to the anticipated outcome, the language of Sen's entitlement literature is evoked and these income shocks are thus termed 'entitlement failures' when they are negative and 'entitlement windfalls' when positive. The second type of shock occurs when the household experiences an unexpected, permanent reduction (or increase) in its asset base which may be defined as Θ_{it}. Examples here are when a wage earner suddenly dies; a fire destroys a business, or a friend, family member or government abandons or reneges on a longstanding remittance or other financial transfer. A positive example might be an unexpected transfer of land rights or some other asset. These asset shocks will be called 'endowment losses' and 'endowment windfalls' to draw attention to their permanent and structural impact.

By estimating the livelihood function, or expected well-being, $\hat{c}_{it}(A_{it})$, Carter and May (2001) recast Equation 2 to obtain an estimate of entitlement shocks, ε_{it}:

(6) $\quad \varepsilon_{it} = c_{it} - \hat{c}(A_{it})$.

However, as before, these estimated shocks will contain measurement and other random errors, as well as genuine shocks experienced by the household. In general, the less precise the estimate of $\hat{c}_{it}(A_{it})$, the larger will be the estimate of ε_{it} irrespective of the magnitude of shocks experienced by the household. To control for the precision of the underlying estimation of $\hat{c}_{it}(A_{it})$, Carter and May (2001) checked each household to see whether the following hypotheses for each year of the data can

be rejected:

Household is expected to be poor if reject Hypothesis$_1$: $\hat{c}_{it} > HSL_{it}$ [87]

Household is expected to be non-poor if reject Hypothesis$_2$: $\hat{c}_{it} < HSL_{it}$.

A household that is observed to be poor, but for whom the hypothesis that they are expected to be poor can be rejected, is said have suffered an entitlement shock or to be *stochastically poor*. Similarly, a household that is observed to be non-poor, but for whom the hypothesis that they are expected to be non-poor can rejected is said to have enjoyed an entitlement windfall and said to be *stochastically non-poor*.

By using stringent criteria requiring that confidence band around the estimate of $\hat{c}_{it}$ lies completely above the HSL, it becomes possible to say that an observed poor household is stochastically poor, and if not, to deduce that the household is instead structurally poor and lacking the assets necessary to generate $\hat{c}_{it} > HSL_{it}$.[88]

As detailed in Carter and May (1999:15), there are a number of reasons why $\hat{c}_{it}(A_{it})$ should depart from strict linearity or asset additivity including financial constraints on the effective use of other assets and missing or poorly function markets. Following on the methodological suggestion of that paper, flexibly local regression methods were employed to derive an 80 percent confidence interval estimate $\hat{c}_{it}(A_{it})$ for each time period.[89] The 80 percent interval estimate allows the above (one-sided) hypotheses to be tested at the 10 percent significance level. Hence, there will be a 10 percent (Type 1 error) probability that any household that is deemed to be stochastically poor is not.

To measure endowment losses or windfalls, in other words, a permanent reduction (or increase) in available assets, Θ_{it}, the KIDS survey queried all respondents about the

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[87]/ Recall that Carter and May (2001) make use of the Household Subsistence Level (HSL) for their analysis.

[88]/ Clearly there could be other observed poor households (including those with expected well-being in excess of their poverty line) that fail to be classified as stochastically poor under this statistically conservative definition of entitlement failure.

[89]/ As Carter and May (2001) document, explanatory variables used in the local regression analysis are educated labour, uneducated labour, productive capital, and transfer income. In their analysis, social capital was not included due to the difficulty of measuring this asset in an already complex task. Household durables (furniture, vehicles and so forth are also not included). The model controlled for the expenditure requirement of the household and a non-urban/urban dummy variable. See Cleveland *et al.,* (1988) for details on local regression methods.

economic shocks experienced over the 1993-2004 period. For each shock, information was solicited to measure its economic costs (gain). In the case of the theft or destruction of a physical asset, respondents were asked to supply the (asset) value of the item lost. When a wage earner was permanently disabled, a social welfare payment eliminated, or a source of remittance cut off, respondents were asked to report the resulting decrease in monthly income.[90] A present value calculation over a twenty-year time horizon using a five percent real discount rate was then utilised to approximate the asset value of the lost endowment. In principle, this present value formulation makes the loss of human capital or of a remittance comparable to the loss of non-human income earning assets.

Using data on assets and shocks, Carter and May (2001) then use the model to generate a structural poverty typology. The first group of households are those that experienced dual failures. These are households whose assets are such that they are expected to be above the poverty line in both periods but which have experienced entitlement failures in periods during which data were collected and, subject to measurement error, would be observed as being chronically poor. In contrast, structurally poor households are those which are both observed to be poor in both periods *and* which do not have sufficient assets with which incomes can be generated to ensure that they would not be poor. They too would be observed to be chronically poor. Stochastically upward households are those that are observed to be poor in the first period, and then non-poor in the second period due to entitlement windfalls, but which still lack the assets to generate sufficient income to be non-poor. These households would be observed to be transitory poor.

Structurally upward households are those that are observed to be poor in the first period, and then non-poor in the second period, and who have accumulated the assets required to generate sufficient income to be non-poor. Stochastically downwards households are those that are observed to be non-poor in the first period, and then poor in the second period due to entitlement failure, but which have the assets to generate sufficient income to be non-poor in both periods. These households would also be observed to be transitorily poor.

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[90]/ Only when there was evidence of a permanent loss of the income stream was a shock considered an endowment loss.

Structurally downward households are those that are observed to be non-poor in the first period, and then poor in the second period, and which have experienced endowment shocks, thereby losing assets, and as a result can no longer generate sufficient income to be non-poor. Once again, these households would be observed to be transitorily poor. Finally, the never poor are both structurally non-poor and are those who are observed to be non-poor in both periods.

The approach adapted by Carter and May allowed the KIDS sample to be categorised into the seven groups for the period 1993 to 1998 as is shown in Table 6.8.

Table 6.8: Structural Poverty Classes for Core KIDS Households (1993-1998)

Structural Poverty Classes	Households (%)
Dual failures	1.4
Structurally Poor	16.5
Stochastically upward	4.4
Structurally upward	3.7
Stochastically downward	2.6
Structurally downward	21.6
Never poor	49.7

n=995

As with the transition matrix, just under half of the households surveyed by KIDS can be categorised as never poor while a further 1.4 percent suffered dual entitlement failures and 2.6 percent suffered an entitlement failure in the period prior to the second wave of the survey. Thus approximately 54 percent of households owned sufficiently assets to be structurally not-poor. However, just over 16 percent of households were structurally poor and were caught in a poverty trap, while 4.4 percent of households lacked assets, but had experienced a windfall and as a result were categorised as stochastically upward. Just under 4 percent of the sample could be described as structurally upward, meaning that although they had not escaped poverty, they had accumulated assets and were on a upward trajectory, that given sufficient time, would permit such escape.

6.4.2 Applying the Dynamic Poverty Model: 1993-2004[91]

In order to apply this approach to the three waves of KIDS, the starting point is to

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[91]/ This section is derived from May and Woolard (2007) for which I was a co-author. I was solely responsible for the analysis that is presented.

estimate the predicted well-being of households based upon their asset portfolio. For this, the log of the standardised poverty scores was regressed to yield a predicted asset-based score. This livelihood function used the value of productive assets (land, housing and equipment), the mean years of education of resident and non-resident adult members of the household (20 years of age and above), the value of all transfers to the household (government grants, private pension, maintenance payments and remittances) and the interacted value of each of these assets. [92]

The model controlled for the total subsistence needs of the household measured in terms of number of household members weighted by the per capita poverty threshold, and a rural variable derived from population density as reported in the 2001 Population Census.[93] The results are shown in Table 6.9.

Table 6.9: Predicted Poverty Score for core KIDS Households (1993-2004)

Dependent Variable: logpov	1993		1998		2004	
(Constant)	0.1172		-0.1396		0.0007	
Subsistence need of hh	-0.0001	**	-0.0001	**	-0.0002	**
Mean education of hh members	0.0351	**	0.0647	**	0.0596	**
Value of productive assets	0.0000	**	0.0000	**	0.0000	*
Value of transfer income	0.0002	**	0.0005	**	0.0002	**
Rural dummy variable	-0.1412	**	-0.2369	**	-0.2362	**
Members educ x prod. assets	0.0000	**	0.0000	*	0.0000	*
Transfers x prod. capital	0.0000	**	0.0000	**	0.0000	**
Members educ x transfer	0.0000		0.0000		0.0000	
Educ x prod. capital x transfer	0.0000	**	0.0000		0.0000	
Adjusted R^2	0.472		0.572		0.547	
F test	135.295	**	200.900	**	186.463	**

*n=812, ** 99 percent, * 95 percent*

All models are statistically significant with the expected signs and have a reasonable fit (adjusted R^2 around 0.5). Mean education of household members emerges as having the strongest (positive) impact which appears to have increased over time. Interestingly, the interaction of education and productive capital has a significant, although weak, positive impact in all years.

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[92]/ Carter and May (2001) used the number of educated and uneducated labour units, non-urban/urban dummy variable, productive capital, transfer income, and the number of adult equivalent consumers as explanatory variables in a local regression analysis.

[93]/ As already noted, there currently is no definition of rural and urban in South Africa. In extending our earlier analysis to 2004, I have chosen to classify enumerator areas with a population density of less than 750 people per square kilometre as being rural. A similar result is found if the original PSLDS variable (metro) is used.

To deal with both the problems of measurement error and stochastic events, an 80 percent confidence interval estimate for expected mean consumption, $\hat{c}_{it}(A_{it})$, has been derived for each time period. By using stringent criteria requiring that the confidence band around the estimate of c_{it} lies completely above the poverty threshold (the horizontal line z), it becomes possible to say that an observed poor household is stochastically poor, and, if not, to deduce that the household is instead structurally poor and lacking the assets necessary to generate $c_{it} > \underline{c}$.[94]

The distribution of the log of the 80 percent confidence interval around the predicted poverty score is depicted in Figure 6.4 which shows the upper and lower limits of the score. Immediately apparent from this is the change in structural poverty for the 1993-1998 and 1998-2004 periods. The predicted poverty score for values below 0 (that is a score equal to the needs of the household) in 1993 lies well above those for 1998, indicating that structural poverty has increased. In the subsequent period, there has been a reduction in structural poverty with the 2004 scores lying clearly above the 1998 values. This reveals that in contrast to 1993-1998 structural poverty has declined for a large part of the KIDS' sample in the 1998-2004 period, a similar finding to that noted earlier in this chapter in respect of reported expenditure levels.

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[94] Clearly there could be other observed poor households (including those with expected well-being in excess of their poverty threshold) that fail to be classified as stochastically poor under this statistically conservative definition of entitlement failure. Also to be noted, some additional data cleaning has taken place. In addition to the outliers already identified by this thesis, inspection of the Cook's Distance statistic identified an additional outlier (HHID 6510190) which was exerting undue influence on the coefficients. This case was assigned missing for the purposes of this analysis. The model has been revised and now includes a simple social capital measure (number of groups belonged to), and in line with the goals of the thesis, following Beegle *et al.*, (2006), a number of life cycle variables have been included in the model (square of the age of the head; ratio of adults 44-55 years and a dummy variable for being a two generation household). Household durables remain excluded as the causality of these items is likely to operate in both directions. In addition I have not used the flexible LOESS procedure followed by Carter and May (2001) to set the confidence intervals, opting instead for a more conventional OLS approach. The implication is that the standard errors are derived from the full sample rather than from a nearby cluster of households with similar predicted consumption. As a result the confidence interval will be wider than that used by Carter and May (2001) and the criteria for structural poverty/non-poverty more stringent. As a result, a greater proportion of households will be classified into the stochastically poor categories.

Figure 6.4: Cumulative Distribution of Predicted Poverty Intervals, 1993-2004
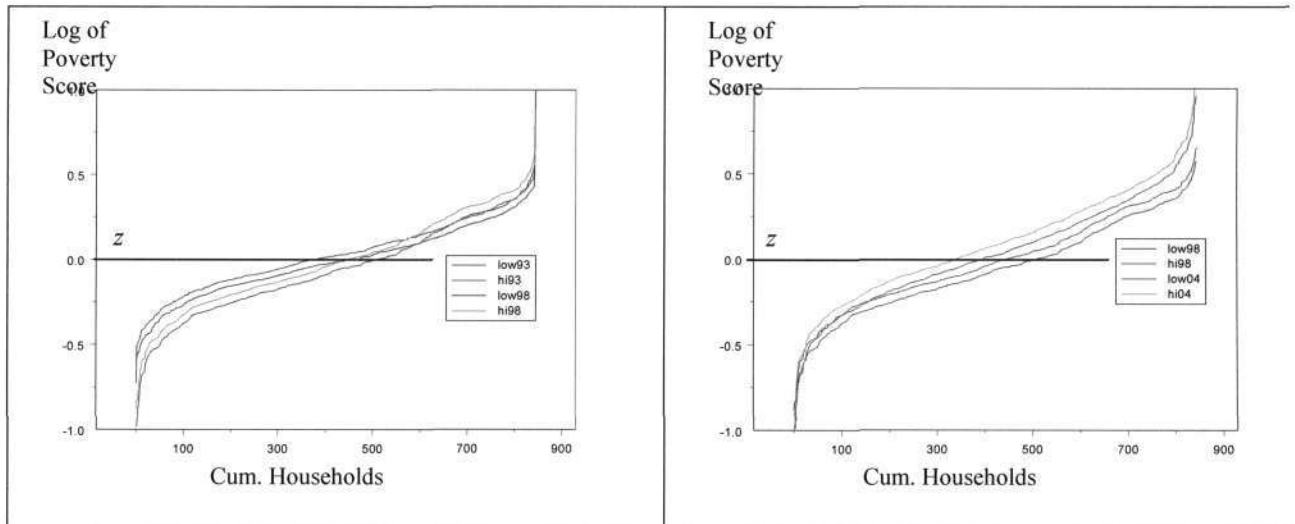
n=812

Figure 6.4 reveals that in 1993 the upper limit of the predicted poverty scores was below the poverty threshold for 37.3 percent of the households surveyed in all three waves compared with 44.5 percent in 1998 and again 37.3 percent in 2004. For 35.7 percent of households, the lower limit of the predicted poverty score was above the poverty threshold in 1993, compared with 31.2 percent in 1998 and 32.9 in 2004. The predicted values of the remaining households could not be classified in this manner using the 80 percent confidence intervals that I have chosen.

It now becomes possible to recreate the poverty classes reported in Carter and May (2001) and thus to establish whether their description of structural poverty can still be applied to the KIDS sample, and if so, whether the trends of structural poverty observed for the 1993-1998 period have changed. Some modifications to the original analysis are necessary. Firstly, Carter and May confine their attention to households who were observed to be below the poverty threshold in either 1993 or 1998. Since the three waves of data open up the possibility that additional households may have become poor over time, I broaden this analysis and include all households when testing for stochastic poverty. This means that some households previously categorised as never poor will be re-categorised into one of the poverty classes. Secondly, Carter and May's principal concern was to distinguish the structurally poor from those who experienced mobility between the first two waves of KIDS. While this is interesting, I wish also to take account of measurement error. This means that I will reject either the hypothesis for some households that they are expected to be poor

or that they are expected to be non-poor, and will classify their initial position in 1993 as being stochastically poor/non-poor. Finally, since I have three data points I am able to reassign some households from being transitorily poor to their 'true' position if they were stochastically poor/non-poor in one of the first two waves.

Table 6.10 reproduces Carter and May's (2001) findings for the 1993-1998 and 1998-2004 periods for the households that were interviewed in all three waves with the methodological adjustments that have been described, and the inclusion of the new shocks experienced in the 1998-2004 period.

Table 6.10: Structural Poverty Classes of Core KIDS Households ('93/98; 98/04)
a) 1993 - 1998

		1998	
		Poor	Non-Poor
1993	Poor	**39.9%** *Chronically Poor*, of which: • 8.9% had experienced dual entitlement failures • Structurally Poor < 91%	**11.0%** *Got Ahead*, of which: • 52.2% Stochastically poor in 1993 • Structurally mobile < 47.8%
	Non-Poor	**17.2%** *Fell Behind*, of which: • 50.7% Stochastically non-poor in 1998 • Structurally downward <49.3%, of which 60.5% had experienced entitlement failures	*31.9% Never Poor, of which:* • 7.8% had benefited from dual windfalls • Structurally never poor < 92.2%

b) 1998-2004

		2004	
		Poor	Non-Poor
1998	Poor	**38.3%** *Chronically Poor*, of which: • 8.6% had experienced dual entitlement failures • *Structurally Poor* < 91%	**19.0%** *Got Ahead*, of which: • 52.4% Stochastically poor in 1998 • Structurally mobile < 47.6%
	Non-Poor	**9.2%** Fell Behind, of which: • 51.9% Stochastically non-poor in 1998 • Structurally downward <49.1%, of which 65.7% had experienced entitlement failures	*33.3% Never Poor, of which:* • 11.5% had benefited from dual windfalls • Structurally never poor < 89.5%

n=812

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As with Carter and May (2001), Table 6.10 permits upper and lower bounds to be placed on the degree of structural and stochastic poverty. For the 1993 to 1998 period, the results are broadly similar to the 2001 paper: to find otherwise would have been a cause for concern. For 8.9 percent of the chronically poor, the hypothesis that they were structurally poor in both periods can be rejected, meaning that they are likely to have suffered dual entitlement failures. This defines an upper bound estimate of 91 percent of the chronically poor who are actually structurally poor. Looking at the households that moved from poor to non-poor status between 1993 and 1998, I find that over half (52 percent) received entitlement shocks in 1993 (that is, I could reject the hypothesis that they were expected to be poor in 1993). The upward mobility of this group can thus be inferred to be a regression to their expected level of livelihood. This places an upper bound of 47.8 percent on the number of the upwardly mobile who escaped poverty though accumulation. Finally, 17.2 percent of households fell behind of which 50.7 percent had suffered a 1998 entitlement failure since I could reject the hypothesis that their expected level of well-being was below their poverty threshold. The other 49.3 of these households are potentially structurally downward. The patterns for the 1998 to 2004 period are similar, although with some promising differences. There is a modest decline in structural poverty, a stronger decline in the percentage of households that fell behind and an increase in the percentage of households that got ahead. The observed patterns of declining poverty discussed earlier appear then to be underpinned by structural improvements to assets and to the returns that can be achieved with these assets.

A final consideration is the poverty dynamics over the entire eleven year period of KIDS. This is shown in Table 6.11.

Table 6.11: Structural Poverty Classes of Core KIDS Households (1993-2004)

		1998/2004	
		Poor	**Non-Poor**
1993	**Poor**	**27.9%** *Chronically Poor*, of which: 13% had experienced multiple entitlement failures 7% had experienced entitlement failures Structurally Poor < 80%	**19.1%** *Got Ahead*, of which: 30% had experienced entitlement failures in an earlier period 56% had experienced entitlement windfalls Structurally upward < 14%
	Non-Poor	**15.6%** *Fell Behind*, of which: 33% had experienced entitlement windfalls in a earlier period 41% had experience entitlement failures Structurally downward < 26%	**26.7%** *Never Poor*, of which: 11% had benefited from multiple entitlement windfalls 8% had experienced endowment losses which were offset by entitlement windfalls Structurally never poor < 81%
	Transitorily Poor	**10.7%** were *Transitorily Mobile*, of which: 30% had experienced entitlement shocks 16% had experienced entitlement windfalls Transitorily poor < 52%	

n=812

The patterns remain consistent giving reassurance that the long-term position is one in which upper bounds of approximately 28 percent of the KIDS households were chronically poor, 27 percent never poor, 19 percent moving upward and 16 percent were moving downward. The remaining 11 percent can be said to have experienced forms of transitory poverty. Changes in their poverty status arise from either short-term windfalls or shocks, or from measurement error.

With these adjustments and new data, and reassigning households to their structural class (rather than where they are observed), the earlier findings of Carter and May (2001) shown in Table 6.8 can be compared to the longer term image shown in Table 6.12.

Table 6.12: Comparison of Structural Poverty Class Classifications

Carter & May Classification	Structurally Poor	Structurally Not Poor	Structurally Downward	Structurally Upward	Stochasti-cally Mobile
Dual failures	0.0	70.0	0.0	0.0	30.0
Structurally Poor	76.0	1.3	0.0	6.0	16.7
Stochastically upward	22.0	34.1	12.2	4.9	26.8
Structurally upward	64.7	5.9	0.0	11.8	17.6
Stochastically downward	0.0	62.5	0.0	18.8	18.8
Structurally downward	62.6	2.7	7.1	4.9	22.5
Never poor	9.2	58.8	10.0	6.9	15.0
	36.2	32.4	6.9	6.5	18.0

n=812

The third wave of data reveals that Carter and May correctly predicted the structural

poverty classes for some 76 percent of the structurally poor and for 60 percent of the structurally not-poor groups. The later result is not surprising since their analysis did not investigate the underlying asset base of the never poor and thus could not identify those households that had experienced multiple entitlement windfalls. Unfortunately these data reveal that the majority of those identified as structurally upward in the 2001 analysis had been unable to escape poverty by 2004. The data also show that 80 percent of those observed to be poor in all three waves (conventionally reported as the chronically poor) are found to be structurally poor.

6.4.3 Qualitative Support for Asset-Based Poverty Dynamics

The discussion so far suggests that Carter and May's (2001) categorisation appears to have both empirical and theoretical foundation. A final concern is whether experiences of endowment loss and entitlement failure are also borne out by qualitative research. The SA-PPA is a useful source of information given that the information was collected in 1996/7 at a mid-point between the 1993 and 1998 waves of KIDS.

A Wealth Ranking exercise carried out on a Social Map provides an interesting starting point. This gave relative proportions of people belonging to the different strata in the community and criteria for placing households in the different groups (May, *et al.*, 1997: 41). This exercise found that:

- Of the 76 houses drawn on the map 50 percent (38) were classified in the poor category. Criteria included: no-one working for cash, doing cheap labour, the household head living alone (especially women with no husbands), ill health, mental illness, pensioner, no parents and farmworkers;[95]

- 30 percent (21) were placed in the average category. These were households where members were waged workers (for example teacher, policeman, nurse, workers in Durban) or derived an income from farming, or owning a *spaza* shop or a taxi. In many cases there was more than one member having a regular job;

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[95]/ It will be recalled that extensive quantitative research has produced an almost identical result, see: ANC (1995), May *et al.*, (1995).

- 20 percent (17) were classified as rich. Some of these households ran more than one business (for example shops, taxis, tractors, traditional healer) while others had a number of members in salaried work.

With the exception of health and housing, assets are not explicitly singled out as a characteristic of being poor. However a more careful reading of this Wealth Ranking shows that education, land and livestock, financial capital, legal claims and networks are all implicit in the activities that are mentioned.

Starting with access to human capital, as the Asset Map in Chapter Three suggested, two readily identifiable aspects in the SA-PPA relate to education and health. Priority Ranking exercises in many of the communities which participated in the studies for the PPA consistently listed education as a main concern for the poor. Two dimensions were identified: access to basic schooling for children; skills training for adults that would improve their access to opportunities for employment and income generation (May *et al.*, 1997: 57). However, even in poorly resourced communities, education was judged in terms of its relevance as well as by issues of access and quality, and that relevance is seen primarily in terms of the likelihood of eventual access to employment (May *et al.*, 1997: 58).

Gender differences were introduced to human capital accumulation as in some cases it was suggested that education might not necessarily be given the same priority for female children as for male children. Teenage pregnancy, sexual harassment at school and early marriage were reported by participants in the SA-PPA as frequent factors contributing to girls' failure to continue education. In some more traditional communities, mothers themselves were said to be prejudiced in terms of furthering the education of girls because it was seen not to be a worthwhile investment to educate the female child who ends up marrying into another household (May *et al.*, 1997: 61). This might means that in the event of a shock, girls may be more at risk of being taken out of school than boys as a coping strategy. Although this was not observed in a quantitative study undertaken in KwaZulu-Natal in 2000, Hunter and May (2002: 16) are able confirm the impact of pregnancy.

Financial constraints and the costs of education were reported by the SA-PPA to be a barrier to human capital accumulation (May *et al* 1997: 58). A finding is reported in a

national survey of 15 to 30 year olds who had left school earlier than they would have liked. This study showed that 57 percent of young men and 46 percent of young women claimed that they had been forced to abandon their education for financial reasons (Everatt and Jennings, 1995). In the SA-PPA it was noted that families in the study were not able to sustain expenditure beyond that required for food items and that requirements for additional expenditure on annual school fees and uniform costs comes at a considerable social cost and adds to existing household poverty. A similar trend is picked up by a detailed study of a rural community in the Eastern Cape, Sogaula *et al.*, (2002) which reports that 54 percent of the surveyed children who had stopped schooling ascribed the reason for this to lack money with which to pay for school fees and uniforms.

Illustrations of ill health were frequently reported in the SA-PPA. May *et al.*, (1997: 51) refer to studies in which a woman discussed the health of her family between 1984 and 1995. During this 10 year period, her brother-in-law died from an asthma attack, her sister-in-law died during an operation, her mother-in-law died of a stroke, her fourth child "...grew with difficulty,- there was no milk", her husband was killed by gangsters and her father died. All of the other women in this study reported that they or members of their family suffered from ill health.[96]

Arduous work is also well illustrated, and was often reported to have lead to ill health. Once again the life histories gathered by the SA-PPA provide useful material. The husband of Mrs. Mkhize was earning R125 per month for farm work in 1979, before leaving work because he became ill. Mrs Mbongwe's foster child broke his leg in an accident in the mines and in the case of Mrs. Sikhakhane, her husband first broke his arm on his farm job, and was later killed when a tractor fell on him. Such health shocks were given as a reason for the loss of other household assets. As an example, as a rural father narrated: "My child broke his leg and had to go to hospital. I sold my three cows to pay for transport and treatment. Now I have nothing" (May, *et al.*, 1997: 62).

Housing was an important concern in both rural and urban communities involved in

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[96]/ Mrs Mpanza: "husband's feet swelled up"; Mrs Mbongwe: "daughter died at two, son died at 42, foster child mentally disturbed"; Mrs. Sikhakhane "two children passed away"; Mrs Mkhize "twins died after a home delivery". The names of all participants in the SA-PPA were changed.

the SA-PPA (May *et al.*, 1997: 71). However, from the perspective of the poor, proper housing is not simply to be seen to comprise walls and roofing, and a far broader view was expressed. Further to the importance of providing access to services and facilities (including water, electricity, transport, educational and health facilities), people identified security of tenure, and the ability to use the building as a way of generating an income.

Cattle have also been very important in South Africa as collateral, sacrifices in rituals, retirement plans, and as a means of rural saving (Schmidt, 1992) as well as for draught power, the provision of food (Sharp and Spiegel 1985); energy, fertiliser and building material (May, 1992). The sale of livestock is also prevalent during drought situations and acts as a form of insurance to poor households (Wilson and Ramphele 1989). However, this puts households in a precarious economic position in the long term by affecting their ability to generate a secure livelihood. Access to traditional lines of credit may also collapse as the collateral offered by livestock disappears. Access to productive land and access to larger plots were also described as important and desirable assets, at least in areas with higher agricultural potential such as KwaZulu-Natal (May *et al.*, 1997:101).

Formal financial institutions were scarce in both urban and rural poor communities in 1993, the formal institutions that are available are mostly inappropriate to the financial requirements of the poor. Even in the case of informal financial markets such as stokvels, the SA-PPA poor may be unable to participate because they cannot afford the joining or participation fee (May *et al.*, 1997: 65). Such barriers were a critical constraint for the very poor as community based rotating credit organisations are a source of food security for a large numbers of households. This would also impact on participation in buying-clubs which has also been documented by Tshabalala (1994). In these a number of families club together to buy food and other goods in bulk and then divide it amongst themselves to save money. Financial services for the marginally better off are also an important need which is not being fulfilled. Farmers in the SA-PPA indicated that they lack the financial resources to purchase agricultural inputs. These included items such as fertilisers, seeds and pesticides, with the hiring of tractors to plough land singled out as being particularly important. Even here, the high charges associated with using a hired tractor service

were in part linked to the inability of the tractor owners to be able to afford the maintenance of their equipment (May *et al.*, 1997: 101).

The SA-PPA confirmed that the theme of isolation or exclusion from social and political institutions is viewed as an important part of the experience of poverty in South Africa while the lack of access to legal rights and to justice was also frequently mentioned. This provides some support for the notion of social networks as a form of capital. At an individual level, other qualitative research in KwaZulu-Natal reported by Cross *et al.*, (1998) found an important role for social capital, particularly in household responses to economic shocks. For example, individuals frequently used their networks to access capital both for consumption smoothing as well as for investment such as the start up of small income generation projects. Earlier work by Sharp and Spiegel (1985) also illustrates the importance of the social networks that are used for mutual support as a survival claiming strategy. They also note that these networks depend to a large extent upon access to a reliable income source, and that the loss of such an income can also result in the erosion of social support networks. As the writers observe, people cannot expect too much of their relationships with their neighbours, because the long-term commitment of generalised reciprocity cannot exist under conditions of uncertain wage labour markets, and dispossession from agricultural resources. Social support is also threatened in areas in which local productive resources and opportunities are scarce. Together with the history of forced resettlement, high levels of migration and extreme poverty, violence completes the undermining of social cohesion in South African communities observed by many South African researchers during the 1980s (Sharp and Speigel,1985; Simon, 1991, Wilson and Ramphele, 1989). Many communities are divided and have little commonality in terms of needs and aspirations, a social context which elsewhere has be described as being bereft of stocks of social capital (Moser and Holland, 1997:41).

Moving on to issues relating to vulnerability, shocks were also frequently discussed by participants in the SA-PPA. Although less frequent during the period of the first two waves of the KIDS panel which predate the impact of AIDS found in the third wave of the survey, the death of family members appears to be one of the more severe shocks which rapidly tumbles vulnerable households into poverty (May *et al.*, 1997; Carter *et al.*, 2007). A concern already emerging during this period is that besides the

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shock impact, the AIDS epidemic has introduced a new long term trend of impoverishment and she argues that one of the principal effects of AIDS at an individual level is that the household of the victim will become poorer. This is due to high expenditure on travelling costs, admission fees, fees for healers, clinic fees and funeral expenses (as well as the loss of labour from the sufferer and the carers). There are also specific links between gender, shocks and the impact of AIDS.

Reflecting on these events, May *et al.*, (1997:32) suggest that shocks serve to entrench a culture of poverty consisting of fatalism, despondency and powerlessness in the face of apparently random negative events. An additional impact of shocks relates to the formation and fragmentation of the households already mentioned. May *et al.*, (1997: 32) suggest that tensions and cleavages within households and communities become more intense in the face of shocks leading to a tendency for households and communities to fragment, and for individuals to seek other places in which to live. Largely, this is due to the differential impact of shocks on the members of the household, each of whom adopt their own way of coping.

In terms of entitlement failure, drought is probably the most common shock to the livelihoods of rural households in sub-Saharan Africa, and despite its level of urbanisation, South Africa is no exception to this. Numerous participants in the SA-PPA referred to the impact of drought as a reason for declining livelihood prospects (May *et al.*, 1997:32). Seasonal stress more generally has long been recognised as a feature of the livelihoods of the rural poor in many contexts (Jiggins, 1986; Swift 1989). An assumption has prevailed in South Africa, however, that due to the relatively smaller statistical importance of own account agriculture, even for the rural poor, this would be less the case. The material from the SA-PPA, however, indicates that seasonality is a major issue for the rural poor in all areas where these studies were carried out.

Finally, turning to economic reasons for entitlement failures, access to markets at which home-produced commodities could be sold was one area expressed by many participants as a need. The cost and availability of transport to markets emerged as a specific barrier. As an example from a KIDS' district in KwaZulu-Natal, participants in a community garden in Hlabisa indicated that while they would have liked to sell surplus production, the nearest urban market required a 30 minute bus ride (May *et*

al., 1997:111). Access to information also emerged as a barrier to development whereby SA-PPA, participants said that: "...they are determined to help themselves but didn't know how", while others participants expanded by saying: "We don't know what we can ask for, we don't know who to ask, and we don't know how to ask" (May *et al.*, 1997: 111).

6.5 CONCLUSION

This chapter further developed the concept of asset-based dynamic measurement of poverty and has put forward a new typology of poverty. Assessing the components of this approach (entitlement failure, entitlement windfalls, endowment windfall and endowment loss), the chapter argues that the dynamic approach provides a better fit of the events encountered by the surveyed households over time than does the conventional transition matrix approach used by most analysts of chronic poverty. Instead, seven groups of household have been identified according to their structural position as determined by the changes in assets and consumption-based well-being that the household has experienced between 1993 and 1998. Four of these groups represent structural positions: the structurally poor; the structurally upward; the structurally downward and the never poor. Three are transitory positions dependent upon bad or good fortune between 1993 and 2004. These are the dual failures (unlucky in two or more years); stochastically upward (fortunate in 1998 or 2005); and the stochastically downward (fortunate in 1993).

Comparing the data reported by the KIDS respondents with information from the SA-PPA undertaken between the two waves of KIDS provides useful corroborating evidence. Participates in the SA-PPA provide commentary on job losses, the death and illness of household members, theft and destruction of property, and in each case, link these shocks to permanent declines in income. Education is perceived as an important route out of poverty, while access to land provides a buffer against misfortune, unreliable remittances from migrants and job loss. Access to finance is also identified as an important constraint. How these assets are translated into a source of livelihood will be the focus of the final empirical chapter.

CHAPTER SEVEN
DIVERSIFICATION AND DIFFERENTIATION IN KWAZULU-NATAL

7.1 INTRODUCTION

A more detailed analysis of livelihoods than that provided in Chapter Six is required if we are to use this approach to understand the South African experience of chronic poverty and differentiation. The questions addressed in this chapter are thus: what are the different asset portfolios controlled by households in the KIDS cohort; what are the bundles of livelihood activities undertaken by individuals and households when using their assets; what are the returns that households achieve when implementing this strategy; what shocks do they encounter; and finally, do these strategies result in shared pathways of accumulation/dispossession that are derived from differential livelihood opportunities?

7.2 MEASURING LIVELIHOODS AND DIVERSIFICATION

7.2.1 Assets

As was proposed in Chapter Three (Section 4.3), the well-being of poor households is shaped by their ability to diversify assets and livelihood strategies. Using the KIDS data, this section begins the measurement of this diversification and will examine the changing incidence of the ownership and value of assets identified in the Asset Portfolio developed in Chapter Three (Section 4.2). The portfolio identified five broad categories of assets: human capital and capabilities; social, legal and political capital; natural resources; productive capital and financial capital. Each of these broad groups was further broken into specific assets that potentially could be used by individuals and households when assembling a livelihood strategy.

KIDS collected information on the ownership and use of only some of these assets. Furthermore, in many instances, actually measuring the assets that were listed is complex and easily subject to measurement error. As an example, the measurement of social capital remains an imprecise and disputed 'science', while the value of common property is also difficult to allocate between households who may enjoy differential access to such property. In addition, most poor households manage a complex portfolio of assets that might include private and communal land,

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individually owned and shared livestock, skilled and unskilled labour, monetary and other forms of savings including food stocks and household durables, and finally social networks of kin and neighbours. Finally some assets may be embedded in the unobservable characteristics of individuals such as their entrepreneurship, skill or ability to cope. The analysis presented here is, then, an incomplete view of the complex livelihood strategies that actually take place.

Table 7.1 shows the percentage of the households surveyed in each of the three waves of KIDS that had access to those assets that can be identified and measured.

Table 7.1: Access to Assets

Assets	1993 (%)	1998 (%)	2004 (%)
Human Capital			
Skilled Labour (Std 8 and above)[97]	63.4	77.7	89.3
Social, Legal and Political Capital[98]			
Membership of a group	59.8	74.0	54.0
Person of pensionable age[99]	23.1	34.9	36.8
Adult migrant family member[100]	41.4	37.8	32.4
Natural Capital			
Land for cultivation	39.7	52.3	55.7
Access to private grazing land	3.3	2.2	1.4
Physical Capital			
Livestock (incl. poultry)	34.3	39.8	45.0
Agricultural Equipment	27.6	53.0	61.9
Other Productive Equipment	15.4	12.6	16.5
Permanent House (Brick or block)[101]	66.6	69.0	82.8
Piped water connection	36.1	40.6	50.7
Electricity connection	41.7	64.8	74.5
Financial Capital			
Savings in a bank or elsewhere	24.2	61.1	41.2
Durable household goods	95.2	98.8	98.8

n=867

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[97]/ Skilled labour refers to a person in the economically active age group (16-63) listed as a household member although not necessarily resident for at least 15 days out of the previous 30 days.

[98]/ The direction of causality is a concern: belonging to groups might provide opportunities to increase income, or, greater membership of groups might require greater income. Following our previous work on social capital using the KIDS data, group membership is assumed to be a potential resource to households (Maluccio et al., 2000). This information was gathered only in 1998 and 2004. Membership for 1993 was obtained through a retrospective question. The memory and identity of the respondent is potentially a source of error and these figures may be understated.

[99]/ Age eligibility for an Old Age Pension (OAP) grant was 60 for women and 64 for men during the period covered by KIDS. The OAP is a means tested non-contributory grant that has been found to make a significant contribution to household well-being (Case and Deaton, 1998). The Child Support Grant (CSG) introduced in 1998 potentially adds a new asset: an eligible child. I have not included these children as an asset to the household assuming that the grant is equal to their subsistence needs.

[100]/ Adult migrants refer to a person 16-63 years of age that is regarded as a family member, but who spent more than 15 days out of the previous month away from the homestead.

[101]/ In 1993 and 2004 the type of dwelling unit was recorded. In 1998 only the building material of the walls were recorded. In this year, dwellings with brick or block walls have been designated as formal.

The data show an improvement in ownership in almost all categories of asset with declines experienced only in access to private grazing land and the indicators used for social, legal and political capital. Educated labour saw an increase from 61 percent of households containing someone who had completed Standard 8 or higher in 1993 to 89 percent by 2004. Group membership saw a noteworthy increase from 60 percent of households in 1993 to 74 percent in 1998, falling back to 54 percent in 2004. Although the 1993 figure is derived from a retrospective question in 1998, there is no reason to ascribe the change between 1998 and 2004 to a change in methodology. To the extent that group membership represents a form of social capital, this suggests an undermining of this resource in the more recent period.

Just fewer than 40 percent of the households surveyed in 1993 had access to a plot of land for the cultivation of crops in 1993, increasing to 52 percent in 1998 and 56 percent in 2004. Furthermore, average land size for these households increased from around one hectare in 1993 and 1998 to 2.7 ha. in 2004. A transition matrix of asset ownership (not shown) reveals that although just 25 percent of the resurveyed households did not have access to land in any wave, 22 percent had land in all three, 9 percent had lost access to land after 1998, while 14 percent gained land in 1998 and a further 15 percent gained land by 2004. Land, at least in KwaZulu-Natal, seems to be an asset that is being accumulated by the KIDS cohort as they age

A similar pattern of broadening access to agricultural assets is found with respect to the ownership of livestock, with some 34 percent of the KIDS households owning livestock in 1993 with an average holding of 2.9 livestock units (LSU) valued at approximately R4700 in 2000 prices.[102] This increases to just less than 40 percent of households in 1998 with the average herd size also increasing to 3.2 LSU, and to 45 percent of households by 2004 although with a smaller mean holding of 2.0 LSU. Even with this increase, the incidence of livestock ownership is substantially lower than that reported by studies undertaken in KwaZulu-Natal during the 1970s and early 1980s. For example, Erskine, (1982:1) reports that 64 percent of African households in Natal and the former Homeland of KwaZulu owned livestock in 1965, and using

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[102]/ The livestock unit (LSU) is a standardized animal unit obtained by multiplying total number of animals with conversion factors that take into account "feed requirements" for the animal. Although several alternative factors are available, this thesis makes use of the Food and Agricultural Organisation's (FAO) conversion factors for South Africa available at http://www.fao.org/es/ess/os/envi_indi/annex2.asp and provided in Appendix Two.

data from five districts of KwaZulu between 1983 and 1986, May (1987b:5) reports that 60 percent of households owned livestock. While increasing urbanisation will be a major explanation for this trend in some areas, drought conditions, the population expansion in dense rural settlements that did not have access to grazing land and the absence of economic opportunity due to apartheid and subsequent policies are also likely to have contributed.

Ownership of agricultural and other productive equipment is initially limited to 28 and 15 percent of the surveyed households respectively in 1993, increasing to 62 percent of households by 2004 in the case of agricultural equipment and 17 percent in the case of non-agricultural equipment. Just under a quarter of households had a person of pensionable age in 1993, increasing to 37 percent by 2004, while about 40 percent had a member of the household who was a migrant in another area in 1993 declining to 32 percent by 2004. These changes are likely to be a reflection of life-course changes as suggested by the age-sex pyramids in Appendix One.

Although also considered to be basic services, as Moser (1998a) argues, housing and the services available in houses are important assets, especially for poor households who often make use of the house as a site of productive activity. Improvements in housing assets are shown using the percentage of households living in permanent structures that have brick or block walls, having access to piped water and having an electricity connection. As already noted in Chapter Five (Section 2.4), there has been a modest improvement, with the increase in the incidence of electricity connections being more noteworthy than the other indicators. Permanent housing is significantly more frequent in 2004 in comparison to the previous years.

Lastly, the percentage of households reporting savings in a bank account shows a remarkable increase from just 24 percent in 1993 to 61 percent in 1998 with a decline to 41 percent in 2004. It is possible that this decline is attributable to the aging population contained within KIDS, and indeed access to bank accounts was more frequently reported by the next generation households. However it is also likely that the respondents had become more wary of divulging financial information by 2004 and that this is an under-estimate of the incidence of access to savings facilities.

Valuing these assets is obviously complex. As an example, what value should be

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placed on an uneducated person that, as Carter and May (1999) demonstrate, may have a economic return below that person's subsistence requirement, but who might be undertaking valuable unpaid work in the household? What value should be attached to access to irrigated land, but not to a pump with which to distribute the water? And finally, how are groups to be valued when membership might be both the outcome of, and a reason for, financial prosperity?

I have opted to adopt three conventional strategies to deal with these problems. First, respondents in the KIDS survey of 1998 and 2004 were asked to estimate the value of assets such as land, buildings, equipment and furniture that they had access to and I have summed these. Where the data are missing, I have used the median amount to value individual assets.[103] I then summed those productive, natural and financial capitals that can be valued using the KIDS data which I have referred to as the group of economic capitals. Secondly, I have calculated present values for 'unearned incomes' such as remittances and grants and used this as a proxy for social, legal and political capital.[104] Finally, the value of human capital in each wave of data collection is measured as the mean years of education of household members over the age of 20 in the year of the survey. The results are shown in Table 7.2.

Table 7.2: Value of Assets (2000 Prices)

Assets	1993	1998	2004
Economic Capital[105]	R11,878.55*	R26,087.97	R27,441.45
Human Capital (years of education)	6.7*	7.5*	8.4*
Social, Legal and Political Capital	R13,045.73	R11,827.57	R23,609.03*

* statistically different at the 95 percent confidence interval between years.
n=840

There has been an increase in the mean value of land, livestock, equipment, durables

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[103]/ Values for durable goods were not collected in 1993 and the value of these items has been imputed using the median of 1998 figures.

[104]/ A modest interest rate of 5 percent per annum is assumed, and recognising the life-cycle effects and the often tenuous nature of these claims, the income stream is discounted over five years. Although perhaps a crude outcome based measure, this approach does not rely on assumptions regarding the value and costs of group membership used more commonly as an indicator of social capital. However this approach does not take in to account the possibility that group membership might indirectly affect household income through increasing returns on other assets (land, labour). In Maluccio *et al.,* (2000) we show that this does occur, although largely through groups that are intended to promote savings or entrepreneurial activity.

[105]/ Several households were identified as having a strong influence the distribution of these data. After investigation, I have removed ten cases for this analysis as being likely errors or outliers. As examples, HHIDs 620140 and 2140020 reported economic assets worth in excess of R4 million in 1993 and 1998 respectively, but reported low or zero asset values in 1998 and 1993 respectively.

and savings (economic capitals), the mean number of years of education (human capital), and the mean present value of remittances, pensions and other grants (social, legal and political capitals). However, only in the case of human capital are the results statistically different across all three years. The mean value of economic capitals dramatically increases from 1993 to 1998, though this result must be treated with caution as it is largely driven by the increase in the value of durable goods rather than assets that are conventionally though of a being productive. To some extent this is likely to be the result of the expanded list of assets which were collected in 1998 and 2004 and need not reflect a significant increase in the wealth of households in the face of increasing expenditure-based poverty reported in Chapter Six (Section 2.1). The mean value of social, legal and political capital also increases substantially between 1998 and 2004. This most likely reflects the introduction of the CSG in 1998 that increased the number of people eligible for state transfers.

The aggregated figures conceal significant mobility within the sample and some of this variation in experience is shown in Table 7.3. This provides the means and median values (in italics) of the measured assets by quintiles of the normalised real household expenditure measure used in Chapter Six (Section 3.1).[106]

Table 7.3: Value of Assets by Quintile (2000 Prices)

Quintiles	Economic Capital (Rand)			Social, Legal & Political Capital (Rand)			Human Capital (Years Education)		
	1993	1998	2004	1993	1998	2004	1993	1998	2004
Bottom	6,690	14,264	12,175	14,243	14,118	26,208	5.4	6.4	7.0
	2,408	*6,884*	*5,570*	*0*	*23,613*	*29,245*	*5.5*	*6.6*	*7.0*
2	7,963	14,039	11,267	13,873	14,416	28,595	5.7	6.7	7.5
	3,572	*8,321*	*6,818*	*0*	*25,088*	*31,825*	*5.9*	*7.0*	*7.5*
3	8,391	19,573	16,654	15,391	14,072	28,207	6.1	7.1	7.8
	5,104	*10,458*	*7,165*	*0*	*22,432*	*31,825*	*6.5*	*7.7*	*8.0*
4	13,778	24,042	30,060	11,486	11,292	20,440	6.9	8.0	8.8
	5,716	*12,144*	*11,416*	*0*	*0*	*7,311*	*7.3*	*8.4*	*9.3*
Top	20,845	56,780	64,471	9,067	6,774	16,766	9.1	9.3	10.6
	12,244	*29,781*	*23,200*	*0*	*0*	*0*	*9.8*	*9.8*	*10.6*

n=840

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[106]/ Recall that this is total household expenditure divided by the Hoogeveen and Özler poverty line.

While all expenditure groups improved their situation between 1993 and 1998 in terms of the economic capitals that have been measured, only the top two quintiles sustained this progress to 2004. In the case of the social, legal and political capital that has been measured, all groups except the top quintile experience similar increases, which is to be expected given that the grants that make up the bulk of this category are means tested and thus would not be accessible to the majority of the wealthier group. This is confirmed by the median which confirms that more than 50 percent of this group did not have this asset. Finally, all groups experienced an increase in the mean number of years of education although the rate of change is highest for the poorest quintile.

In terms of differences arising from spatial location, Table 7.4 shows the value of assets of households surveyed in all three waves according to the spatial classification of the 1993 PSLDS. Once again means and median (in italics) are provided.[107]

Table 7.4: Value of Assets by Location (2000 Prices)

Location	Economic Capital (Rand)			Social, Legal & Political Capital (Rand)			Human Capital (Years Education)		
	1993	1998	2004	1993	1998	2004	1993	1998	2004
Urban	15,320	40,904	47,953	10,006	11,192	20,212	8.6	9.0	10.1
	5,425	*14,836*	*15,951*	*0*	*0*	*7,311*	*9.0*	*9.3*	*10.0*
Non-Urban	9,951	18,402	16,802	14,568	12,173	25,350	5.7	6.8	7.5
	5,136	*9,856*	*6,647*	*0*	*0*	*26,673*	*6.0*	*7.1*	*7.6*

n=840

Substantial and statistically significant differences emerge between households in urban and non-urban areas in terms of their access to most assets.[108] This is especially noteworthy for the assets that make up economic capitals, in which households in urban areas have experienced a sustained increase since 1993 while non-urban households experienced first growth and then decline. Urban areas were also more advantaged in terms of access to human capital in 1993 and, despite rapid gains made by non-urban households urban households were able to maintain this position. Non-urban households do enjoy an advantage in terms of social, legal and political capital, at least in the way which these have been measured for this thesis. In respect of

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[107]/ The results are similar if the population density variable released in 2004 is used.
[108]/ T Tests for the equality of means were significant for all assets and all years with the exception of social, legal and political capital in 1998. Levene's Tests for the equality of variance were significant for all assets and all years with the exception of social, legal and political capital in 1998 and 2000, and human capital in 2004.

remittances and grants, non-urban households are better off in all three years.

Access to assets is also strongly determined by gender relations and, as a proxy indicator of this, Table 7.5 shows the value of the measured assets for households surveyed in all three waves by the sex of the household head. Again means and median (in italics) are provided.

Table 7.5: Value of Assets by Sex of Head (2000 Prices)

Sex of Head	Economic Capital (Rand)			Social, Legal & Political Capital (Rand)			Human Capital (Years Education)		
	1993	1998	2004	1993	1998	2004	1993	1998	2004
De facto ♂	16,647	37,766	41,913	12,948	10,564	20,844	7.1	7.9	8.8
	6,035	*16,905*	*13,438*	*0*	*0*	*7,311*	*7.0*	*8.2*	*8.8*
De facto ♀	9,556	22,193	20,502	6,193	5,050	18,323	6.1	6.8	7.4
	5,425	*13,510*	*7,442*	*0*	*0*	*7,311*	*6.5*	*7.1*	*7.8*
De jure ♀	7,077	14,482	15,827	16,579	16,221	29,016	6.2	7.4	7.9
	3,918	*7,137*	*6,355*	*18,541*	*27,745*	*31,825*	*6.7*	*7.8*	*8.0*

n=840

The asset data follows a similar picture to the poverty profile described in Chapter Five (Section 2.1) with some interesting insights being added. *De facto* male headed households emerge as having significantly higher economic capital compared to either of the female headed households,[109] while *de jure* female headed households are poorer in terms of this asset. In the case of social, legal and political capital, *de jure* female headed households have a comparatively high value of this asset, while *de facto* female households are poorer than the other groups, although they experience a dramatic improvement in 2004, most likely due to the introduction of the CSG. Finally *de facto* male headed households have the highest human capital, although the difference between the groups is not as striking as is the case with the other assets.[110]

The last table in this section returns to Carter and May's (2001) structural poverty classes discussed and revised in Chapter 6 (Section 6.2). The revised classification is used in Table 7.6. Means and medians (in italics) are provided.

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[109]/ T Tests for the equality of means were significant for all assets and all years. Levene's Tests for the equality of variance were significant for all years with the with the exception of *de facto* female and *de jure* female heads in 1998.
[110]/ T Tests for the equality of means were significant for all assets and all years with the exception of social, legal and political capital in 1998. Levene's Tests for the equality of variance were significant for all assets and all years with the exception of social, legal and political capital in 1998 and 2000, and human capital in 2004.

Table 7.6: Value of Assets by Poverty Class (2000 Prices)

Poverty Class	Economic Capital (Rand)			Social, Legal & Political Capital (Rand)			Human Capital (Years Education)		
	1993	1998	2004	1993	1998	2004	1993	1998	2004
Structurally Poor	8,085 *4,308*	15,078 *7,624*	11,248 *5,354*	13,367 *0*	13,601 *0*	27,834 *30,105*	4.6 *5.0*	6.0 *6.3*	6.9 *7.0*
Structurally Downward	11,943 *5,922*	15,224 *11,435*	31,189 *10,728*	23,553 *0*	13,377 *0*	26,910 *21,934*	6.3 *6.4*	6.6 *7.1*	8.0 *8.2*
Structurally Upward	9,674 *4,480*	28,955 *18,860*	24,403 *12,223*	18,424 *0*	15,861 *27,745*	24,376 *31,825*	6.7 *7.2*	8.3 *9.0*	9.0 *9.3*
Stochastically Mobile	9,714 *3,678*	15,886 *8,520*	16,591 *6,822*	13,702 *0*	14,010 *25,088*	28,332 *30,535*	6.3 *6.8*	7.1 *7.4*	7.5 *7.6*
Structurally Not Poor	17,231 *5,746*	45,447 *19,546*	50,772 *19,493*	8,893 *0*	8,241 *0*	16,256 *0*	9.1 *9.5*	9.6 *9.8*	10.5 *10.5*

n=812

The Structurally Poor group have noticeably less access to the economic capital in all years compared to all groups other than those households classified as stochastically mobile. The structurally poor group also has the least access to human capital, and of the groups classified as poor, the least access to the measure of social, legal and political capital. Interestingly, the structurally downward group appears well resourced in terms of the economic and social, legal and political capitals, but has comparatively low access to human capital. This might be the result of the life-course of these households and this will be examined later in this chapter.

The advantage that the structurally not-poor group enjoy in terms of access to key assets emerges as an important feature of this table. Access to human capital was far more evident among the structurally not-poor in 1993 than for any of the other structural poverty classes. However, this gap is closing, especially in comparison to the structurally upward. This possible explanation of changing well-being will be returned to later in this chapter.

7.2.2 Activities[111]

Four broad classes of activity that make use of the assets available to the household in different combinations in order to generate a livelihood. Households surveyed in the

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[111]/ In Chapter Three I referred to both activities and tactics when discussing the actions that poor households take in assembling a livelihood strategy. For the purposes of this chapter I will confine the discussion to activities only since many of the actions that might be thought of as survival tactics are difficult to identify or measure in a quantitative survey. The examples referred to in Chapter Three included actions such as scrimping, adaptation, unpaid domestic labour and changing household size or composition.

KIDS study reflect this diversification and Table 7.7 shows the incidence of livelihood activities that can be identified and measured for all households surveyed in the 1993, 1998 and 2004 waves of data collection.

Table 7.7: Incidence of Livelihood Activities

Activity	KIDS 1993 (%)	KIDS 1998 (%)	KIDS 2004 (%)
Wage Labour[112]			
Primary labour market	35.8	35.1	28.8
Secondary labour market	21.3	20.4	5.9
Casual labour	11.1	15.1	27.2
Agricultural			
Crop production (subsistence only)	20.6	28.1	38.8
Crop production (marketed)	2.0	5.6	8.5
Livestock production (subsistence only)	25.6	27.6	31.1
Livestock production (marketed)	5.2	8.2	9.5
Non-Farm Entrepreneurial			
SMME	18.5	14.5	15.2
Claiming			
State Old Age Pensions (OAP)[113]	29.0	35.1	37.3
Other welfare payments	6.7	8.7	43.8
Contributory social protection[114]	5.7	7.8	7.5
Regular remittances[115]	21.1	24.2	11.8
Irregular remittances	17.8	18.4	15.0

n=867

The table shows that the livelihood activities most frequently attempted over the course of the study are: employment in the primary labour market (some 35 percent in 1993 and 1998 but falling to 30 percent in 2004), state OAP, subsistence crop production and subsistence livestock production. In the case of pensions, it is not

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[112]/ The PSLSD questionnaire was not designed to provide accurate labour market information and as a result, the KIDS panel is an imperfect instrument for the analysis of labour market segmentation. I have defined secondary labour as all labourers, agricultural workers and domestic workers. All other forms of regular employment have been defined as being in the primary labour market. Arguably, casual employment could also be included into the secondary labour market. However, the manner in which the question was posed in 1993, 1998 and 2004 suggests that a wide range of answers may have been provided. In all three questionnaires, this question read: "Did (Read each name in turn) do any casual or temporary work in the past month for which he/she was paid in some way, for example, by being given money or food?" and gave as examples: "Examples of the kind of work I mean include: gardening or cleaning, typing, temporary work in a factory, looking after someone's children, and so on". The code list also included professional and managerial activities. For this reason, casual labour lies as the subsistence end of the continuum and has been kept as a separate item in the analysis to follow.

[113]/ Note that the CSG, now an important source of livelihood for many poor households, was only introduced in 1998 and none of the surveyed households reported receipt of this grant in the 1998 wave of KIDS.

[114]/ The PSLSD provides information on payments received from employee contributory pensions, workman's compensation and UIF.

[115]/ Households that received a cash or kind remittance every month or more frequently, were regarded as having a regular remittance. Households that received a cash or kind remittance less frequently were regarded as having an irregular remittance.

surprising that there has been an increase in the proportion of households deriving an income from this source given the underlying demographic changes that take place over the course of any panel study. The sudden increase in other welfare payments in 2004 is due to the take up in the CSG, while the decline in secondary labour market activities, and accompanying increase in casual labour, suggests a move to casualised labour that has been seen in other surveys. This might also be a result of the aging structure of KIDS households in which older people are no longer permanently employed. This change may also be simply due to the change in the questions asked in 1993 and 1998 although this would not account for the decline in 2004 when the questions were identical to 1998.

Although a marginal increase, there is a statistically significant difference for those marketing livestock, from 5 to 9.5 percent between 1993 and 1998, with about 0.5 LSU being sold per annum by those households engaging in this activity in both years. Regular and irregular remittances first increase and then decline as a source of income while involvement in SMME activities was confined to some 18 percent of the sample in 1993 falling to 14 percent in 1998 and 15 percent in 2004, half of which are in the distribution and hawking sub-sector.

The livelihood activities engaged in by households in 1993 to 2004 suggest greater stability than might have been expected given the considerable mobility in incomes described by Agüero *et al.,* (2007). Nonetheless, these findings are consistent with previous research that has shown that multiple income sources are an important characteristic of poor households (May, 1987a; Murray, 1987; Sharp and Spiegel, 1985). This characteristic has persisted well into the post-apartheid period, and in fact grown with some 37 percent of the core KIDS households relying upon a single livelihood strategy in 1993, which declined to just 24 percent of households by 1998 and 21 percent in 2004, a statistically significant change. Once again, this diversification might reflect life course changes in the KIDS cohort.

As with access to assets, involvement in these livelihood activities differs according to household type. Table 7.8 shows the percentage of households according to the sex and residential status of the head of household.

Table 7.8: Incidence of Livelihood Activity by Sex of Household Head

Activity	De facto Male Head			De facto Female Head			De jure Female Head		
	1993	**1998**	**2004**	**1993**	**1998**	**2004**	**1993**	**1998**	**2004**
Wage Labour									
Primary labour market *	49.5	45.5	37.4	9.1	9.7	22.2	28.9	26.2	21.9
Secondary labour market #	24.9	22.3	7.0	7.3	9.7	4.9	22.3	20.5	5.4
Casual labour#	11.6	14.7	21.9	7.9	10.7	22.2	11.1	16.4	30.3
Agricultural[116]									
Crop production *	16.6	27.5	37.7	44.5	40.8	50.6	20.7	35.7	39.1
Livestock production *	23.0	24.8	30.1	54.3	52.4	48.1	21.1	25.2	34.0
Non-Farm Entrepreneurial									
SMME Activities	19.4	17.2	21.3	18.0	12.6	16.0	16.7	11.2	10.8
Claiming									
Old Age Pension (OAP) *	22.6	27.1	27.7	15.3	19.4	22.2	46.7	49.9	53.9
Other welfare payments #	7.9	7.1	37.4	7.4	1.0	49.4	6.8	10.3	48.1
Contrib. social protection	7.7	10.5	10.9	2.4	1.0	7.4	6.8	6.1	4.4
Regular remittances *	9.3	12.4	8.5	39.0	71.8	21.0	20.4	26.9	10.5
Irregular remittances #	9.3	14.7	12.2	39.0	22.3	21.0	20.7	22.0	17.6
n^{117}=	535	516	329	164	103	81	323	409	297

* denotes that chi square tests show a significant difference between the headship groups at the 0.05 level of confidence in all years. # denotes that chi square tests show a significant difference between the headship groups at the 0.05 level of confidence in one year only.

The most striking difference between those households headed by men and those headed by women is that just under half of male-headed households (49 percent falling to 37 percent by 2004) with a resident head derive an income from employment in the primary labour market compared to between 29 and 21 percent of *de jure* female-headed households and less than ten percent of households with an absent male head. Incomes from the secondary labour market are more evenly distributed according to the sex of the household head, although once again few *de facto* female-headed households derive an income directly from this source. Instead these households derive incomes through regular remittances from a migrant who may be employed in this sector of the labour market. However, the incidence of both regular and irregular remittances decline between 1993 and 2004 for all groups. Incomes in cash or kind from crop and livestock production are also concentrated in this group with approximately 40 and 51 percent of *de facto* female-headed households deriving incomes from these sources respectively. Although the incidence of participation in agricultural activities changes significantly between 1993 and 2004

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[116]/ For this and future tables, subsistence and marketed agricultural production has been combined due to the small number of households involved in marketed production.

[117]/ Recall that household headship has had to be imputed in 2004 and the difference in sample size arises from heads that died between 1998 and 2004 resulting in the exclusion of these households from the analysis.

for this group, for *de facto* male-headed, and *de jure* female-headed, there was a noticeable increase in 1998 and again in 2004 in the proportion of households involved in crop production. Taken with the corresponding declines in the incidence of households in these groups who were receiving incomes from primary and secondary labour market involvement, the greater reliance on agricultural production and remittances among these households therefore is likely to reflect either the absence of other income-earning or income-generating opportunities available to household members or the inability of members to seek out such opportunities. An increasingly large number of the *de jure* female-headed households were in receipt of the OAP, reflecting the longer life expectancy of women, although the incidence of households in receipt of the OAP increased for all of the groups. Access to other state welfare increases dramatically for all groups, but most noticeably for the two women headed household groups.

The continued and rising dominance of *de facto* female-headed households in agricultural activities merits further comment. In South Africa during the 1980s, Sharp and Spiegel (1990) noted that arable activities were actively encouraged as wives were expected to engage in these activities to share in the husband's attempts to build a homestead as a rural resource base against the day of their retirement from oscillating migration. However, they argued that men might also prevent, or try to prevent, women within their household from engaging in certain non-farm income generating activities, such as the running of *shebeens*/taverns and hawking (Sharp and Spiegel, 1990: 530). This control over the allocation of labour roles appeared to differ between communities. In areas in which a local economy has some longer term viability, they noted that men appeared to be more willing to sanction their wives engaging in such cash earning activities, or were less able to enforce control over women's work. In addition, Sharp and Spiegel suggest that women were increasingly able to, or were forced by economic necessity, to defy such attempts to regulate their choice of livelihood activities. The similarity between male and female participation in SMME activity in the KIDS data suggests that this resistance has been at least in part successful.

Finally, while the period under investigation in the KIDS study is one in which all constraints on the movement of the African population had been removed, it seems

that aspects of this gender based diversification persisted and that households continued to split their efforts between migration for employment while still (and perhaps increasingly so) maintaining a rural and agrarian based homestead. It is not surprising then that spatial location remains an important determinant of livelihood options as is shown in Table 7.9.

Table 7.9: Incidence of Livelihood Activity by Spatial Location

Activity	Urban			Non-Urban		
	1993	**1998**	**2004**	**1993**	**1998**	**2004**
Wage Labour						
Primary labour market *	64.7	61.2	47.8	20.1	19.8	19.2
Secondary labour market	14.3#	17.9	4.8	25.1#	21.7	6.4
Casual labour	8.3	16.5	22.5	12.6	14.4	29.6
Agricultural						
Crop production *	1.7	6.9	22.2	33.8	45.8	47.2
Livestock production *	2.2	1.9	9.9	41.0	41.8	44.8
Non-Farm Entrepreneurial						
SMME Activities	16.5	12.1	14.7	19.5	15.7	15.5
Claiming						
Old Age Pension (OAP) *	20.9	27.0	33.1	33.4	39.5	39.4
Other welfare payments	9.4	14.0	33.1#	5.2	5.8	49.3#
Contrib. social protection	9.1	11.8#	10.9#	5.2	5.5#	5.7#
Regular remittances *	9.1	12.1	9.6	27.7	30.7	12.9
Irregular remittances *	8.0	12.1	13.4	23.2	21.9	15.9
n=		293			574	

* denotes that chi square tests show a significant difference between the spatial groups at the 0.05 level of confidence in all years. # denotes that chi square tests show a significant difference between the spatial groups at the 0.05 level of confidence in one year only.

Almost three times the proportion of urban households participated in primary labour market activities in all years than did the non-urban households and there was a steady decline in both areas in terms of the incidence of this activity, most noticeably in the urban areas. Secondary labour market participation was more concentrated among non-urban households, although the difference between urban and non-urban was not statistically significant in 1998 or 2004. Not surprisingly, crop and livestock production were concentrated in non-urban areas, although it is noteworthy that the percentage of urban households involved in crop production increased from just 2 percent to almost 22 percent by 2004. Non-urban households also tended to participate more in livelihood activities involving claiming, especially from the OAP, other state grants and from both regular and irregular remittances. In the case of other state grants, the percentage of households adopting such activities had increased significantly in both urban and non-urban areas between 1993 and 2004 while the

incidence of the OAP had increased slightly. Interestingly remittances received by urban households steadily increase over the period of the survey although these differences are not significant.

Finally, Table 7.10 compares the livelihood activities undertaken by the structural poverty classes developed in Chapter Six. In order to simplify the table, the groups whose position was deemed to be stochastically determined have been excluded from this analysis.

Table 7.10: Incidence of Livelihood Activity by Poverty Class

Activity	Structurally Poor			Structurally Downward			Structurally Upward			Structurally Not- Poor		
	1993	1998	2004	1993	1998	2004	1993	1998	2004	1993	1998	2004
Wage Labour												
Primary labour mkt *	11.2	15.4	16.7	19.6	14.7	10.7	24.2	31.7	37.7	52.7	51.2	51.2
Secondary labour mkt §	34.3	29.0	5.9	23.7	17.9	8.9	29.3	36.6	11.3	15.1	17.1	3.9
Casual labour #	16.6	22.5	35.1	12.1	14.7	16.1	9.8	17.1	32.1	8.6	12.5	20.1
Agricultural												
Crop production *	24.3	40.2	55.1	36.6	42.4	42.9	24.4	46.3	32.1	17.5	24.9	22.6
Livestock production *	30.2	32.0	47.9	46.4	37.5	37.5	26.4	43.9	26.4	20.0	22.2	15.9
Non-Farm Entrep.												
SMME Activities	14.2	10.1	15.4	19.6	17.0	12.5	9.8	9.8	20.8	20.2	16.3	14.5
Claiming												
OAP*	27.2	39.6	43.3	36.6	44.2	35.7	43.9	43.9	39.6	22.7	26.7	26.9
Other welfare payments	5.3	7.1	57.4	6.3	8.0	46.4	2.4	4.9	35.8	7.5	9.8	27.9
Contr. social protection	5.3	3.0	4.9	6.3	6.7	8.9	2.4	9.8	5.7	7.5	10.0	11.7
Regular remittances	18.9	32.0	10.7	25.4	27.7	12.5	26.8	26.8	11.3	20.2	19.8	11.7
Irregular remittances#	19.5	21.9	14.4	26.3	20.5	17.9	14.6	24.4	14.0	13.5	15.1	14.2
n=	305			56			53			283		

* denotes chi square tests that show a significant difference between the poverty groups at the 0.05 level of confidence in 1993 and 1998. # and § denote chi square tests that show a significant difference between the poverty groups at the 0.05 level of confidence in one and two years respectively.

The reliance of the structurally not-poor group upon livelihoods earned in the primary labour market is evident, with more than 50 percent of the households in this category deriving income from this source. Most other livelihood activities were engaged in by less than 25 percent of this group in any of the study years, although the modest increase in participation in crop production and the incomes derived from the OAP are noteworthy. In contrast, just 11 percent of the households in the structurally poor group participated in the primary labour market in 1993, increasing slightly to 17 percent by 2004. However 34 percent of this group derived income from the secondary labour market in 1993, falling to 29 percent by 1998 and 5 percent in 2004. Instead the incidence of crop production and access to the OAP both increased from 24 percent to 55 percent, and 27 percent to 43 percent of households in this group respectively. The dramatic increase in livelihoods derived from other state grants is

particularly evident among this group.

The structurally downward group of households is of particular concern since in time, this group will swell the numbers of the Structurally Poor households. This group has seen a decline in the percentage of households with members in both the primary and secondary labour markets but an increase in the percentage involved in casual labour. Unlike the other groups, access to the OAP declined between 1998 and 2004, perhaps due to the death of a pensioner, and perhaps contributing towards their households' declining well-being. Finally, although small, the structurally upward group is interesting as this group promises the option of escape from poverty. However, their upward mobility appears to have emanated from the access gained to livelihoods in the primary and casual labour markets and in SMME activities. Curiously, this group also did not see an increase in the proportion of households in receipt of an OAP.

Finally a short comment on non-monetised livelihood activities is required. These were not collected by the KIDS questionnaire, although the qualitative data contained in the SA-PPA and similar studies are able to reveal some of the activities in the South African context. The SA-PPA describes activities such as performing casual labour in exchange for food; helping to harvest maize, pumpkins, potatoes and beans in exchange for food; receiving gifts of food from neighbours either on request or given freely; using children to fetch water in exchange for food.

7.2.3 Outcomes

Household incomes and adequacy of these incomes have already been discussed in the poverty profile presented earlier. The purpose of this section is to describe the individual outcomes of the livelihood activities that are employed by households. The contribution made by these different activities to overall household income is a useful starting point. The percentage of total income contributed by the source for all households, and for those who receive income from this source is shown in Table 7.11 on the next page, along with the mean and median (in italics) amounts earned by households engaged in the activity.

Table 7.11: Mean and *Median* Outcomes from Livelihood Activities (2000 prices)[118]

Activity	Monthly Income 1993	Monthly Income 1998	Monthly Income 2004	% of Income 1993	% of Income 1998	% of Income 2004
Wage Labour						
Primary	R 3,451.16	R 4,417.00	R 5,506.13	48.1 (rcv)*	69.2 (rcv)*	80.0 (rcv)
	R 2,457.05	*R 3,595.88*	*R 3,930.08*	16.7 (all)*	24.3 (all)*	21.5 (all)
Secondary	R 1,074.32	R 1,458.21	R 1,197.88	39.2 (rcv)*	60.3 (rcv)*	50.2 (rcv)
	R 749.51	*R 1,037.84*	*R 882.64*	7.8 (all)*	11.3 (all)*	2.8 (all)
Casual labour	R 398.24	R 902.59	R 795.84	32.8 (rcv)	41.1 (rcv)	50.2 (rcv)
	R 267.84	*R 685.80*	*R 568.40*	3.4 (all)	6.7 (all)	14.2 (all)
Agricultural						
Crops	R 168.84	R 70.48	R 153.78	9.5 (rcv)	2.2 (rcv)	10.6 (rcv)
	R 38.68	*R 5.94*	*R 18.86*	3.3 (all)	1.0 (all)	4.1 (all)
Livestock	R 95.18	R 105.12	R 85.24	9.8 (rcv)	8.3 (rcv)	7.5 (rcv)
	R 55.22	*R 22.86*	*R 28.15*	2.7 (all)	1.5 (all)	2.6 (all)
Non-Farm						
SMME	R 1,597.58	R 1,845.54	R 466.43	32.7 (rcv)	41.4 (rcv)	18.7 (rcv)
	R 223.82	*R 514.35*	*R 162.40*	5.7 (all)	5.4 (all)	3.0 (all)
Claiming						
OAP	R 612.84	R 621.29	R 699.05	55.1 (rcv)	43.9 (rcv)	57.0 (rcv)
	R 507.79	*R 537.21*	*R 600.88*	15.9 (all)	15.5 (all)	22.1 (all)
Other grants	R 644.95	R 579.46	R 420.88	37.9 (rcv)	34.0 (rcv)	36.5 (rcv)
	R 491.41	*R 537.21*	*R 276.08*	2.5 (all)	3.0 (all)	16.6 (all)
Contributory	R 1,017.70	R 1,071.11	R 6,597.92	38.9 (rcv)	34.0 (rcv)	51.0 (rcv)
	R 552.25	*R 600.08*	*R 844.48*	1.5 (all)	1.9 (all)	4.0 (all)
Regular remittances	R 457.93	R 469.80	R 502.70	47.7 (rcv)	40.7 (rcv)	20.3 (rcv)
	R 386.57	*R 342.90*	*R 406.00*	10.2 (all)	9.5 (all)	5.0 (all)
Irregular remittances	R 246.88	R 147.77	152.18	29.3 (rcv)	14.5 (rcv)	17.6 (rcv)
	R 161.07	*R 95.25*	*81.20*	6.1 (all)	1.9 (all)	3.9 (all)
Total income from the above	R 2,230.68	R 2,664.36	R 2,946.49			
	R 1,098.92	*R 1,373.78*	*R 1,237.22*			

n=867

There have been some important shifts in the amounts generated by some of the livelihoods strategies being undertaken. Real mean and median incomes derived from primary and secondary labour have increased over all three yeas and the means are significantly different.

The mean percentage of household income derived from each of these sources also increased between 1993 and 1998, and between 1998 and 2004. These differences are also statistically significant.

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[118]/ The total household income used in this table differs from the income provided in the original KIDS data due to additional imputations and the exclusion of imputed rental incomes.

[119]/ This is not to imply that real wage rates may have increased since these are aggregate figure for the household and not per worker.

Mean household incomes from casual labour more than doubled between 1993 and 1998, before declining slightly in 2004. The differences in the means for 1993 and 1998 are again statistically different. The mean share of income derived from this source has increased from just under 33 percent to 50 percent in 2004.

A cautious interpretation of these results must start by acknowledging that there has been some inconsistency in the questionnaire design regarding the classification of the type of work across the survey years, with apparent confusion between work in the formal labour market and casual labour in all years. Notwithstanding this, incomes earned from primary wage labour rose between 1993 and 2004, while both incomes and the share of income derived from irregular sources increased between 1993 and 1998 and then declined.

Similar trends have been found in earlier studies. In the 1992 Income and Expenditure study of KwaZulu-Natal, it was found that wages comprised 46 percent of household income, remittances made up 18 percent, 14 percent was derived from pensions and social welfare, five percent from agricultural activity, and 15 percent from income from entrepreneurial activities (DRA, 1993a). The 1993 National Rural Energy Survey reports that 36 percent of household income is derived from wages, 25 percent from remittances, 18 percent from pensions and social welfare, five percent from agriculture, and eight percent from entrepreneurial income (DRA, 1993b).

Moreover, there are indications that this dependency on wage labour has increased over time. Comparing income and expenditure studies undertaken in 1985 and 1992 in KwaZulu-Natal, the proportional breakdown of the source of income does not appear to have changed radically between 1985 and 1992 although there are a number of important shifts (Nattrass and May, 1986; DRA 1993a). In 1985, wages and remittances accounted for 76 percent of household income compared to 64 percent in 1992. Pensions and transfers were virtually unchanged as a proportion although the amount received had substantially increased. Income from agriculture had declined from eight percent in 1985 to six percent in 1992. Finally, income from entrepreneurial activities had increased from 1.5 percent to 15 percent.

At one level then the changes in the importance of wage employment among the KIDS households is unsurprising given that at least part of the period covered by

KIDS was one of job losses while global trends in employment have seen an increase in casualised labour. However this finding could also account to for the widening inequality observed in the Mobility Planes provided in Chapter Six (Section 3.3), whereby those with waged employment have been able to benefit from the economic and political reforms in the post 1994 period and the incomes that they receive from this livelihood activity have increased both in absolute terms and relative to their other sources of income.

Turning to crop production, although mean incomes received, and the contribution to total income, appear to have declined by more than half between 1993 and 1998, there is a recovery by 2004. However the variation in the data, particularly in 1993, means that these figures are not statistically different. This result is supported by findings from earlier studies where it has been noted that although households maximise what they can from available land and livestock, agriculture is not the mainstay of rural households' existence (Bembridge, 1990; Heron, 1991; May, 1992). The increase in the incidence of crop production has already been noted, while the decline in the share of income contributed by crop production between 1993 and 1998 is statistically significant. Income derived from livestock sale and slaughter remained constant in terms of both the mean amount and the share of household income.

Once again, a cautious interpretation of these results must stress the possibility of misreporting of agricultural output, consumption, sales and costs as well as errors arising from the imputations used when calculating the value of home production.[120] Nonetheless it would seem that more households are including agricultural production as a livelihood activity even though the contribution that is made is small and declining relative to other income sources, and may also be declining in real income terms. A possible explanation for this could lie in the increased uncertainty of income from regular wage employment. This explanation is given support by the respondents in the SA-PPA who commented on the importance of home gardens as a form of insurance in the face of unreliable remittance flows (May *et al.*, 1997).

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[120]/ Since the imputations used in each of the survey years were largely unchanged, the latter problem would have applied equally to all years. However, as mentioned in Chapter Four, the 1993 survey was conducted in the second half of the year while the 1998 and 2004 surveys were conducted in the first. In addition, the agricultural module of the questionnaire was redrafted in each year and so the questions that were asked differ in a numbers of places.

Although the mean income received by those involved in SMME activities increased by 15 percent between 1993 and 1998, while the share of income contributed by the source has also increased, the means are not statistically different, probably due to the very large variation in the 1993 data. The number of households involved in this source of income have declined by one third from 180 households to 120 households. As already noted, there has been a good deal of change in SMME participation but this has not translated into unambiguous changes in the income received nor in the mean share that this source contributes towards household incomes. Once again this result is probably sensitive to errors in data collected on production, sales and costs, but a cautious interpretation would be that SMME involvement serves as a useful short-term activity for the majority of households participating in this activity rather than as a long term strategy of accumulation.

All forms of livelihood activity based on claiming show little change between 1993 and 1998 either in terms of the mean or median income that is received or in the contribution towards total household income that this source makes. It must be acknowledged that this was not a period in which any dramatic changes were made to South African social policy since the greatest progress towards parity for the OAP and other grants took place prior to 1994. However the impact of the CSG is revealed in the share of other grants to the income of all households in 2004. These jumped from 3 percent in 1998 to 17 percent in 2004, a statistically significant difference.

Regular remittances remained at approximately the same mean income between 1993 and 1998 and then declined. This source of income declines throughout the 11 year period in terms of its contribution towards total household income. Irregular remittance declined between 1993 and 1998 and then recovered both in terms of the mean income received from those who received income from this source and in terms of the share of total income that it contributed. From this, it can be observed that remittances persisted as an important source of income into the post-apartheid period.

Overall, Table 7.11 repeats the finding of increasing income throughout the period covered by KIDS as has already been noted in Chapter 6 (Section 2.1). The uncertainty that this introduces into any analysis of poverty lends support for the asset-based forms of measurement also put forward in Chapter Six that can be applied to poverty measured either in terms of income or consumption.

As with access to assets and participation in different types of livelihood activity, outcomes of these activities demonstrate differences in terms of the sex of the household head, their spatial location and their structural livelihood class. I will return to these breakdowns in the discussion that follows on differentiation in which I use a cluster analysis to statistically identify livelihood classes.

7.2.4 Vulnerability and Shocks

In 1998 and 2004, in order to ascertain the incident and cost of economic shocks, respondents were asked whether the surveyed household had experienced any bad or good surprises that had hurt or benefited the family financially during the past five years. A list of possible negative and positive shocks was then read out to the respondent, and an opportunity was allowed for any unprompted responses as well. If a shock was identified, the respondent was then probed as to the timing of the shock, its duration, the loss or gain in income that resulted and the economic value of the positive or negative shock in terms of income gains or assets/gifts received. In the case of negative shocks, the respondent was also asked to estimate the expenses that might have been incurred.[121] Table 7.12 shows the incident of these shocks on the KIDS households between each wave and over the eleven years of the panel as well as the mean and median (in italics) impact measured in Rand at 2000 prices. The table also provides the mean number of shocks per year of those who reported such events.

Table 7.12: Incident, Mean and *Median* Impact of Shocks

	1993-1998	1998-2004	1993-2004
Negative Shock (% hhds)	71.5	56.3	86.7
Positive Shock (% hhds)	31.0	58.9	72.1
Mean negative (number)	1.2	1.0	2.2
Mean positive (number)	0.4	0.8	1.1
Total income loss (R)	22,139.83	30,495.93	44,840.48
	9,875.52	*8,769.60*	*24,360.00*
Total expenses (R)	4,440.64	3,155.10	4,798.22
	2,571.75	*974.40*	*2,755.10*
Total value loss (R)	4,020.58	5,168.79	5,457.20
	1,712.21	*2,030.00*	*2,.055.68*
Total income gained (R)	22,130.311	12,017.86	15,841.08
	8,229.60	*4,207.50*	*6,172.20*
Total value gained (R)	30,510.52	16,484.65	23,256.81
	9,544.05	*4,466.0*	*4,628.40*

n=867

[121]/ When the respondent was unable to estimate the value of the loss, median values have been imputed by shock type.

The vast majority of households reported both negative and positive shocks between 1993 and 2004. Those who were poor in 2004 reported a higher incidence of negative and positive shocks than the non-poor, as well as a higher average number of shocks, and like Hunter and May's (2002) finding for the Durban region, there was a statistical difference between the groups in terms of the number of shocks reported by poor households and the expenses that they incurred as a result of the shock.[122] However the difference between poor and non-poor in terms of the value of the loss or the income lost was not significantly different.

T-tests of the equality of means revealed that there was not a statistical difference between the means and distribution of all the reported shock variables between *de jure* women headed households and other types of household heads, nor between *de facto* male headed household and other types of household head. Non-urban households were more likely to have experienced a shock than urban households for both the 1993-1998 and the 1998-2004 periods although there was no difference in the value of the shock in terms of income, expenses or assets.

We would expect structural poverty classes to be differently vulnerable to negative and positive shocks and Table 7.13 compares the incidence and impact of shocks on the structural poverty classes for the total period from 1993 to 2004.

Table 7.13: Incidence and Impact of Shocks by Poverty Class

	Structurally poor	Structurally downward	Stochastically mobile	Structurally upward	Never poor
Negative Shock (% hhds)	91.5	83.9	89.9	86.8	81.3
Positive Shock (% hhds)	75.1	78.6	79.7	66.0	66.8
Mean negative (number)	2.6	3.1	2.2	2.2	1.7
Mean positive (number)	1.2	1.3	1.3	1.2	1.0
Total income loss (R)	25,406.35	20,888.16	16,695.35	21,557.52	20,190.00
Total expenses (R)	1,962.52	5,056.41	2,048.40	3,270.65	3,206.64
Total value loss (R)	2,367.87	3,995.75	1,770.40	2,679.57	2,746.07
Total income gain (R)	7,523.32	18,132.07	9,700.17	9,772.95	12,929.98
Total value gain (R)	1,220.93	3,081.83	1,949.91	1,249.92	6,084.65
n=	305	56	53	148	283

The stochastically mobile group are included in this table since it might be thought that shocks account for part of the mobility of this group.

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[122]/ Levenes Test for Equality of Variance and the T-Test for Equality of Means confirmed that the means and distribution of poor and non-poor were statistically different for number of negative shocks and the value of expense.

The structurally downward group experienced significantly more negative shocks than other groups and incurred the highest expenses from these shocks.[123] Positive shocks also benefited this group to a greater extent that the others in terms of income, though this may have more to do with the small sample size that any real difference and the T-Test was not significant. The structurally poor experienced significantly more negative shocks than other groups, with the exception of the structurally downward, although the expenses resulting from the shock were less for the former.[124] This group also received significantly less income from positive shocks than the other groups. Finally the structurally not-poor experienced significantly fewer negative shocks that other groups and benefited more than other groups from positive shocks in terms of the value of assets or gifts received.[125]

When expressed as a percentage of consumption, the mean income loss amounted to 9.4 percent of total expenditure estimated for all shocked households over the eleven year reporting period.[126]

However this differed by structural poverty class rising to 13 percent for the structurally Poor category compared to 6.5 percent for the structurally not-poor, and 8 percent for the other groups.[127] Mean expenses amounted to just less than1 percent of the total expenditure of each structural class over the eleven years, with the exception of the structurally downward where this reached 1.5 percent. The mean value of assets lost were highest for the structurally downward and structurally poor groups at 1.5

[123]/ Levenes Test for Equality of Variance and the T-Test for Equality of Means confirmed that the means and distribution of structurally downward and the combined mean and distribution for all other groups were statistically different for number of negative shocks and the value of expenses.

[124]/ Levenes Test for Equality of Variance and the T-Test for Equality of Means confirmed that the means and distribution of structurally poor and the combined mean and distribution for all other groups were statistically different for value of expenses. The T-Test only was significant for the number of negative shocks.

[125]/ Levenes Test for Equality of Variance and the T-Test for Equality of Means confirmed that the means and distribution of the structurally non-poor and the combined mean and distribution for all other groups were statistically different for number of negative shocks and the value of assets/gifts received.

[126]/ I calculated this measure of the severity of the impact of the shock by calculating the different shock effects as the percentage of the total of the sum the 1993 household annual income adjusted to 2000 prices for five years plus the total of the sum the 1998 household's annual income adjusted to 2000 prices for six years. A more precise estimate would make use of the growth rate of household expenditure between each wave of data collection but is unnecessary for the illustrative purpose of this paragraph.

[127]/ Levenes Test for Equality of Variance and the T-Test for Equality of Means confirmed that the means and distribution of the results of structurally poor and the structurally not-poor and the combined mean and distribution for all other groups were statistically different for value of income loss expressed as a percentage of total expenditure over eleven years.

percent and 1.2 percent of total expenditure over eleven years respectively, compared to 0.7 percent for the other groups. Turning to positive shocks, the mean value of assets gained equalled 1.7 percent of the total expenditure of the structurally not-poor, 1.6 percent for the structurally downward and below 0.5 percent for all of the other groups. Finally the mean value of income gained was equal to 5.5 percent for the structurally downward and stochastically mobile groups, and between 3 and 4 percent for the other groups.

Given the economic, social and political changes that took place during the eleven years of the KIDS data collection, it is of interest to catalogue the incidence of the different types of shocks about which information was collected. This is shown in Table 7.14 that identifies the specific shocks received between 1993 and 2004.

Table 7.14: Incidence of Shock Type

	Shock Type	1993-1998	1998-2004	1993-2003
Death	Θ_{it}	35.5	42.2[128]	51.9
Illness	ε_{it}	23.9	23.0	39.3
Loss of job	ε_{it}	22.4	22.0	39.1
Low remittance	ε_{it}	1.8	2.0	3.5
Low Grant	ε_{it}	1.8	3.7	5.4
Abandonment	Θ_{it}	2.7	1.3	3.8
Theft	Θ_{it}	13.8	20.8	30.9
Crop failure	ε_{it}	7.4	10.7	17.6
Death of l'stock	Θ_{it}	9.8	9.3	17.4
Business bankrupt	Θ_{it}	1.0	3.3	4.4
Accident	ε_{it}	0.3	0.0	0.3
New job	ε_{it}	18.1	16.7	30.6
Higher remittance	ε_{it}	3.0	6.6	9.3
Higher/new grant	ε_{it}	6.6	44.6	47.4
Inheritance	Θ_{it}	1.6	1.4	3.0
Promotion	ε_{it}	3.3	2.7	5.7

n=867

Negative shocks arising from a death in the household were a significant and increasing shock to the KIDS household, an unsurprising finding in view of South Africa's maturing HIV/AIDS epidemic. This suggests an important concern for the

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[128]/ Death was not included in the shock module in 2004 as a detailed module on mortality was inserted. For this reason I have assumed that all deaths would be regarded as shocks by the respondent. While the death of some may have been anticipated, it seems reasonable to assume that the majority of deaths would have carried some economic costs given the importance of the OAP to household livelihoods and the costs associated with deaths due to AIDS. See Carter *et al.*, (2007) for a fuller discussion of this using the KIDS data.

analysis provided in this thesis, and indeed in any analysis of poverty that adopts measures dependent on household size and structure. Apparent improvements in well-being, even those that appear structural in nature, may in fact be due to a smaller household size if the marginal earnings of the person who has died or left the household are lower than the subsistence costs of maintaining that person. While this may not be a major issue in societies in which deaths are infrequent and are a normally distributed phenomenon, this will become a larger concern in societies in which there is a high HIV infection rate that is concentrated among the poor such as in South Africa (Carter *et al.*, 2007).

Illnesses, potentially associated with HIV/AIDS and the loss of a job, were other important and frequently occurring shocks, while theft is a noteworthy and rising occurrence, affecting some 30 percent of households over the eleven year period of the survey. Turning to positive shocks, the receipt of a new grant stands out, with 45 percent of respondents indicating this as a positive event. In many cases this would have been the CSG, although the aging profile of the KIDS sample would mean that an increasing proportion of households would have members who would have become eligible for the OAP over time.[129] Finally, not obvious from this table, is the large number of households that fell behind (and who did not appear to have received an entitlement shock between 1993 and 2004) that were struck by asset shocks. As many as 51 percent of the households who fell below the poverty line in 2004 had lost household assets, and in most cases this was human capital.

7.3 IDENTIFYING LIVELIHOOD STRATEGY CLASSES

As already noted in Chapter Five (Section 2.5), studies completed for the SA-PPA suggested that common characteristics in the definition given by respondents of poverty related to particular 'life situations'. These not only related to demographic characteristics, but included other social, spatial and economic attributes (May *et al*, 1997:42). The composition of the livelihoods of the household was frequently given as the defining feature and included the assets that were owned, activities that were undertaken and the shocks that household members had experienced. These included casual labour or not working for cash, being dependent upon remittances, not owning

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[129] Strictly speaking then, receipt of the OAP should not have been a 'shock' since it will have been anticipated.

cattle, and experiencing ill health. Likewise descriptions of greater wealth also included livelihoods features: having household members who were wage workers; owning a small enterprise; deriving an income from farming. Finally, for the wealthy, livelihood characteristics included shop-owners and households in which there were people with salaried jobs.

This suggests that it may be possible to distinguish households engaging in common sets of activities that make up different livelihood strategy classes. As discussed in Chapter Five (Section 3), this has been attempted by a number of researchers in South Africa. Examples include the seven categories of livelihood strategy that I identified in previous studies using income and expenditure data from KwaZulu-Natal and the PSLSD (DRA, 1993a, DRA, 1993b, May *et al.*, 1995). These papers distinguished wage earning households according to the amount of income earned and the proportion of household income that was contributed by wages. As was pointed out in Chapter Five, this analysis is unsatisfactory for two key reasons. Firstly, it persists in the stratification of households according to income levels that are set arbitrarily, and secondly, it is extremely sensitive to the under-reporting of income and to outliers. With more complex statistical techniques, the KIDS data now allow a number of improvements to be made to past attempts to create a typology of households from a differentiation analysis.

The discussion on differentiation (Chapter Three, Section 5 and Chapter Five, Section 3) allows us to conceptually define a categorisation of households into livelihood classes, while the livelihoods function used in Chapter Six (Section 4.2) permitted the identification of structural poverty classes based on movement around the poverty threshold. From this analysis, and the findings of the SA-PPA, I hypothesise the following groupings of livelihood strategy and propose that these constitute different classes of household as narrowly defined by Elster (1986) as being the product of 'endowment-necessitated behaviour'.

1. **Reliant upon wages earned in the primary labour market**: These households have access to wages earned by people employed in the 'primary' labour market who are not categorised as migrants. This income may be reinvested in agricultural and non-farm production. This group is expected to be categorised as structurally not-poor unless the employment status of

household members had changed between waves, and in which case, they would be structurally upward, or potentially structurally downward if employment had been lost or the wage earner has died or moved;

2. **Reliant upon wages earned in the secondary labour market or from casual labour**: These households have access to wages earned by people employed in the 'secondary' labour market or as casual labourers who are not categorised as migrants. This income may be reinvested in agricultural and non-farm production. This group is expected to be categorised as structurally poor or stochastically mobile depending on what other strategies are being adopted and with what success. This group could also move into the structurally downward class if employment was lost between waves;

3. **Reliant upon social grants**: These households rely on social grants, principally the OAP and to a lesser extent the CSG, with limited other economic activities being attempted. Subject to the size of the household, it is likely that this group will be categorised in the structurally not-poor, or if they only became eligible between the three waves of KIDS, as structurally mobile or stochastically mobile. This group could also move into the structurally downward class if a grant-holder died or moved between waves;

4. **Reliant upon entrepreneurial activities**: These are households that combine a mix of activities in which crop, livestock and non-farm production are important, although casual and secondary labour, grants, and claims on remitted income will also feature. [130] It is expected that this group will largely be found in the structurally poor poverty class although some may be classified as structurally not-poor depending on the scale of the activity;

5. **Reliant upon remittances**: These are households that rely upon some mix of regular and irregular remittances sent from a migrant family member against whom claims can be enforced.[131] This income is likely to be reinvested in

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[130]/. In the PSLSD, income from self-employment was gathered for all types of enterprises making it difficult to distinguish petty commodity production from formal capitalist production. As a result, a class of business people and commercial farmers were included who derived substantial incomes from these activities.

[131]/ Recall that in the context of the KIDS study, a migrant is a household member who is resident at least 15 days out of the previous year, but less than 15 days out of the previous month.

agricultural and non-farm production. This group is expected to be found within the structurally poor;

In essence, each of these categories refers to different combinations of activities being undertaken by members of the household and can be regarded as comprising households that share common livelihood strategies. The approach is dynamic in the sense that, over time, households could move between categories as the economic status of their members change or if there is a policy change that affects their livelihoods. Examples might be the introduction of a new grant (such as the CSG) or asset redistribution that enables entrepreneurship (such as land reform).

To operationalise this proposed categorisation using the KIDS data, I made use of multivariate two-step cluster analysis.[132] Cluster analysis treats the groups to be identified as unknown, and thus looks for purely statistical associations between the set of variables that are defined.[133] Thus while cluster analysis is most frequently used as an exploratory data-mining tool in the initial stages of data analysis, it can also be used as a technique for the stratification of data in order to identify taxonomies such as social class (Golder and Yoemans, 1973; Hartigan, 1975; Vanneman, 1977): the purpose of the current section. Two-step cluster analysis first groups cases into pre-clusters (the initial tree-building) and then standard hierarchical clustering is applied to the pre-clusters in the second step. This form of cluster analysis is required when one or more of the variables to be used are categorical, and where the data set is comparatively large.

The variables used are firstly the percentage of total household income derived from five groups of the activities discussed in this chapter: 1) salaries and wages from the primary labour market; 2) the sum of salaries and wages from the secondary and casual labour markets; 3) the sum of social grants from the OAP and other government grants from other sources, most notably the CSG; 4) regular and irregular remittances; and 5) the sum of income from crop, livestock and non-farm

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[132]/ This statistical procedure is used to classify a set of observations into mutually exclusive groups based on combinations of interval variables (Stockburger, 1998:1). The purpose of cluster analysis is to identify a way in which observations can be organised into groups, where members of each group share common properties and where differences between groups are maximised.

[133]/ This is in contrast to discriminant function analysis which is used to classify known groups.

production.[134] I also included the three sources of capital for which I have data and which have also been discussed in this chapter: human capital proxied by the mean education of adult household members 20 years of age and above; social, legal and political capital proxied by the present value in 2000 prices of remittances and grants; and economic capital being the sum of the value of assets and durables in 2000 prices. Lastly, I included the structural poverty classes for each year developed in Chapter Six to provide the categorical variables required for this approach and to take account of predicted well-being.[135] The distance measure that I used to cluster the data is log-likelihood whereby cases are categorised under the cluster that is associated with the largest log-likelihood. As two-step cluster analysis allows the number of groups to be set by the researcher, I have chosen to specify five groups in order to generate the same number of clusters as the classes that are hypothesised.[136]

A number of technical caveats are required concerning the robustness of the cluster analysis. Firstly, as the clustering procedure can be sensitive to the ordering of the cases, the households were randomly sorted and re-sorted and the analysis repeated five times to test for the stability of the classification solution. Secondly, cluster analysis is also sensitive to outliers and variable scales, and so the data were checked for outliers and converted to standard scores.[137] At the end of the process, this SPSS procedure places residual outliers into an independent cluster that can be excluded from the analysis. Thirdly, contingency tables and Chi square tests were run on the resulting pairs of classification to check that the groups remained statistically different regardless of sorting or of the options used and to identify which orderings of the data consistently produce similar clusters. This sensitivity test identified one ordering of the data that was particularly sensitive to the case order in 1993 and 1998, and that the data from 1998 were consistently most sensitive to case order, while the data from

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[134]/ Initially this analysis was attempted on seven groups of livelihood activity with non-farm enterprises and other state grants being considered separately. While cluster analysis allowed the formation of separate groups that were statistically different, these results did not suggest any dominant livelihood activity and instead appeared as low earning-combinations of many activities.

[135]/ These variables simply classify the households as structurally or stochastically poor/not poor rather than assessing their long term trajectory as was done in Chapter Six (Section 4.2).

[136]/Allowing the cluster analysis to adopt the SPSS default option (the Schwarz Bayesian Criterion) produces three clusters in 1993 and 1998, and four clusters in 2004. This would be of use had the purpose of this section been data mining.

[137]/ Two-step cluster analysis makes provision for the treatment of outliers whereby outliers are set aside at initial step of tree-building, then checked for matching when the tree is rebuilt. Since a maximum of 13 households were placed in this outlier group in any year, I have excluded them from the analysis.

2004 were not at all sensitive to case order. Further, in 1993 and 1998, one of the clusters was consistently sensitive to case order.[138] I will return to this below.

One of the four orderings that yielded generally consistent results was then randomly chosen for the analysis that follows. Finally, the results of this ordering were checked for stability across the three years of data collection. This revealed that between 33 percent and 80 percent of cluster membership remained stable between each wave of data collection, and between 33 percent and 67 percent of cluster membership remained stable between the 1993 and 2004 waves.[139]

Having confirmed that the cluster analysis is sufficiently robust for further interrogation, the first step is to describe the clusters identified. This shows the mean value (also called the centroid) of each cluster in terms of the value of the different capitals (Rand in 2000 prices) and the percentage of total income that is contributed by the five income sources. To discuss the shared characteristics of the different clusters over time, I have sorted the clusters, placing groups with common characteristics in each of the survey years into the same table.[140] These results are provided in, Table 7.16, Table 7.17, Table 7.18, and Table 7.19.

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[138] The clusters were regarded as stable if less than 20 percent of the cases were differently classified in any pass of the data. Chi square tests show that the orderings produce clusters are significantly different in each year, and one-way ANOVA tests confirm that the means of all variables which are significantly different between the five clusters that are created at the 95 percent confidence limits in each ordering. In both instances this result is to be expected since the cluster procedure seeks to maximise differences.

[139] At this stage, the clusters are no more than statistically defined groups with similar characteristics and my purpose is sensitivity testing. I have therefore not included these transition matrices which can be made available on request.

[140] Note that there is no reason to expect that the clusters will be numbered in the same way in each year, and that outliers may still influence the mean values that are reported in an individual cluster. Note also that the analysis is based on cases in which data are present for all variables in each year and that I have chosen not to impute values for missing data given the sensitivity of cluster analysis. Finally, since cluster analysis seeks to maximise differences, standard deviations within clusters would not be informative and have not been reported. These are available on request.

Table 7.15: Livelihood Strategy Classes – Primary Wages

	1993	1998	2004
Cluster Number assigned by SPSS	1.0	5.0	1.0
Economic capital (R)	36,269.30	62,141.00	66,941.80
Social, political and legal capital (R)	6,859.00	8,572.70	14,825.10
Human capital	10.5	10.1	11.5
% income from primary wages	88.0	86.0	85.3
% income from remittances	0.9	1.7	5.0
% income from secondary wages	2.7	5.5	3.7
% income from grants	2.3	2.7	4.0
% income from SMMEs	6.1	4.2	2.0
% of total in cluster	12.0	19.5	22.3
n=	*743*	*698*	*792*

A clear cluster of households that receive a high proportion of their income from wages earned in the primary labour market emerges in each year. This group is also associated with high and increasing mean adult education, and experienced a substantial improvement in the value of their economic capital especially between 1993 and 1998. Incomes from other sources are negligible in terms of their contribution to total household income, although these households are comparatively well endowed with social, political and legal capital proxied by the present value of remittances and grants. The proportion of these households in the KIDS sample is increasing over time. Households in these clusters thus conform to the first livelihood strategy class hypothesised above in which income from primary wages is a shared characteristic.

Table 7.16: Livelihood Strategy Classes – Secondary Wages

	1993	1998	2004
Cluster Number assigned by SPSS	4.0	4.0	2.0
Economic capital (R)	5,036.4	12,122.0	16,324.5
Social, political and legal capital (R)	11,914.9	9,602.8	9,886.8
Human capital	5.7	7.3	8.0
% income from primary wages	3.0	2.6	3.8
% income from remittances	3.0	2.8	2.8
% income from secondary wages	80.8	86.4	78.7
% income from grants	9.0	5.2	9.6
% income from SMMEs	4.2	3.0	5.0
% of total in cluster	17.5	18.6	17.7
n=	*743*	*698*	*792*

An unambiguous cluster of households with a high proportion of income contributed from secondary and casual wages is also evident in each year. Mean education levels are lower than those reported by the 'high primary wage' group, but are relatively

high and increase over time. Although more modest, there has been a steady increase in the value of economic capital while the proportion of households in this cluster remains relatively consistent over time. Households in these clusters thus conform to the second of the livelihood strategy classes hypothesised above in which income derived from secondary wage labour is a shared characteristic.

Table 7.17: Livelihood Strategy Classes – Social Grants

	1993	1998	2004
Cluster Number assigned by SPSS	3.0	1.0	5.0
Economic capital (R)	9,357.3	15,847.6	15,148.7
Social, political and legal capital (R)	23,234.5	47,466.0	49,448.5
Human capital	7.2	6.3	6.4
% income from primary wages	56.6	2.0	5.7
% income from remittances	4.2	12.5	10.0
% income from secondary wages	6.7	4.7	7.5
% income from grants	23.0	71.0	70.7
% income from SMMEs	9.5	9.8	6.2
% of total in cluster	19.8	28.8	25.4
n=	*743*	*698*	*792*

Clusters can also be identified each year in which social grants play an important role. Households in these clusters have seen an increase in the proportion of total income derived from grants such as the OAP and the CSG. Mean education levels of household members are the lowest of the clusters that were identified and fall between 1993 and 1998. This is to be expected if those in, and entering this group are aging households in which young adults have completed their education and have moved out of the household, or if these are households with young children in receipt of the CSG whose education is excluded from the variable chosen to represent human capital (years of education completed by adults over 20 years of age). The fall in the percentage of income derived from primary wages supports the notion that households in this cluster are aging. The proportion of households in this cluster increased between 1993 and 1998 and has since remained relatively consistent.

To a large extent then, households in these clusters conform to the third of the livelihood strategy classes hypothesised above in which income from grants is a shared characteristic. However it seems likely that membership in this cluster varies over time due to eligibility criteria of the grants involved and is expanding partly due to the life course changes of the households in KIDS and the introduction of new grants.

Table 7.18: Livelihood Strategy Classes – Enterprises

	1993	1998	2004
Cluster Number assigned by SPSS	5.0	2.0	4.0
Economic capital (R)	11,492.8	27,593.3	28,330.0
Social, political and legal capital (R)	32,805.6	6,791.9	13,149.9
Human capital	5.5	7.2	8.2
% income from primary wages	1.9	1.6	1.3
% income from remittances	42.9	2.8	9.2
% income from secondary wages	1.6	1.4	3.1
% income from grants	27.6	1.8	9.4
% income from SMMEs	25.9	92.5	77.0
% of total in cluster	40.1	9.2	10.4
n=	*743*	*698*	*792*

There is some indication that clusters can be identified in which income earned in farm and non-farm enterprises are comparatively important in each year, but the results of the cluster analysis are not as clear cut as before. In 1998 and 2004, households in which more than 75 percent of income is derived from such enterprises are found, in which education levels are comparatively high along with the value of the economic capitals that were included into this analysis. Unlike what is hypothesised for the fourth livelihood class, earnings from the primary labour market are unimportant. Anomalies are the low share of earnings from enterprises in 1993, the high share of earnings from remittances in 1993 and the very large size of this group in 1993 compared to the subsequent years. Only to some extent then do households in these clusters correspond to the fourth livelihood class in which income derived from enterprises is a shared characteristic and many change their status over time.

Table 7.19: Livelihood Strategy Classes – Remittances

	1993	1998	2004
Cluster Number assigned by SPSS	2.0	3.0	3.0
Economic capital (R)	4,695.1	17,109.7	19,480.7
Social, political and legal capital (R)	9,802.4	22,142.9	52,097.7
Human capital	8.8	7.3	8.0
% income from primary wages	89.6	44.2	2.7
% income from remittances	0.8	36.7	15.7
% income from secondary wages	3.7	8.3	5.6
% income from grants	5.1	4.2	72.4
% income from SMMEs	0.8	6.5	3.6
% of total in cluster	10.6	23.9	24.2
n=	*743*	*698*	*792*

Finally a rather ambiguous grouping of households remains as a residual. While

remittances feature as an important component in 1998 and to some extent in 2004, in 1993 remittances form a low percentage of total household income. Instead these households receive a high proportion of their income from primary wages, but are distinguished from the primary labour group by their low economic capitals. The proportion of households in this cluster have increased over time, but given the instability of this group, it is unlikely that this represents a trend of any kind. Households in this cluster are least likely to be consistently assigned and a stable cluster does not emerge for the final livelihood class in which remittances are the dominant source of livelihood.

The data thus far provide descriptive statistics for the variables used in the cluster analysis. While pointing towards a degree of shared characteristics based on the types of livelihood being undertaken by households, at least in three of the hypothesised livelihood strategy classes, it is useful to also consider other socio-economic characteristics. This information is provided in Table 7.20, Table 7.21, Table 7.22, Table 7.23 and Table 7.24.[141]

Table 7.20: Socio-Economic Characteristics – Primary Wages

	1993	1998	2004
Cluster Number assigned by SPSS	1.0	5.0	1.0
% Structurally Poor	0.0	0.0	8.6
% Structurally Not Poor	94.4	91.9	73.0
% Structurally Downward	2.2	4.4	2.3
% Structurally Upward	0.0	2.2	9.2
% Stochastically Mobile	3.4	1.5	6.9
% Poor	0.0	0.0	4.5
Mean normalised poverty measure	3.4	3.4	4.5
% Urban	87.6	83.1	65.0
% *De facto* male	90.9	77.8	61.6
% *De facto* female	1.1	2.2	8.2
% *De jure* female	8.0	20.0	30.1
Mean Age of head	44.2	49.8	50.3
Mean Household size	5.3	4.9	4.9
Mean Dependency Ratio	0.45	0.46	0.40
n =	*743*	*698*	*792*

The notion that a livelihood strategy class can be identified around involvement in primary wage labour is reinforced by these data. In 1993 and 1998, households in these clusters are predominantly classified as structurally not-poor, while there is a

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growing trend of structurally upward households emerging after 1998. No, or very few, households are below the poverty line used in Chapter Five (Section 2.1), while the mean poverty measure normalised by need (described in Chapter Five: Section 3.1) reveals that the position of households in this cluster have improved from 3.4 times the poverty line to 4.5 times that poverty line. The majority of households in these clusters live in urban areas, although this had declined by 2004. Although dominated by *de facto* male headed households in all years compared to the clusters that follow, the proportion of *de jure* female headed households rapidly increases between 1998 and 2004. Household sizes are small and declining and the mean age of the head of the household is increasing, as is the demographic dependency ratio (the proportion of the household below 20 years of age) suggesting that that although initially comparatively youthful in 1993, these are aging households, although less rapidly than would be expected given the six year gap between 1998 and 2004. This is an unsurprising finding that can be attributed to the imputation procedure used to identify household heads in 2004 whereby the older heads are more likely to have died and the replacement head could not be identified.

Table 7.21: Socio-Economic Characteristics – Secondary Wages

	1993	1998	2004
Cluster Number assigned by SPSS	4.0	4.0	2.0
% Structurally Poor	57.7	40.8	45.6
% Structurally Not Poor	12.3	25.4	19.1
% Structurally Downward	7.7	12.3	6.6
% Structurally Upward	8.5	6.2	9.6
% Stochastically Mobile	13.8	15.4	19.1
% Poor	70.0	66.2	57.1
Mean normalised poverty measure	0.9	0.9	1.5
% Urban	18.5	29.2	25.0
% *De facto* male	58.1	48.1	45.6
% *De facto* female	7.8	11.6	10.7
% *De jure* female	34.1	40.3	43.7
Mean Age of head	52.0	50.6	44.6
Mean Household size	7.8	7.7	6.0
Mean Dependency Ratio	0.55	0.61	0.41
n=	*743*	*698*	*792*

Those households in which wages from participation in the secondary labour market also share many socio-economic characteristics and can thus be said to constitute a

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[141]/ Unless otherwise stated, the characteristics of all clusters in each year were significantly different at the 95 percent confidence interval. As before, this is to be expected for variables included in the Cluster Analysis.

livelihood strategy class. Although the majority of households are classified as structurally poor, this declined between 1993 and 2004 and there has been an increase in the proportion that are structurally not-poor and structurally upward. As a result the percentage of households below the poverty line has consistently declined, while the mean normalised poverty measure has increased from 0.9 of the poverty line to 1.5 times the poverty line. There has been a slight increase in the proportion of households in these clusters which live in urban areas. As is the case with the primary labour clusters, *de facto* male headship has declined while *de jure* female headship has increased. Although the mean age of household heads in 1993 is almost 10 years more than the primary labour cluster, this declines over time suggesting that new households join these clusters over time. Household sizes are comparatively large, but declining, while the demographic dependency ratio first increases then declines. This suggests that the type of household belonging to a secondary labour market cluster has changed over the course of KIDS, with younger, smaller households with fewer children joining the cluster while older, larger households are moving to one of the other groups.

Table 7.22: Socio-Economic Characteristics – Social Grants

	1993	1998	2004
Cluster Number assigned by SPSS	3.0	1.0	5.0
% Structurally Poor	21.1	44.8	77.6
% Structurally Not Poor	20.4	17.4	1.0
% Structurally Downward	4.1	7.0	10.0
% Structurally Upward	14.3	5.5	0.0
% Stochastically Mobile	40.1	25.4	11.4
% Poor	73.5	74.1	99.0
Mean normalised poverty measure	0.9	0.9	0.5
% Urban	38.8	24.4	4.0
% *De facto* male	46.6	36.8	36.3
% *De facto* female	8.9	4.5	14.9
% *De jure* female	44.5	58.7	48.8
Mean Age of head	57.0	65.4	60.6
Mean Household size	8.6	7.5	8.8
Mean Dependency Ratio	0.58	0.70	0.57
n=	*743*	*698*	*792*

Despite being in receipt of grants, households in these clusters have seen an increase in poverty. There has been a dramatic increase in the proportion classified as being structurally poor, an increase in the percentage below the poverty line reaching almost 100 percent by 2004, and a decline in their mean normalised poverty measure from 0.9 time the poverty line to half the poverty line. The anomaly is at least partly

explained by the very large household sizes which increased between 1993 and 2004, and the persistence of large numbers of young people in these clusters. This finding supports the arguments of Case and Deaton (1998) and others that pensions are being used as a means of survival for other households members. The proportion of households in this group living in urban areas declined between 1993 and 1998, and fell to just 4 percent by 2004. This finding is likely to be influenced by the introduction of the CSG which would have changed the characteristics of those in these clusters. This is evident in the increasing proportion of households with a *de facto* female head and perhaps the younger heads in 2004. As with the secondary labour market cluster, while a livelihoods strategy class does emerge, the composition of this group has changed over time, largely due to the changes in social policy.

Table 7.23: Socio-Economic Characteristics – Enterprises

	1993	1998	2004
Cluster Number assigned by SPSS	2.0	3.0	3.0
% Structurally Poor	52.0	39.1	37.0
% Structurally Not Poor	16.8	17.2	30.9
% Structurally Downward	9.4	7.8	6.2
% Structurally Upward	5.7	10.9	3.7
% Stochastically Mobile	16.1	25.0	22.2
% Poor	58.4	67.2	52.4
Mean normalised poverty measure	1.1	1.0	1.7
% Urban	11.1	14.1	22.0
% *De facto* male	27.4	60.9	55.4
% *De facto* female	38.2	14.1	20.3
% *De jure* female	34.5	25.0	24.3
Mean Age of head	54.2	50.0	51.1
Mean Household size	7.5	7.3	6.3
Mean Dependency Ratio	0.68	0.66	0.48
n=	*743*	*698*	*792*

The fortunes and composition of those households placed in the enterprises cluster have changed over the three years of data collection. The proportion that is structurally poor has declined, with a corresponding increase in the proportion who are structurally not-poor especially for the period 1998 to 2004. The proportion of households below the poverty line has decreased over time while the mean normalised poverty measure has increased from 1.1 times the poverty line in 1993 to 1.7 times in 2004. Households in these clusters have also been increasingly from urban areas, although most are still to be found in non-urban areas. The mean age of the head has remained constant, while household size has declined along with the demographic

dependency ratio. Of interest is the increasingly large number of *de facto* male heads in these clusters. This is then another livelihood strategy class into which new members come over time.

Table 7.24: Socio-Economic Characteristics – Remittances

	1993	1998	2004
Cluster Number assigned by SPSS	2.0	3.0	3.0
% Structurally Poor	0.0	49.4	10.9
% Structurally Not Poor	86.1	18.1	42.6
% Structurally Downward	8.9	4.8	6.0
% Structurally Upward	0.0	7.8	8.7
% Stochastically Mobile	5.1	19.9	31.7
% Poor	0.0	79.6	25.5
Mean normalised poverty measure	1.8	0.8	1.8
% Urban	77.2	23.4	47.4
% *De facto* male	68.8	38.6	35.3
% *De facto* female	2.6	21.1	6.0
% *De jure* female	28.6	40.4	58.7
Mean Age of head	45.5	53.2	61.4
Mean Household size	5.1	8.3	5.1
Mean Dependency Ratio	0.47	0.66	0.46
n=	*743*	*698*	*792*

Finally, the residual group which was expected to be most closely associated with livelihoods derived from remittances also shows varying socio-economic characteristics. The proportion of households in the different structural poverty groups varies each year, with many being structurally poor in 1998, and very few being in this group in 1993 and 2004. This also applies for the percentage of households below the poverty line as well as for the mean normalised poverty measure. The percentage of households that are urbanised is comparatively high in 1993 and 2004, although households in these years have different characteristics in terms of the age and sex of the head. Mean household size also varies with the figures for 1998 being far higher than in the other years. These results confirm that a livelihoods cluster based on remittances cannot be identified, and that these clusters reflect groupings of households that are simply distinct from those already described. It should also be noted that these are the clusters that were most sensitive the ordering of the data.

In summary, I have used a cluster analysis of the KIDS data using the share of household income derived from different livelihood activities and the asset-based structural poverty classes developed in Chapter Five to assess whether a hypothesised

set of livelihood-based classes can be identified. The results reveal that three classes can clearly be identified in all three waves of KIDS: those dependent upon wages earned in the primary labour market defined as wage-paying regular employment which is accompanied by benefits and contractual security; those dependent upon wages earned in the secondary labour market including casual labour defined as wage paying regular and irregular employment without benefits or contractual security; and those dependent upon state grants. A fourth rather diverse group can be identified who are involved in self-employment in agricultural and non-farm enterprises. Finally, although expected in the South African context, the cluster analysis suggests that households dependent upon remittances are neither a stable nor unambiguous group, with changing membership and variable participation in other forms of livelihood.

7.4   QUALITATIVE SUPPORT FOR LIVELIHOOD STRATEGY CLASSES

The livelihood classes just identified by cluster analysis receive support from qualitative data. The SA-PPA contained many examples of the shared livelihood characteristics of groups of people who were considered by respondents to be poor. These included female single parents, pensioners supporting grandchildren, and the homeless as well as the unemployed (May *et al.*, 1997: 42). As an example not already given, in KwaJobe, KwaZulu-Natal, the productive means used for farming was a major characteristic for defining the richer and poorer for two groups of women. The poorest are seen as those who 'work for others, then plough', 'plough by hand', were 'pensioners without livestock', 'sell labour and have no time to plough', and 'children who grow into adults but have opted to go to school instead of being shepherds' (May *et al.*, 1997: 112, 114). The less poor ploughed with tractors, cattle, donkeys, and owned livestock. The wealthiest of all, however were shop owners or those employed with steady jobs.

Perhaps the most important entitlement failure reported from the perspective of the participants in the SA-PPA relates to the functioning of labour markets, and, in particular, the increasing incidence of long-term unemployment. Although employment was perceived as an important way in which the problems of the poor could be solved, the labour markets which are open to the poor appear to be highly restricted in terms of the possibility of any form of accumulation. This is particularly

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true in the case of agricultural and domestic labour. Here, low wages, insecure working conditions and poor access to services have resulted in little, if any, long term occupational or social mobility (May *et al.*, 1997: 110).

More importantly, during the first period of the KIDS study (1994-1998), the contracting South African economy appears to have greatly eroded the livelihoods of poor households. This is supported by all of the reports prepared for the SA-PPA which indicated that people, particularly men, had lost employment as a result of retrenchment, and, generally, very few of the participants in the various studies lived in households in which there were employed people. People interviewed in rural KwaZulu-Natal explicitly commented that male access to regular formal employment had reduced, and that this was threatening the survival mechanisms of households (May *et al.*, 1997:110). In addition to the impact on the household's assets base, participants in the SA-PPA saw unemployment as acting to erode the assets of other households who relied upon remittances for support.

The SA-PPA also shows the variety of activities that make up casual labour. As an example, the following casual labour undertaken in Nhlangwini was recorded in return for a cash income (May *et al.*, 1997: 134).[142]

Figure 7.1: Casual Labour in Nhlangwini

Services	Manufacturing	Retail	Agricultural
Fetching water (R10 for a 25 litre container which can be filled 3 or 4 times daily); Fetching firewood; Washing clothes and cleaning homestead yards; Treating children with home remedies; Plastering floors; Helping to harvest maize, pumpkins, potatoes and beans in exchange for food; Children fetch water in exchange for food.	Mudding - mixing water and soil to make plaster for floors and walls; Production of traditional beer; The production of grasswork mats, baskets, beadwork and other craft; Building and wood work, including the construction of toilets. Preparation of cooked food such as fried fish, scones, sheep's heads, pig's trotters and pap.	Collecting and selling thatch grass; Sale of traditional beer; Sale of clothes, grasswork mats, baskets, beadwork and other craft; Sale of 'tobacco'; Sale of cooked food such as fried fish, scones, sheep's heads, pig's trotters and pap.	Weeding, planting in maize fields of community gardens; Production of 'tobacco'; Growing their own food in fields or gardens;

Source: SA-PPA

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[142]/ In this area, casual labour was known as 'cheap labour' or *amatoho*.

However, the income earned from many of these activities is very small. As an example, the collection of 25 kilogram drums of water for other people was said to be "...enough to buy ball-pens, salt, matches and candles" (May *et al.*, 1997: Appendix). Furthermore, there is some seasonality with these activities, with some more prevalent in winter (fetching water/firewood and "mudding") or summer (weeding).

The SA-PPA also suggests that cultivation of land, particularly garden plots, is an important safeguard for many rural households, although this is probably limited to the areas in which there is sufficient rainfall to permit dryland cultivation. Maize was regarded as the most important crop and the main staple, although vegetable production performed an important stabilising role:

> Mielie-meal is the most important crop because it is what we eat: however the rains have been late this year and the mielie-meal has not be been good. The vegetable gardens have become very important because you can grow some food during the winter but there is not much water and we have to sell the vegetables to buy mielie-meal (May *et al.*, 1997:132)

Gardens and community garden schemes were also seen as making a significant contribution towards the livelihood of the very poor. In Hlabisa, both men and women indicated that farming was their most important source of income. Their rationale was that even if pension or remittances sometimes contributed larger amounts to household income, they were quite often irregular whereas farming was something they could rely on. A wide range of crops were reported to be cultivated, although maize, beans and pumpkin were most frequently grown. Inter-cropping was also common, with beans and maize being planted together, or in the same field at different time (May *et al.*, 1997:128)

Home production of food is not necessarily an option open to all. In some instances, these schemes required a joining fee which could not be afforded by the very poor. From a mapping exercise undertaken in Mabundeni, it was observed that:

> ...many of the poorest households were female headed where it was left to the grandmother or single female to look after the whole family. Consequently, they were excluded from many of the local income generating activities because they could not afford the joining fee or the time. (May *et al.*, 1997: 98)

The important role played by entitlements such as pensions and disability grants for

household survival is stressed by almost all the studies. Amongst the six women with whom Murphy worked, pensions had consistently formed a part of the household's survival strategy. Indeed, the loss of the pension was tantamount to a shock which dramatically impacted on the household's well-being. Gaining access to pensions also appeared to be a motivation for spatial and domestic mobility:

> From information gained on household structures it is evident that extended families and children of single mothers are often grouped around old age pensioners. Individual interviews established that these pensioners often contribute to the support of young children within the family. One group of old age pensioners interviewed in Patensie described their role as burdensome, claiming that their pension monies are spent on children from teenage pregnancies and transport for children to the high school ... (May *et al.*, 1997: 85)

The receipt of a pension also impacts on other tactics used by households in order to make a plan. In particular, pensions were given as being an important asset in gaining access to credit from shops and a number of households indicated that the pensioner in the house was responsible for paying instalments. Teixeira and Chambers note that people in employment or receiving pensions have been prioritised for receiving housing in a new housing scheme because they are perceived as being able to pay service fees.

Finally, an important strength of qualitative studies such as the SA-PPA is the identification and categorisation of non-monetised and often unrecorded activities which is not possible when using the KIDS data. Varying household size and composition has been found to be an important coping strategy. Empirical evidence suggests that the composition of household membership changes not only due to life cycle changes, but also as a result of economic and social factors (Sharp and Spiegel, 1985; Russell, 1993). This permeability of household boundaries has been described by Ardington (1988), Guyer and Peters, (1987), Murray (1987) and Spiegel (1987). Murray (1987:246) has noted that rapid 'internal' changes of household membership are features of households living in the Bantustans. Spiegel (1987) and Ardington (1988) provide evidence of this and show that if the source of income is lost, individuals may disperse to join households which have an income. In addition, when a new source of income is accessed, individuals may break away from a household to establish their own household. It appears that these moves in search of, and in

response to, a source of income are not confined to rural areas only. Ross (1993), for example, describes similar processes in a dense informal settlement. Sharing accommodation was frequently mentioned by respondents in the SA-PPA, particularly in the urban areas in which access to housing is a major constraint, which in some instances results in children dispersed between rural area, a shack settlements and formal housing in a township. (May *et al.*, 1997).

In addition, Annecke (1993) has also noted the continuous and extensive movement of family members, with one or two members moving between several dwellings, both elsewhere on the urban fringe and in a rural area. Movement itself thus becomes a survival strategy as individuals and households attempt to locate themselves in the best possible way. There are three components to this movement: labour migration, in which the move is made in order to take up employment; distress migration of entire families when coping strategies fail; and finally, migration in search of better opportunities, such as gaining access to the job market, or to take advantage of kinship ties.

Using the environment to meet certain basic needs is another important activity that is often unrecorded. The existence and continuing availability of local resources is especially important since poor households have to exploit the environment in order to survive. Local resources include the land itself (for cultivation and grazing), as well as forests, (for energy and building materials) and natural water sources, (for drinking water and irrigation) (Sharp and Spiegel, 1990). Access to communal or private reserves of trees and natural forest is particularly important and the use of these resources can be extended to medicinal plants, reeds for craft work, building materials, beer brewing, trees for carving, wild animals and crops for food. All of these strategies can significantly decrease the vulnerability of the poor, although their use could indicate the absence of more secure alternatives.

Households may also deliberately opt for dietary changes. Qualitative research shows that households appear to experience shifts from preferred to lower status foods (starchy tubers, grain ground with stalks/husks/bran) where household members eat beans and bread when money is scarce as well as unconventional foods (wild foods, insects, game [Annecke, 1993]). In addition, households may resort to indigenous crops such as *morogo/imifino* and stinging nettles. Local sharing also occurs between

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families or households and often intensifies when food is scarce (Ross, 1993). Quantitative expenditure changes or scrimping is another aspect of this form of livelihood activity. There is little research which provides concrete examples of this, although Frankenberger's research suggests that meal patterns may be varied with fewer meals, and that there would be a reduction in actual consumption (Frankenberger, 1992). Studies around energy usage also provide important insights into this activity (Annecke, 1993; Ross, 1993). Highly vulnerable households adapt their energy consumption patterns as a coping strategy. Examples include switching down the energy ladder (electricity to paraffin to wood to dung and crop residuals), as well as varying purchase intervals (buying one candle at a time, as opposed to a week's supply and conserving energy).

The unpaid work required for reproductive activities are an essential part of the livelihood strategy of most households and require large amounts of time from the women who are seen to usually perform these activities. This has already been highlighted earlier in the section on the gendered experience on poverty which showed that women performed the majority of the tasks critical to the daily functioning of the household. Of most importance was the provision of energy and water. In the SA-PPA, women in Hlabisa indicated that fulfilling these needs meant that they were often too exhausted to take proper care of their children, let alone engage in other forms of income earning activity (May *et al.*, 1997:53). This combination of roles expected of women can thus lead to women being unable to gain the independence of having their own income source. In addition, the survival activities adopted by the poor vary within the household according to gender. As an example:

> Unlike men, women tended to focus their strategies against poverty at the neighbourhood level and dealt with the risks involved by investing heavily in local supportive networks. Men, on the other hand, have often looked beyond the neighbourhood and specifically towards the nearby rural areas as a means of dealing with the insecurities, poverty and dangers of urban life (May *et al.*, 1997:94).

The flexible usage of family links is striking throughout all the studies with these links serving a wide range of functions. While financial assistance is probably the most frequently mentioned support offered by social and kin networks, support in times of shock is another dimension of social support. This usage of family networks

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includes drawing on the assistance of siblings, as well as support from parents and parent-in-laws. For women however, there is some limit to this support. In the time lines recorded in the SA-PPA, several women stated that their own parents were unable or unwilling to help them (May *et al.*, 1997: 86-87). This was due to the institutional arrangements within traditional marriage whereby a woman moves to the kraal of her husband and into the control and care of his parents. To the extent that this arrangement has collapsed, women may become exposed with neither the support of their own families nor that of their husbands.

7.5 CONCLUSION

The analysis in this section has attempted to follow the logic of the livelihoods approach, and has separately considered the assets controlled by households, the use to which these are put to generate livelihoods, the returns which are achieved from these activities, and finally, the way in which activities are combined into a livelihood strategy. An examination of the assets available to the KIDS sample between 1993 and 2004 shows that there has been a general improvement in household access to the majority of the five categories of assets identified in Chapter Three, with education, group membership, agricultural equipment, a electricity connection and savings being particularly noteworthy. While distinct differences between households according to spatial location and the sex of the household head are evident, the structural poverty classes also reveal noteworthy differences in the fortunes of the structurally poor, structurally upward, structurally downward and never poor.

Overall, educated and literate labour appears to be the most commonly available resource in the KIDS households, and it follows that wage labour and claiming remittances from migrant family members are the most commonly adopted activities used to generate entitlements. Perhaps, given the low returns which are achieved, it is surprising to note that agriculture is the third most commonly adopted livelihood activity. Comparing household types, it emerges that, with the exception of labour, female-headed households tend to have fewer endowments, and achieve lower returns from their livelihood activities than do men. It is noteworthy that households in which there is a migrant male head are most likely to engage in agricultural activities.

Although shocks, especially negative shocks, are widespread and comparatively

costly in terms of the income loss, expenses incurred or value loss, they do not emerge as an important explanation for these differing experiences. If anything, the structurally upward are more prone to such shocks, but appear to be better able to weather the long-term negative impact of the shock than do the other poor groups.

Using cluster analysis, the notion that there are distinct classes of livelihood activity is supported for at least some groups. Three groups were clearly identified: those deriving a livelihood from employment in the primary labour market, those deriving an income from the secondary labour market and those deriving an income from grants. A fourth group could be identified, those reliant upon incomes earned from self-employment, although the characteristics of this groups is diverse. The evidence did not support the identification of the final group, those dependent upon remittances. The qualitative data from the SA-PPA support the notion of livelihood groups, but remind us that there are many livelihood activities that are not readily identified by quantitative survey methodologies.

CHAPTER EIGHT
CONCLUSION, SUMMARY AND RECOMMENDATIONS

The dismal shame of poverty, suffering and human degradation of my continent is a blight that we share. The blight on our happiness that derives from this... leaves us in a persistent shadow of despair. This is a savage road to which nobody should be condemned. (Deputy President Thabo Mbeki on the occasion of the adoption of the Republic of South Africa Constitution Bill, 1996).

8.1 INTRODUCTION

The analysis in this thesis set out to make four contributions to the analysis of poverty in South Africa. The first of these is in the creation of the database that has been used. The KwaZulu-Natal Income Dynamics Study (KIDS) was the first major panel study in South Africa and a third wave of data collection in 2004 means that it is the longest running panel in the country. Although always a collaborative venture, I have played a leading role in the development of KIDS and in many of the publications that have documented the methodology and initial findings of the each wave. The second contribution is in the synthesis of conceptual frameworks from the asset/vulnerability and sustainable livelihoods approaches with the capability approach. The third is the application of this framework in an analysis of structural poverty. This is proposed as a complementary approach to analyses based on observed movement in, and out of, poverty often used which comparing chronic and transitory poverty. Many aspects of these contributions were undertaken collaboratively, although for this thesis I have extended and adapted the analysis, incorporating the third wave of data collection and providing more detail on the changes in assets and livelihoods that underpinned the earlier analysis. The final and wholly new contribution is the examination of livelihoods and differentiation of households using a cluster analysis based on their livelihood strategies. In this last chapter I will summarise the key findings of the thesis and then comment on some of their implications for policy.

8.2 SUMMARY OF FINDINGS

8.2.1 Microeconomics and Poverty Dynamics

Analysts in the field of development studies are beginning to recognise that there are many ways in which the economic fundamentals required for macroeconomic stability can be translated into policy. It is also becoming apparent that underlying

microeconomic conditions may prejudice the chances of the poor to benefit from economic growth and that poverty cannot be solved by macro-economic policies alone. Further, the poverty is now recognised as not being a static condition but rather something that varies in terms of its conditions, effects and causes. How poor people engage with markets over time, how assets are used and how assets are accumulated have been the themes analysed in this thesis.

8.2.2 Measuring Dynamic Poverty

Poverty is generally characterised as the inability to command sufficient resources to satisfy a socially acceptable minimum standard of living. Chronic poverty sees this inability as something that may persist over time and even over generations. Assets, livelihoods and asset based vulnerability are one way in which these dynamics can be examined. The measurement of dynamic poverty is difficult as it refers to potential circumstances rather than to observed conditions. However, a differentiation approach can provide a hopeful direction for the analysis of dynamic poverty by directly analysing the asset base on which household well-being is grounded. Using an asset-based multi-period poverty model developed by Carter and May (2001), a dynamic poverty line ($\underline{J}$) is defined as:

$$(3) \qquad \underline{J}(\underline{u}, \delta_p) = \left(\sum_{t=0}^{\infty} \delta_p^t \underline{c} \right),$$

where t indexes years and δ_p is a discount factor. $\underline{J}$ is then the present value of a sequence of poverty level living standards.

A household can now be defined as being dynamically poor if:

$$(4) \qquad J^*(A_{0i}) < \underline{J}$$

A household is thus dynamically poor if their expected long-term stream of well-being, $J^*(A_{0i})$ is less than the certain equivalence value of a stream of single- period poverty living standards.

8.2.3 Poverty in Post-Apartheid South Africa

The poverty profile of South Africa in the post-apartheid period shows that South Africa still lags behind countries of similar economic strength. Most studies using available national data point to an increase in money-metric poverty until 2000. Data are scarce for the period subsequent to this, but it seems possible that this trend has at last been reversed, and that at least the poverty headcount index has declined between 2000 and 2004. These data confirm that the post-transition government faced an enormous challenge in reducing poverty, and that high and probably increasing levels of poverty persisted for much of the period between 1993 and 2004. KIDS allows new insight into the dynamics of post-apartheid income distribution and shows that the initial increase in poverty rates has been reversed from an increase between 1993 and 1998 from 52 percent to 57 percent, to a decline to 47 percent.

8.2.4 A Database for the Analysis of Poverty Dynamics

As the analysis of poverty dynamics imposes special data requirements, the analysis in this thesis would not have been possible without the collection of panel data set that contained observations for at least three points in time. Panel data in which the same households are re-interviewed are an especially useful source of information since these studies can reveal what has happened to individuals and households over time. Although no longer the only panel study in South Africa, and confined only to African and Indian households in KwaZulu-Natal, the KIDS data base is unique in that the first wave of data collection predates the democratic elections in 1994. The data collected by KIDS thus opens a window on the post-apartheid period allowing an analysis of poverty dynamics during a time of profound structural change.

8.2.5 Structural Poverty in KwaZulu-Natal

Using the model of dynamic poverty just described, seven groups of household have been identified according to their structural position as determined by the changes in assets and consumption-based well-being that the household has experienced between 1993 and 1998. Four of these groups represent structural positions: the structurally poor; the structurally upward; the structurally downward and the never poor. Three are transitory positions dependent upon bad or good fortune between 1993 and 2004.

These are the dual failures (unlucky in two or more years years); stochastically upward (fortunate in 1998 or 2005); and the stochastically downward (fortunate in 1993). This analysis shows that approximately 30 percent of the KIDS households are found to be structurally poor over the eleven year period of the survey, 30 percent structurally never poor, 9 percent structural upward and 7 percent were structurally downward. The remaining 24 percent are in transitory poverty in that the changes in their poverty status arise from either short-term windfalls or shocks, or from measurement error.

Qualitative findings from the SA-PPA support the notion of poverty that is both structural and linked to good and bad fortune. Participants in this study provide commentary on job losses, the death and illness of household members, theft and destruction of property, and in each case, link these shocks to permanent declines in income. Education is perceived as an important route out of poverty, while access to land provides a buffer against misfortune, unreliable remittances from migrants and job loss.

8.2.6 Livelihood strategies classes in KwaZulu-Natal

A general improvement in household access to the majority of the assets discussed in this thesis, with education, group membership, agricultural equipment, a electricity connection and savings being particularly noteworthy. While distinct differences between households according to spatial location and the sex of the household head are evident, the structural poverty classes also reveal differences in the fortunes of the structurally poor, structurally upward, structurally downward and never poor. However, although shocks, especially negative shocks, are widespread, they do not emerge as an important explanation for these differing experiences.

Using cluster analysis, distinct classes of livelihood activity can be identified for at least three groups. These are those deriving a livelihood from employment in the primary labour market, those deriving an income from the secondary labour market and those deriving an income from grants. A fourth group could be identified, those reliant upon incomes earned from self-employment, although the characteristics of this groups is diverse. The evidence did not support the identification of the final group, those dependent upon remittances. Once again, these findings are supported

by the qualitative data from the SA-PPA.

8.3 POLICY IMPLICATIONS

The finding of this thesis that different forms of poverty can be identified has significance for policy for poverty reduction. As Kanbur and Squire (1999:6) note, "if one household is experiencing a fall into poverty while the other is chronically poor, the appropriate policy responses towards the two households should probably be quite different". Moreover, earlier in this thesis, the analysis of poverty was discussed from two perspectives, actor-based and system-based and this distinction has been operationalised in the analysis that has been presented. These approaches can also be associated with two different and to some extent conflicting approaches with respect to policy development. The perspective seeing the poor as entrepreneurs underscores support for liberalising policies, enhancing individuals' opportunities and capabilities. Those who have emphasised the idea of poverty trap perspectives often advocate state intervention policies that establish citizens' rights, redistribute wealth and assets, and reduce structural inequalities. In practice, pro-poor policies tend to address both individually determined and structurally imposed poverty. For example, even when institutions such as the World Bank emphasise structural adjustment strategies for enabling economic growth, attention is paid to the redistributional effect (so-called 'broad based growth'), and the need for social safeguards. Nonetheless, pursuing both perspectives in tandem is difficult and often comes down to a choice of what to do first.

The risk that the perpetuation of extreme inequality will act as a brake on the achievement of the South African government's ambitious growth targets is an important concern. Moreover, the sluggishness in employment creation through out the 1990s already discussed suggests that even if higher growth rates were achieved, a noticeable reduction in poverty or inequality may not follow. Several analysts have argued that more assertive action by the South African government to reduce poverty and inequality is a feasible option and indeed, is necessary (Bond, 2000; May and Hunter, 2005; SACC, 2003). Others have also argued that South Africa can pursue more redistributive policies without undermining current growth objectives, and indeed, it has been suggested that such policies would promote growth (May et al., 2004).

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However, if the reduction of inequality is to be accompanied by the reduction of poverty the least well-off will need to be the beneficiaries of such transfers. Particular kinds of social spending and employment creating strategies are more effective for the reduction of poverty and inequality. With respect to social spending, (such as health, education, social security, water supply and sanitation) both the level and focus of the spending are important. The more government spends on basic social services the more poor people are likely to benefit. Within that, particular types of spending are also more beneficial. A focus on primary and preventive health care delivered a strong public health system, and a focus on primary and secondary education have been found to yield high private and social returns. Policies that focus on labour intensive technologies, increasing access to credit, extension services and creating an appropriate regulatory framework for encouraging small, medium and micro-enterprises are important.

Pro-poor policy thus extends beyond the maxim of 'getting institutions right' through the reform of public administration and should encompass strategic actions that guide market forces. The implication is that the policy framework for the reduction of poverty and inequality in South Africa has to take into account the complementarity that exists between different kinds of assets and the nature of the markets in which they operate. In other words, the implementation of such policy requires that consideration be given to the relationship between the role of government, the operation of markets and the distribution of the benefits of growth.

Despite the success in terms of delivering connections, due to privatisation and the impact of cost recovery policies, services may well be the 'Weakest Link' in South Africa's poverty reduction strategy. In this respect at least, the credibility accorded by the South African government to the market as the instrument of regulation appears to have been misplaced resulting in disconnections, indebtedness and further hardship. For this reason, these policies have been described as representing a neo-liberal agenda and have been robustly attacked as being fundamentally poor unfriendly while benefiting big business (Bond, 2000).

To deal with these dynamics, rather than separating policies supporting the asset poor from those for the asset rich, stronger action is needed to address the market 'failures' that shape the adverse relationships. Redistributive policies should form part of

microeconomic strategy. Recent measures to increase the resources available for land reform, the access to finance for poorly resourced individuals and enterprises and access to quality education are welcome steps in this regard. However these need to be matched with improvements in the capacity of the state both to deliver the relevant services and to monitor progress in delivery. In addition to this, greater clarity must be achieved in the aims of crucial redistributive policies like education and land reform, the former dogged by problems of quality and exclusion, the latter a distressing failure in terms of the pace of redistribution.

The tendency to load policy goals with excessively ambitious targets needs to be curbed as must the tendency to formulate potentially misleading conceptualisations of how the South African economy functions. Fewer measures, fewer ambitious theories, and more precisely conceived and designed policies tailored to the country's capabilities ought to be the order of the day. Finally, the ability of the official statistics gatherers to collect and analyse data on development needs very urgently to be augmented. This includes basic information on the measurement of money-metric poverty using instruments such as those reported earlier, as well the collection of social indicators, employment in the informal economy and the participation in small scale or subsistence agriculture.

8.4 LAST WORD

While there is some gain to be made from identifying the constraints faced by those that are poor in the manner adopted by this thesis, better measurement and targeting will not necessarily translate in policy and action. As with underdevelopment, poverty is often not the result of neglect or oversight, but is rather the result of deliberate action of those that are not poor as they seek to further improve their position. The impact of these actions on the poor may often be unintended or unseen, although not always. The consequence is that poverty reduction is not necessarily the outcome of win-win game theory, and may require sacrifice on the part of the non-poor. This will not be easily given in most cases.

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1 APPENDIX ONE: KIDS 1998 AND OHS 1998

Unless refreshed, all panel data are no longer representative of the population from which they are drawn in subsequent waves of data collection. This is also the case with KIDS, although in 2004 data were collected from 'next generation' households. This appendix compares the KIDS 1998 wave with the OHS 1998 in order to illustrate some of the differences that had begun to emerge at the mid-point of KIDS data collection.

1.1 Demographic Profile

In terms of population, KwaZulu-Natal is South Africa's largest province and contained 8 417 021 people in 1996 increasing to 9 426 017 in 2001 (Stats SA, 1998; Stats SA, 2003). This amounts to about 20.7 percent of South Africa's population in 1998 increasing to 21 percent in 2001. It is relatively urban (46 percent) compared to provinces such as the Eastern Cape (33 percent) and Limpopo Province (12 percent) and more in line with South Africa as a whole (54 percent). It is ethnically diverse: 83 percent of the population are African, nine percent Indian, six percent white, and 1.4 percent coloured (Stats SA, 2001).

Age and sex pyramids usefully depict demographic profiles of the province and Figure 1 shows pyramids from the 1998 OHS data.

Figure 1: Age/Sex Pyramid
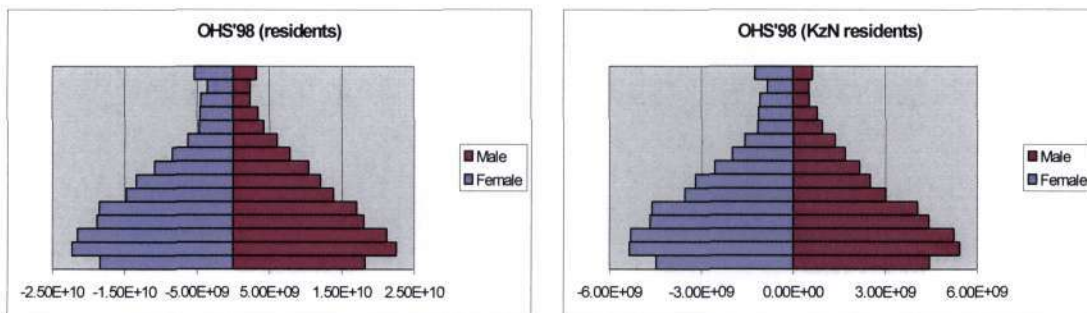
Source: OHS: 1998

The data from the OHS '98 shows a comparatively youthful age structure for the African and Indian population in South Africa with a noticeably tapering base. The longer life expectancy of women is also evident. This can be compared to Figure 2 that shows the age/sex pyramids in 5-year age cohorts for both years of the KIDS sample and for the total and resident groups.

Figure 2: Age/Sex Pyramid KIDS
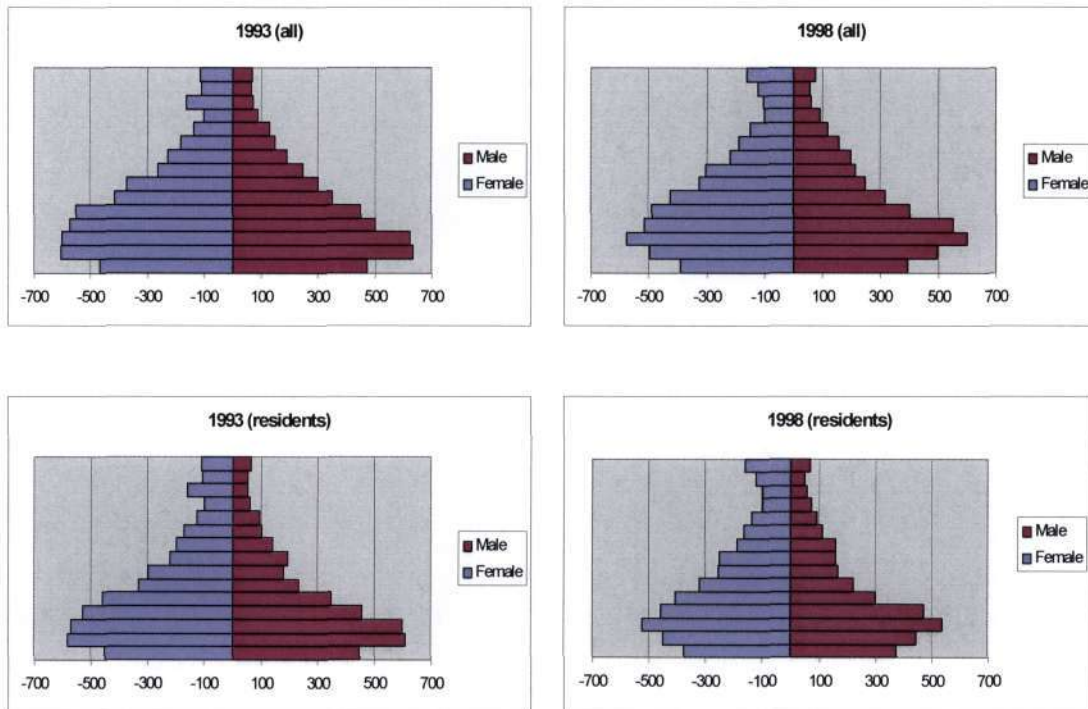
Source: KIDS 1993/1998

Although the age structure for the sample population is also youthful, the largest cohorts shift from being in the 5-9 year cohort in 1993 to the 10-14 year cohort in 1998. The pyramids do reveal the same tapering base confirming observations of declining fertility rates in South Africa. In both 1993 and 1998 the migrant male population is clearly shown, as is the longer life expectancy of women.

Table 1 provides further information on the demographic profile of KwaZulu-Natal using the KIDS 1993 and 1998 data and the OHS'98 for comparison.

Table 1: Demographic Profile of Household Members (1993/1998)

Gender	PSLSD ('93)		KIDS ('98)		OHS'98 KZN	OHS'98
	All members	Resident only	All members	Resident only	Resident only	Resident only
Masculinity Ratio	0.90	0.83	0.87	0.83	0.88	0.93
Demo. Dep. Ratio (<16, > 63)	0.77	0.90	0.73	0.84	0.79	0.78
% < 20 yrs	48.5	52.5	47.0	49.8	48.9	47.5
% o > 59 yrs	6.5	6.9	6.8	7.6	6.0	6.3
Valid N	9246	8087	8547	7305	12665	66191

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In 1993, the masculinity ratio of all members was 0.9 with women making up 53 percent of all individuals in the surveyed households. When residents only are included, the masculinity ratio declines to 0.83 indicating that more migrants tend to be male. In 1998, the masculinity ratio of all members had declined slightly to 0.87 although the ratio for all members remains unchanged. This suggests that returning male migrants has offset deaths among older resident males. By 1998, masculinity ratios have declined as men have died at younger ages, dependency ratios have also declined as children and potential mothers have aged and the age/sex pyramid shows a maturing population.

Turning to the demographic dependency ratio (the ratio of those not in the economically active age groups to those that are), the ratio for all members declined from 0.77 in 1993 to 0.73 in 1998, with a more pronounced change for the resident members. Since this decline is also reflected by the OHS'98 data, this may reflect more than simply the ageing of the households in the KIDS sample, and points to a more general decline due to falling fertility rates. As would be expected, the percentage of household members younger than 20 years declined between the two surveys, while the percentage 60 years and older increased. This trend was more pronounced among the resident household members although, once again, this appears to have been a national trend.

While there is some disagreement about the usefulness of the concept of household headship for South African households, in many studies headship has been found to correspond with differences in well-being, household structure, and household livelihood and asset accumulation strategies.[1] As already indicated, in the 1993 wave of KIDS, respondents were asked to self-identify a *de jure* household head and then to relate all household members to this reference person. For this reason, this demographic overview of the KIDS households will include an examination of the characteristics of the household head. Table 2 provides this information for 1993 and 1998 and also include data from OHS'98.

Table 2: Age/Sex Profile of Household Heads (1993/1998)

	PSLSD ('93)	KIDS ('98)	OHS'98 (KZN)	OHS'98
% de jure Female	31.0	39.8	41.7	39.1
Mean Age	49.8	53.0	46.5	45.7
Median Age	49	52	45	43
n=	1237	1031	2439	14564

Of the 1354 households for which the data is available, 31 percent had a *de jure* female head, while 69 percent had a *de jure* male head. The proportion of female headed households increased noticeably to almost 40 percent in 1998, partly as a result of women replacing deceased male heads, although the OHS'98 data suggests that this may be a national trend in which women are increasing assuming more control over households.[2]

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[1]/ See Budlender (1999) and Posel (2001) for examples of this discussion.

[2]/ Women had replaced 78 percent of male heads who died between 1993 and 1998 and 73 percent of those male heads who had been replaced but who were still alive. Just under half of the replacements were the spouse of the former head (46 percent), almost all of whom were women, while 35 percent of these replacements were the child of the former head, with 22 percent of these replacements being women.

Not depicted in this table is a further breakdown into households that are effectively headed by women (*de facto* headship) when the male head is absent for more than 15 days out of each month. In 1993 15 percent of households had a *de facto* female head (one fifth of the *de jure* male headed households) while by 1998 this had fallen to 10 percent of the sample or one sixth of the *de jure* male headed households. For 39 percent of the *de facto* female headed households in 1993, the male head had become resident by 1998, while for 19 percent, the *de facto* female head had assumed *de jure* headship.

Turning to the age structure, the KIDS data show that in 1993, the mean age of the head was just less than 50 years, as was the median showing that there had been some replacement of heads during the five year interval. This had increased to a mean of 53 and median of 52 in 1998. This conceals important gender differences with male headed households being significantly younger than female headed households in both periods[3]. In both periods, the youngest head was 19 years, while the oldest was said to be over 100 years of age. Almost 11 percent of household heads in 1993 had died, with women being slightly over-represented (34 percent of those heads who had died). Of those who were nominated as the head in 1993, and who were still alive in 1998, almost all (93 percent) were again nominated as the head. As would be expected, the mean and median ages of heads in the OHS'98 are lower than in the 1998 wave of the KIDS sample. Finally in terms of residence, 88.7 percent of heads were resident in 1993 that increased slightly to 89 percent in 1998.

1.2 Household Size and Structure

In order to qualify as at least a non-resident household member in the 1993 PSLDS, individuals must have shared food from a common source when they are in the household, contribute to or share in a common resource pool, and must have spent at least 15 nights out of the past 12 months in the homestead. If they spent at least 15 days of the last 30 days in the household, then they were further categorised as "resident household members." In general, domestic help and lodgers usually would not have qualified as household members since they usually do not eat out of a common pot with other household members and they do not share resources with other household members. This definition was also adopted in the 1998 wave, although additional information was collected concerning those who not resident members, and data was also gathered on 2118 individuals who although not household members, were identified as having financial ties to the household. Similar definitions have been adopted by Stats SA for the OHS.

As can be seen in Table 3 household size has increased on average, largely due to births exceeding deaths during the study period.

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[3] In 1993, male headed households had a median age of 45 years compared to female headed households with a median age of 58 years. In 1998, the median age of male heads had risen to 49 years while that of the female heads remained almost constant at 57 years.

Table 3: Average household size (1993/1998)

	PSLSD ('93)		KIDS ('98)		OHS'98 (KZN)		OHS'98	
	All members	Resident only	All members	Resident only	All members	Resident only	All members	Resident only[4]
Mean	6.8	6.0	7.2	6.2	5.5	5.2	4.9	4.5
Median	6	5	6	5	5	5	4	4
Std Dev.	3.987	3.465	4.357	3.785	3.279	3.057	2.991	2.797
n=	1354	1354	1139	1139	2442	2442	14621	14621

In 1993, the mean total household size was 7.4 (resident and non-resident members), a figure that decreases to 6.5 members when looking specifically at those that were resident in the household 15 days in the past month. In 1998, mean household size for both groups was higher at 7.7 for all household members, and 6.5 for resident members only[5]. In both years, the sample reported a larger household size than the OHS'98, where the average size of African and Indian rural households was 5.2.[6]

The median household size was six for all household members and five for resident members in both 1993 and 1998. The largest household comprised 31 individuals in 1993 compared to 34 in 1998, while the largest household had 24 resident members in 1993 and 27 members in 1998. In general, households in KwaZulu-Natal appear larger than the national average, and the households in the KIDS sample larger than those surveyed in the OHS'98 in KwaZulu-Natal. Overall, 805 children less than five years of age had been added to the sampled households while 344 household members recorded in 1993 were no longer alive in 1998, yielding a crude death rate of 4 percent. While it might be expected that this group would be concentrated in the older age groups, just over 10 percent were more than 60 years of age and the average age of those who had died was only 35 years with 25 percent being less than 25 years when they died. Possible explanations for this might be deaths due to AIDS and violence.

The resident size of the households does not differ to any significant extent when examining the gender of the *de jure* household head in either year, nor in the OHS'98, although, in 1998, the median total size of female headed households was larger than male headed households at seven members.

Using the relationship to the household head, the sampled households have been categorised as being nuclear (one or both parents plus children), three generation (one or

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[4] It is possible that differences may arise due to the definition of residence used in KIDS and the OHS. Residents are defined as those resident 15 days of the previous month in KIDS while the OHS uses those who are resident four days of the previous week. The definition of migrants in the OHS may be problematic since respondents were asked information about those "who may be away for *a month or more* because they are migrant *workers*." The unemployed, and those absent for less than a month, but more than one day of the previous week are missed from this definition, and it is not surprising that the mean household size of all members of households in the OHS is little different from those who are considered to be residents. Future tables will therefore only provide data on resident members.

[5] Standard deviations are 3.98 and 4.45 for all members in 1993 and 1998 respectively, and 3.46 and 3.83 for resident members in 1994 and 1998.

[6] All further comparisons with the OHS 1998 are to the sub-sample of 14621 African and Indian households that were surveyed nationally.

more grandparents, one or both parents and children) and extended (all other combinations). In 1993, 48 percent of the households were nuclear families with a mean size of 4.3 members, while 31 percent contained three generations and 21 percent were extended, with a mean size of 8.9 and 8.5 members respectively. The gender of the household head does have an impact, with 23 percent of female-headed households being nuclear compared to 52 percent of male-headed households.[7] The situation was markedly different in 1998, with only 30 percent of the households being nuclear, 36 percent being three generations and 33 percent being extended. Furthermore, the impact of the gender of the household head is more pronounced with just 13 percent of female headed households being nuclear compared to 38 percent of male headed households.[8]

1.3 Educational Attainment

The general pattern in terms of education is of an improvement in attainment over all age groups, a trend that seems both to do with the ageing of the household members, and a national improvement in educational attainment. More children are attending school, adolescents are achieving higher levels and more adults have higher levels of educational attainment, and the gap between men and women in terms of educational attainment has closed

Just over 91 percent of children of primary school attending age (6-13 years) were enrolled in school in 1993, increasing to 93 percent in 1998 (according to the OHS'98 the figure was 86.7 percent nationally) with similar levels of enrolment for boys and for girls for both years. More importantly, while 55 percent of those in this age group who were not at school were six or seven years in 1993, this had risen to 73 percent in 1998 suggesting that more children are starting school as soon as they are eligible to do so. Furthermore, in 1993 16.5 percent of children in primary school attending age groups had not completed any years of schooling with just over half (51 percent) having completed only Sub-A or Sub-B (Grades 1 and 2). There seems to have been some improvement in enrolment by 1998 with 14 percent of this age group having completed no years of education and 48 percent having completed only Sub-A or Sub-B.

On average, youth aged 14 to 19 years of age in 1993 had received 5.3 years of schooling which had increased to six years of schooling in 1998 (nationally 7.5 years in the OHS'98), with girls having received marginally more schooling than boys had in both years. In 1993, 82 percent of youth in this age group were still at school rising to 87 percent in 1998 (85 percent nationally), with no statistical difference in the enrolment of boys and girls in both years. Just less than 2.5 percent had received no education at all in 1993, declining to 2 percent in 1998. The average age of those at school was 13.5 years, with the oldest person at school reported to be 33 years of age although 93 percent of school goers were younger than 21 years. Of those between 16 and 25 years of age, 32 percent in 1993 were in the expected Standards 9, 10 or in tertiary education rising to 43 percent in 1998. This suggests that many adolescents experience grade slippage. Studies on education attainment have observed that South Africa follows a Latin American pattern of high enrolment rates with high drop-out and repeat rates (Hunter and May,

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[7] Pearson chi^2(2) = 99.645, Pr = 0.000
[8] Pearson chi^2(2) = 79.7897 Pr = 0.000

2002). Finally, while most school-goers were resident members of the household in 1993 (less than 1 percent were categorised as migrants) 11 percent were categorised as migrants in 1998.

Turning to the adult population, as Table 4 shows, in the KIDS sample 17 percent of those older than 20 years in 1993 had received no education falling to 13 percent by 1998, while the mean years of schooling was 5.1 years in 1993 rising to 5.8 years in 1998. Nationally, the proportion was still around 17 percent who had no schooling, but with the mean was 6.9 years of schooling. Just more than 0.7 percent had completed a university degree in both years, while 17 percent had completed Standard 10/Grade 12 or more in 1993 improving to 23 percent in 1998.

Table 4: Educational Attainment (Adults 20 years of age and older: 1993/1998)

Educational Attainment	PSLSD ('93)	KIDS ('98)	OHS'98 (KZN)	OHS'98
None	17.2	13.4	16.7	17.3
Grade 1 – 3	19.9	17.5	6.0	4.7
Grade 4 – 7	23.8	22.0	24.3	23.6
Grade 8-11	22.8	23.9	33.9	35.0
Grade 12	13.0	18.2	16.1	15.6
Tertiary	3.4	4.9	3.0	3.8
Mean yrs education	5.1	5.8	7.1	6.4
Median yrs education	5	6	8	8
n=	4762	4523	6556	34047

In 1993, 5 percent of adults were still in school or were students, increasing to 9 percent in 1998. In both periods, adult women received less schooling than adult men did at 4.9 years (5.6 years in 1998) as compared to 5.3 years (6 years in 1998), and in both years there is a statistical difference between the educational attainment of men and women. This is largely due to lower levels of educational attainment among older women as can be seen in Figure 3 which uses the 1993 and 1998 KIDS data and shows that the gap does appear to have closed in the younger age groups.[9]

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[9]/ In 1993, Pearson chi^2(5) = 12.9212 Pr = 0.024. In 1998, Pearson chi^2(5) = 15.9690 Pr = 0.007

Figure 3: Educational Attainment of Adults by Sex (1993/1998)
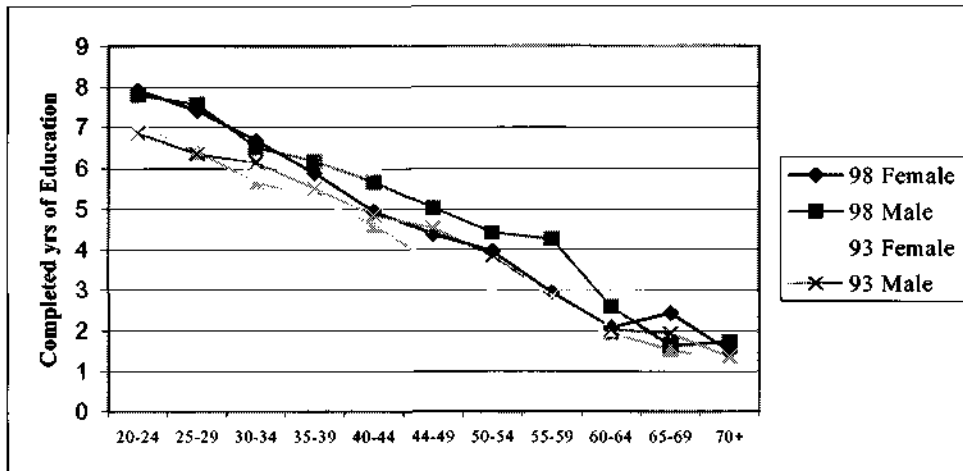
Source: KIDS; *n=4523*

Finally, in both years, heads of the household had lower levels of education than other adult family members did at 3.8 years in 1993 (4.3 years in 1998) compared to 5.6 years (6.6 years in 1998) for other household members.

1.4 Main Activity Status

This section examines the main activities of household members in the PSLDS, KIDS and OHS'98. However, in the 1993 wave of the KIDS study, summary activity status was not assessed and although all household members were supposed to have been asked questions concerning their main activities, it is likely that the different format of the question may have led to different responses in some instances. Nonetheless, Table 5 provides a breakdown of the economic status for sampled individuals older than 15 years of age.

Table 5: Main Activity for Individuals Aged 16 Years and Older (1993/1998)

Activity Category	PSLSD ('93)	KIDS ('98)	OHS'98 (KZN)[10]	OHS'98
Regular employment	23.0	24.5	22.0	24.1
Casual employment	3.2	5.7	4.1	3.4
Self employment (incl. Agriculture)	4.7	3.0	3.6	3.3
Housework	14.0	7.1	10.4	8.7
Unemployed (broad definition)	24.0	27.2	31.0	29.3
Scholar/student	18.6	21.0	18.2	20.0
Retired	9.6	9.7	7.7	8.2
Other	1.4	1.2	0.2	0.3
Disabled	1.6	0.5	2.9	2.5
n=	4543	5370	7660	39803

The table reveals that, in 1993, 31 percent of the sample 16 years and older are engaged in some form of employment rising to 33 percent in 1998; the majority of this group being formally employed with a small contingent of casually- and self-employed. This does not imply that unemployment had declined in the period, and in fact, using a broad definition of unemployment, a slight increase occurred from 24 percent in 1993 to 27 percent in 1998. Looking only at those in the economically active age groups (16-64 years), at 29.5 percent this is a little less than the national average of 33.9 percent reported by official statistical sources (Stats SA, 1998).

Most other categories remained consistent, with a larger percentage of students in 1998, fewer people defined as engaged in housework or as disabled. While the former trend reflects the changing life cycle of the household, the latter shift is mostly likely attributable to the way in which these questions were posed. A comparison of the two periods reveals that considerable mobility between these categories. Just over 61 percent of those in formal employment in 1993 were still in this category in 1998 while 13 percent were unemployed, 8 percent were in casual employment and 7 percent were described as retired. Forty five percent of those who were unemployed in 1993 were again categorised as unemployed in 1998, 23 percent were in regular employment and 11 percent were in casual or self-employment. Finally, an economic dependency ratio has declined, from 2.1 non-employed adults for each worker in 1993 to 1.9 in 1998.

A substantially higher percentage of male household members are employed in regular jobs (32 percent in 1993 and 1998) relative to female household members (17 and 18 percent in 1993 and 1998 respectively) and there is a significant difference between the activity profile of men and that of women.[11] Although broad definition unemployment

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[10]/ It should be noted that there are many definitional differences between the OHS and the KIDS/PSLSD surveys. For example, the recall period is 7 days in the OHS compared to one month in the other studies, while disability is defined as 'permanently unable to work' in the OHS.

[11]/ Pearson chi^2(8) = 619.8236, Pr = 0.000 ; Pearson's chi^2(9) = 430.4166, Pr = 0.000 in 1993 and 1998 respectively.

patterns differ for men and women in 1993 (22 percent of women, 27 percent of men), by 1998 a similar proportion of men and women were defined as being unemployed. Looking at age specific unemployment rates, unemployment is highest for the 20-24 and 25-29 year age groups in 1993 at 37 and 38 percent respectively. In 1998, the unemployment rates for these age groups reach 40 and 46 percent respectively, while the 30-34 year group has an unemployment rate of 38 percent and the percentage of 15-19 year olds who are scholars or students increases from 75 to 84 percent.

1.5 Migration Patterns

Despite the complete removal of all laws on settlement in urban areas, temporary migration remains a feature of the sampled households with the percentage of households with migrants remaining constant between 1993 and 1998 and a slight increase in the percentage of individuals who are migrants. Largely this is due to an increase in the proportion of women who are migrating.

Table 6 reveals that 12.5 percent of individuals in the 1993 sample were non-resident household members or migrants, increasing slightly to 14.5 percent of the 1998 sample. The percentage of households with migrants remains the same in the two periods at just over 40 percent. According to the OHS 1997, 37.6 percent of rural African households have at least one migrant worker.

Table 6: Residency status (1993/1998) [12]

Type of Household	PSLSD ('93)	KIDS ('98)
% migrants (absent more than 15 days from last month)	12.5	14.5
% households with a migrant	40.8	40.1
n=	9246	8547

Proportionally more men are migrants than women, respectively at 16 and 10 percent in 1993 although the difference narrowed with migrants remaining 16 percent of men, and increasing to 12 percent of women. As a result, women comprised 40 percent of all migrants in 1993 increasing to 46 percent in 1998.

In terms of age, in both years migration was most frequent in the 25-34 year age group in which some 25-27 percent of the age group were resident less than 15 days out of the previous 30 days.

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[12]/ Due to the differences in the definition of migration, the OHS'98 data is not reported.

2 APPENDIX TWO: POVERTY MEASUREMENT TECHNICALITIES

2.1 Estimation and Calculation of Income, Expenditure and Consumption

Any analysis of changes in money-metric well-being is confronted with the choice of indicator, in this case between the reported incomes and expenditure. An important change made in the questionnaire design was to adjust the recall period for food expenditure. In 1993 this could be reported for either weekly or monthly purchases, for 1998 (and 2004) for monthly *consumption* only. There are two potential problems with this: a longer recall period is typically associated with lower reported expenditure (Deaton and Grosh, 2000) and consumption may be lower than expenditure; bulk or even lumpy purchases may mean that expenditure stores were recorded or missed in 1993. In the first case the adjustment would tend to overstate the change in consumption poverty between 1993 and 1998, in the second, an error in either direction is possible. Overall, the adjustment will provide a more accurate reflection of well-being in 1998 and of trend between 1998 and 2004.

An additional area that is of critical importance relates to the manner in which the income data was originally calculated in the PSLSD. Two main areas of concern were isolated:

- The recording of income from pensions and other forms of social welfare;

- The imputation of rent.

With respect to the first of these, four types of problems showed up in the 1993 data:

- In a large number of cases white and African social old age pensions were higher than the official maximum;

- A significant number of Africans were far too young to receive social old age pensions;

- Respondents reported other grants from governments, when they were too old to receive these, and should have been receiving social pensions;

- In a number of cases it was reported that social pensions were received, but the amounts received were missing.

While the latter three problems may well have been the result of an enumerator error, the first problem can be traced to the questionnaire design. At the time of the original PSLSD study in August to November 1993, in many areas, Africans were still receiving on a bi-monthly basis. However, the questionnaire asked for the sum received in the previous month, resulting in enumerators filling in a bi-monthly amount. While this problem could have been off-set if enumerators had also entered a zero when a pension payment had been made in the month of the interview, examination of the data suggests that there had been an asymmetrical error towards bimonthly amounts. For the purposes of this thesis, it was decided to make no additional assumptions to correct errors 2 to 4, but state pensions which were in excess of the maximum paid were divided by two.

Turning to the problems relating to the imputation of rents, two problems were identified:

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- Only those houses, against which a bond or a loan had been taken up, were included in the calculation of the imputed rent, thus skipping four fifths of the houses owned by the occupants;

- There was some contention as to whether rent should be imputed on the basis of a 6.5 percent return rather than 13 percent as originally done;

Given these problems, it was decided to exclude imputed rents from the total household income for all three years. This will have the effect of understating the incomes of households in non-urban and informal urban settlements who are less likely to have been paying a rent or a mortgage.

To illustrate the impact of this, the final descriptive statistics for household income and expenditure in 1993 and 1998 is shown along with the food expenditure and the incomes without adjustments.[13]

Table 7: Descriptive Statistics for Income and Expenditure

	Mean	SE of Mean	Median	Std. Dev	Skew-ness
Food Expenditure 1993	1044.41	19.868	923.99	637.624	3.040
Total Expenditure 1993	2262.31	53.095	1871.69	1704.010	2.997
Total Income 1993	2028.37	72.575	1220.80	2316.726	3.022
Income w'out rent 1993 & OAP corrected	1901.80	68.270	1166.42	2179.304	3.098
Food Expenditure 1998	666.63	13.196	552.00	423.723	2.044
Total Expenditure 1998	2161.97	70.296	1483.67	2257.152	4.168
Total Income 1998	2574.48	95.538	1470.00	3067.661	3.845
Income w'out rent 1998	1044.41	19.868	923.99	637.624	3.040

Several things are apparent from this table. Firstly, mean and median food expenditure shows a steep decline between the two waves, depressing the expenditure total for 1998. However, only the means for food expenditure and for uncorrected income are in fact statistically different owing to the distribution of the data in all years. Indeed, none of these key variables show a normal distribution, confirmed by the Shapiro-Wilk and Kolmogorov-Smirnov tests of normality.

As a second exploration Table 8 shows Pearson's correlation coefficients for these variables.

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[13]/ In the course of this analysis, one more outlier was identified. Case 620140 reported respectively a high and very high expenditure and income, a trend also reported in 2004. Although the data for this household seems entirely valid, it has an income six times that of the next wealthiest household and thus distorts measures of distribution. It has been removed only from this table.

Table 8: Pearson Correlation Coefficients for Income and Expenditure

	Food93	Exp 93	Inc 93	Food 98	Exp 98	Inc 98
Food 93	1.000	0.527	0.331	0.292	0.246	0.187
Exp 93		1.000	0.715	0.455	0.742	0.331
Inc 93			1.000	0.413	0.696	0.400
Food 98				1.000	0.693	0.347
Exp 98					1.000	0.403
Inc 98						1.000

Unsurprising all of these coefficients are significant at the 99 percent level. Noteworthy though, are the relatively high correlations found between expenditure in 1993 and income in 1993, as well as with expenditure in 1998. By comparison, the relatively low coefficient between income in 1993 and income in 1998, and expenditure in 1998 and income in 1998 is of concern.

These findings support the views of many analysts of poverty data who agree that consumption is a more reliable and consistent indicator due to fluctuations in income over time and the tendency to under-report income (Deaton, 1997, Lipton and Ravallion, 1997). In the case of KIDS this problem will have been exacerbated by the change in the questionnaire just noted. For these reasons, household monthly expenditure is the measure of well-being that is used in this thesis, although the deficiencies of this approach should be acknowledged and which include problems associated with any money-metric conceptualisation of poverty, and issues of intra-household distribution. Nonetheless, all poverty measures have been calculated using expenditure data (consumption for food items in the case of 1998) as a proxy for household income, further reducing the potential for error.

2.2 Constructing a Food Basket Poverty Line in South Africa

In the previous work using KIDS that has been cited in this thesis, the Household Subsistence Level (HSL) calculated by the Institute for Planning Research (IPR) was used as a poverty threshold (IPR, 1993; Potgieter, 1993). This measure uses a standard approach whereby a hypothetical minimum shopping basket is identified which will allow a minimum food energy intake to be satisfied. This is then valued in different areas, weighted by the size of the household, thereby allowing the calculation of a minimum household income that would permit the purchase of this shopping basket. The HSL uses a second line, which is taken to include more that this minimum basket.

Close inspection of the methodology used in the calculation of the HSL revealed a number of critical problems. Firstly, as noted earlier, the line is based upon costing surveys of basic food ration scales. The scales that are used by the IPR are based on 1975 estimates issued by the Department of National Health, although the Department revised these in 1982 and 1993. The costing surveys are carried out on a bi-annual basis in the major urban centres of South Africa. Even in the case of the 'rural' HSL, the surveys are undertaken in nearby smaller towns and thus do not necessarily reflect the higher prices that are found in most rural areas. Furthermore, the rural HSL was calculated as a part of a consultant's report to the Rural Foundation which was largely concerned with minimum

wages for farm workers. As such, most transport costs are not included in the HSL, and education costs are not considered at all. At this stage these problems can only be noted and it must emphasised that the use of the HSL provides no more that a convenient point of departure for the analysis of poverty in South Africa.

To calculate a head-count measure of poor households, average adjusted household expenditure has been compared to a minimum income level or poverty line. Income may be measured either in terms of the stream of income flowing into the household, or by the stream of expenditure flowing out of the household. Given some uncertainty over data handling procedures for income, and the inherent advantages of measuring expenditure, the analysis in this thesis has opted for an expenditure based poverty gap ratio. As such, the household's economic well-being has been estimated using its reported expenditure which includes basic commodities such as food and energy, as well as on less frequent purchases such as consumer durables, and on investments such as expenditure on education and savings.

Poverty lines are sometimes expressed in per-household or per-capita terms. The first approach implies that there are no economies of scale to be gained in larger families, while the second implies that adults and children have the same nutritional and non-food requirements. Although both are clearly unrealistic assumptions, resolving these issues is not a straight forward process and monetary measures of well-being are usually standardized or scaled in order to account for the fact that large households need more income than do small households to reach a similar level of well-being, that adults need more food and other commodities than do children, and that there are some economies of scale in household (re)production.

A variety of methodologies that vary in their technical and information requirements are available to deal with both of the problems. Thus while children may consume less than adults, this rapidly changes as they age. In addition, as Lanjouw (2001: 14) points out, despite a considerable literature there is no agreed approach to determine what is a reasonable adjustment for equivalence. The first concern can be solved by calculating adult equivalence scales based on recommended dietary allowances for men and women in difference age groups. Thus individuals in a household can be expressed in equivalent terms to a reference person, conventionally an adult female, and the food basket or the household size can be re-weighted accordingly setting either household specific poverty thresholds or an equivalent poverty threshold. A recent South African Medical Research Council report makes use of this methodology to estimate the calorie availability for South African households (Rose *et al.*, 2002).

The consumption-based, money-metric poverty line that has been chosen for this thesis is based on the methodology adopted for the Household Subsistence Level (HSL) that has been calculated in South Africa since the early 1980s.[14] The HSL is an expenditure line and represents the minimum level of expenditure that would be required to allow a family to satisfy its basic needs. The HSL is built up based on fixed household subsistence costs

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[14] As discussed in Chapter Three, analysis based on a poverty line is at best indicative of levels of poverty in South Africa, and the level of the line itself is perhaps less interesting than the composition of those classified as being below it. To some extent then, the choice of a poverty line is largely an issue of expediency in terms of the type of analysis that is to be undertaken.

(to cover shelter, fuel and transport), as well as food and basic clothing costs calibrated to individual resident household members' age and sex and based on caloric requirements for men, women and children in different age groups. The advantage of the HSL is that two separate poverty lines have been specified for 1993: one for urban areas, where the minimum level of income required by a family of two adults and three children is specified as R825.10 per month; the other HSL is for rural areas, where minimum income for a family of two adults and four children is taken to be R723.05 per month (IPR, 1993, Potgieter, 1993; 1995). The 1998 HSL was calculated only for urban households (Potgieter, 1998). Rural cost parameters for 1998 were derived by appropriately inflating the 1993 rural cost parameters.

Recalculating Potgieter's expenditure estimates for adults and children broken down by sex yields the following table showing equivalence scales for 1993 and 1998, and following Rose et al., (2002), these have been expressed as urban adult female equivalents.

Table 9: Equivalence Scales: 1993 & 1998

1998	Adult	11-15	7-10	5-6	0-4
U Male	1.14	0.96	0.78	0.66	0.51
U Female					
(R172,36 p/m)	1.00	0.94	0.78	0.66	0.51
NU Male	0.95	0.85	0.74	0.62	0.52
NU Female	0.85	0.80	0.74	0.62	0.52
1993	Adult	11-15	7-10	5-6	0-4
U Male	1.16	1.01	0.81	0.71	0.56
U Female					
(R118.85 p/m)	1.00	0.97	0.81	0.71	0.56
NU Male	0.99	0.88	0.77	0.65	0.54
NU Female	0.88	0.79	0.77	0.65	0.54

Using these HSL cost parameters, a specific HSL was calculated for each household based on its demographic and residency structure. Household members who were not resident for 15 days out of the previous month were excluded from the HSL, while members whose age was not known, but whose gender was, were assumed to be adults.

Household economies of scale are less easily resolved, but are no less important (Lanjouw and Ravallion, 1997). A common practice has been to adjust household size by some parameter, typically 0.9 which allows for a rather modest gain from sharing resources. Studies in South Africa that estimate the fixed costs for low income households suggest that these gains are higher and that a parameter closer to 0.7 may be more appropriate (Potgieter, 1993). Similar orders of magnitude are supported by international studies. Potgieter's fixed cost per household translates into an economies of scale parameter of between 0.86 and 0.90 depending on the year in question and the mid-point has been adopted for this thesis.

Having established poverty lines for 1993 and 1998 expressed as per urban adult female equivalents, adjusted for an economies of scale parameter of 0.88, poor households in

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urban and rural areas respectively are then identified as all households whose total expenditure falls short of the poverty threshold estimated to be required for that household for that year. Households whose expenditures fall below their HSL were deemed poor. Because subsistence food costs constitute approximately 50 percent of the HSL, households were deemed as indigent if their expenditures are less than 50 percent of their HSL.

The total number of households in poverty represents the sum of the urban poor plus the rural poor. Using the household as the basic unit of analysis, the number of poor women and men is estimated as the sum of all women and men who live in households that are classified as poor, in other words where average monthly expenditure per urban female adult equivalent was less than R172.36 in 1998, and R118.89 per urban female adult equivalent in 1993. In addition, a fixed cost comprising housing and transport expenditure has been added to each household. On average, this equalled R55.13 per urban female adult equivalent in 1993 and R79.83 per urban female adult equivalent in 1998. Without these adjustments for equivalence scales and for economies of scale, the *per capita* poverty threshold in 1993 would be R348.69 and R325.41 in urban and non-urban areas respectively, and in 1998: R559.85 and R461.00 in urban and non-urban areas.

In order to deal with price inflation, in most of the work in which I have been involved, household expenditure data for 1993 has been adjusted to 1998 prices using community level prices collected from local shops during the two waves of KIDS. These have been fixed weight, Lespeyeres type indices where (normalized) expenditure shares were calculated using the 1993 data.[15] Two indices were created using the variable *Metro* in the PSLSD data: one for urban and metropolitan areas and the second for non-urban areas. This gave an index of 143.31 for urban areas and 120.79 for the non-urban areas. These indices are below the price indices implicit in the HSL which are 145.03 for urban women and 139.73 for rural women, as well as the national CPIX (147.38) produced by Stats SA. Given that it is unlikely that rural price increases would be this much below the national average, in this thesis it has been decided to use the national CPIX to adjust prices to 2000 amounts for both urban and non-urban areas.

2.3 Poverty Measurement

Having established an indicator, income, expenditure or consumption, and a poverty line, the next step is an instrument for the measurement of poverty. In keeping with the seminal axioms that Sen (1976) posited as fundamental requirements for a good absolute poverty measure,[16] the Foster-Greer-Thorbecke (FGT) or P-alpha class of poverty measures mentioned earlier have been widely adopted for poverty analysis (Foster, Greer and Thorbecke, 1984). The general equation for these measures is as follows:

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[15] The price index is based on a set of 12 basic commodities. For each commodity, prices were measured at the community level at both informal and formal shopping places (to the extent that both were available). A simple average of the formal and informal prices was used to create the index.

[16] Three are of particular relevance to this discussion. These are the focus axiom: the poverty measure can only depend on incomes of the poor; the monotonicity axiom: reduction in income of any poor individual must increase the poverty measure; and the transfer axiom : a transfer of income from a poor individual to a richer individual must increase the poverty measure.

$$P_\alpha = \frac{1}{n} \sum_{i=1}^{q} \left[\frac{z - y_i}{z} \right]^\alpha$$

Where q is the number of poor households, z is the poverty line which may be absolute or relative, y_i is the standard living indicator (*i.e.*, expenditure) of the ith household, and α is an 'aversion to poverty' parameter.

When $\alpha=0$, the headcount ratio (P^0) is produced, which is simply the proportion of the population for whom consumption is less than the poverty line, that is, the incidence of poverty. When $\alpha=1$, the poverty gap (P^1) is given, which shows the aggregate shortfall of the expenditure of poor households from the poverty line (the depth of poverty). Finally, the squared poverty gap (P^2) is attained when $\alpha=2$, and shows heightened sensitivity to the situation of the poorest households (a severity index). This thesis will make use of the FGT class of measures as just described when measuring poverty in South Africa and KwaZulu-Natal unless otherwise specified, although in line with common practice, the headcount ratio will be expressed as a percentage of the total population.

Useful recourse can also be made to the notion of poverty dominance. This analytical framework assesses whether the results of differing poverty lines are robust in that the poor are consistently identified and ranked whatever poverty line is used. A sensitivity analysis using a low, medium and high poverty line is used to test the ranking of whatever unit of analysis is used, which are then mapped onto the cumulative distribution function (CDF) of the indicator that is used. If the CDFs of the indicators for different groups do not intersect below the maximum possible poverty line, then one group can be definitively considered to be poorer than the other/s. Second order dominance testing can be used if the CDF's do intersect below the maximum possible poverty line with much the same result.[17]

2.4 Calculating Livestock Units

The livestock unit (LSU) is a standardized animal unit obtained by multiplying total number of animals with conversion factors that take into account "feed requirements" for the animal. Although several alternative factors are available, this thesis makes use of the Food and Agricultural Organisation's conversion factors for South Africa available at http://www.fao.org/es/ess/os/envi_indi/annex2.asp. The factors used are:

	Cattle	Sheep	Goats	Pigs	Horses	Chickens
LSU	0.7	0.1	0.1	0.2	0.8	0.01

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[17]/ Poverty dominance analysis has been usefully described by Atkinson (1987), Foster and Shorrocks, (1988) and Jenkins and Lambert (1997).

2.5 Measurement Error and Mobility[18]

As a number of authors have recognised, mobility measures are potentially biased upwards due to measurement errors in the underlying data. When expenditures are measured with errors (due to misreporting or coding error) the observed data has 'noise' added to it. Otherwise 'stable' households, that did not change their economic position, may thus appear to exhibit mobility (up or down). Estimates of mobility are thus potentially biased upward.

Glewwe (2005) proposes a methodology for uncovering the degree overall observed mobility is purely the spurious result of measurement error. Glewwe defines mobility in several ways but the focus of this thesis is on mobility measured by $m=1-\rho(y_t,y_{t-1})$ where y_t is income or expenditure at time t and $\rho(a,b)$ is the correlation between a and b. He shows that $\rho(y_t,y_{t-1})$ can be computed by $(\beta_1\beta_2)^{0.5}$ where β_1 is the OLS estimate of regressing y_t against y_{t-1} and β_2 is the corresponding estimate for a regression of y_{t-1} on y_t. In order to calculate this true mobility measue, we need unbiased estimates of β_1 and β_2. Glewwe proposes obtaining the needed unbiased estimates through an instrumental variable procedure in which variables which cause the true values of y_t and y_{t-1} are used as instruments for y_t and y_{t-1}. The intuition is that the fitted or predicted values of y_t and y_{t-1} will be purged of the confounding noise of measurement error. Using these fitted values as the basis for calculating β_1 and β_2 should thus permit us to get the needed unbiased estimate of the true degree of mobility. Following Glewwe, health-related measures at the household level have been used as instruments for household living standards for all three waves of KIDS. In particular, the instruments that are used (one at time) include the proportion of adult members of the household that were sick during the fifteen days prior to each survey and three anthropometric measures for children: height-for-age, weight-for-age and body mass index. Following Glewwe's method, measurement error in one or more of the waves is found to account for at least 14 percent, and could account for as much as 60%, of the observed mobility between 1993 and 1998 (but only as much as 4% between 1998 and 2004). Unfortunately, these estimates of the degree of mobility bias are robust to changes in the specification used to implement the Glewwe method. Nonetheless, Glewwe's methodology does not guarantee that the bias estimates fall in the sensible range between 0-100%. A number of our instruments gave nonsensical results (bias estimates outside of the 0-100%). However, the alternative estimates did consistently show that the bias was larger for the 1993 to 1998 sub-period. In future work, the KIDS team hope to build on Glewwe's contribution and derive more stable and reliable measures of the degree of mobility.

Efforts beyond the scope of this thesis are needed to better understand this difficult issue. Nonetheless, these issues do suggest that some of the observed mobility (especially in the first time-period) may be more spurious than real.

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[18]/ This is derived from Agüero et al (2007:8) in a section to which I contributed but was not a lead author.

3 APPENDIX THREE: DESCRIPTIVE STATISTICS

This Appendix provides means, medians and standard deviations of the variables used in the regression and cluster analyses presented in Chapters Six and Seven.

| | N | Minimum | Maximum | Mean | | Std. Dev |
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
93: Durables plus productive k in 2000 prices	802	321	4848319.80	19784.86	6284.652	177978.846
93: mean education of household members	847	0	17.00	6.69	0.109	3.180
98: Durables plus productive k in 2000 prices	857	22.86	4584795.89	37589.19	7713.234	225801.547
98: Mean education of household members	848	0	16.60	7.54	0.094	2.736
04: Durables plus productive k in 2000 prices	860	0.812	800918.72	29372.37	2336.261	68512.636
04: Mean education of household members	867	0	19.00	8.38	0.113	3.337
93: Present value unearned income 2000	814	0	312481.95	20633.04	964.538	27518.932
98: Present value unearned income 2000	814	0	137490.22	23506.22	855.836	24417.600
04: Present value unearned income 2000	861	0	297326.61	30071.13	1183.286	34720.939
93: Incidence of poverty	847	0	1.00	0.49	0.017	0.500
98: Incidence of poverty	867	0	1.00	0.43	0.017	0.495
04: Incidence of poverty	867	0	1.00	0.52	0.017	0.500
93: Household size	847	1	24.00	7.11	0.124	3.602
98: Household size	867	1	27.00	7.17	0.142	4.173
04: Household size	867	1	29.00	6.19	0.128	3.777
93: Total Monthly Exp in 2000 prices	847	164.7051	48908.94	2486.63	79.827	2323.231
98: Total Monthly Exp in 2000 prices	867	219.64651	34759.77	2434.52	82.715	2435.531
04: Total Monthly Exp in 2000 prices	867	156.716	70279.52	2860.07	127.455	3752.894
93: Standardised poverty measure	847	0.0485808	30.38	1.37	0.057	1.666
98: Standardised poverty measure	867	0.1348459	31.19	1.42	0.067	1.972
04: Standardised poverty measure	867	0.083332	35.77	2.06	0.108	3.191
93: Age of head	847	22	109.00	51.70	0.494	14.369
98: Age of head	867	19	100.00	54.82	0.489	14.412
04: Age of head	676	-4	98.00	54.42	0.716	18.606
93: Number of people < 20 years	867	0	22.00	4.24	0.097	2.862
98: Number of people < 20 years	867	0	22.00	4.58	0.108	3.173
04: Number of people < 20 years	867	0	16.00	3.20	0.093	2.742
93: Number of people < 20 years/hhsize	867	0	2.33	0.57	0.010	0.283
98: Number of people < 20 /hhsize	867	0	3.00	0.66	0.015	0.436
04: Number of people < 20 / hhsize	867	0	6.00	0.46	0.012	0.347
Primary activity undertaken in 93	743	0	1.00	0.12	0.012	0.325
Primary activity undertaken in 98	698	0	1.00	0.19	0.015	0.396
Primary activity undertaken in 04	792	0	1.00	0.22	0.015	0.417
Secondary activity undertaken in 93	743	0	1.00	0.17	0.014	0.380
Secondary activity undertaken in 98	698	0	1.00	0.19	0.015	0.390
Secondary activity undertaken in 04	792	0	1.00	0.18	0.014	0.382
Grant activity undertaken in 93	743	0	1.00	0.20	0.015	0.399
Grant activity undertaken in 98	698	0	1.00	0.29	0.017	0.453
Grant activity undertaken in 04	792	0	1.00	0.25	0.015	0.435
Entrepreneurial activity undertaken in 93	743	0	1.00	0.40	0.018	0.490
Entrepreneurial activity undertaken in 98	698	0	1.00	0.09	0.011	0.289
Entrepreneurial activity undertaken in 04	792	0	1.00	0.10	0.011	0.305

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