DO HOUSEHOLDS RECOMPOSE AROUND THE SOUTH AFRICAN SOCIAL PENSION?

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<th>Description</th>
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<tbody>
<tr>
<td>AWD</td>
<td>Ageing, Wellbeing and Development project</td>
</tr>
<tr>
<td>ANC</td>
<td>African National Congress</td>
</tr>
<tr>
<td>ATE</td>
<td>Average Treatment Effect</td>
</tr>
<tr>
<td>BIG</td>
<td>Basic Income Grant</td>
</tr>
<tr>
<td>CDG</td>
<td>Care Dependency Grant</td>
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<tr>
<td>CSG</td>
<td>Child Support Grant</td>
</tr>
<tr>
<td>DG</td>
<td>Disability Grant</td>
</tr>
<tr>
<td>FAMSA</td>
<td>Family and Marriage Association of South Africa</td>
</tr>
<tr>
<td>FCG</td>
<td>Foster Care Grant</td>
</tr>
<tr>
<td>GHS</td>
<td>General Household Survey</td>
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<tr>
<td>IES</td>
<td>Income and Expenditure Survey</td>
</tr>
<tr>
<td>ITT</td>
<td>Intention-To-Treat</td>
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<tr>
<td>LATE</td>
<td>Local Average Treatment Effect</td>
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<tr>
<td>LFS</td>
<td>Labour Force Survey</td>
</tr>
<tr>
<td>MSE</td>
<td>Mean Squared Error</td>
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<tr>
<td>NIDS</td>
<td>National Income Dynamics Survey</td>
</tr>
<tr>
<td>NDA</td>
<td>New Dynamics of Ageing programme</td>
</tr>
<tr>
<td>NCPPS</td>
<td>Non-Contributory Pensions and Poverty Study</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Governmental Organisation</td>
</tr>
<tr>
<td>OBW</td>
<td>Optimal Bandwidth</td>
</tr>
<tr>
<td>OAP</td>
<td>Old Age Pension</td>
</tr>
<tr>
<td>PPP</td>
<td>Purchasing Power Parity</td>
</tr>
<tr>
<td>PPS</td>
<td>Probability proportionate to size sampling</td>
</tr>
<tr>
<td>PSM</td>
<td>Propensity Score Matching</td>
</tr>
<tr>
<td>RDA</td>
<td>Regression Discontinuity Analysis</td>
</tr>
<tr>
<td>RDP</td>
<td>Reconstruction and Development Programme</td>
</tr>
<tr>
<td>SASSA</td>
<td>South African Social Security Agency</td>
</tr>
<tr>
<td>SOAP</td>
<td>South African Old Age Pension</td>
</tr>
<tr>
<td>TB</td>
<td>Tuberculosis</td>
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<tr>
<td>WHO</td>
<td>World Health Organisation</td>
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Do households recompose around the South African social pension?

In this thesis, South African survey data (which was collected as part of a separate project on ageing and wellbeing), is analysed in order to explore old age social pension-handling and the extent to which social pensions influence decisions about living arrangements. The findings have implications for current policy debates in South Africa and beyond. A key argument against widening the South African social safety net to cover other groups which do not currently have access to grants (such as the unemployed), is based upon the premise that social grants foster dependency. Empirical evidence which suggests that family members move into the households of pensioners has been used to suggest that social grants cultivate a disincentive to work.

A Regression Discontinuity design is used to consider the relationship between pensions and household composition around the threshold of age eligibility for a pension. The study contributes new empirical evidence which demonstrates that pensions are linked to changes in living arrangements just before and following the age of eligibility. The changes are not extensive and are restricted to particular age/gender groups. Nevertheless, effects are established, which is not surprising in light of the fact that pensions represent a regular, reliable and principal income source for many South Africans and that, based on new evidence contributed by this study, as well as previous studies, intra-household pension sharing appears to be a pervasive and persistent social norm.

Overall, the analysis finds stronger evidence of pensions having either a ‘crowding out’ effect, or no effect at all, as opposed to a ‘crowding in’ effect, which casts doubt on dependency theories. Furthermore, the results suggest that pensions given to men may lead to fewer changes in household composition than pensions given to women. A key difference is that there was no evidence to suggest that for men, pensions are associated with systematic changes in the average number of prime working-age household members. This is generally consistent with findings from previous studies. A key theory regarding gender-based disparities in pension effects, relates to gender-based differences in the extent of intra-household pension sharing. In this study, there was no evidence produced to suggest that beneficiary gender influences the extent of intra-household pension sharing. The methodological challenges associated with the analysis of intra-household income-handling are acknowledged. However, with no evidence of differences in pension sharing behaviour observed, other potential explanations are considered. In particular, it is speculated that gender-based differences in child care provision by pensioners may influence the ability of parents, particularly mothers, to become labour migrants, and that gender-based disparities in life expectancy after pension eligibility age may be important factors.
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Chapter 1: Introduction

1.1 Motivation and contribution

The twenty-first century will witness rapid demographic ageing as never before experienced. Almost one in ten people in the world today are over sixty years of age and by 2050 the figure will be closer to one in five (HelpAge International 2009). Population ageing is a global phenomenon that is unprecedented, pervasive, enduring and has profound implications for many facets of human life (United Nations 2002). Although individual countries are at different stages of the process, and the pace of change will differ between them, the effects will reach everyone without exception. Countries that began the process later will have significantly less time to adjust to the effects and since the majority of countries that fall into this category are located in developing regions (United Nations 2002), this situation poses cause for concern. Escalating concerns about demographic ageing and poverty have been an influencing factor in the increasing policy and academic interest shown in social, non-contributory pensions which stems from a recognition of their potential as an adaptable policy tool for combating deep, widespread and persistent poverty (Casey and McKinnon 2009).

South Africa is an upper middle-income country and yet with one of the highest rates of income inequality in the world (a Gini coefficient of 0.63), a high proportion of the population of nearly 50 million people live in poverty (23%-57%). This inequality is highly correlated with race, predominantly due to the discriminatory policies and practices of the 1948-1994 Apartheid government although racial discrimination can be traced back much further. Recent estimates suggest that somewhere in the region of 5% of the population are in receipt of the South African Older Person’s Grant (Woolard and Leibbrandt 2010). The Older Person’s Grant (henceforth referred to as the

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1 For the year 2009, according to the World Bank Gini index, accessed on December 20, 2011. To put this into perspective, the World Bank Gini index reported that Brazil, another country known historically for high levels of inequality, had a gini coefficient of 0.55. Although the World Bank does not have any recent figures for the United Kingdom, according to a report by the Institute for Fiscal Studies, the United Kingdom had a Gini coefficient of around 0.36 for the same year (Brewer, Muriel et al. 2009).

2 The World Bank estimates for poverty headcount ratio at the national poverty line (an unofficial poverty line since there is no official poverty line in South Africa), were 31% of the population for 1995, 38% for 2000 and 23% for 2006. However, estimates vary significantly. Research carried out by the Human Services Research Council (HSRC), for example, estimated that the proportion of the population living below the poverty line in 2001 (unchanged from 1996) was closer to 57% (HSRC 2004).
pension) is a means-tested non-contributory old age social pension. Although originally intended as poverty relief for South Africans in their older age it is widely acknowledged that the pension is, in effect, a poverty alleviation programme that extends beyond the individual recipients (Ardington and Lund 1995; McKendrick and Shingwenyana 1995; Møller and Sotshangaye 1996; Sagner and Mtati 1999; Barrientos, Ferreira et al. 2003; Duflo 2003; May 2003). This conclusion stems from the fact that the majority of pension recipients live in multigenerational households (Ferreira, Møller et al. 1992; Møller and Devey 1995; Sagner 1997; Møller and Devey 2003), and that many recipients share their income with others (Møller and Sotshangaye 1996; Sagner and Mtati 1999; Duflo 2000; 2003; May 2003; Møller 2011).

Social pensions play an important role in the lives of poorer South Africans. Vorster, Rossouw et al. (1996) found that when pension income was excluded from per capita household income, households without a wage income dropped below the level of subsistence and that 60% of households with at least one employed household member dropped below the subsistence level. More recent empirical findings from Barrientos (2003), and Barrientos and Mase (2012), have demonstrated evidence to show the continued importance of the role played by old age pensions in poverty reduction efforts in South Africa, a role which is acknowledged to have been heightened as a result of the HIV/AIDS epidemic (Legido-Quigley 2003). As one of the most comprehensive old age social pension programmes in the South, the South African case provides a valuable opportunity to consider the role and effects of social pensions in circumstances of widespread and persistent poverty.

The aim of this study is to establish whether or not households recompose around the South African pension. New research concerning the link between household composition and pensions in the South African context is important in several respects. Firstly, there is considerable interest in the poverty reducing potential of social non-contributory pensions in low and middle income countries. The governments of such countries face the challenging task of attempting to reduce persistent and pervasive

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3 The Older Person’s Grant was originally called the Old Age Pension (OAP) and is sometimes referred to as the social pension, the State pension, the State Old Age Pension (SOAP) and other such variations. It was later renamed as the Old Age Grant and more recently the official name was altered to Older Person's Grant. In the literature it is also described as the non-contributory old age grant or pension. Throughout the thesis, these names are used interchangeably although simply ‘the pension’ is mainly used for simplicity and because this is how it is more frequently referred to in the literature.
poverty in a context of increasingly rapid demographic ageing. Thus, any new
evidence in terms of the outcomes of existing social pension programmes is of value to
discussions on what works and what does not work in terms of social pensions.

Secondly, government policies can sometimes have unintended effects of either an
adverse or beneficial nature. New evidence concerning the wider knock-on effects of
government policies, which extend beyond the intended financial benefit to the
recipients, is intuitively desirable. In a direct sense, living arrangements play a key role
in individual wellbeing. Thus, it is important to consider how pensions influence
decisions about household composition. In an indirect sense, the results are of
relevance to current debates, both within and outside of South Africa, concerning the
broader societal effects of pensions and social grants in general. New empirical
evidence concerning pension effects in terms of changes to living arrangements is of
relevance to debates concerning issues around the creation or exacerbation of a
‘dependency culture’ and potential disincentives to work.

Finally, the results have implications for the way in which analyses of large social
transfers targeted at older people are approached and considered by researchers and
policy makers. Household composition is sometimes regarded as being fixed when
impact assessments are undertaken. The results from this study and other studies which
consider household composition and the potential for it to be responsive to social grant
income provide important evidence in regard to this assumption.

The extent to which pensions are shared and the nature of pension sharing behaviour
has direct implications for potential pension-related outcomes. Thus, in addition to
examining responses to pensions, the evidence in terms of reported income and
pension-handling within households is also considered in this thesis. The objectives of
this study are fourfold:

1. To contribute new evidence concerning pension income-handling in South
   African households.
2. To contribute new empirical evidence concerning responses to pensions in
terms of changes to living arrangements.
3. To contribute to knowledge concerning the significance of beneficiary gender in
terms of both pension sharing and responses to pensions.
4. Through the provision of new evidence, to contribute to broader discussions on social grants in South Africa and their multifaceted effects.

The remainder of this chapter is organised as follows: section 1.2 presents the three research questions that guide the inquiry in this thesis and section 1.3 outlines the structure of the thesis.

1.2 Research questions

The principal data source used in this thesis is household survey data that was collected by a separate research project from close to 1,000 South African households with older people at two time points: 2002 and 2009. Households from specific poor rural and urban areas of South Africa were sampled. Small-scale fieldwork was undertaken by the author with the main purpose of facilitating the interpretation of the results from the survey data analysis. The principal mode of supplementary data collection was semi-structured key-informant interviews. Using mainly quantitative data and methods, the following research questions are considered.

To what extent are pensions treated as household rather than individual income?
When the pension was originally conceived by policy makers in the late 1920’s, it was designed to address the needs of the white minority population (Sagner 2000). Coverage for non-whites was very limited, particularly during Apartheid, with the equalisation of pension amounts between South Africans of all skin colours and ethnic backgrounds being achieved in 1993 (Case and Deaton 1998). According to Sagner (2000), for the majority of poor South Africans old age pensions were from the very beginning, in effect, familial rather than individual resources which provide household rather than individual income.

The overwhelming consensus in the literature is that pensions tend to be treated as household rather than individual income which is shared between household members (Møller and Sotshangaye 1996; Sagner and Mtati 1999; Duflo 2000; 2003; May 2003;

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4 The project called ‘Ageing, wellbeing and development: a comparative study of Brazil and South Africa’ (AWD), was funded by a UK cross-council programme called ‘New Dynamics of Ageing’ (NDA). The data is described in detail in chapter 4. Further information about the AWD project can be found on the project website at http://www.sed.manchester.ac.uk/research/ageingandwellbeing/. Information about the NDA programme can be found at http://www.newdynamics.group.shef.ac.uk/.
Møller 2011). However, knowledge of pension sharing as a practice is limited. Only a small number of studies have sought to directly investigate the extent of pension sharing within South African households and there has been little in the way of new empirical evidence produced in the last decade since the important contributions of Ardington and Lund (1995), Møller and Sotshangaye (1996), Case and Deaton (1998), Sagner and Mtati (1999), Sagner (2000), Duflo (2003), Barrientos, Ferreira et al. (2003) and May (2003).

Based on the existing literature it would appear that pension sharing may well be a practice that is influenced by gender-based norms and cultural factors associated with the ethnic background of pensioners and their households (Barrientos, Ferreira et al. 2003; Duflo 2003; May 2003; Ambler 2011). Previous studies of pension income-handling have been based almost exclusively on data from black households which is not surprising considering that around 80% of the national population are black and that black South Africans have historically been the most disadvantaged group in comparison to South Africans of other skin colours. However, since close to one third of the households that comprise the data set used in this study are coloured, a valuable opportunity to consider the factors that influence and motivate pension sharing behaviours and the degree to which culture and tradition rather than economic factors play a role is presented.

This study contributes new contemporary evidence and insights into the practice of pension sharing including information about how behaviours vary according to the characteristics of recipients and their households. Furthermore, since the survey data used in this study has a temporal dimension, the study considers whether or not there is evidence to suggest that the nature of pension sharing as a social norm may be changing over time or whether it appears to persist relatively unaltered some 8-15 years after the end of Apartheid and the subsequent equalisation of pension amounts between South Africans of all races.

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5 The ethical considerations associated with the use of race-based terminology and in making distinctions between people according to race are discussed at the beginning of chapter 2.

6 Around 9% of South Africans self-identified as ‘coloured’ in the 2011 National Census according to the mid-year population estimates (Stats SA 2011a). In the South African context, the term ‘coloured’ is used to describe a heterogeneous group of people with mixed ancestry mostly from Southern Africa, Europe, Asia, India and other parts of Africa.
The questionnaire that was used to collect the survey data included questions to older people and their households which asked them directly how they handle their income and to what extent individual income (including pension income) is shared both within their households and with others outside of their households. The key-informant semi-structured interviews that were undertaken as part of this study also included questions about pension income-handling. They were conducted in order to provide a further point of reference, in addition to the existing literature, in light of which the survey results could be considered. The results from the analysis of reported pension-handling behaviours provides an opportunity to consider intra-household dynamics and the theoretical literature regarding intra-household resource allocation and decision-making behaviours.

Is there evidence to suggest that households reorganise their composition following receipt of (or in anticipation of eligibility for) the pension by a household member?

There is a rich body of literature that suggests that South African households respond to pensions in various significant ways, for example, with regards to labour supply decisions (Posel, Fairburn et al. 2006; Ranchhod 2006; Sienaert 2008; Ardington, Case et al. 2009) and intra-household resource allocation (Duflo 2000; 2003; Ambler 2011). Such responses are not surprising in light of the high relative value of pensions compared to median incomes, as well as the fact that pensions represent a regular, long-term and reliable income source for the majority of beneficiaries (Schatz and Ogunmefun 2007).7

The pension is not universal but is based on a means-test which is set at a high threshold rendering the test non-binding for the majority of South Africans. A key feature of the design of the grant is that the means-test does not take into account the incomes of anyone other than the potential recipient and his/her spouse. As a consequence of this grant design feature, there is no incentive for older people and their families to alter their living arrangements in order to qualify for the pension. In other words, household members with noteworthy individual incomes will not be relocated elsewhere in order to ensure that they are not included when the means-test is applied and, vice versa, individuals without income will not temporarily be brought into a

7 In 2002, pensions were worth more than twice the median monthly income for individual earnings for black South Africans (Keswell 2004).
household from other households in order to reduce the per capita household income in order to then satisfy the mean-test criteria for eligibility.

A number of studies have sought specifically to analyse the South African pension in terms of potential household composition responses. Case and Deaton (1998) were among the first to consider the living arrangements of poor older South Africans and how they may be influenced by pension income. Edmonds, Mammen et al. (2004) and Hamoudi and Thomas (2005) have since contributed important empirical evidence which suggests that households recompose around pensions in significant and meaningful ways. Further empirical evidence has been contributed from studies which have sought to explore potential household level responses to pensions in terms of labour force activity including Maitra and Ray (2003a), Posel, Fairburn and Lund (2006) and Sienaert (2007) among others. With the notable exception of Edmonds, Mammen et al. (2004), the existing empirical evidence concerning pension effects on household composition relates almost exclusively to adult household members, a consequence of the keen focus of researchers on the relationship between social grants and labour force activity. The evidence surrounding the nature of changes relating to household composition is, therefore, somewhat limited.

Furthermore, the majority of previous studies of pensions and household composition have not considered or attempted to measure potential anticipation effects. In other words, the majority of studies have assumed, at least tacitly, that pension effects are likely (or more likely) to occur following initial pension receipt. However, Harris, Inder et al. (2007) have produced evidence to suggest that households exhibit forward-looking behaviours and that responses to pensions occur prior to actual pension receipt. When attempts are not made to measure effects that may occur before the receipt of a pension in the anticipation of an individual soon becoming a pensioner, this could potentially lead to inaccurate conclusions which, in turn, can potentially result in inappropriate policy recommendations. Therefore, anticipatory effects are considered in this study.

Isolating pension effects from other potential influencing factors on household composition presents a challenge to researchers. The challenge is approached in this study using similar methodology to Edmonds, Mammen et al. (2004). The established quantitative estimation method Regression Discontinuity Analysis (henceforth referred
to as RDA) is applied to survey data in order to model the relationship between pension eligibility and a set of indicators of household composition. Information concerning pension applications, processing and potential differences between locations and over time was gathered during the key-informant interviews in order to provide additional contextual insights and to inform the interpretation of the RDA estimates. Building on the contributions of previous researchers, the potential for pension effects to occur prior to actual pension eligibility or receipt is also investigated empirically in this thesis.

How, if at all, do household responses to pensions vary according to the gender of the recipient?

Edmonds, Mammen et al. (2004) identified key differences in household compositional responses to pensions according to the gender of the recipient. Indeed, all the key studies in the literature that have directly or indirectly analysed household level responses to pensions and considered gender have identified key differences according to recipient gender. For example, the seminal paper by Duflo (2003) concluded that increases in pension income that was received by grandmothers appeared to increase the health and nutrition status of grandchildren, especially granddaughters, whilst the same was not true of pension income received by grandfathers. Although the effect of pension recipient gender on household level outcomes has previously been considered, there remains limited empirical evidence in terms of household composition responses.

In order to fully investigate the potential heterogeneity in correlations between the pension and the indicators of household composition according to pensioner gender, the older individuals in the survey data set are organised into two samples by gender and analysed separately using RDA. The results are then compared. The results provide a further opportunity to consider the theoretical literature regarding household dynamics and resource allocation within households. Although the results from the analysis of pension effects on household composition cannot be used to differentiate between competing models of intra-household dynamics, they do contribute to facts and patterns that such models need to be able to explain.
1.3 Thesis organisation

From this point forward, the thesis is organised as follows. Chapter 2 provides a concise overview of the relevant background information regarding the South African context including an overview of the historical evolution of social assistance in South Africa as well as of South African socio-economic development in general. Following this, an overview of the current social grants in South Africa is provided with particular focus on describing the pension. An overview of the key debates that surround social grants in South Africa is also provided.

In chapter 3, several areas of literature are critically reviewed. Firstly, the literature regarding pension income-handling is reviewed, including the empirical evidence and theory regarding the motivating factors behind the practice of pension sharing. The chapter then goes on to review the evidence with regards to household responses to pensions in South Africa. The theoretical literature regarding intra-household dynamics which informs this study is then reviewed. The chapter finishes by reflecting on the opportunities and limits for this study posed by a focus on the household level for the analysis of responses to pension income.

The study methodology is presented in chapter 4, beginning with a brief overview of the research strategy and conceptual framework that were employed in order to achieve the study aim and objectives and to answer the research questions. The chapter then moves on to discuss the survey data and analysis methods, which includes a general introduction to RDA, as well as an account of how the technique is implemented in this study. This is followed by a description of the approach that was taken to the supplementary primary data collection and analysis.

Chapter 5 presents the first stage of the analysis conducted in this study. Responding to the first of the three research questions that guide the inquiry, the chapter explores the extent to which pensions are treated as household rather than individual income. Self-reported income-handling behaviour is investigated using the survey data in a bid to establish whether or not there are disparities between the reported behaviour of pension recipients and older non-recipients, as well as between the genders and between households with differing characteristics (rural/urban and black/coloured). Insights into pension-handling gained from the qualitative fieldwork provide an additional angle
from which to consider income-handling in households with older people.

Chapter 6 presents the preliminary analysis of the key outcomes of interest regarding household composition using the survey data. In order to explore the second and third research questions, pension-eligible individuals are compared directly with pension-ineligible individuals in terms of the composition of their households. By limiting the samples to older people within a certain age bracket, some account of the potential systematic differences between groups is taken into account. However, the results from this exercise are undermined by the fact that the two groups being compared are not strictly comparable. By definition, the age eligible individuals are older than the ineligible individuals and, thus, there may be systematic differences between the two groups in terms of their living arrangements which may be unrelated to the pension. The purpose of the RDA method is to disentangle potential pension effects from other potentially confounding factors.

Chapter 7 presents and discusses the findings from work that was undertaken in order to consider the extent to which age eligibility for a pension is aligned with actual pension status. The reliability of the estimates generated through the RDA approach depends upon an assumption that pension status is age-discontinuous. Therefore, the results from this stage of the analysis have important implications for the interpretation of the estimates, and the study conclusions, as a whole.

Chapter 8 presents the results from the analysis of pension effects on household composition. Firstly, the RDA approach is used to model the immediate effects of pension eligibility on living arrangements. The results from this stage of the analysis are discussed briefly, before the chapter moves on to the analysis of potential anticipatory as well as delayed pension effects on household composition, which is carried out using RDA to consider potential pension responses at alternative time points. The results from a number of sensitivity checks that were undertaken in order to assess the reliability and accuracy of the RDA estimates are then presented.

In chapter 9, the results from the analysis of pension responses in terms of changes to living arrangements are discussed. The results are discussed in terms of potential explanations for them; established theories in the literature concerning household organisation and pension effects; how the results from this study compare to the
evidence from previous studies; and in terms of a general assessment of the reliability of the RDA estimates.

The final chapter, chapter 10, returns to the original research questions posed in this chapter. A summary of the main findings and subsequent conclusions for each of the three questions is provided. The policy implications associated with the findings are then discussed before some final conclusions and recommendations for further research are offered.
Chapter 2: South Africa's socio-economic status and social assistance

2.1 Introduction

South Africa is sometimes described as a 'melting pot' or a 'rainbow nation', labels which reflect the diversity of its population of approximately 50 million people in terms of ethnicity, culture, origin and religion. The majority of South Africans self-identify themselves with one of four main racial categories identified in the national Census: black African (79.5%), white (9%), coloured (9%) and Indian/Asian (2.5%). These categories, however, mask a substantial degree of diversity within each of the culturally and linguistically heterogeneous groups. The extent of the heterogeneity is demonstrated, in part, by the fact that eleven languages are officially recognised in the South African Constitution. Today, South Africa is a democratic country in which all citizens are afforded equal rights regardless of gender, skin colour and religion. However, the country bears the scars of many decades of undemocratic government with policies that can be characterised, in no small way, by oppression and systematic racial and class discrimination.

South Africa is considered an upper middle income country according to the World Bank world development indicators database based on gross national income per capita. However, the country today has one of the highest rates of income inequality in the world (Gini coefficient of 0.63) and this inequality is highly correlated with race due predominantly to the discriminatory policies and practices of the 1948-1994 Apartheid governments, although racial discrimination can be traced back much further. According to the World Bank development indicators, in 2009 (which is the most recent information available at this time), the poverty headcount ratio at $2 per day purchasing power parity (PPP) as a percentage of the population was 31.33%. The income share held by the highest 20% of the population was estimated at 68.21%, with 51.59% concentrated in the highest 10% and an estimated 2.7% of the income

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8 Percentages in parentheses represent the approximate proportions of the population who identified themselves by these categories in the 2011 Census according to the mid-year population estimates (Stats SA 2011a).
10 The World Development Indicators are compiled by the World Bank and are made available via the World Data Bank website: http://databank.worldbank.org
11 For 2009 according to the World Bank development indicators.
concentrated in the lowest 20% of the population. These figures help to illustrate the inequality and high poverty rates among large subsections of the population.

South Africa's demographic composition, the nature of poverty and inequality today, and the role of social assistance,\textsuperscript{12} can all be better understood via a holistic approach and in historical terms. Therefore, this chapter presents an account of South Africa's development, chronologically with key developments in the State approach to social assistance discussed. Particular attention is paid to the implications of developments in terms of intergenerational relations and the circumstances of older people. A comprehensive overview of the pension is then presented alongside an introduction to the current South African social assistance package as a whole. The aim of this chapter is to provide sufficient background information about the South African context and social assistance to frame the analysis of pensions and households responses in this study.

Before proceeding further, a note about the ethics of race-based terminology is required. Ethnicity and race are value loaded and socially constructed concepts. The labelling and categorisation of individuals based on ethnic background or skin colour could, in itself, be regarded as a form of racism. The validity and ethics of using such terminology when describing the context and also of categorising cases by racial group during the analysis stages in this research was carefully considered and requires justification. In terms of the descriptive discussion of the South African situation, past and present, it was considered unavoidable to use the terminology in order to effectively communicate the social reality of the context. In terms of the analysis, relatively little categorisation is directly applied according to racial group, however, in effect, some racial group differentiation is made by default due to the nature of the survey data and the sampling strategy that was employed.\textsuperscript{13} Ultimately, the reality in present day South Africa is that poverty and inequality are highly correlated with race and, for this reason, eliminating race-based terminology and grouping from this

\textsuperscript{12} Social assistance is understood as the collection of transfers that are made by governments to people in order to meet the same kinds of needs as social insurance benefits but are provided outside of an organised social insurance scheme and are not conditional on previous payments or contributions (note: this definition is adapted from the definition of social assistance benefits provided by the OECD (2001)). Social insurance is not covered in this account. The approach to the various social insurance schemes introduced around the same time to protect workers mirrored the social assistance schemes in their racial discrimination.

\textsuperscript{13} The sampling strategy for the data set used in this research included selection criteria based partly on race. The survey data is discussed in chapter 4.
research would pose significant challenges to the effective communication of the realities for the populations involved. For these reasons, race-based terminology and some categorisation is used in this thesis with a heightened awareness of the ethical implications of doing so.

Both race and ethnicity are socially constructed concepts without universally agreed definitions and for many people the terms are somewhat synonymous. In this thesis, the term race is generally preferred to ethnicity. This is because the term race essentially refers to appearance-related factors, most notably skin colour. Ethnicity, on the other hand, is a broader concept for which the emphasis is placed on factors such as language, culture and ancestry. As previously explained, both the categories of ‘black African’ and ‘coloured’ are racial groups within which there is a great degree of diversity on many levels, including linguistically, culturally and in terms of ancestry.

2.2 From Colonialism to 1947

Before the first European settlers arrived in the sixteen hundreds, the geographical territory that now comprises the Republic of South Africa was divided along tribal lines. The 17th century saw the beginnings of what would be a long and unstable period of Colonialism. The Dutch were the first to incorporate parts of the territory that is now South Africa into their empire followed by the British in the 19th century with the establishment of the Cape Colony in 1806. Migrants from India and South East Asia were brought to South Africa in high numbers during this time to work on British sugar plantations, meanwhile the settlers of Dutch origin, known as Boers, moved into the interior of the country (Lloyd-Sherlock 2010). It was in the 1870’s and 1880’s that large deposits of diamonds and gold were discovered near what are now the cities of Johannesburg and Kimberley (Bienart 1994). The new mines that were created generated a high demand for labour in order to extract the valuable resources. This demand could not be met by the native black Africans. Therefore young male migrants were brought in from all around South Africa leaving women, children and older people behind in the rural villages in which the vast majority of South Africans lived at the time. As black African families were separated, new communities were created around the mining sites which were primarily composed of male migrant miners, leading to the development of a substantial commercial sex industry. The short and
long term impacts of the developments around this time, in terms of life styles, living arrangements, gender relations and intergenerational relations, are difficult to quantify.

Sagner’s (2000) account of developments at this time explains how rural transformations from the late 1800s, particularly the emerging migrant labour system, dramatically changed ‘traditional’ life course patterns, intergenerational relations and gender relations for the majority of South Africans. Meanwhile, with inadequate housing facilities, increasing segregation and the tightening of “influx control” regulations in towns and cities around this time, the care of frail urban black African older people became more and more difficult. According to Sagner (2000), the increasing necessity for cash led to many older people, especially the poor, becoming indirectly dependent on the earnings of younger relatives. Young people’s financial independence and older people’s increasing financial dependency on younger people was apparently reflected in increasing intergenerational tensions. The exposure of younger black Africans to Western cultural influences including a ‘commodity culture’ contributed to a growing intergenerational cultural alienation (Sagner 2000). Ethnographic studies, however, suggest that ‘traditional’ systems of seniority remained strong with age, gender and genealogical position arguably remaining important determinants of social status in mid-century rural communities (Sagner 2000). Mass migrant labour had led to a shift in the entire intergenerational power structure. Younger black Africans’ socialisation to Western values heightened their susceptibility to an ‘individualised’ life course which, in turn, implied increasing fragmentation of obligations between generations and, as a result, the rules governing intergenerational exchanges were gradually re-negotiated and refined (Sagner 2000). A growing number of young and middle-aged black Africans opted for a permanent life in town, eventually losing contact with their rural families and their wider kin, leaving their older kin behind (Sagner 2000).

Tensions caused, in part, by the gold and diamond discoveries resulted in mounting conflict between Europeans and black Africans, including the notorious Boer wars between 1880 and 1902, eventually ending in a unified South African state in 1910. From 1910 onwards, non-whites were almost entirely excluded from political participation and were systematically discriminated against in almost all facets of economic and social life including all areas of the formal labour market, education and health systems as well as physical racial segregation that included forced resettlements
of non-whites to overcrowded reserve areas. This exclusion extended to social assistance.

The emphasis of 19th century South African social welfare policy was on informal provision based on familial ties. State assistance was confined to the supplementation of private arrangements through poor relief measures and the subsidisation of predominantly denominational charities (Sagner 2000). However, from the 1910s onwards there was growing recognition of the distinct needs of some groups in society, namely vulnerable children, older people, the sick and the disabled. The beginnings of formal social assistance policy date back to the 1913 Children's Protection Act which, in theory, was designed to address the needs of vulnerable South African children but, in practice, provision was restricted to non-black African children with very few black African beneficiaries, none of which were located in rural areas (Bhorat 1995). The Child Protection Amendment Act that followed in 1921 provided the foundations for what would later become the State Maintenance Grant, a grant designed to help mothers and children whose spouse was no longer present, and which would eventually be replaced by the Child Support Grant (CSG) in 1998.

In the latter 1910's there was growing recognition of people in their older age experiencing distinct social problems, albeit those primarily of the white older population (Sagner 2000). In 1928, the government passed the Old Age Pensions Act which introduced a grant for older white and coloured citizens which emulated the provisions already made by many European countries at the time (Casey and McKinnon 2009). This non-contributory means-tested pension constituted the first modern old age security policy implemented in sub-Saharan Africa. According to Sagner (2000) it was intended to be seen as a method of income-maintenance which saved the 'deserving' older poor from the stigma of poor relief without adding too greatly to state expenditure, which was achieved due to the fact that white and coloured people in their older age comprised very small proportions of the population.

The government at the time was anxious not to drive out or undermine family help, so from the very beginning, the state pension was conceptualised as an incentive to induce people to care for dependent relatives rather than as a fully-fledged social welfare programme that would guarantee economic security for the aged (Sagner 2000). As a result, benefit levels were set accordingly low. Meanwhile, there was very little public
assistance for black Africans in general until the mid-1940s. Sagner (2000) describes a deep-rooted ideological aversion to public social welfare spending on black Africans in pre-Apartheid South Africa, the reasons identified for this include; a desire not to undermine familial and individual responsibilities or black African’s willingness to work;¹⁴ an assumption that ‘traditional’ sources of social security were still effective in black African communities, at least in rural areas; and the pervasive ideological maxim at the time, that racial groups should be fiscally independent so that state spending on different racial groups should be directly linked to their direct tax contributions, ensuring the black African majority would not become a burden on the white minority. Social spending on black Africans increased gradually over time but the motivation behind this was arguably much less to do with a moral or 'enlightened' realisation and more to do with social control and a means to appease potential conflict. With a growing realisation of the indirect economic costs caused by black African impoverishment, there was undoubtedly an incentive to alleviate the potential influence of political agitators at the time (Sagner 2000).

The 1937 Children's Act prompted further expansion of social assistance coverage to non-white families, although in practice it was still restricted to non-black Africans. In the same year, the first disability grant (DG) was introduced evolving out of the old age pension. Still today, there are close links between the pension and the DG, with corresponding grant levels and a common perception among many South Africans that they are, in effect, two versions of the same grant, one for older people and the other for people with disabilities who are too young to receive the pension. In 1944, the state pension scheme originally designed for needy white and coloured older people was broadened to include (albeit with unequal grant levels) the black African and Indian populations and the DG was extended in the same way in 1947.

As well as being decisive for the economic survival of many rural households, the pension reportedly contributed indirectly to the increased self-respect and social status of black African old age pensioners (Sagner 2000). According to Sagner (2000), the familial power structure, which had been shifted to the disadvantage of older people as the younger generations had been incorporated into the modern labour market, was partly restored by pensions which ended the monopolised access of the younger

¹⁴ To some extent, rural poverty was welcomed as an important means to satisfy the demand for African labour (Sagner 2000).
generations to cash. As young people found it increasingly more difficult to gain access to cash, to be old once again meant to have younger people financially depending on you. As industrialisation modified the ‘traditional’ foundations of the South African industrial order and transformed family and household structures, grandparents often became anchors around which much of African family life revolved (Sagner 2000).

However, 1948 marked the end of one era for South Africa and the beginning of a new one as the State gained full independence from the United Kingdom and the new National Party government formally adopted racially discriminatory policies which severely infringed upon the rights of non-white South Africans and proceeded to reverse the earlier attempts at inclusion of non-whites into the social welfare system.

2.3 Apartheid to present day South Africa

The Apartheid government ultimately wanted to secure a white majority in South Africa. One of the main policies designed to accomplish this goal was the establishment of specific territories of land, set aside for the black African majority to live and work. Ten of these territories were established and have become commonly referred to as ‘Bantustans’ or ‘homelands’. The purpose of the Bantustans was to concentrate racial groups and for those territories to act as autonomous nation states, ultimately as independent states from South Africa. A little over 10% of the land was set aside for black Africans to live with the remainder allocated as white South African land. The 1951 Bantu Authorities Act established the homelands, while the 1959 Bantu Self-Government Act extended the role of the homelands as part of the government's ‘Separate Development’ plan. The process was completed by the 1970 Bantu Citizens Act after which black Africans were no longer classed as South African citizens, regardless of where they lived or worked, and therefore lost all their remaining rights. The Apartheid government's strategy involved the mass forced relocation of several million black South Africans who were moved from their homes and resettled in Bantustans. Assignment of individuals to specific Bantustans was conducted by the authorities in a relatively arbitrary manner and, consequently, families and communities were divided in the process resulting in huge upheaval for many people. The majority of people who lived in the Bantustans lived in very poor conditions with
few employment opportunities and, consequently, many black Africans were forced to seek work in the cities which were designated 'white' areas. Despite the intentions of the Government to create a ‘white South Africa’, while many black Africans lived in the Bantustans during Apartheid, many others also lived in 'white' South Africa, predominantly in townships and slums that built up on the outskirts of cities. While many black South Africans, most often males of working age, migrated to cities and mines in search of work, they were usually not allowed to bring their families with them meaning that wives and children were left behind in the villages. The migrant family member working in the city would typically remit a portion of his income back to his family (Inder and Maitra 2004). This remains a common arrangement for many South Africans today.

Maintaining good links with family back home was very important for many migrant workers during Apartheid. The importance of doing so is clearly illustrated in an exploratory study among black domestic and service workers carried out by Møller (1984) in 1982-1984. For many of the study participants, the only hope they had of a ‘good old age’ after they retired from their work was by keeping close ties with family back home. Individuals who lost contact with their families and kin in their place of origin faced a higher degree of uncertainty about their future and were dependent on their employer’s help in making arrangements for themselves after they finished working.

Between 1948 and the early 1970's, the gap between the pension levels progressively widened between Whites and black Africans. Until 1960, there were 11 separate grant rates and 8 rates after. At the beginning of the 1970's, with an ever-decreasing proportion of white citizens, there appeared to be growing recognition that the South African economic model was not sustainable in the long-term. As a result, the latter half of the Apartheid regime is described by Kruger (1992: 178-179 as cited in Van der Berg 1997), as demonstrating “a trend towards reincorporation and reduced inequality”, and towards greater inclusivity in social welfare. Social unrest and political pressure, primarily from an increasingly organised resistance movement within South Africa as well as international pressure, led to the gradual dismantling of the state apparatus that maintained the Apartheid regime during the late 1970s and through the 1980s. It was not until the African National Congress (ANC) took office in 1994, however, that ‘white rule’ effectively ended in South Africa. When Nelson Mandela, as leader of the
ANC, took office as President of South Africa in 1994 following the first democratic elections, the country was one of the most unequal in the world. This inequity was largely constituted along racial lines (Lloyd-Sherlock 2010). The ANC government inherited a failing national economy that had been maintained to that point by exactly the inequity and discriminatory policies that the ANC set out to remedy (Lloyd-Sherlock 2010).

The new Government sought to overhaul the social security system. The White Paper on Social Welfare 1997 contains the policy framework for the restructuring of social welfare designed by the new ANC government who described their approach as ‘developmental social welfare’. Social spending has increased dramatically since 1994 (Møller 2010). During the decade from 1985 and 1995, the real value of the pension rose substantially for black Africans, stayed more or less the same for coloured (and Indian) people, and fell for white people (Van der Berg 1994). Equalisation of the pension amounts was achieved at the beginning of 1993 (Case and Deaton 1998), at which point black African pension recipients were getting approximately 85% of the amount given to white recipients. Equalisation was attained via a reduction of the non-black African grant levels as well as an increase in black African grant levels.

The dismantling of the Bantustans was a central element of the ANC’s initial reforms. From 1994 onwards, the Bantustans were reincorporated, relatively peacefully though not without some unrest, back into the Republic of South Africa. The country was then re-divided into nine provinces. As May (2003) explains, some of the policies adopted by the South African government after 1994 have contained some contradictory ideas. The Reconstruction and Development Programme (RDP) attempted to merge the ANC’s old social democratic and socialist values (redistribution, basic needs) with new neo-liberal ones (trade and financial liberalization, the independence of the central bank), seemingly held together through centrist institutions and accords, at which all the ‘social partners’ would be represented (May 2003). The establishment of representative democracy and the adoption of redistributive policies have not, however, led to a decline in overall inequality in South Africa. Trends since 1994 have tended to entrench chronic and structural poverty. Certainly the depth and severity of poverty has been ameliorated and there have been real increases in welfare since 2000 (du Toit and Neves 2008). At the same time, however, inequality has increased, with the Gini
coefficient increasing from 0.57 in 1995, to 0.63 in 2009.15

While growth has been pro-poor in absolute terms, it has not been pro-poor in relative terms as the wealthy have benefited disproportionately (du Toit and Neves 2008). Poverty in South Africa today is concentrated in a large excluded ‘underclass’ composed of the rural landless and the jobless urban poor (Seekings and Nattrass 2005). The situation of the chronic poor essentially stems from a large-scale process of ‘jobless de-agrarianisation’ or ‘de-peasantisation’, which is a widespread trend not isolated to South Africa. However, in South Africa, it has a breadth and severity unparalleled elsewhere in Sub-Saharan Africa (du Toit and Neves 2008). So, on the one hand a wide range of social and economic processes are sweeping people off the land, whilst on the other, the ability of the economy to absorb new job seekers is undermined by a long-term structural shift away from the primary to the tertiary sector, and a resultant decrease in employment for low skilled workers (du Toit and Neves 2008). This has created a situation which Seekings and Nattrass (2005), refer to as ‘adverse incorporation on a macro-social scale’: the poor, lacking the ability for significant autonomous household level food production, are dependent on a heavily monetised economy for survival; while they cannot secure the cash incomes that would make such survival possible.

The rising real wages of working people have been offset by widening wage inequality as the gap between skilled and unskilled wages have grown, and by rising unemployment. There are limited public data sources available that provide information on income distribution since 1994, however, the data available indicates that income inequality may possibly have worsened since the ANC came to power (Nattrass and Seekings 2001). The unemployed have not become poorer, but the ranks of the unemployed have swollen as workers have lost jobs. The combination of rising incomes for those with jobs and falling employment has contributed to greater inequality in the distribution of incomes in South African society as a whole. Nattrass and Seekings (2001) conclude that despite government efforts, the policies adopted since the end of Apartheid have done little to help a core section of the poor: the unemployed, and especially households in which no one is working. Even though overall inequality has not decreased or increased, the nature of inequality has altered dramatically since the early 1970s. Whilst inter-racial inequalities have undoubtedly

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15 According to the World Bank Development Index (http://databank.worldbank.org)
declined, this shift has been offset by an increase in intra-racial inequality rates (Nattrass and Seekings 2002).

Residential regulations severely constrained permanent black urbanisation during the Apartheid era resulting in a pattern of cyclical rural-urban migration (Sienaert 2007). The evidence suggests that following the lifting of the influx control restrictions in the early 1990s, within-household migration increased. Posel and Casale (2003) found, in their study of migration behaviour between 1992 and 1999, that women accounted for the majority of new migrants and that migrant remittances became increasingly important for rural households. Maluccio, Thomas et al. (2003) provide evidence of a significant increase in the number of children residing away from their mothers in 1998 compared to 1993 when the Apartheid system had only just been abandoned. These findings concur with the explanation that despite the repealing of the ‘pass laws’, which then allowed black women and children to legally migrate to cities, many chose to leave their children and other family members (including older relatives) behind in the villages on account of the poor living conditions in the cities. It has also been suggested that black Africans have a preference for children growing up in rural areas in order to maintain historical, social and tribal ties with the land and their ancestors (Inder and Maitra 2004). The persistence of cyclical rural-urban migration patterns is also attributed to general feelings of insecurity during a time of economic and social change, employment insecurity, the HIV/AIDS epidemic, high levels of crime and violence in urban areas (Sienaert 2007). Another possible explanation is the high value placed by some African migrants on returning to their place of ancestral origin in their older age (Sagner and Mtati 1999, as cited in Sienaert 2007).

Present-day, post-Apartheid South Africa continues to bear the scars and South Africans the burden, of the legacy of Colonialism and Apartheid. Poverty in South Africa has gender, age and rural dimensions to it. According to a report produced by Statistics South Africa, which looked at poverty in South Africa between 2002 and 2010, women were more likely to live in poor households than males (Stats SA 2011b). Furthermore, female headed households have been found to be disproportionately more likely to be poor than male headed households (Woolard 2002), they are more likely to remain in poverty for longer periods and, where female heads of households are

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16 During Apartheid, legislation was put in place that severely restricted the movements of black South Africans and which required them to carry a pass book (hence the name, ‘pass laws’), whenever outside of a Bantustan area. Failure to produce a pass book upon request by a white person could result in arrest.
employed, it is usually in low-wage, piecemeal jobs (Marais 2011). Also according to the Statistics South Africa report (2011), children are more likely to live in poorer households than adults, with approximately two thirds of children living in poorer households while the average for everyone inclusive of adults was closer to half. Rural households were also found to be disproportionately worse off than urban households (Stats SA 2011b).

Despite the end of the Apartheid era, the aftermath of many practices enacted under Apartheid are still part of the present for many South Africans and their families, including high illegitimacy rates; high mobility rates; high rates of family break-up; high rates of breakdown of parental authority; and high household fluidity (Sagner and Mtati 1999). Geographical patterns of economic and social relations have largely persisted (Lloyd-Sherlock 2010). There is still large-scale temporary labour migration from relatively poor rural areas heading to the industrial centres of Johannesburg and the Rand (Lloyd-Sherlock 2010). There is a belief that the changing legal, social and economic circumstances in post-Apartheid South Africa have resulted in increased child fostering among Black households (Inder and Maitra 2004). South African society experiences high levels of crime, in general, and violent crime in particular relative to other countries (CSVR 2010). Gender relations in South Africa are frequently characterized by conflict and violence (Preston-Whyte 1988; Mazur 1998; Jewkes and Abrahams 2002; Lloyd-Sherlock 2010).

To add to the challenges that have faced South African’s during the last three decades (and to the importance of social grants), some ten years before the end of Apartheid, the first cases of HIV/AIDS were recorded in South Africa, marking the beginning of a devastating epidemic. Today, South Africa has the largest number of HIV positive people of any country in the world with approximately 5.6 million people currently living with HIV/AIDS (UNAIDS 2011). The spread of HIV/AIDS since the 1980s has had devastating effects for the country on many levels. Due to the scale of the epidemic, the direct and indirect economic costs have inevitably been high both at the individual level and the national level. With prime age working adults being most at risk of contracting the virus, there have undoubtedly been significant implications with regards to labour supply. The direct costs of HIV/AIDS to individuals and their families include the cost of medications and other health care related expenses as well as costs relating to time (as family members provide care for sick individuals and their
children) and funeral expenses. Furthermore, Tuberculosis (TB) is a major health problem in South Africa with prevalence rate estimates from the World Health Organisation (WHO) reporting a national average of 795 per 100 000 people, approximately three times the regional average and 4.5 times the global average.\(^\text{17}\)

The HIV/AIDS and TB epidemics have affected and will continue to affect the pension’s effects in respect to older person wellbeing. According to Marais (2011), the epidemics are depleting the benefits of pensions in several respects. As HIV/AIDS strikes prime-age adults in particular, the burden of financial, physical, and emotional care, largely falls to people in their old age (Knodel, Watkins et al. 2003). Older people are often left with debts incurred from HIV/AIDS-related illnesses and funeral expenses, and with grandchildren (some of whom may be HIV positive) for whom they must now provide and care (HelpAge International 2003). The economic burden may also be greater when the sick or deceased had previously contributed income to the household (Hunter and Twine 2005). Furthermore, the overwhelming toll among young adults means that older people are increasingly denied the financial and other support younger relatives frequently used to provide (Marais 2011). Given the financial impacts of HIV/AIDS morbidity and mortality, it is likely that South Africa’s pension system will permit, and perhaps encourage, households to turn to older people as a source of financial support, as well as for physical and emotional care giving (Schatz and Ogunmefun 2007). The lack of income-earning opportunities for women and the seemingly disproportionate burdens falling onto older women, have led to calls for the lowering of the pension age for women from 60 to 55 years (Legido-Quigley 2003).

The demographic impact of the HIV/AIDS and TB epidemics is likely to have far reaching effects over time. As Marais (2011) explains, over the next 20-30 years proportionately fewer adults will live to pension-eligible age, thus limiting the spill-over effects. A healthy body of literature has accumulated around the subject of gender dynamics in South Africa with particular regards to issues concerning the HIV/AIDS epidemic and gender-based violence since inequity in gender power relations is fundamentally linked to the HIV/AIDS epidemic (Kalichman and Simbayi 2004; Kalichman, Simbayi et al. 2007; Jewkes, Sikweyiya et al. 2009; Jewkes and Morrell 2010). The keen interest in research relating to gender relations demonstrated over the

\(^{17}\) Estimates for the year 2010 (WHO 2012).
last three decades has thus been driven to a large extent by the efforts to prevent the spread of HIV.

A comprehensive review of the fairly extensive literature concerning gender relations in South Africa is beyond the scope of this thesis. However, consideration of gender-based norms and relations is necessary. Gender roles in society and within the family unit are constantly being renegotiated in any given context and at any given time. From a broad historical perspective, the role of men in family life has, very generally speaking, undergone a transition in which there has been a gradual loss of omnipotent patriarchal power and a gradual incorporation of more nurturing qualities into the traditional role of breadwinner and provider of the family (Smit 2002). Such shifts in gender roles and relations have certainly manifested in South Africa. However, South African society remains strongly patriarchal and highly gender-inequitable (Jewkes and Morrell 2010). The dominant ideal of masculinity in black African society has traditionally placed an emphasis on toughness, strength and sexual prowess while the dominant ideal of femininity places an emphasis on passivity and tolerance of violent and hurtful behaviour (such as infidelity) by men (Jewkes and Morrell 2010). A consideration of the evidence concerning gender-based violence in South Africa suggests that these ideals, or at least certain aspects of these conceptions, appear to persist. The extent to which historical developments during Colonialism and Apartheid have contributed to the high levels of gender-based violence and gender-power inequity in South Africa is difficult to measure.¹⁸

2.4 Social grants in contemporary South Africa

The social grants system is arguably one of the most pro-poor items of South African government expenditure. In addition to providing income, grants have also been shown to support secondary effects that further act to reduce poverty: households that receive a grant are more likely to send young children to school; provide better nutrition to children; and are more likely to seek (and be successful in attaining) employment opportunities than workers who live in comparable households without any grants (Samson, MacQuene et al. 2006).

¹⁸ For a comprehensive discussion of gender-based inequity and the impact of Apartheid refer to Jewkes and Morrell (2010).
Around one third of South Africans today are in receipt of a social grant. There are currently seven social grants in South Africa, all of which are financed through national tax revenues. The 1992 Social Assistance Act assigned the task of overseeing and administering the grants to the provincial level. This decision was reversed twelve years later when the subsequent Social Assistance Act and South African Social Security Agency Act, shifted the responsibility away from the provincial level to the national level at which the Department of Social Development (previously the Department of Social Welfare) would oversee the provision and processing of grants. Following this change in 2005, the South African Social Security Agency (SASSA) was set up by the national government in order to administer the grants. Key information about the current grants is presented in table 2.1 below.\(^\text{19}\)

\[^{19}\text{In addition to the seven grants presented in the table, an eighth grant is also available, called the Social Relief of Distress. However, this grant differs in nature from the others because it is, in effect, a grant designed to aid individuals who are experiencing a temporary crisis situation where they cannot cover the basic needs of their family. It is available to eligible applicants for a very short period of time, usually paid to successful applicants for no more than 3 months, to assist individuals who find themselves in a temporary crisis situation.}\]
Table 2.1: South African social grants summary 2012/2013

<table>
<thead>
<tr>
<th>Social Grant</th>
<th>Purpose</th>
<th>Who can apply?</th>
<th>Grant Amount (Per month)</th>
<th>Means-Test (Max income and assets to be eligible)</th>
<th>Number of beneficiaries (30 April 2011)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child Support Grant</td>
<td>Income support to caregivers of children in need</td>
<td>Parent or primary caregiver of children born on or after 31 December 1993 (age 18 and under). South African citizens + permanent residents + refugees</td>
<td>R280</td>
<td>Income: Single = R2,800 pm or R33,600 pa Married = R5,580 pm or R67,000 pa No Asset test.</td>
<td>10,446,939</td>
</tr>
<tr>
<td>Foster Child Grant</td>
<td>Income support to caregivers of children in foster care (a court order is required)</td>
<td>Foster parents of children under 18 (or up to 21 on the recommendation of social worker). South African citizens + permanent residences + refugees</td>
<td>R770</td>
<td>Not means-tested.</td>
<td>521,863</td>
</tr>
<tr>
<td>Care Dependency Grant</td>
<td>Income support to caregivers providing permanent care to children with severe mental or physical disabilities (must have medical assessment)</td>
<td>Parent or caregiver or foster parent of children from 1 up to 18 years (not for infants). South African citizens + permanent residences + refugees</td>
<td>R1,200</td>
<td>Income: Single = R12,000 pm or R144,000 pa Married = R24,000 pm or R288,000 pa No Asset test.</td>
<td>112,555</td>
</tr>
<tr>
<td>Disability Grant</td>
<td>Income support to adults who are not able to work because of a mental or physical disability</td>
<td>Adults who are 18 or older. South African citizens + permanent residences + refugees</td>
<td>R1,200</td>
<td>Income: Single = R3,950 pm or R47,400 pa Married = R7,900 pm or R94,800 pa Assets: Single = R792,000; Married = R1,584,000</td>
<td>1,200,431</td>
</tr>
<tr>
<td>Older Person’s Grant</td>
<td>Income support to older men and women</td>
<td>60 years or older. South African citizens + permanent residences + refugees</td>
<td>R1,200 + R20 (if older than 75)</td>
<td>Income: Single = R3,950 pm or R47,400 pa Married = R7,900 pm or R94,800 pa Assets: Single = R792,000; Married = R1,584,000</td>
<td>2,686,838</td>
</tr>
<tr>
<td>(pension)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grant-in-Aid</td>
<td>Income support to people (already getting Older Persons; War Veterans or Disability Grant) who need full-time care from someone</td>
<td>Adults who are 18 or older. SA citizens + permanent residences + refugees who are disabled</td>
<td>R280</td>
<td>Not means-tested.</td>
<td>59,395</td>
</tr>
<tr>
<td>War Veterans’ Grant</td>
<td>Income support to older men and women who served in 1st, 2nd or Korean war</td>
<td>60 years or older. South African citizens + permanent residences</td>
<td>R1,220</td>
<td>Income: Single = R3,950 pm or R47,400 pa Married = R7,900 pm or R94,800 pa Assets: Single = R792,000; Married = R1,584,000</td>
<td>948</td>
</tr>
</tbody>
</table>


20 Please note that the number of beneficiaries reflects the approximate number of individuals in receipt of each grant and that one individual could potentially be in receipt of multiple grants.

TOTAL NUMBER OF GRANTS 15,028,969
The generosity of the pension is well established in the literature (Vorster, Rossouw et al. 1996; Ferreira 1999; Barrientos 2003; Legido-Quigley 2003; Barrientos and Mase 2012). In order to put the values of the grants into some perspective, it is useful to consider the mean per capita incomes of South African households. Using large-scale nationally representative data from the 2008 National Income Dynamics Survey (NIDS), Leibbrandt and Levinsohn (2011) estimate the mean annual per capita household real income at R9,718 for the black population, R25,269 for the coloured population and R110,195 for the white population. However, the authors are careful to note that these figures conceal very high degrees of heterogeneity within each of these groups. Using the same data set, Ambler (2011) calculated that the mean monthly per capita income for black South Africans of all ages was approximately R750 with the median per capita income at R396. In 2008, the maximum pension value went from R870 to R940 per month. Thus, the maximum pension value in 2008 was somewhere in the region of twice the value of the median per capita income. As previously mentioned (page 17, footnote 7), Keswell (2004) estimated that in 2002 the pension value was somewhere in the region of twice the median monthly income for individual earnings for black South Africans. These figures help to illustrate the continued significance of the pension over time and provide a benchmark with which the value of the pension can be considered.

Poverty in South Africa has an age dimension in that children are more likely to live in poorer households than adults. It is estimated that two thirds of children in South Africa live in poor households. Recent estimates suggest that the vast majority of these children, close to 10.5 million, are in receipt of a CSG (SASSA 2011), making it the grant with the most beneficiaries by some distance. In recognition of the need to reach the large numbers of children living in poverty, the CSG was designed during the initial transition period and implemented in 1998 (Lund 2008). Initially, only children aged 0 to 9 years were eligible. Due to the success of the grant, coverage was expanded in 2002 to include children up to age 13, and again in 2009 to include children up to the age of 15 and subsequently expanded again in January 2010 to include children up to 18 years. As a consequence of the extensions to the age threshold, as well as general improvements in grant administration, coverage estimates have increased dramatically over the years since its initial implementation. As of February 2003, coverage

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21 Ambler (2011) also notes that in the NIDS data, less than 15% of pension recipients reported that they received less than the maximum pension value.
estimates were around 2.5 million beneficiaries (Department of Social Development, 2003b as cited in Barrientos and DeJong 2004: 17). By 2007, coverage was estimated to be in excess of 8 million beneficiaries (Delany, Ismail et al. 2008). In 2011, close to 10.5 million children were in receipt of a CSG (SASSA 2011). The Foster Child Grant (FCG) and the Care Dependency Grant (CDG) are both also aimed at children with coverage rates of 521,863 and 112,555, respectively.22

In terms of beneficiary numbers, the pension is the second biggest grant. Current coverage estimates suggest that there are approximately 2.7 million beneficiaries of the pension, which accounts for somewhere in the region of 5% of the total population. This is an increase of approximately 400,000 from 2010 (Woolard and Leibbrandt 2010). Eligibility to receive the pension rests mainly on an age and income criteria. It is means-tested based on individual (or combined, if married) income,23 and is provided for those individuals with an income of no more than R47,400 per year (approximately £3,600) and without assets worth more than R792,000 (around £60,000) (Black Sash 2012).24 The age eligibility criteria has changed via an amendment to the 2004 Social Assistance Act in 2008, with the previous age for men (65 years) being lowered to bring it in line with the age for women (60 years), which was gradually phased in between 2008 and 2010.25

The means-test is calculated by taking the sum of the individual’s income and an income value assigned to the assets that the individual owns. For married individuals, the means-test is calculated by taking the mean of the pooled income (actual income and the income value of owned assets) of the pensioner and their spouse (Burns, Keswell et al. 2005). The means-test does not take the income of other household members into account so there is no incentive to rearrange household membership in order to qualify for the grant. If the individual’s income exceeds the means-test, the size of the pension payment is reduced on a rand for rand basis,26 in line with their income status (Burns, Keswell et al. 2005). The value of the pension is, in effect, more

22 As of 30th April 2011 (refer to table 2.1).
23 Please note that it is not based on household income. The income of other household members is not taken into consideration when processing grant applications.
24 Amounts accurate as of 30th May 2012. If married, combined incomes must not be more than R94,800 per year and the worth of combined assets must not be in excess of R1 584,000 in order to qualify for the pension.
25 The decision to lower the age was prompted by a legal case in which it was argued that the grant was discriminating against men aged 60-64 years.
26 The Rand (abbreviated to R), is the currency of South Africa.
or less a flat rate for the majority of recipients which has increased fairly significantly over the last 5 to 10 years. The maximum amount in December 2002 was R640 per month, although the amount paid to most recipients was R620, with the extra R20 paid to war veterans. The value of the grant was R940 in April 2008, increasing to R960 on 1st October of the same year. The value currently stands at R1,200 (with an additional R20 for those aged 75 years old or older).27 The evidence indicates that the pension is administered well and is successful in reaching the people entitled to it, including those in poorer rural areas (Ferreira, Lund et al. 1995). Pension transfers are paid to beneficiaries on a monthly basis and are a regular and reliable income source (Schatz and Ogunmefun 2007). Due to the long history and large size of the pension, take-up is near-universal and the likelihood of self-selection is low (Sienaert 2007).

Of particular note in table 2.1 (above), is the absence of any form of unemployment grant. In fact, grants are restricted to coverage of poor people in their old age and disabled people (including war veterans) and to the caregivers of children who are poor, poor and disabled or being fostered. The South African system, therefore, is effectively premised on an assumption of full employment (Nattrass 2005), an assumption that was arguably appropriate under the Apartheid regime when social assistance effectively existed for the benefit of white people, but one that lacks basis in modern day South Africa. The role of social transfers in poverty reduction strategies has long been an issue of contention in developed and developing countries alike. Social protection; what it is; what it is not; what it should and should not be, are very contemporary questions that are grounded in age old philosophical debates concerning the role of government and the way society is organised. The role of social grants in general, and the design of specific grants in developing (as well as developed) countries, is an area of popular as well as academic debate. In the South African context, the different perspectives on social grants broadly fall into one of three categories: those who are satisfied that the current system is working as it should and that no significant changes are required; those who believe social assistance should be extended and expanded, possibly via a complete restructuring of the current system of grants, so that greater proportions of the population benefit from the protection social grants offer; and those who believe the current provision needs to be scaled back due, primarily, to reasons relating to concerns over increased dependency, perverse incentives and strains on the economy.

27As of 30th May 2012.
Proponents of extending social assistance coverage frequently assert that the lack of coverage for unemployed working-age adults (without disabilities), is a violation of the national Constitution of 1996, which states that “everyone has the right to have access to social security, including, if they are unable to support themselves and their dependants, appropriate social assistance” (1996 Constitution of the Republic of South Africa, Section 27, 1c). There is strong support for a complete restructuring of the system, in particular, by replacing the current system which is comprised of a collection of individual grants aimed at those who are considered to be the most vulnerable groups, with a universal basic income grant (BIG), administered to all without a means-test and claimed back from wealthier individuals via the tax system. However, there is also strong opposition to the restructuring or any form of expansion of social assistance amongst certain sections of the population, many of whom would prefer to see a rolling back of social grants which they claim contribute to a ‘dependency culture’, create ‘perverse incentives’ and ultimately compound (or even cause) South Africa’s ongoing economic and social problems.

The CSG, in particular, has received some strong opposition (despite clear evidence of positive impacts), due to the perceptions of some that some young women chose to become pregnant solely for the purposes of obtaining the income and then using the income inappropriately whilst effectively transferring child rearing responsibilities to older women. However, this notion is not supported by the evidence (Case, Hosegood et al. 2005). There is also a popular belief, amongst some, that the grant system is resulting in a disincentive for people to seek employment opportunities. Several studies have investigated the link between employment and grants, none of which have provided convincing evidence to substantiate such claims (as discussed further below).

In addition to critiques of the system based on a false assumption of full employment, strong arguments for reform are also provided based on objections to the emphasis placed on means-testing. As can be observed from table 2.1 (above), only two out of the seven social grants are not means-tested. It has been argued that means-testing is one of the biggest barriers to social grant implementation on account of the administrative capacity required to implement the tests (Marais 2011). Since the means-test for the pension is based on individual or couple’s income and takes no account of the number of dependents living in the same household this could, in effect, disadvantage those living in households with larger numbers of dependents. An
illustration of this point could be the comparison of two pension recipients, one living alone and the other living with two unemployed children aged in their twenties with little or no regular individual income of their own. In this scenario, the older person who lives alone potentially benefits from the pension income to a greater degree than the older person with two non-contributing dependents. That said, the potential disadvantage to a pension recipient resulting from the restriction of the means-test to individual and spousal income could be offset in households where other household members are eligible for other grants, the CSG being a prime example.

In response to the problems associated with means-testing and gaps in social assistance coverage, calls for a universal income grant began in the late 1990s from various trade unions, church organisations and NGOs (Marais 2011). In 2002, the then Minister for Social Development, who intermittently championed a BIG (Marais 2011), released the Consolidated Report of the Committee of Inquiry into a Comprehensive Social Security System for South Africa, commonly referred to as the Taylor Committee Report, in which a BIG was recommended. The proposal was for a grant, worth approximately the same as the CSG, to be paid to everyone regardless of income. For the wealthy, the income would, in effect, be recovered through taxation. This, the report argued, would relieve the administrative burden associated with the implementation of several individual, means-tested grants and would result in greater coverage of social assistance in general, thus answering calls from civil society groups, in particular, for the gaps in social assistance policy to be filled in line with the Constitutional requirements.

There is undoubtedly convincing evidence of the failures of the current system. Nattrass (2005), for example, discusses the trade-off faced by many sufferers of HIV/AIDS who, in receiving available treatment in the form of antiretroviral medication and gaining improved health, effectively disqualify themselves for the DG, and yet remain unlikely to secure employment. The health of such individuals is consequently threatened if, having lost access to the DG, they are unable to afford to maintain their nutritional requirements. There are reports of patients deliberately sabotaging their opportunity to get better in order to maintain a certain level of ill health so that they qualify for a DG for the sake of their families and households.
However, there has been widespread opposition to the idea of a BIG, with fiscal feasibility and the idea of fostering dependency and creating a disincentive to work, comprising the main objections of opponents of such an approach. Even without a BIG or an individual unemployment grant, there are still strong (and possibly growing) concerns in South Africa that social grants may weaken motivation to work and create a dependency culture. If demonstrated to be the case, this would constitute a strong argument in favour of rolling back the grants or, at least, not extending coverage. A number of studies have investigated the link between employment activity and grants with mixed results. Bertrand, Mullainathan et al. (2003) and Dinkelman (2004) have demonstrated evidence to suggest that grant income is associated with a decrease in labour participation in the households of recipients. However, interpretations along the dependency lines have been challenged with lower labour participation being potentially due to the fact that more economically vulnerable individuals are, inevitably, more likely to live with grant recipients than family members who are employed (Muller 2006; Klasen and Woolard 2009). Surender, Noble et al. (2010), investigated the link between grants and employment and concluded that there was no evidence of such a dependency culture or a lack of motivation to seek or maintain employment among grant recipients. Other studies have suggested that grants may even lead to improved labour market outcomes due to the facilitation of job searches (Kingdom and Knight 2000; Schöer and Leibbrandt 2006), financing migration, helping to manage negative shocks (Booysen 2004), funding small business activities (Lund 2002) and increasing productivity through improved health and education outcomes (Samson, Babson et al. 2002).

2.5 Conclusion

This chapter set out to provide sufficient background information about the South African context in order to situate the analysis and findings for this study. An account of South Africa’s development and the State approach to social assistance was discussed with particular attention paid to the implications of developments in terms of intergenerational relations and the circumstances of older people. It is hoped that the account of South Africa’s development and its current socio-economic status has effectively highlighted the important role played by social grants and the pension specifically. The lack of employment opportunities and other sources of income for
many South Africans, and a tendency towards larger households comprised of extended families (which was touched upon in this chapter and is discussed further in chapter 3), underlines the relevance of considering household composition and income-handling behaviours when attempting to gain a better understanding of the wider effects of pensions or the net effect of pensions for older individuals. In the following chapter, the empirical and theoretical literature regarding South African households and pensions is reviewed.
Chapter 3: Social grants and household dynamics

3.1 Introduction

Having provided key background information about the South African context, social assistance and the pension in the previous chapter, the attention now turns to consideration of the rationale for a household level focus for this study despite some of the challenges this entails. The objectives of this chapter are two-fold: firstly, to present a comprehensive and constructive review of previous research on pension-handling and household responses to pensions; and secondly, to clearly situate this study within the broader body of literature regarding the South African pension; intra-household decision-making theory and household responses to social grants.

In order to achieve the overarching aim of the study, the theoretical and substantive literature is reviewed in this chapter. Substantively, there is a need for a comprehensive review of the evidence concerning general living arrangements in South Africa; pension income-handling; and household responses to pensions. From a theoretical perspective, the literature regarding the concept of the household; intra-household decision-making; and household responses to social grants requires critical consideration. Firstly, the evidence regarding how pension income is handled by beneficiaries is reviewed. Information about what and who the income is spent on as well as who makes decisions about the income-handling is of the utmost importance. The evidence regarding the motives that drive the practice of pension sharing and the subtle nuances between perceptions about the pension and the actual handling of pension income are also considered before the chapter moves on to review the evidence concerning household responses to social grants. A brief overview of the existing theories on the household and intra-household decision-making is presented which informs the consideration of opportunities and limitations that a household level focus provides for a study of this nature.

This study contributes to the existing literature in several key ways. Firstly, new empirical evidence is contributed to knowledge on the practice of pension sharing in South African households. In particular, the extent of pension sharing, the persistence of the trend over time and the degree of convergence (or lack thereof) between black
and coloured households and urban and rural households in respect to pension sharing are considered. This analysis builds on the important contributions of, amongst others, Ardington and Lund (1995), Møller and Sotshangaye (1996), Sagner and Mtati (1999), Barrientos, Ferreira et al. (2003) and May (2003). Secondly, building on the previous work by Case and Deaton (1998), Edmonds, Mammen et al. (2004) and Hamoudi and Thomas (2005), new empirical evidence is contributed in terms of household composition responses to pensions. Thirdly, the empirical evidence generated in this study, in turn, offers an opportunity to explore theoretical conceptions of household responses to social grants thus building on the work of Duflo (2000; 2003) and Ambler (2011).

The chapter is organised as follows. In section 3.2, the empirical evidence concerning the handling of pension income, the motives behind the practice and perceptions around pension sharing is reviewed. Section 3.3, presents a review of the existing empirical evidence concerning household responses to pensions in terms of household composition and other responses. Section 3.4 presents a summary of the theoretical literature regarding intra-household decision-making which informs the study. A discussion of the appropriateness and limitations of a household level analysis of pension-related outcomes is also presented. The chapter conclusions are then summarised in section 3.5.

3.2 Pension sharing: Evidence, motives and perceptions

The majority of older South Africans live in multigenerational households (Ferreira, Møller et al. 1992; Møller and Devey 1995; Sagner 1997; Møller and Devey 2003). Living arrangements in South Africa have been shown to vary in systematic ways according to racial group. While white and Asian groups tend to live in nuclear family households, the black majority and coloured South Africans tend to live in extended family households (Amoateng, Heaton et al. 2007). Although Amoateng, Heaton et al. (2007), demonstrate that extended family living is more common among the poorest and least educated, the authors conclude that the persistence of these living arrangements for black and coloured South Africans over time, in a context of rapid socio-economic transformation, shows that multigenerational households reflect a preference rather than a necessity for these groups.
Although originally intended as poverty relief for older people, the overwhelming consensus in the literature is that pensions are shared within the majority of pensioners’ households (Ardington and Lund 1995; McKendrick and Shingwenyana 1995; Møller and Sotshangaye 1996; Sagner and Mtati 1999; Barrientos, Ferreira et al. 2003; Duflo 2003; May 2003). One of the main objectives of this study, as explained in chapter 1, is to assess the degree to which pensions are treated as household rather than individual income some 8-15 years after the end of Apartheid. The findings from such an investigation inevitably have implications for social grant impacts for the individual recipients, their households and consequently implications for the approach taken to research in this area. In this section, the empirical evidence concerning pension-handling and perceptions around the income is reviewed, followed by consideration of the evidence with regards to the motives that drive this behaviour and the implications for the older beneficiaries.

**Pension sharing: The evidence**

Ardington and Lund (1995) were amongst the first to conduct a study of pension-handling behaviours in South African households. The authors analysed data from black African households in the KwaZulu region and concluded that pensions were generally shared with other household members. Møller and Sotshangaye (1996) undertook an ethnographic study amongst older Zulu women living in rural and urban areas of KwaZulu-Natal. From in depth interviews and focus groups with 50 older women the authors concluded that pension sharing was certainly the norm for the women they interviewed. Sagner and Mtati (1999) carried out a study of older black Africans living in urban Cape Town which was premised on the fact that pension income was shared and focused on social and cultural dimensions of ageing which they relate were exemplified by the practice of pension sharing. Duflo (2000; 2003) was amongst the first to demonstrate clear evidence concerning pension sharing using a larger data set of 9000 households across all areas of South Africa and inclusive of people from all ethnic backgrounds.\(^{28}\) The evidence from Duflo’s analysis (which is discussed further in section 3.3 with regards to household responses to pensions), suggests that pensions received by women may have led to improved child health status, whilst no such evidence was found for male pensioners. These findings suggest evidence of pension sharing, at least in the case of female pensioners.

\(^{28}\)Although, in effect, the majority would still have been black African due to the ethnic composition of South Africa’s population and alignment between poverty (and therefore pension recipients) and ethnic background.
Barrientos, Ferreira et al. (2003) were the first to conduct a larger scale analysis of pension sharing with direct questions about pension-handling included in their survey of 1000 households in select rural and urban areas of South Africa. The authors concluded that the majority of pensioners in the sample reported sharing their pensions, although there were notable disparities according to whether the pensioner was from an urban black household, a rural black household or an urban coloured household, with the highest propensity to share more of the pension among rural black households and pensioners, and with the least amount of sharing occurring for the urban coloured households and pensioners.

The literature regarding the ageing experiences and household organisation of coloured South Africans is much more limited than for black South Africans. Therefore knowledge of pension effects for coloured beneficiaries and their households is limited. Du Toit (1994) carried out a study of the ageing experiences of coloured people in Grahamstown in the Eastern Cape and found that for the coloured community there, the pension represented the only reliable item for exchange. Consequently, although it fulfilled the important role of providing for their basic needs, it also played a fundamental role in securing family support. The conclusions from du Toit’s study (1994), suggest that for poorer coloured pensioners and their households, at least in the past, the pension has played a very similar role to that played in the lives of black pensioners and households.

**Pension sharing: Motives and perceptions**

The nature of pension sharing, at face value, may appear relatively straightforward. On the whole, older people live in households characterised to varying degrees by poverty. In the majority of beneficiary households, the income from the pension is of significant value relative to other income sources. Møller and Sotshangaye (1996) observed in their study that the only source of income in one third of the households of the older women they interviewed was from social pensions. It is, therefore, not surprising that older people share their income for the wider benefit of their household or kin. A degree of attachment and altruism is expected. As one of the women interviewed by Møller and Sotshangaye (1996:15) put it, “I buy more things for the children because they need clothes. I cannot let them starve, though I starve

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29 The data used is the first wave of data collection of the AWD data set that is used in this study, supplemented by the second wave of data collection from many of the same households visited in 2002. The survey data is discussed further in chapter 4.
However, the motivations behind the practice of pension sharing are arguably more complex. According to Møller (2011), in the past pension sharing within households was regarded by the government officials who administer pensions as being exploitative. However, the author points to evidence that pension sharing has been viewed in a more positive light in recent times by policy makers and has been used as justification for increasing social spending (Department of Social Development 2002 as cited in Møller 2011). It is not clear, based on empirical results alone, as to what degree of choice the beneficiary has with regards to whether they share their pension or not, and what proportion of the income they share when they do. It is, at least in some cases, fair to assume that there could be a degree of pressure, normative or literal, due to the threat of dispute or negative repercussions should the beneficiary refuse to use the income in ways that benefit other household or family members (for example, to pay household utility bills). There is certainly evidence of such cases in the literature (see, for example, Ferreira and Lindgren 2008).

Furthermore, assuming for one moment that the degree of choice on the part of the recipient is high, it is not clear from empirical evidence about income-handling as to what the motivating factors are for this decision. For example, the choice may be driven fully or partially by altruism or by a tacit or acknowledged reciprocal arrangement whereby the sharing of pension income is provided in exchange for other forms of care or for a greater degree of decision-making influence within their household or other social unit. A handful of studies have sought specifically to examine the motivating factors for pension sharing and attitudes towards pensions in South Africa. There are reported cases where pensioners (and female pensioners in particular) are exploited and pension money taken from them by physical force by family members and sometimes involving extreme forms of violence or the threat of extreme violence (See for example, Ferreira and Lindgren 2008). However, although such instances of abuse could well be relatively commonplace in some communities, it is unlikely to represent the reality for all older people. Instead, the general consensus in the literature is that for many South Africans, pension sharing is a norm which has evolved, at least in part, out of a combination of economic, political, cultural and moral factors.
According to Sagner (2000), pensions were, from the very beginning, in effect familial rather than individual resources, providing household rather than individual income. When black African pensioners received pensions they were, at least in the past, under considerable moral and normative pressure to pool their pensions. The decision not to share the pension money would not only have been morally outrageous but tantamount to the denial of kin relationships. Insofar as pension sharing affected living arrangements in old age, it was, according to Sagner (2000), conducive to the social integration of pensioners and helped to secure their care. However, Sagner (2000) also emphasises that, while pensioners became financially more self-sufficient as a result of pensions, the ‘second-hand’ money also, at least in the past, has acted to reinforce their dependent status as it heightened the moral pressure on them to furnish certain services and support to other family members. In this sense, the pension may have had (and possibly continues to have) a disempowering effect for some older people.

Sagner and Mtati (1999) conclude that pension sharing is not governed or motivated by attachment and intergenerational reciprocity, but rather the decision to share is motivated by morality and shaped by the economic and social conditions within which older persons find themselves. Pension money is shared, for example, in exchange for care, so that if one ceased to share the pension, the care would also stop and vice versa. In a similar vein, pension sharing in South Africa is described by May (2003) as an instrumental strategy that has emerged as a norm due to a combination of economic and political factors. However, he asserts that these factors are not sufficient in and of themselves, and that the practice is also tied intimately to the African cultural ethos that stresses the value of interdependence and the priority of family welfare over self-interest. According to May (2003), many older Africans believe that if they do not share their pensions with kin, they do not have much chance of being helped in times of need. He suggests that the provision of old age care by family and kin may be dependent on the older persons’ acceptance of their normative obligations and responsibilities.

In addition to the political, economic, cultural and moral factors which potentially shape the practice of pension sharing in poor South African households, Møller and Sotshangaye (1996) identified additional important dimensions to pension sharing as a practice. They conclude that the act of pension sharing enhanced the self-respect of the older women they interviewed, through the pride derived from being economically...
independent and creditworthy as well as through caring for family. They claim it instilled a strong sense of purpose in everyday life. In other words, there was a degree of satisfaction and self-esteem derived from sharing pensions by these older women. This aspect of pension sharing was, however, coupled with a sense of frustration that their own needs were sometimes neglected in the interests of family welfare. Møller and Sotshangaye (1996) also make an important distinction between how the pension was perceived by the participants and how it was handled within their households. Although pension sharing was undoubtedly the norm for the participants in their study, the pension was nevertheless regarded as individual income by the recipients themselves, rather than as family income. The authors observed that the pensioners tended to see themselves as poor despite often having a higher monthly income due to the pension than at any other time of their lives. However, there was still a feeling that the pension was their money and represented their individual contribution to household welfare.

The persistence of pension sharing
Relatively little empirical evidence has been produced in recent years that has specifically sought to substantiate that pension sharing continues to be a persistent and pervasive social norm in the majority of South African households with pensioners and that the nature of pension sharing remains relatively static and unchanged over time. The shifting nature of income inequality in South Africa calls into question the handling of pensions in non-black African households in particular. As was discussed in chapter 2, whilst overall inequality remains high, there is clear evidence to suggest that inequality within racial groups has increased whilst inequality between racial groups has decreased over time (Nattrass and Seekings 2002). Also, as mentioned previously, Barrientos, Ferreira et al. (2003) noted significant disparities between pension-handling and racial group as well as between rural and urban black African households. In light of the changing nature of inequality in South Africa and the factors that potentially drive pension sharing, part of the analysis undertaken for this study involves extending the analysis originally undertaken by Barrientos, Ferreira et al (2003), to analyse the associations over time between pension-handling behaviours and racial group (black and coloured), as well as between rural and urban households. Of particular interest is whether or not the evidence suggests that there are signs of convergence between groups or whether the previously identified differences appear to persist.
If the pension remains, in effect, a household social grant rather than an individual grant then, firstly, this has direct implications for the net effects of the pension for individual recipients and, secondly, the context continues to provide researchers with a valuable opportunity to explore theories of intra-household dynamics. With regards to implications for older people we can conclude that, from a financial point of view, the number of dependents in a household is intuitively likely to impact directly on the degree of direct financial benefit experienced by the recipient. Møller and Sotshangaye (1996), note that for the older women in their study, the pensioners who were most satisfied with the purchasing power of their pensions typically came from smaller households, which is not surprising in light of the extent to which pensions were reportedly shared for the study participants and the lack of additional household income. However, it is also clear from the evidence that other dimensions of poverty in older age, which are separate from the financial aspects, should be considered in any assessment of the net effects of pension benefit for recipients and the wider effects of pensions in general. The potential for exchanges for care and the facilitation of the social integration of older people described by Sagner (2000) and May (2003), along with the sense of pride, self esteem and strong sense of purpose reportedly derived from pension sharing described by Møller and Sotshangaye (1996), illustrate the complex role played by pensions in the lives of older people, their households and, therefore, South African society as a whole. Having considered the evidence regarding pension sharing as a specific phenomenon, the focus in the following section shifts to a review of the evidence regarding household responses to pensions and other social grants.

### 3.3 Household responses to social pensions

It is well established in the literature that South African households respond to pensions in various ways, for example, with regards to labour supply decisions (Posel, Fairburn et al. 2006; Ranchhod 2006; Sienaert 2008; Ardington, Case et al. 2009), intra-household decision-making (Duflo 2000; 2003; Ambler 2011), and household composition (Edmons, Mammen et al. 2004; Hamoudi and Thomas 2005). Such responses are not surprising when one considers the high relative value of pensions, as previously discussed. The evidence surrounding the nature of changes relating to household composition and other forms of response is, however, limited and somewhat mixed, and thus interpretations concerning the implications of such effects for older
people, their households and ultimately South African society as a whole, vary. The evidence with regards to household composition is considered first in this section before then considering the evidence relating to intra-household dynamics.

**Pensions and household composition**

A rich literature has grown around the determinants of living arrangements for older people in developing countries, how these arrangements are influenced by individual and household income, and how arrangements affect the wellbeing of older people and their families.\[^{30}\] The determinants of living arrangements for older people and household structures in South Africa are likely numerous and complex. Due in part to the historical, political and economic developments, as discussed in chapter 2, it is common for black African adults to migrate in order to find work, leaving parents and children to care for each other (Case and Deaton 1998). Case and Deaton (1998) found that 14% of the African pensioner households in the nationally representative survey data they analysed from 1993, were households with a missing middle generation, often referred to as skip-generation households. These household structures were (and continue to be) likely the product, in no small way, of migration patterns and the consequences of the HIV/AIDS epidemic. Three-generation and skip-generation households accounted for almost three quarters of the black African pensioner households in their sample (Case and Deaton 1998). Schatz (2007) found that for the rural households surveyed as part of the Agincourt project,\[^{31}\] households with an older woman were twice as likely as those without an older woman to have a fostered child living in the household and three times as likely to have an orphan living in the household. This illustrates the well documented fact that older women tend to be involved in child care related roles in their families to a far greater extent than their male counterparts.

Case and Deaton (1998) explain that skip- and three-generation household structures could also be, at least in part, a response to social pensions. However, they cast doubt on pensions being the real driving factor behind these household structures for two key reasons. Firstly, they point out that black African families were living in three generation households long before the pension was made eligible to citizens regardless


\[^{31}\] The Agincourt project collects demographic and population data from households living in the Limpopo region in the rural north-east of South Africa. Further information can be found at the following website: http://www.agincourt.co.za/.
of race. Their survey data was collected only relatively shortly after the equalisation of values occurred making it unlikely that households would have had a chance to alter significantly before the data was collected. Secondly, they highlight the fact that nothing was preventing pensioners from transferring pension income to children and grandchildren who were not physically living with them.

Findings from different regions and studies have been presented in the literature in respect to a ‘crowding in’ hypothesis whereby social grants targeted at individuals and in particular older people are hypothesised to be associated with other individuals moving into the household with the recipient (or a new recipient being relocated to an alternative existing household) in order for the new fellow household members to benefit from the income. Hamoudi and Thomas (2005) analysed data from the South African Income and Expenditure survey (IES). They concluded from their analysis of the pension and household composition responses, that pension-eligible adults were more likely (than pension-ineligible adults) to co-reside with other adults who had lower levels of human capital as measured by height and education.

Using Census data for the period 1991-1996, Edmonds, Mammen et al. (2004) analysed household compositional responses to pensions in black households and identified statistically significant correlations between female pension eligibility and increases in the presence of young children aged 5 years and younger and women aged 18-23 years and between male pension eligibility and increases in the number of school aged children, especially boys aged 6-17 years. However, correlations were also found between female pension eligibility and declines in the number of people in their 30’s, especially women in their 30’s, and between male pension eligibility and declines in the presence of men in their 30’s. These findings are consistent with the idea that grandmothers traditionally help to care for young children. It is suggested by the authors that the increase in boys with male eligibility may be due in part to schooling or work. They also speculate that the decline in working-age adults may be an indication of pensions facilitating labour migration.

The evidence of so-called crowding in effects has been framed both positively and negatively in the literature. One positive interpretation is that older people, who perhaps felt relatively isolated or excluded from wider social networks prior to receipt of the pension, may upon receipt of the pension, find themselves brought back into the
centre of family life and included in household decision-making and/or in household life in general. Although ‘crowding in’ as a concept is not directly discussed, such scenarios are possible in light of the findings from Møller and Sotshangayaye (1996) with regards to positive feelings associated with being a provider to others and also the observations from Sagner (2000), with regards to the social integration of older people and the securing of care facilitated by pensions. As discussed in the previous section, pensioners can potentially exchange their income with younger individuals for alternative forms of care. It can therefore be speculated that extended family members may move into the household in order to benefit from the income but, as part of the deal (tacit or explicit), fulfil certain care roles and/or provide a degree of social interaction which, in turn, may increase the older person’s level of security and wellbeing in a host of ways. Although not speaking directly to the issue of new household members moving into a household, Møller and Sotshangayaye (1996) clearly highlight wellbeing outcomes which are linked to pension income.

However, as Camarano (2005) points out, a greater number of people living in a household does not necessarily equate to greater support for older people. The potential crowding in effect of pensions has also been presented and discussed in the literature in a negative light. Møller and Sotshangayaye (1996), describe in their study how a number of the grandmothers they interviewed used their pension to care for a number of orphaned, sick and disabled children and grandchildren. May (2003) describes in his paper on poverty and older people in South Africa how, when they receive a pension, older people can become a ‘magnet’ for extended family members who gravitate towards the beneficiary in order to profit from their regular and reliable income source. It is then straightforward to see how such a response could lead to negative repercussions for the older people involved as they find themselves the main or sole provider for a number of dependents for whom they felt they had little or no responsibility prior to receipt of their pension.

Conversely, concern has also been expressed that social grants directed at older people may lead to a ‘crowding out’ effect for already established informal old age support offered by family and community members, and that the implications for older people can be viewed in a negative light since these previously established networks are withdrawn and the older person is, in effect, left to take care of themselves (Camarano 2005). In the literature, the concept of ‘crowding out’ typically refers to financial
support (which is discussed further below). However, it can also apply to the literal moving out of household members who, prior to pension receipt, resided in the same household with the older person but only until the older person gained the financial independence afforded by the pension, after which the relatives no longer felt an obligation to provide for the older person and who then opted to set up a separate household without the older person included. There is little evidence in the literature to support such a hypothesis in the South African context. A minority of older South Africans live alone, and previous studies have demonstrated that, at odds with other cultural contexts, an increase in individual income brought about by the pension does not appear to be associated with an increased propensity for older people to live alone in South Africa (Edmonds, Mammen et al. 2004). The reasons that account for this are likely to be related, at least partially, to cultural norms and traditions. As discussed in Amoateng, Heaton et al. (2007), although household structures and living arrangements in South Africa are influenced by many factors including social and economic amenities, access to housing and so forth, there is a communal ethos among many African communities. A tendency to live in extended households reflects a preference rather than a necessity, although this is a complex and debated area, further discussion of which is beyond the scope of this thesis.

Although this study does not attempt to analyse household responses to pensions concerning labour force activity, the extent of labour migration that takes place in South Africa means that household composition responses to pensions cannot be analysed effectively without consideration of labour migration flows. A significant amount of attention has been focused on the examination of potential correlations between social pensions and the labour force activity of both older people and their fellow household members, since the results from such analyses are of very real interest to researchers and policy makers alike. There is growing evidence that the South African pension affects household labour supply by influencing migration behaviour, although data availability has tended to constrain detailed descriptive work on the size and determinants of these behaviours (Sienaert 2007). Maitra and Ray (2003a) and Posel, Fairburn and Lund (2006) examined changes in household composition associated with pension receipt and also found a decline in the number of resident, working-age individuals. This, they conclude, could be explained by migration. Maitra and Inder (2004) examined the evidence of ‘crowding out’ of potential labour migrants and concluded that the pension provides households with higher income,
which in turn makes them less risk averse and, thus, more likely to take the relatively risky decision for household members to migrate for work purposes. Sienaert (2007), comes to a similar conclusion based on his analysis of labour force survey (LFS) data, which indicates that there is a strong association between the pension and increases in labour migration especially when the pension recipient is female.

With regards to the ‘crowding out’ of financial support, there is some evidence to suggest that remittances to older people in some country contexts may decrease as a result of social pensions. Evidence on crowding out is mixed but tends to suggest that social grants do partly displace remittances in South Africa (Sienaert 2007). Jensen (2004), who used data covering the period 1989 to 1992, demonstrated some such evidence of this occurring in South African households where pension income was associated with lower private transfers provided by migrant adult children to older people. However, in other studies and contexts including South Africa, this has not been shown to be the case. Using data from 1993, Maitra and Ray (2003b) found weaker evidence of a crowding out effect for very poor households than previously found by Jensen (2004). Furthermore, as du Toit and Neves (2008) crucially point out, crowding out arguments often fail to consider the spatial distribution and ‘stretched’ quality of many impoverished households and how any decline of private remittances to a grant receiving household reveals little of how the freed up income might be redirected elsewhere. Sieneart (2007) attempted to consider both household compositional (migration) and resource flow (remittances) responses to the pension in order to gain a better understanding of the associations between pensions, labour migration and private remittances. He concluded that the pension does appear to alter household labour supply and resource flows substantially and observed some signs of crowding out. Taking into account the positive relationship between the pension and migration, he concluded that, on average, there is crowding in, with the pension boosting private remittances. In other words, social grants increase labour supply in the form of migration and, in doing so, boost private transfers to residents.

The vast majority of studies which have attempted to measure pension effects on household composition (as well as other potential responses) have not considered or attempted to measure anticipation effects. In other words, an assumption is often made, at least tacitly, that pension effects are likely (or more likely) to occur following initial pension receipt. Harris, Inder et al. (2007) are a notable exception. They have
produced evidence to suggest that, in some cases at least, responses to pensions concerning living arrangements occur prior to actual age eligibility. This suggests that households are forward-planning. When the potential for anticipatory effects are not measured, this can potentially lead to inaccurate conclusions that, in turn, can potentially result in inappropriate policy recommendations. Anticipatory effects are therefore considered and measured in this study.

3.4 Intra-household dynamics

The handling of pension income, including whether it is shared and to what degree it is shared, depends upon intra-household decision-making processes. By extension, all potential responses to social grants, whether in terms of household composition, labour force activity or any other response, are mediated by intra-household dynamics. The discussion turns now to the evidence regarding social grants and intra-household decision-making.

There is a strong body of evidence accumulated from many countries, the general consensus of which suggests that the way income enters a household affects how that income is allocated. In their seminal paper, Lundberg, Pollack et al. (1997) exploited changes in the child benefits in the United Kingdom welfare system in the late 1970’s to test how the gender of the welfare recipient can affect intra-household resource allocation. They found evidence of statistically significant changes in consumption patterns according to the gender of the grant recipient, with expenditures on women’s and children’s clothing increasing relative to men’s when the benefit was given as cash directly to the mother. They concluded that the shift in power within the household affected the allocation of resources by strengthening the women’s influence in decision-making when they were the grant recipient. Thomas (1997), found in Brazil, that when additional income was given to women in poorer households this resulted in a greater share of the household budget being allocated to health, education and nutrition-related expenditures.

With regards to the South African context, there are a small number of empirical studies of intra-household dynamics and pension income. The seminal contribution of Duflo (2003) notoriously concluded that increases in pension income received by
grandmothers appeared to increase the health and nutrition status of grandchildren, especially granddaughters. The same was not true of pension income received by grandfathers. In a similar vein, Case and Menendez (2007) identified key correlations between female pension income and positive outcomes relating to female children’s health and education, as well as general improvements to household health associated with pension income in general. Ambler (2011) found some similar and some differing evidence to the previous studies. Her findings suggest that female pension eligibility is associated with improved nutritional status for young girls and increased ownership of consumer durables, particularly in households with children. However, at odds with Duflo (2003), the lack of similar such impacts on household wellbeing for male pensioners is attributed to the fact that men do not experience the same increase in their overall individual income as a result of the pension (since, on average, they are more likely to have been employed and in higher-waged employment prior to the pension) than many older women. As a result, Ambler’s work casts some doubt over the hypothesis that older women tend to handle money in more responsible or household-friendly ways than their male counterparts.

Traditionally, the Social Sciences have depended on the household as the basic building block for research with relatively little data collection going down to the sub-household level (Bolt and Bird 2003). This tendency for household level data collection leads to two conclusions: firstly, that there is an implicit assumption of equality amongst household members (as pointed out by Kabeer 1994); and, secondly, that the household level is the optimum level at which to collect and, by extension, analyse data. The first assumption has been the source of much debate. A rich literature has thus accumulated around the challenge of how best to understand within-household relations and decision-making. The validity of the first assumption in relation to this study is considered in section 3.4.1. The second assumption is discussed in section 3.4.2.

3.4.1 Intra-household decision-making: In theory
The intra-household dynamics literature focuses on decision-making with regards to the allocation of resources in particular (resources inclusive of cash, time, or other services) as well as other aspects of social relations within the household setting in general. Knowledge of intra-household resource allocation is limited (Himmelweit et al, 2003 as cited in Barrientos and DeJong 2006). Studies that have sought specifically to take on this challenge have ranged widely in their methodological approaches.
Whilst some researchers have presented detailed accounts of time spent 'on the ground' talking in-depth to a relatively small number of individuals or observing the workings of a singular household (examples include Kabeer 1997; Rodgers 2007). Other studies have entailed the analysis of indicators using large scale survey data (examples include Duflo 2000; Molyneux, Murira et al. 2002). Regardless of methodology, it is universally acknowledged that analysing intra-household decision-making processes is challenging and complex.

**Formal economic household models**

The traditional approach taken to the modelling of ‘the household’ in microeconomic theory is to assume that the single utility function of the household is maximized under a budget constraint. In other words, that the way income is allocated is economically efficient for the household as one collective unit. Models that come under the unitary model umbrella are based on an assumption that household decisions are made on the basis of the collective good of all the household members. In the theoretical unitary household, it does not matter how income enters the household, through whom it enters or who has control over that income once it is in the household because under the assumptions of unitary models all household members benefit equally from all income (Samuelson 1956; Becker 1974; 1981). The allocation of resources within the household is therefore assumed to be either irrelevant or addressed within a dictatorial decision-making process (Chiappori 1997).

Unitary models benefit from being analytically simplistic but are impaired significantly by their limited ability to represent the realities of most contexts. One of the key criticisms of unitary models in general is that they do not typically allow for more than one decision-maker within a household which has been widely argued is an unrealistic assumption in many (although perhaps not all) contexts and cases. Becker (1981) devised what are commonly referred to as 'altruistic models' and Samuelson (1956) produced a collective welfare index, both of which are examples of exceptions to this rule where the ‘traditional’ approach is also compatible with the idea of more than one decision-maker. The utility of these models, however, remains limited because they do not allow for a difference in the way income is spent to be affected by how (and through whom) it entered into the household in the first place (Chiappori 1997). Furthermore, unitary altruistic models (and unitary models, in general) ultimately deny the possibility of intra-household inequality, bargaining and conflict in the household.
(Kabeer 1994), of which there is plenty of evidence to demonstrate is typically a flawed and potentially problematic assumption.

Most often posed in direct opposition to the traditional unitary approach to understanding the household are models which collectively come under the umbrella of ‘bargaining models’. Unlike unitary models, bargaining models assume that decision-making within a household is the outcome of interactions between household members who possess their own individual competing interests. Decisions about intra-household resource allocation are therefore the result of a bargaining process. Thus, how and through whom a source of income enters the household has the potential to influence the strength of individuals' bargaining power.

Bargaining models can be divided into two sub-categories of model: cooperative and non-cooperative models. Both use game theory but entail different assumptions about the nature of decision-making in the household. Cooperative models characterise the process of decision-making as entailing negotiation between household members where all members are motivated by the desire to work collaboratively for the maximum benefit for all. Non-cooperative models, on the other hand, assume the decision-making process to be characterised primarily by conflict in which each individual is motivated primarily by self-interest. Unlike cooperative models, the outcome from non-cooperative models may not be economically efficient.

Collective models are a type of cooperative bargaining model. The theory informing collective models typically (but not always) supposes that households can be better understood as consisting of separate spheres of decision-making and activity that are related to one another by a ‘conjugal contract’(Carter and Katz 1997). The conjugal contract model characterises the household economy as a site of interdependent preferences and resource allocation decisions bound together by various forms of interdependence – what Sen (1990) calls ‘cooperative conflict’. The conjugal contract model also considers the ways in which the social construction of patriarchy is reflected in the alternative or ‘exit’ options individuals have to the household economy, as well as the determination of the degree of ‘voice’ that individuals have to bargain with over the terms of the conjugal contract (Carter and Katz 1997).

32 A conjugal contract is a concept which describes the terms under which household members exchange goods, income, and services amongst themselves.
The conjugal contract model, and collective household models in general, assume that household labour supply and consumer demand decisions are affected by gender-based norms, divisions, and conflicts which are important in the determination of household resource allocation (Hochschild 1990; Wolf 1990, as cited in Carter and Katz 1997). In essence, collective models view households as sites of simultaneous cooperation and conflict, autonomy and interdependence. In terms of social grants, who the recipient of the benefit is, influences how the benefit is allocated within their household by strengthening the power of the recipient in relation to the other members (Barrientos and DeJong 2006). Ultimately, households are composed of individuals who have competing interests and needs and this situation which is culturally, spatially and temporally specific can result in development interventions having unanticipated negative impacts on certain individuals or groups (Bolt and Bird 2003).

**Multigenerational households in theory**

The literature on household models is extensive but few examples of explicit or implicit attempts to incorporate multigenerational household structures into formal models exist. Unitary models do not need to be concerned with household structures or generational relations since they are based on the assumption of one or more heads of household acting in the best interests of the household as one unit and thus are based on an assumption of shared needs and preferences. Collective models, however, both cooperative and non-cooperative are implicitly based on assumptions about couples comprised of a male and female operating through bargaining or otherwise, and typically residing in a household with children.

Gender undoubtedly plays a significant role in intra-household relations as well as in the individual experiences of old age. Female and male pensioners are likely to behave differently as individuals, and other household members are likely to interact differently with pensioners according to the pensioner’s gender. Gender relations also influence the way household decisions are formulated (MacPherson 2008). Sen (1999) has been very influential in the field of intra-household models of household behaviour. In his discussions of gender relations he identifies women’s ability to earn an independent income, to find employment outside the home, and to have access to ownership rights and education as key variables affecting women’s social standing and decision-making power within the household setting. Sen (1999) does not explicitly discuss how these gender dynamics may apply to intergenerational relations within
households rather than between spouses. It is interesting to consider how these discussions of gender relations can be applied to ‘generation relations’ in the South African context. It can be hypothesised that, firstly, gender relations play an as important role in generational relations as they do in spousal relations and, secondly, that generational relations (as something separate from gender relations) also play a key role in intra-household dynamics in settings where households are comprised of more than one generation of adults. Sen (1999) also argues that households are formed and sustained for as long as members have more to gain from being within than outside them. Again, this is one aspect that is not extensively considered in the intra-household dynamics literature in relation to multigenerational households and the options available to older people.

**The complexities of intra-household dynamics**

The traditional approach offered by unitary models is an attractive starting point despite the fundamental flaws because it offers a relatively simplistic model to apply and interpret which can therefore be more conducive to policy recommendations. That said, the significant limits imposed by the flaws need to be carefully considered so as to avoid the aforementioned potentially unanticipated negative impacts on certain individuals or groups. It is well established that, in reality, households tend to be neither homogenous nor harmonious social units, but rather highly variable institutions characterised by ‘competing interests, rights, obligations and resources’ (Moore, 1994: 87, as cited in Rodgers 2007). Furthermore, household arrangements are not only determined by individual preferences, but are strongly influenced by prevailing social and cultural norms (Barrientos and DeJong 2006). Therefore, although collective models are arguably a better fit to the reality, it is very challenging to incorporate these complexities into models that can then be generalised, and this poses significant challenges in attempts to inform policy.

A considerable body of evidence continues to accumulate, from both developed and developing countries, that demonstrates how individuals within households and families do not enjoy equal outcomes or access to resources. One of the most challenging aspects for studies of intra-household decision-making and resource allocation is to establish what drives such disparities; whether or not identified disparities within households represent a problem; and then to identify which policies might alleviate problematic disparities that have been identified (Burton, Phipps et al.
Difference does not necessarily imply injustice (Burton, Phipps et al. 2007). It is not obvious, for example, whether being responsible for the household’s income is perceived by the individual concerned as a source of power or a tedious chore. Where the main household decision-maker can be successfully identified it does not necessarily provide information as to who enjoys the benefit of that income (Woolley and Marshal 1994; Phipps and Woolley 2007, as cited in Burton, Phipps et al. 2007).

Some approaches to the analysis of intra-household decision-making have attempted to identify different types of decision and to categorise decisions, for example, by differentiating between strategic choices with profound effects and routine management functions for which there may be little in the way of choice involved (Mayoux 2004). Some studies have highlighted the importance of identifying ‘stages’ of the decision-making process and the levels of influence of different household members at these different stages (see, for example, Kabeer 1999). Yet still other studies have highlighted the importance of considering the aspirations of individuals when analysing roles and influence in household decision-making, since what older people want and regard as important areas of decision-making may differ from case to case.

Attempting to capture the subtle distinctions of older people’s aspirations presents a big challenge for any study. One cannot assume, for example, that work outside of the home has an empowering effect, since that may depend on many factors including the social status of the work type, whether or not they have been coerced or forced into working more than they would prefer, and other factors. Sometimes relatively crude methods of categorising participation in decisions have been used, for example, attempts to categorise men’s decisions, women’s decisions and joint decisions, which fail to capture much of the complexity of situations and can ultimately lead to inaccurate or misleading conclusions from which policy takes its cue (Mayoux 2004).

The importance of social norms and historical context is underlined by the need to consider which decisions taken at the household level have always been traditionally taken by certain individuals (for example, by men, women, heads of household or elders), and which decisions have more recently changed domains, for example, from a traditionally female responsibility to the males in the household (Mayoux 2004). Many decisions are determined by external factors such as availability of employment

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33 See, for example, Ambler (2011).
opportunities (for example there may be more opportunities for younger people than older people). The decision for one household member to go to the shop to acquire food on behalf of the household may be determined by the mobility levels of household members. If the shop is a long distance, an older person may not want or be able to go. Furthermore, if the route to the shop is not particularly safe at certain times, it may be logical for a male household member to do the trip instead of a female and/or older household member (Mayoux 2004).

In light of the theory on intra-household decision-making and the empirical evidence available in South African pensioner households, it can be concluded that not every household member benefits equally from pension income and that the gender of the beneficiary is associated with at least some of the associated outcomes. Despite the fact that recent findings by Ambler (2011) cast some doubt over the true extent to which identified beneficial child-related outcomes associated with the pension can be attributed entirely to female pensioners, the evidence in Duflo (2003) is persuasive in demonstrating that gender differentials exist when it comes to pensions and outcomes. Certainly, there is anecdotal evidence which emphasises that pension income given to older women is handled differently to pension income given to men.

Ambler (2011) successfully demonstrates evidence that pensions given to older women appear to be associated with a higher degree of household decision-making influence. This, she concludes, constitutes evidence of an increase in bargaining power. The shift in decision-making power is accompanied by improved nutritional status for young girls and an increase in the ownership of consumer durables, particularly in households with children (Ambler 2011). Ambler then makes the link between increased household decision-making influence and individual female empowerment. However, although the linkage between female pension eligibility status and increased influence in household decision-making processes is convincing, the line of argument between increased influence in household decision-making and female empowerment is less compelling. Ultimately, this conclusion rests on an assumption that increased influence in household decision-making processes is an appreciated and desired outcome for women. The evidence is not entirely convincing that older women appreciate or regard a higher degree of responsibility in household and child-related decision-making as an empowering outcome although it is certainly a valid hypothesis. A hypothesis of equal validity is that, although older women may incur a higher degree of influence over
certain household decisions, the degree to which this represents their individual
empowerment is limited. Ultimately, whether or not increased household decision-
making influence represents an empowering outcome for older women or not, cannot
be established based on the empirical findings alone.

Ultimately, there are many factors to be considered when attempting to interpret
empirical findings regarding pension sharing, household level responses to pensions
and intra-household decision-making behaviour. It is beyond the scope of this thesis to
attempt to delve too deeply into the complexities of intra-household dynamics since the
emphasis is predominantly on contributing new empirical evidence with regards to
pension-handling and household responses. However, a rounded and thorough
appreciation for the complexities involved in intra-household dynamics is crucial when
attempting to interpret empirical results.

3.4.2 Considering the household: Opportunities and limits
The discussion in this chapter thus far has, at least implicitly, been premised on an
assumption that a household level analysis is an appropriate approach to a study of
pension-handling and the subsequent responses that pensions may or may not cause.
People are not isolated individuals so when assessing the effects of a targeted social
grant such as the pension on a recipient, a broader approach that extends analysis to the
environment within which the individual is operating is an intuitively desirable
approach. The substantive evidence regarding pension sharing previously discussed in
this chapter underlines the significance of the household level when exploring the
pension in terms of effects and the role it plays in the lives of the beneficiaries. A
review of the existing evidence concerning household responses to pension and other
social grants also demonstrates that attempting to assess the net effects of the pension
for the individual recipients without considering household responses is a
fundamentally flawed approach. However, it cannot be assumed that one level, in this
case the residential household, is necessarily the most relevant, accurate or manageable
level at which questions should be asked about pension-related outcomes, even where
‘households’ are easily defined and identifiable. In this section, the appropriateness
and implications of a household-level focus for this study are considered in the light of
the evidence.
Definitions of the household unit vary necessarily between studies dependent on, among other things, the cultural context and the design features of the available data. The household in the context of this study is defined as all persons who (1) live under the same roof or in the same compound/homestead for at least four months of the year, and, (2) share food and living expenses when they are there. Analysing household responses to specific events, or a set of circumstances, is challenging because there are inevitably many factors that require consideration that can rarely be effectively controlled for in such a social and intimate setting as the household. Disentanglement of the multitude of factors that potentially influence household responses to social grant transfers constitutes one of the principal challenges for this study.

As is the case in many low income contexts, migration and household instability are common characteristics of South African households (as previously discussed in section 3.3 of this chapter and in chapter 2 section 2.2). Household structures, for poorer black South African households in particular, have been shown to be substantially more complex than in rich economies (Hamoudi and Thomas 2005). Co-residency of extended families is not unusual and household membership tends to be substantially more fluid. This makes the challenges associated with carrying out an analysis at the household level more acute than may be the case in, for example, many European contexts where household structures tend to be less fluid and complex. Hamoudi and Thomas (2005) offer a number of cautionary notes regarding the household level analysis of pension effects in South Africa in their paper on pension income and the effects on children. They point out that poor South African families have historically been distributed across multiple households due, in part, to Apartheid. Many rural families depend on inter-household transfers from family members who live in urban areas. It is not uncommon for married couples to live apart and frequently non co-resident kin retain social and economic ties with origin households. The implications of these characteristics of family life for many South Africans is that empirical evidence on the consumption behaviour of households, for example, is an incomplete reflection of the family allocation decisions (Hamoudi and Thomas 2005: 3).

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34 The conceptualisation and operationalisation of definitions of the household and the outcomes of interest are discussed further in chapter 4.
Despite the limitations associated with a household level analysis in general, and in South Africa in particular, the significance of household level effects with regards to both household composition and pension sharing is clearly demonstrated in the literature. The observations from Hamoudi and Thomas (2005) act to underline the importance, however, of not restricting a consideration of pension effects to the household level and the need to consider inter-household and inter-family pension sharing in order to gain a more complete picture of the reality for many pension beneficiaries and households. Kabeer (1999) offers a wise reminder which, although is in reference to intra-household decision-making, can be extended to apply to an analysis of pension sharing and responses to pensions. Kabeer (1999), explains that, although important, statistical perspectives on decision-making should be remembered for what they are: simple windows on complex realities. Furthermore, they provide “a brief glimpse of processes but tell us little about the subtle negotiations that go on between men and women in their private lives” (Kabeer 1999: 447). Although discussing gender relations specifically, this observation applies equally to intergenerational relations.

3.5 Conclusion

This chapter presented a comprehensive and critical review of the existing literature on pension-handling and on household responses to pensions in South Africa with a specific focus on the evidence concerning how households may recompose in response to pension income. The theoretical literature on intra-household dynamics was also reviewed, in brief, since an appreciation of the many complexities associated with household responses and how households make decisions about income-handling is crucial for an analysis of household responses to pensions. Despite the limits and challenges involved with a focus on household responses to the pension, the evidence suggests that pensions are shared to a significant degree within households and as a result the effects go beyond the individual beneficiaries. The household is therefore an important and useful level at which to assess social grant outcomes in the South African context.
Chapter 4: Methodology

4.1 Introduction

The purpose of this chapter is to introduce, describe and justify the methodological approach that was taken to the task of answering the study’s three key research questions and to achieve the overarching aim of the research, as outlined in chapter 1. The empirical and theoretical literature concerning social grants, pension sharing behaviour and household responses to social pensions in South Africa was critically reviewed in the previous chapter. This review forms the foundation upon which this study builds.

In section 4.2, the research questions are restated along with a brief summary of the key points from the reviewed literature and a set of hypotheses that were formulated based upon the existing evidence. In section 4.3, the survey data used in this study is described. The survey data was gathered as part of a separate project called ‘Ageing, Wellbeing and Development: a comparative study of Brazil and South Africa’ (henceforth referred to as the AWD data and project). Some of the key sample characteristics of the data are presented in section 4.3.1. Discussed in section 4.3.2, is the approach taken to the operationalisation of the concept of the household in this study and the approach that was taken to the selection of suitable outcome indicators of both pension income-handling and household composition. Section 4.4 introduces the principal data analysis method used in this research, namely Regression Discontinuity Analysis (RDA). Although RDA is an established technique it is not currently an extensively used method. Consequently, a general explanation of what it is and how it works is provided. Section 4.5 presents a description of how the RDA estimation technique is implemented in this study. This study uses survey data and statistical methods in order to contribute new empirical evidence concerning pensions and living arrangements. However, small-scale primary data collection was undertaken as part of the research in order to aid the interpretation of results and to facilitate a more rounded appreciation of the context and subject matter. The details of the supplementary fieldwork are presented in section 4.6. In section 4.6.1, an overview of the approach that was taken to the gathering of contextual information mainly via key-informant interviews is provided. In section 4.6.2, the approach that was taken to the
incorporation of the qualitative information with the quantitative analysis is described. Finally, a brief summary of the chapter is provided in section 4.7.

4.2 Research strategy and conceptual framework

It was established in chapter 3, that the existing evidence suggests that pensions are typically shared to a considerable extent within poor South African households. A number of studies have attempted to analyse and measure household responses to pension income which have produced convincing evidence that households respond to pensions in a number of important ways and that pensions may influence the living arrangements of recipients and their families (Edmonds, Mammen et al. 2001; Posel, Fairburn et al. 2006; Ranchhod 2006; Harris, Inder et al. 2007; Sienaert 2008; Ardington, Case et al. 2009; Ambler 2011). Without making any assumptions about the persistence of pension sharing over time or the motivations for income-sharing, three research questions were formulated. In order to answer these research questions a predominantly deductive research strategy was adopted whereby the aim was to test hypotheses in order to support or disprove theories that were established based on the existing evidence. The research questions are presented again in table 4.1 (below), along with a summary of the key points from the reviewed literature and the subsequent hypotheses that were formulated based on an assessment of the evidence. The research questions and their requisite hypotheses, which are phrased in an intentionally testable manner, provide the conceptual framework around which this study is constructed.
Table 4.1: Literature review, research questions and hypotheses

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Summary of findings in the literature</th>
<th>Hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) To what extent are pensions treated as household rather than individual income?</td>
<td>Pension sharing appears to be a deeply rooted practice in many South African communities (Møller and Sotshangay 1996; Duflo 2003; May 2003). Based on an appreciation of the cultural, social and economic dimensions of pension sharing, one can hypothesise that pension sharing continues to be a persistent social norm.</td>
<td>Pensions are increasingly being shared to a lesser extent.</td>
</tr>
<tr>
<td></td>
<td>Despite the persistence of pension sharing in general, there is evidence in the literature to suggest pension income-handling may differ according to the gender of the beneficiary. Based on findings by Duflo (2003) and others, it is possible that older women may share greater proportions of their pension income with their households than older men.</td>
<td>Female pensioners do not share their pensions to greater degrees than their male counterparts.</td>
</tr>
<tr>
<td></td>
<td>The race of pensioners and the location of their household in rural or urban areas are factors which may be correlated with the extent to which pension income is shared within households. Pensions may be shared to a greater extent in black households compared to coloured households and in rural compared to urban households since pension sharing is associated with cultural factors, and rural households may be more dependent on pension income than urban households where there are generally more opportunities for employment. However, due to the shifting nature of inequality in South Africa, as a whole, and the possible convergence in this respect between racial groups over time (as concluded by Nattrass and Seekings 2001), there may also be evidence of convergence with regards to income-handling behaviours.</td>
<td>Pensionsers living in black households do not share their pensions to greater degrees than pensioners living in coloured households. Pensioners living in rural households do not share their pensions to greater degrees than pensioners living in urban households.</td>
</tr>
<tr>
<td>2) Is there evidence to suggest that households reshape their composition following receipt of (or in anticipation of eligibility for) the pension by a household member?</td>
<td>Existing evidence from Edmonds, Mammen et al. (2004) and Hamoudi and Thomas (2005), among others, suggests that households reshape their composition in response to pensions. The evidence to date suggests that the pension may be associated with increases in the average number of children living with the older people, at least for female pensioners (Edmonds, Mammen et al. 2004). There is also a general consensus in the literature that the pension facilitates the labour migration of other household members (including, amongst others, Maitra and Ray 2003a; Edmonds, Mammen et al. 2004; Posel, Fairburn et al. 2006).</td>
<td>Households do not recompose upon receipt of a pension.</td>
</tr>
<tr>
<td></td>
<td>Harris, Inder et al. (2007) produced empirical evidence to suggest that households may change their composition prior to actual pension receipt due to the anticipation of a household member becoming pension-eligible. With the notable exception of the aforementioned study, there is little empirical evidence concerning responses to pensions that may occur in anticipation of pension receipt. In light of the fact that the pension is a well established, regular and reliable income source for which public awareness of the eligibility criteria is high, the potential for households to make composition changes in anticipation of new pension income seems intuitively possible.</td>
<td>Compositional responses to pensions occur immediately upon initial receipt of a pension. There is no evidence of anticipatory effects.</td>
</tr>
<tr>
<td></td>
<td>The existing evidence in the literature suggests that the gender of a pension recipient is associated with differential outcomes relating to household organisation (see, for example, Duflo 2003; Ambler 2011), which is not surprising in light of widely acknowledged gender-based differences in roles and responsibility both within and outside of the household setting for many South Africans. In general, the evidence suggests that female pension receipt is associated with fluctuations in household membership to a greater extent than male pension receipt and that the nature of the responses differs in systematic ways according to beneficiary gender.</td>
<td>The gender of the recipient is not correlated with the nature of the re-composition experienced as a result of the pension in poor households.</td>
</tr>
</tbody>
</table>
4.3 The survey data

As previously stated, the survey data used in this study was produced by the AWD project. A household survey was undertaken with an additional section included which was administered to the older individuals living in the sampled households. The AWD data has several features which make it a useful data set to use for the purposes of this study. Firstly, the survey instrument was designed with the specific purpose of gathering information about the lives and living arrangements of poor older South Africans. The original sampling design meant that only households containing at least one person aged 55 years and older were included. Secondly, the survey instrument includes direct questions to respondents regarding income and pension income-handling behaviours as well as household composition. Large nationally representative data sets, such as the General Household Survey (GHS) and Census data, typically contain information about household composition but not direct questions about income-handling. Thirdly, when attempting to measure and examine changes in outcomes of interest, whether it concerns changes to household composition or reported income-handling behaviours, there is a dynamic dimension to the object of inquiry.

One of the key objectives of the AWD project was to create a data set with a temporal component in order to facilitate the analysis of processes and potential changes over time. This objective was achieved by the AWD project by repeating a survey that was originally carried out in 2002 as part of a project called Non-Contributory Pensions and Poverty Study (NCPPS). The fact that there are two time points in the AWD data means that there is an opportunity to compare responses, year on year.

The AWD project collected household survey data from 1111 poor South African households containing older people in 2002. These original households were traced, where possible, in late 2008/early 2009 and revisited whilst replacement households were included as substitutes for those 2002 households that could not be interviewed. For the second wave of data collection, a detailed household roster and recall questions were added to the original survey tool to which only minor additional changes were made. The data therefore contains close to 2000 observations from poor South African households and some 2500 observations from older individuals.

35 The archived website for the NCPPS project can be viewed at the following URL: http://www.sed.manchester.ac.uk/research/ageingandwellbeing/ncpps/index.htm
36 A copy of the 2002 questionnaire is provided as Appendix item 1. Copies of the survey tools used in both years can be downloaded directly from the AWD project website at the following URL: http://www.sed.manchester.ac.uk/research/ageingandwellbeing/research/
Respondents were interviewed by enumerators who administered the questionnaires in the preferred language of the respondents. The survey consisted of a main household questionnaire that included a number of sections which asked for information regarding living conditions, household composition, economic activity, income and assets, expenditure, health and quality of life. The person in the household who was identified (by the household members) as being the most knowledgeable about household finances acted as the respondent on behalf of the household. In addition to the household questionnaire, the older person supplement was administered to up to three individuals living in the household who were aged 55 years or older at the time of interview. Included in the older person supplement were questions about social grants, income-handling, economic activity, health, life satisfaction and wellbeing.

The sampling strategy used for the initial 2002 wave of data collection was fairly complex. A multi-stage clustered design was adopted using a probability proportionate to size (PPS) sampling method. PPS is an approach to cluster sampling whereby the probability of selecting clusters varies according to the size of the cluster. In the case of the AWD data, the clusters represent geographical areas. The population of interest for the survey was not the entire country population of South Africa. The project team did not have the resources available that would be required to carry out a nationally representative survey. Instead, the population of interest, and to which inferences can be made, are poor households located in particular geographical areas of South Africa.

Two broad geographical areas were selected: one urban and one rural. These areas were urban Cape Town in Western Cape Province and the rural Eastern Cape Province. The survey sites are indicated on the map of South Africa in map 4.1 (below). Within these two regions, smaller geographical units were categorised according to poverty levels and the racial composition of the area. In Cape Town, different urban areas were also categorised according to racial composition. Areas that were predominantly ‘coloured areas’ and areas that were predominantly ‘black areas’ were identified. The areas that qualified to be included (because they were identified as the poorest and of the required racial composition) were then selected at random with the more populous areas (the largest clusters) being given a higher probability of selection than the less populated areas.37

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37 For additional detailed information about the survey sampling strategy and the geographical areas that were sampled, please refer to Møller and Ferreira (2003) which can be downloaded at the following
In practice, the decision to divide the populations of interest into sub-populations of coloured and black South Africans prior to sampling was a form of stratification. Systematic sampling was then conducted within the racial strata. The race of each household was also recorded by the survey enumerators at the time of the survey. The final 2002 sample comprised of approximately one third black rural households, one third black urban households and one third urban coloured households. No representation from the white or Indian/Asian populations in these areas was sought.

The racial stratification of the samples in both waves of data collection is a characteristic of the AWD data that provides both limitations and opportunities to the research undertaken for this study. In terms of limitations, although the urban coloured households comprise approximately one third of the sampled households, in South Africa, people who self-identify as coloured only make up approximately 9% of the national population. It is important, therefore, for the unique sample design features of the AWD data to be acknowledged and considered in relation to the findings and

URL: http://www.sed.manchester.ac.uk/research/ageingandwellbeing/findings/.

38 The overall racial composition of the sample in 2009 remained mostly unaltered. Key sample characteristics by year, including the racial composition of the survey samples, are presented in table 4.2 in section 4.3.1.
conclusions in this study. In particular, it is necessary to emphasise that the results are not nationally representative of South Africa or the Provinces from which the samples were drawn. Strictly speaking, inference can only extend so far as to represent the households in the specific geographical locations selected. In terms of opportunities, one of the valuable features of the data is that it provides a relatively unique opportunity to consider the experiences of poor urban coloured households and to compare these experiences with those of black households. As explained in chapter 3, the majority of previous studies on social grants and household responses only consider black populations.

There are established methods which could potentially facilitate the ability to infer results from this study beyond the original sampling frame. Some or all of the complexities of the sampling design could potentially be incorporated into the data analysis by use of a set of design weights. By taking into account the complex survey design features and any weighting adjustments that may be required, one can potentially reduce the likelihood of biased results and improve the accuracy of point and variance estimations. An alternative approach is to treat the sampled households as if they were selected from a simple random sample and to interpret the results in a way that takes the limitations of the sampling design into consideration. There are advantages and disadvantages with both approaches. The first approach effectively considers the effect of the survey design at an earlier stage in the analysis process. The degree of validity of estimates produced via the incorporation of design weights depends upon how efficiently and precisely one is able to incorporate the complexities of the survey design into the analysis prior to the modelling. Due to the nature of the AWD data, which claims to be neither nationally nor regionally representative, the latter approach was taken in this study. To attempt to incorporate the survey design features with the 2002 cross-sectional data would be relatively straightforward. However, it would be challenging to accurately incorporate the survey design features with the 2009 cross-sectional data with the potential for error being considerable enough to wish to err on the side of caution and to opt for the relative simplicity of treating the samples as if they were random and to consider the implications when interpreting the results.

The AWD survey data offers a valuable opportunity to gain insights into the lives of the people who participated and their communities. The fact that the survey was
administered to households with older people and included direct questions about social grants, household composition and income-sharing behaviour provides a valuable opportunity to undertake a study of household responses to social pensions and pension sharing behaviour in South Africa.

4.3.1 Key sample characteristics

Having outlined the key features of the AWD survey, including the sampling design features, this section presents and discusses key demographic characteristics of the sample. It is intuitively important to consider the sample characteristics of a data set before embarking on any focused analysis. Table 4.2 (below) provides an overview of the data organised by year of interview and the pension eligibility status of the household. An eligible household is a household with at least one member of pension-eligible age at the time of interview and an ineligible household is a household where there were no individuals of pension-eligible age. The categorisation of households according to their pension eligibility status facilitates initial insights into the potential differences between pensioner and non-pensioner households in general, before the evidence with regards to living arrangements and responses to pensions is considered in later chapters.39

Due to the tracing and replacement strategy previously outlined, the AWD data set comprises of a core of households who were interviewed in both years with a proportion of households who were only interviewed in 2002 and a proportion of households who were only interviewed in 2009.40 Approximately 65% of the households interviewed in 2002 were successfully traced and re-interviewed in 2009. In table 4.2, the samples include the households that were interviewed in each year regardless of whether they were interviewed once or twice. The data here is treated, in effect, as two separate cross-sections.

39 Please note that pension eligibility status is assigned to the cases presented in table 4.2 based solely on an age eligibility criteria. Thus, an assumption about means-test eligibility (as well as the other minor criteria described in chapter 2, section 2.4) is tacitly made. The validity of this assumption is considered in chapter 7, section 7.3.1.

40 Further information about the tracing and replacement strategies can be found in Møller (2011).
Table 4.2: Household demographics by year of survey and household pension eligibility status

<table>
<thead>
<tr>
<th></th>
<th>2002 Ineligible</th>
<th>2002 Eligible</th>
<th>2009 Ineligible</th>
<th>2009 Eligible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total households (%)*</td>
<td>31</td>
<td>69</td>
<td>26.3</td>
<td>73.7</td>
</tr>
<tr>
<td>Black Urban (%)</td>
<td>41.9</td>
<td>21.3</td>
<td>37.2</td>
<td>24.4</td>
</tr>
<tr>
<td>Black Rural (%)</td>
<td>19.2</td>
<td>40</td>
<td>30</td>
<td>33.5</td>
</tr>
<tr>
<td>Coloured Urban (%)</td>
<td>39</td>
<td>38.7</td>
<td>32.9</td>
<td>42.1</td>
</tr>
<tr>
<td>Mean household size</td>
<td>5.11</td>
<td>4.96</td>
<td>4.28</td>
<td>4.25</td>
</tr>
<tr>
<td></td>
<td>[2.95]</td>
<td>[2.90]</td>
<td>[3.44]</td>
<td>[2.88]</td>
</tr>
<tr>
<td>Single person households (%)</td>
<td>5.8</td>
<td>7.3</td>
<td>15.5</td>
<td>15.5</td>
</tr>
<tr>
<td>Single person households 55+ (%)</td>
<td>5.8</td>
<td>7.3</td>
<td>5.8</td>
<td>15.5</td>
</tr>
<tr>
<td>Mean age of household</td>
<td>34.27</td>
<td>39.64</td>
<td>30.18</td>
<td>46.58</td>
</tr>
<tr>
<td></td>
<td>[11.26]</td>
<td>[15.15]</td>
<td>[13.41]</td>
<td>[18.10]</td>
</tr>
<tr>
<td>Female head of household** (%)</td>
<td>33.63</td>
<td>57.73</td>
<td>41.67</td>
<td>57.85</td>
</tr>
<tr>
<td>Mean age of head of household</td>
<td>57.27</td>
<td>67.09</td>
<td>52.98</td>
<td>69.18</td>
</tr>
<tr>
<td></td>
<td>[5.03]</td>
<td>[10.27]</td>
<td>[8.29]</td>
<td>[9.86]</td>
</tr>
<tr>
<td>Observations***</td>
<td>339</td>
<td>757</td>
<td>132</td>
<td>548</td>
</tr>
</tbody>
</table>

Notes: Standard deviations are presented in square brackets.
* All percentages are column percentages except for the percentage of total households which are row percentages.
** Head of household was identified by the main household respondent.
*** Smaller sample sizes for some calculations were a result of missing head of household information.

There were approximately 30% fewer households overall in the second wave (786) compared to the first (1111). Although just over 1000 households were interviewed in 2009, technical difficulties during the data collection and data entry stages resulted in some lost information for a proportion of the households interviewed. Some of the lost information included individual household member characteristics which were of direct relevance to this study. Since individual information about all household members was crucial for the analysis in this study (household member ages and genders in particular), households which included at least one individual for whom relevant information was missing (including, most notably, their gender and age) were excluded from the analysis. Checks were carried out, based on the available household level information to ascertain whether or not there appeared to be any evidence of systematic differences between the households with complete information and the households with partially missing information because systematic differences could potentially result in biased estimates. The investigation, which entailed comparing group means on key characteristics, did not reveal any cause for concern in this regard. Of particular note is the fact that there did not appear to be any evidence of bias between smaller and larger households, between the race/location groupings or between pension-eligible and pension-ineligible households.
For both years, the split between pension-eligible households and pension-ineligible households was approximately 70:30, respectively. This was as expected since the criteria for participation in the household survey in 2002 was the presence of at least one household member of 55 years of age or older. This was 5 years short of the pension eligibility age for women and 10 years short for men at the time. In 2009, although a proportion of households were interviewed which did not have at least one 55+ year old member (because they were re-interviewed despite the 55+ member(s) in 2002 departing and without acquiring new or retaining other original households members who were 55+ at the time of second interview in 2009), many of the households who lost an older member between years, retained or gained other members who fulfilled the age criteria for original survey participation. Furthermore, the newly lowered age threshold for men, as described in section 2.4 of chapter 2, effectively increased the number of men who were eligible in the households in 2009. Taking these factors into account, in addition to the fact that the households in the second wave had aged by a little over 6 years, it is not surprising that the proportion of pension-eligible households was slightly higher in the second wave overall.

The distribution of households between the black rural, black urban and coloured urban groups was almost identical between the two years with approximately 28% black urban, 33% black rural and 39% coloured urban households. In the 2002 sample, the overall mean number of members per household was 5.01 (SD = 2.91), which was slightly larger than in 2009 for which the mean number of members per household was 4.26 (SD = 3.03). Mean household size appeared to be marginally larger in pension-ineligible households compared to pension-eligible households in both years, although independent t-tests of the differences in mean household size between eligible and ineligible households (within years), were statistically non-significant for both years.\(^1\)

The mean age of households as a whole (the ages of all members combined), was higher in pension-eligible compared to pension-ineligible households in both years with the mean age of pension-eligible households being greater in 2009 than 2002. On average, overall household age for the pension-eligible households in 2002 (m = 39.64, SE = 0.55) was greater than the average household age for the pension-ineligible

\(^1\) In 2002, on average, pension-ineligible households were larger (m = 5.11, SE = 0.159) than pension-eligible households (m = 4.96, SE = 0.105). The difference was not significant at t(1109) = 0.833, p>0.05. For 2009, on average, pension-ineligible households were of a similar size (m = 4.28, SE = 0.239) to pension-eligible households (m = 4.25, SE = 0.120) and the difference was not significant at t(784) = 0.135, p>0.05.
household group (m=34.27, SE = 0.61). This difference is significant at t(864.32) = 6.556, p<0.00. For 2009, on average, household age for the pension-eligible households (m = 46.58, SE = 0.784) was greater than the average household age for the pension-ineligible household group (m = 30.182, SE = 0.932). This difference is also significant at t(485.542) = -13.718, p<0.00. The mean age of household heads was very similar between years with slightly older heads in pension-eligible compared to pension-ineligible households which is expected due to the association between pension eligibility and age.

Another sample characteristic of note, is the incidence of people living alone (mainly but not exclusively older people) which appeared to be higher in 2009 compared to 2002. This observation points to a potential movement over time towards older people living alone, although this is far from conclusive evidence. The general consensus in the literature, is that older South Africans (at least older black South Africans from low income backgrounds), live predominantly in multigenerational households and that pension income (and older age, in general) does not tend to be associated with an increased propensity to live alone (as demonstrated empirically in Edmonds, Mammen et al. 2004).

The main points from this overview of key sample characteristics are that the proportions of pension-eligible and pension-ineligible households in each year were comparable, as were the respective proportions of black urban, black rural and coloured urban households sampled in each year. Household sizes were, on average, slightly larger in 2002 compared to 2009, which can be partially accounted for by the fact that there were twice as many single-person households in 2009 than 2002, although the overall proportions of single-person households were small in both years. Within years, there appeared to be no statistically significant difference between the average household size of pension-eligible and pension-ineligible households. Unsurprisingly, there were significant differences between pension-eligible and pension-ineligible households in terms of the age associated characteristics with pension-eligible households and heads of household being older, on average, than pension-ineligible households and heads of household.
4.3.2 The operationalisation of key concepts

The household
Definitions of the ‘household’ vary necessarily between studies depending upon, amongst other things, the cultural context. The household was defined in the AWD survey as all persons who (1) live under the same roof or in the same compound/homestead at least four months of the year, and, (2) share food and living expenses when they are there. As previously highlighted in the discussion in chapter 3, definitions of the household unit are challenging, particularly in contexts where living arrangements tend to be relatively complex and flexible by comparison with households in many so-called rich economies. Stretched households, where members of one family live in two separate locations with members going back and forth between the two, are a feature of many South African households. The analysis in this study does not attempt to incorporate such complex living arrangements. It is notoriously challenging to incorporate such complexities into the quantitative analysis of survey data which is certainly a valid criticism of household survey data in general. Nevertheless, despite the limits this poses, the study provides valuable new evidence concerning both income-handling behaviour and responses to pensions. Providing the limitations are considered carefully when attempting to interpret results and draw conclusions based on the relatively simplistic and narrow definition of the household, then the definition is not problematic in and of itself.

The approach taken in this study to the operationalisation of the concept of ‘household composition’ was relatively simplistic. In the AWD questionnaire (section B) the household representative was asked to provide the age and gender of all household members.\footnote{Please refer to Appendix 1 to see a copy of the 2002 questionnaire. The 2009 version of the questionnaire contained the same questions as the 2002 version but with the addition of some extra questions. As a result, the numbering of the questions varies between the two versions of the questionnaire. Throughout the thesis, the question numbers correspond with the 2002 questionnaire unless otherwise stated.} Using this information, twelve indicators of household composition were selected:

- Mean Household size
- Mean number of children 0-5 years
- Mean number of children 6-11 years
- Mean number of young people 12-17 years
- Mean number of boys 0-15 years
- Mean number of girls 0-15 years
- Mean number of adults 18-29 years
- Mean number of adults 30-39 years
- Mean number of men 18-39 years
- Mean number of women 18-39 years
- Mean number of adults 40-49 years
- Mean number of adults 50+ years

The total number of household members is a good starting point but is limited in the information it provides about the nature of relationships between household members. For example, it reveals nothing in terms of whether the individuals in the household are adults or children, male or female and so on. In order to comprehensively examine if and how households reshape their composition in response to pensions, indicators which incorporate information about the age and gender of household members are examined. The age group categories selected for the indicators of household composition in this study were designed based on two main factors. Firstly, the age groups roughly align with certain commonly recognised stages of life: 0-5 years are very young children who are highly dependent on their guardians and are too young to go to school; 6-11 years are primary school age; 12-17 year olds are teenagers who are of high school age; 18-29 are young adults; 30-39 are prime working-age adults; 40-49 are older adults; and 50+ are considered older people. Additional indicators of household composition were boys 0-15 years, girls 0-15 years, males 18-39 years and females 18-39 years. Although not the main consideration, the choice of age categories was influenced by previous research in this area with a view to facilitating direct comparisons between this study and previous studies.

**Intra-household income-handling**
As previously mentioned, the AWD survey questionnaire included a number of direct questions regarding income-handling. In order to examine household income-sharing rules and the extent to which income is pooled within households, the responses to these direct questions are considered and the results presented in chapter 5. In the main household section of the questionnaire (as opposed to the older person supplement section), question D3 asked the household representative:

*When people in the household get their money each month, what do they do? Do they, (1) Pool all their income, (2) Pool some of their income, (3) Each keeps their own income or (4) Cannot say/unsure.*
The responses to this question offer a fairly direct way to analyse income-handling behaviours. The phrasing of the question does not allow for a distinction to be made between the handling of income according to source. For example, it is not possible from this question to establish whether or not income from a pension is handled differently from income brought in from paid work. However, the information gathered via the responses to this question can be used to consider, more generally, the degree to which income is shared in the sampled households. That being said, it is necessary to consider that although the survey enumerators were instructed to use the official household definition to establish which individuals were to be included in the household and who were considered to live elsewhere, the respondents themselves may have had differing ideas of who their household included when responding to particular questions. For this reason, the concept of the household needs to be regarded in a flexible manner when considering the responses to this question and others.

In the older person supplement a second direct income-handling question was included (question AA11), and put to the participants as follows:

*How much of your pension and your own money can you keep for yourself?*

1 = None, 2 = A little, 3 = Some, 4 = Most, 5 = All.\(^43\)

The responses to this question offer another fairly direct way to analyse income-handling behaviours. However, the ability of this question to provide insights into income and pension sharing behaviour within households is limited by the fact that it is not specified in the question whether or not the income that is shared with others is shared with those who reside in the same household as the respondent or with others who reside outside of the household. The inclusion of an additional direct income-handling question put to the older respondents helps to shed some light on the issue when the responses to each question are cross-referenced. Question AA10.1 asked respondents:

*Do you regularly give money to family members who live elsewhere?*

(1) yes, (2) no

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\(^{43}\) The phrasing of the question is slightly ambiguous, at least in the English language, since the word ‘can’ rather than ‘do’ is used. This could potentially result in some differing interpretations of the question by respondents who may, for example, consider there to be a difference between what they could choose to share, should they so wish, and what they actually share. Such issues around question wording also apply to the surveys in general since they were administered in a number of different languages.
The responses to this question, in combination with the responses to the previous question posed to the older people about how much of their own money they keep for themselves, allow for some assessment to be made as to the extent of pension and other income-sharing within households, as opposed to sharing with family members living elsewhere.

Ultimately, the lack of consistency in the wording of the direct income-handling questions (with the use of the terms ‘household’ and ‘family’ both used), poses some limits as to what can be established in terms of within household income-handling behaviour in this study. Furthermore, as previously highlighted, the phrasing of the direct income-handling questions included in the questionnaire are such that it is not possible to distinguish between pension income-handling and the handling of income from other sources. It would be preferable to have such detail. However, it is not possible to distinguish between types of income in the data available. Nevertheless, the responses to these three direct income-handling questions have the potential to provide useful insights and a rare opportunity to consider self-reported income-handling behaviour in a large number of poor South African households.

4.4 Regression Discontinuity Analysis introduced

For the analysis of pension income-handling (presented in chapter 5) and the preliminary stages in the analysis of responses to pensions in terms of household composition (presented in chapter 6), standard basic statistical methods such as cross-tabulations and t-tests are used. However, in order to achieve the study aim of establishing whether or not there are changes to the living arrangements of older people and their kin as a response to the pension, the estimation method RDA is employed. RDA is an estimation technique which has previously been used successfully by researchers when investigating pension responses (see Edmonds, Mammen et al. 2004; Ranchhod 2006; Ambler 2011).

RDA is a quasi-experimental, cross-sectional method that originates from the work of Thistlewaite and Campbell (1960). The method received little attention until the early 2000’s (Berk 2010), and remains a relatively underused technique in social research with its most notable applications to date being in educational research and psychology.
In this study, the RDA technique is employed to answer the substantive research questions regarding pension effects on the living arrangements of recipients. It is not an objective of this study to make a new methodological contribution to knowledge through the development of the RDA technique itself. Nevertheless, since RDA is not currently a widely known method, a general introduction is required. The purpose of this section of the chapter is thus to provide an insight into why RDA is appropriate to the issue at hand and to provide the information needed to interpret the results of the empirical work. The chapter is not intended as a guide to, or as a full review of, RDA. For a comprehensive and detailed account of RDA and its applications, readers are directed to Hahn, Todd et al. (2001), Cook (2008), Imbens and Lemieux (2008) and Lee and Lemieux (2010).

4.4.1 The intuition behind RDA

The appeal of the technique essentially lies in its similarities to randomised experiments and its ability to overcome the problems typically associated with impact assessments in the absence of a control group. The RDA approach is based on the principal underlying assumption that there is a continuous relationship between an outcome and an explanatory variable. In this study, the outcome variables are indicators of household composition and the explanatory variable (which is referred to in the literature and this thesis as the forcing variable) is age. RDA can be used to establish whether or not there is a discontinuous shift in the relationship between an explanatory and outcome variable at the specific point in the explanatory variable where a change is hypothesised to occur. In this study, this point is the age at which a person becomes eligible to receive a pension.

Due to the evolution of the method, RDA is most frequently described using terminology that is typically used to discuss experimental designs. For example, cases are referred to as being either treated or non-treated. This terminology is used here also where the ‘treatment’ refers to age eligibility for the pension. The basic intuition behind the technique is that the average (mean) of an outcome variable of interest (such as household size) of a treated group close to the threshold of treatment eligibility (for example, individuals who have recently become age eligible), can be compared with the mean of a non-treated group close to the threshold (for example, individuals who fall just short of pension age), in order to establish whether or not there is a statistically significant difference between the two averages at the point at which cases go from
being non-treated to treated. The point in the outcome variable at which a case goes from being non-treated to treated is most frequently referred to in the literature as the threshold or cut-off point (these terms are used interchangeably in this thesis).

When the mean outcome for the treated group is compared with the mean outcome for the non-treated group, the mean effect of the treatment at the threshold point can be identified. Thus, in this study, providing there is no a priori reason to believe that, for example, the average household size for older people in the AWD sample who are just above the age of pension eligibility should differ systematically from the average household size for older people in the sample who fall just short of pension age, then if a significant disparity is identified at the threshold of pension eligibility, this disparity can then be attributed to the treatment of being pension-eligible. By contrasting the treated with the non-treated cases within close proximity to the threshold, confounding factors are, in effect, controlled for and if implemented correctly, a randomised experiment is effectively conducted around the threshold. Consequently, there is no requirement to include additional explanatory variables when calculating the estimates in order to control for characteristics where eligible and ineligible cases are expected to systematically differ.\textsuperscript{44}

In this study, the question that the RDA approach is used to answer is not whether individuals who were pension-eligible experienced changes to the composition of their household that pension-ineligible individuals did not. Rather, it is whether or not the same older individuals would have experienced the same changes (or the lack thereof) to the composition of their household regardless of whether or not they were age eligible for a pension. This framework is formally referred to as the potential outcome approach based on the Neyman-Fisher-Cox-Roy-Quandt-Rubin model (Neyman 1923; Fisher 1935; Cox 1958; Rubin 1978; Heckman and Vytlacil 2001).

\textbf{4.4.2 The sharp and fuzzy designs}

There are two styles of RDA which are commonly referred to as sharp and fuzzy. The sharp design can be regarded as a selection-on-observables scenario whilst the fuzzy design can be seen as an instrumental-variables-type approach (Angrist and Pischke 2008). The distinction between the sharp and fuzzy designs essentially rests on the size

\textsuperscript{44} Independent variables can be included in the model should one lack observations around the threshold point although an alternative approach is to include cases that are further from the threshold.
of the discontinuity in treatment at the threshold point. The sharp design is used when the probability of receiving the treatment goes from zero to one as a case crosses the threshold. A fuzzy design can be employed when the probability of receiving the treatment is greater than zero but less than one, implying that assignment to the treatment is not a deterministic function of the explanatory variable which, in this study, is age.

The sharp and fuzzy versions of RDA model slightly different relationships. When the sharp version is used to consider responses to the South African pension, it is the effect of pension age eligibility (or entitlement to a pension) on the outcomes of interest which is being examined. When a fuzzy design is used to model pension responses, additional information about actual pension status is incorporated into the modelling process in order to calculate the probability of treatment at the threshold age. In this scenario, the sharp RDA models the intention-to-treat (ITT) effect, which is the difference in the mean outcome between the two groups on either side of the threshold of pension eligibility. Hahn, Todd et al. (2001) have shown that when a fuzzy design is used due to a ‘fuzziness’ in assignment at the threshold, the local average treatment effect (LATE) may be inferred for the subset of individuals who are induced into the treatment at the threshold. For the fuzzy design, what is being estimated is the difference between the mean outcome between the two groups on either side of the threshold (in other words, the ITT), divided by the difference in the treatment receipt rates for both groups within a close neighbourhood of the threshold. This then provides an estimate of the average effect of the treatment for the cases that comply with the assignment rule. If age eligibility was a perfect predictor of actual pension status, then the estimates produced by a fuzzy design would be identical to the estimates produced by the sharp version. When age eligibility is not a perfect predictor of actual pension status (because there is some non-compliance in the data), then the estimates produced from the two designs are likely to differ at least slightly with the fuzzy design yielding larger effects (Angrist and Pischke 2008).

In most of the literature where RDA has been implemented to consider effects associated with the South African pension, the sharp version of the technique is used. There are several reasons for this: a high degree of compliance with the pension rules is assumed based on circumstantial evidence of the context; information about actual pension receipt is often not available in large scale survey data; and the sharp design is
the more attractive approach due to its simplicity and potential power. Much of the appeal of the sharp RDA design lies in its similarities to an experimental design. As Heckman et al. (2001) point out, much of the simplicity of the design is lost when moving from the sharp to the fuzzy design.

Information about pension receipt was collected as part of the AWD survey and, as with most real world scenarios, age is not a perfect predictor of pension receipt in South Africa. Therefore, a key research design decision for this study was whether to use a sharp or fuzzy RDA framework. Either framework could be used providing the differences in terms of what they model, and the differing assumptions, are considered. Due to the appeal of its relative simplicity and some hesitations about the accuracy of the reported pension status information in the AWD survey, a sharp design was used as the principal approach in the study. That said, because information about actual pension status is available in the AWD data, some of the RDA procedures were run using the fuzzy design as well as the sharp design in order to compare the estimates from each (presented in chapter 8, section 8.4.3).

4.4.3 The RDA assumptions

One of the attractive features of RDA is that relatively few assumptions are required. However, the violation of the few assumptions there are for the method would inevitably reduce the reliability of the estimates. Therefore, it is necessary to consider the validity of these few assumptions. The key RDA assumptions are outlined below and discussed in terms of the analysis in this study.

**Assumption 1: The probability of receiving the treatment must change disproportionately at the cut-off point.**

The RDA method rests on an assumption that the treatment, in this case age eligibility, is discontinuous at the cut-off point. For the sharp design, the probability \( P \) of being pension-eligible \( D \) is assumed to be 0 when the age \( x \) of the individual is less than the threshold point \( x_0 \) and 1 when the age of the individual is more than the threshold.

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45 Two questions were included in the questionnaire which asked respondents whether or not individuals were in receipt of an old age social pension. They are labelled as ‘D1.1’ and ‘AA2.1’ (see Appendix 1).
46 Cross-referencing of the responses given to the two separate questions included in the AWD questionnaire (one asked of the household respondent and the other of older individual), revealed that in approximately 2% of cases, the responses conflict. Potential explanations for this, as well as general discussion of the overlap between eligibility status and reported pension receipt, are discussed in chapter 7. One advantage of the sharp approach is that only age and information about household members is required.
point. For the fuzzy design, the assumption differs slightly in that the probability of receiving the treatment of the pension changes discontinuously at the threshold point but the size of the discontinuity is less than 1. The assumption for a sharp design can thus be represented as:

\[ P(D=1 | X=x^-_0) = 0 \text{ and } P(D=1 | X=x^+_0) = 1 \]

Whilst the assumption for a fuzzy design can be represented as:

\[ P(D=1 | X=x^-_0) \neq P(D=1 | X=x^+_0) \]

Since age eligibility is the treatment, rather than actual pension receipt, when using the sharp version there is no need to test empirically the satisfaction of this assumption. A case is either age eligible or they are not age eligible depending entirely on their age, which is known. However, the degree to which age eligibility and actual receipt are aligned has implications for the study conclusions. Therefore, the effect on the RDA conclusions of modelling age eligibility rather than actual pension receipt is considered and discussed in chapter 7.

**Assumption 2: The average outcome for the treated at the threshold would be the same as the average outcome of the non-treated in the absence of the treatment.**

It is assumed that, in the absence of the treatment of pension age eligibility, there would be no systematic difference in the household composition of the eligible group and the ineligible group. Since age eligibility is, in effect, acting as an indicator of pension status, the assumption is essentially that in the absence of the pension income, there would be no discontinuity in the outcome variables at the cut-off point of age eligibility. This assumption cannot be tested directly with the data since there is no separate control group (hence the need to use RDA). The validity of this assumption rests, instead, on a contextual understanding. In this study, this would appear a fair assumption to make. There is no reason to believe, for example, that the typical living arrangements of 59 year old women would differ in any significant systematic way from the typical living arrangements of 60 year old women. Likewise, there is no reason to believe that the typical living arrangements of 64 year old men (in 2002) would differ in any significant systematic way from the typical living arrangements of
65 year old men.

**Assumption 3: The treatment is not randomly assigned.**
Due to the design of the South African pension, it is straightforward to conclude that this assumption is satisfied. Pension age eligibility is not randomly assigned because, by definition, it is determined according to age, which is not random. As such, this assumption does not require empirical consideration.

**Assumption 4: There cannot be any room for the selective manipulation of the assignment rule by the individuals in the sample.**
If individuals can manipulate their eligibility criteria (age) to influence whether or not they are included in the age eligible group, then the results produced will not be reliable. In this study, the individual cases are not in a position to influence whether or not they are age eligible for a pension since they are unable to change their individual age. Theoretically, if a case were to lie about their age and provide forged documentation in order to qualify for a pension before they were actually age eligible, then they would also be likely to lie about their age when participating in the AWD survey, which would limit the potential biasing influence of such a scenario on the conclusions for this study. This assumption is more questionable when a fuzzy design is used, however, since there may be systematic differences between compliers and non-compliers which could potentially influence the outcomes of interest and bias the estimates.

**Assumption 5: There cannot be any other discontinuities occurring at the cut-off threshold.**
For the RDA estimates to be valid, there must be no other simultaneous changes at the threshold of pension age eligibility that could, even partially, influence the living arrangements of the cases. If there are, then the technique cannot distinguish between them. This includes any substitution effects for non-participants. The accuracy of the assumption cannot be tested directly using survey data. Instead, the validity of the assumption rests on knowledge of the context.

The main concern regarding the possibility of other simultaneous changes around the threshold of pension age eligibility is the potential influence of retirement effects because the pension eligibility threshold is situated around the age at which people may
be expected, at least in some contexts, to retire from formal employment. Retirement that is induced by the pension in or of itself does not complicate the methodology per se. However, if individuals would have stopped working regardless of the pension then, in theory, it would be problematic for the RDA method. However, formal retirement at the pension age eligibility threshold is unlikely to be a common occurrence in this particular context. This cannot be tested directly with the data since the income effect of the pension may also lead to labour supply responses. However, as Edmonds, Mammen et al. (2004) point out in relation to this issue in their study, the majority of black South Africans are not engaged in formal employment that would have a fixed retirement age. The same can be said of coloured participants in the AWD sample since they are, by design, from poor areas. It is possible that there is less potential for retirement effects to complicate the methodology for the female sample than the male sample since women are typically engaged in less formal income generating activities than men and thus formal retirement is less common. However, overall, the vast majority of participants in the AWD sample and their households are sufficiently poor that they would be unlikely to terminate employment at a specified age in the absence of the pension.

4.4.4 The suitability of RDA
Alternative quantitative approaches to examining pension responses in terms of living arrangements were considered for this study. Longitudinal data analysis was considered in light of the fact that the AWD data has two time points. However, the sample sizes are relatively small which limits what can be achieved statistically with longitudinal methods. Other cross-sectional approaches were also considered including the possibility of carrying out a standard multivariate regression analysis using, for example, a multiple linear regression model or a logistic regression model. However, the RDA approach has several advantages over multivariate models. Multivariate regression analyses typically face the problem of potential confounding factors which are unobserved in the data and thus cannot be controlled for. This limits the power of the model to provide information about causal links between the outcome and the explanatory variable(s). Multivariate regression analyses also frequently suffer from problems of multicollinearity between explanatory variables (such as between an indicator of age and an indicator of pension status). Furthermore, when conducting a multivariate analysis it is necessary to impose a functional form (for example, a linear function or a logarithmic function). If an incorrect functional form is used, then the
resulting estimates will be unreliable. In the sharp case, RDA overcomes these common challenges associated with multivariate regression analysis when used to examine policy effects in the absence of a control group by modelling the ITT, rather than the average treatment effect (ATE). Modelling the ITT rather than ATE avoids the issues associated with non-random crossover which, in this study, refers to the presence of ‘ineligible pensioners’ and ‘eligible non-pensioners’, who may differ systematically from cases who comply with the assignment rule.

In addition to these considerations about the suitability of using RDA to estimate the effect of pension eligibility on household composition at the threshold of age eligibility, RDA also offers the opportunity to consider timing aspects to responses. Instead of merely attempting to control for confounding factors when comparing groups, RDA allows for the timing of a hypothesised change to be examined empirically, including the possibility of anticipatory effects which alternative cross-sectional approaches would mostly be unable to achieve.

4.5 Regression Discontinuity Analysis implementation

There are parametric, semi-parametric and non-parametric approaches to implementing a RDA. When a parametric approach is taken, the researcher chooses a parametric functional form. If an incorrect functional form is chosen, then the results will be biased. Non-parametric approaches overcome the problems associated with the choice of an appropriate functional form by restricting calculations to observations that are close to the cut-off point. The restriction of the analysis to cases around the threshold does, however, reduce sample size and in doing so increases the likelihood of introducing a different sort of bias to the estimates. As the name suggests, semi-parametric approaches to RDA, such as the one used by Porter (2003), involve the use of parametric and non-parametric components. In practice, parametric, semi-parametric and non-parametric approaches lead to the computation of the same statistic via different means (Lee and Lemieux 2010).

There are two established non-parametric approaches to conducting RDA: the polynomial estimation approach and the local linear regression approach. This study uses local linear regression which is currently the most commonly used approach to the
implementation of a RDA design. With this approach, RDA compares the means of the treated cases with the non-treated cases close to the threshold by estimating local linear kernel regression models on both sides of the assigned threshold, in order to obtain estimates of the outcome at the cut-off point ($z=0$). The difference between the two estimates (for the samples where $z>0$ and $z<0$) is the estimated effect of the treatment. A Wald test is then used to determine whether or not any identified differences are statistically significant. In the sharp case, the denominator of the Wald Estimator is one. With the fuzzy design, the denominator of the Wald Estimator is the size of the change in the conditional mean of treatment at the threshold (Nichols 2007).

A Wald test is typically used as a standard significance test, like an F test or a Lagrange-Multiplier test, to check if a certain parameter, or a set of parameters, is equal to zero. When the Wald statistic is significant, one can conclude that the parameter(s) is not zero and therefore the explanatory variable(s) are statistically significant predictors of the outcome variable. When the Wald statistic is not significant, one can conclude that the explanatory variable(s) is not a statistically significant predictor of the outcome variable. In RDA, which is a bivariate regression, a special case of the Wald can be checked as a way of identifying whether or not there is a significant difference between the two estimates just to either side of the cut-off point.

A kernel function is a weighting function that is used in non-parametric estimation techniques to relax the assumption that the relationship between the outcome and explanatory variable is linear. In RDA, the kernel function provides a way of computing a local average by putting more weight on observations with values of the forcing variable (age) close to the cut-off point than on observations with values far away from the cut-off. The choice of kernel function is discussed further in section 4.5.2 of this chapter.

When implementing the RDA technique, cases are organised according to the running variable into what are commonly referred to in the literature as ‘bins’ on either side of the threshold point. The size of the bins is referred to as the bandwidth. One option when running a RDA would be to simply compute the averages within the bins and to

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47 For an explanation of the polynomial estimation approach and the fundamental differences to the local linear approach refer to Lee and Lemieux (2010).

48 For further information about the Wald statistic in general refer to the seminal statistics text by Agresti (1990).
compare the two bins (however wide or narrow they may be) on either side of the threshold point. However, instead of simply comparing averages, local linear regressions are run within each bin as a means of improving the precision of the estimates.

To implement the RDA procedure in this study, the data analysis software STATA is used. STATA does not currently have an official command to run RDA estimates. Consequently, there are currently two principal options for generating RDA estimates with the software. One option is to manually construct the code. The most direct way of constructing the estimates is by using the ‘lpoly’ command. The ‘lpoly’ command performs a kernel-weighted local polynomial regression. The alternative option for generating RDA estimates in STATA, is to use an add-on module called ‘RD’ that was initially developed by Nichols (2007), with a revised version released in 2011 (Nichols 2011). The module uses the same ‘lpoly’ code as used when manually constructing the commands but simplifies the process by eliminating the need to write out several lines of code each time the procedure is run which, in turn, reduces the likelihood of making mistakes with the coding. The resulting estimates are, thus, the same. The module has a set of default settings, inclusive of bandwidth and kernel choice, which the researcher can manually override when desired.

The twelve indicators of household composition that are modelled in this study using RDA were set out in section 4.3.1 of this chapter. These indicators, which are listed again below, comprise the dependent variables in separate RDA procedures:

- Mean Household size
- Mean number of children 0-5 years
- Mean number of children 6-11 years
- Mean number of young people 12-17 years
- Mean number of boys 0-15 years
- Mean number of girls 0-15 years
- Mean number of adults 18-29 years
- Mean number of adults 30-39 years
- Mean number of men 18-39 years
- Mean number of women 18-39 years
- Mean number of adults 40-49 years
- Mean number of adults 50+ years

49 The STATA online forums indicate that some researchers have used the ‘OLS’ command and demonstrated that, depending on certain design choices, the ‘OLS’ command can be used to generate the same RDA estimates as the ‘lpoly’ command by estimating local linear regression models on either side of the threshold with the use of dummy variables.
In addition to the assignment mechanism, for which the notation was provided on page 89, what is being modelled in the analysis can be described by a linear (constant-effects) regression model in the following way, as stated by Angrist and Pischke (2008: 190), where $Y$ is the outcome of interest (in this study, the separate indicators of household composition listed above); $\rho$ is the causal effect of interest; $D_i$ is the regressor of interest (whether pension-eligible or not) which is a deterministic function of $x_i$; $x_i$ being the continuous explanatory variable (age):

$$E[Y_0|x_i] = \alpha + \beta x_i$$
$$Y_{1i} = Y_{0i} + \rho$$

This leads to the regression,

$$Y_i = \alpha + \beta x_i + \rho D_i + \eta_i$$

Where $\alpha$ is the intercept component to the model that represents the model’s value for $Y$ when $x = 0$; $\beta$ denotes the slope of the linear equation that specifies the model; and $\eta$ is the measurement error which is assumed to be independent from the value of $x$.

Thus, in words, the regression model can be described as:

$$Indicator of household composition = Age of individual + the causal effect of age on whether or not eligible for a pension + error term$$

Although a non-parametric approach to RDA is used in this study, the estimates nevertheless depend on some sample selection considerations, namely, the choice of bandwidth, the choice of kernel function and threshold assignment. These considerations are discussed below in terms of the decisions made in this study. The strengths and weaknesses of the RDA technique, both in general and in terms of how it is implemented in this study, are considered further in chapter 7.

4.5.1 Sample considerations
RDA is a relatively data hungry method because it requires a large number of cases around the threshold point which, in this study, are individuals with ages around the threshold of pension eligibility. Consequently, only individuals whose age is close enough to the threshold can legitimately be included. Typically, in the analysis of
survey data, one is unlikely to find a large proportion of cases clustered around the threshold point. Therefore, the option of using RDA to analyse the data may be limited through this lack of cases that are comparable enough to construct reliable estimates. One attractive feature of the AWD data set is that, despite not being a large-scale survey, it contains a larger proportion of cases clustered around the threshold points than other household surveys of a similar scale due to the sampling strategy and design (which targeted older people, as described in section 4.3.1).

The choice as to which cases from the sample should be included in the analysis depends on a number of considerations. If, for example, a comparison of average number of household members aged 0-5 years was made between individuals aged 30 years and individuals aged 80 years, then the subsequent estimates may not be considered to be particularly reliable because there are theoretical reasons for believing that the average number of young children may differ systematically between these groups for reasons that are unlikely to be related to pension eligibility. The wider the range within which cases are included, the less robust the results produced are likely to be. However, conversely, larger sample sizes also increase statistical power. Therefore, there is a balance to be met between a larger sample size (which in turn increases statistical power) and the need to only compare comparable groups (which affects the robustness of results). For this reason, the samples used for the RDA in this study were restricted to include only individuals aged between 50 and 75 years. In order to consider the significance of beneficiary gender in terms of pension responses, the RDA was conducted on two separate samples of male and female older people.

In order to gain the benefits associated with larger sample sizes, the decision was made in this study to pool the two waves of AWD survey data. As a result of pooling the two waves, one older person may provide two separate unlinked observations. An older female, for example, could be counted as a case aged 58 (taken from the 2002 survey) and then again as a separate case aged 65 (taken from the 2009 survey). This does not pose a problem to the RDA design since the objective is to examine whether or not changes can be detected at the threshold point for a significant number of cases. Where the pooling of waves complicates the methodology is where there might be heterogeneous pension effects according to year of interview. This possibility, and the subsequent implications of pooling cases from two time points for the RDA results, is considered further in chapter 7, section 7.4.
4.5.2 Bandwidth and kernel choice
The ‘bandwidth’, which is also referred to as the ‘smoothing parameter’, determines how much of the data is used for each local linear kernel regression. Bandwidth may better be understood as ‘bin width’, because it refers to the size of the bins within which cases are organised rather than the sample range (such as the decision to restrict the sample to cases aged 50 to 75 years). Local linear kernel regressions are run within each bin and the difference between the estimates for the two bins directly to either side of the threshold point is measured. A larger bandwidth which includes a higher number of cases yields more precise but potentially biased estimates, while a smaller bandwidth, with fewer cases, yields less precise but potentially less biased estimates.

The optimal bandwidth (henceforth referred to as the OBW) is, to a degree, a matter of judgment. McCrory (2008) recommends that a visual examination of scatter plots is the most reliable approach to assessing the bandwidth as opposed to any set rule of thumb or test statistics. However, there is a general consensus in the literature that a reliable alternative approach to bandwidth selection (at least for sharp designs), is to use the procedure developed by Imbens and Kalyanaraman's (2009) which is a data-generated approach to the identification of the OBW from which smaller and larger bandwidths can then be assessed.\(^{50}\) Imbens and Kalyanaraman (2009) use an algorithm to determine the optimal bandwidth for each RDA estimate. As such, the optimal ‘bandwidth’ is not measured in units that are easily understood and interpretable. Imbens and Kalyanaraman’s (2009) algorithm minimizes the mean squared error (MSE), or squared bias plus variance, where a smaller bandwidth tends to produce lower bias and higher variance (Nichols 2011). Large values of the bandwidth produce the smoothest functions that vary the least in response to fluctuations in the data. The smaller the value of the bandwidth, the closer the regression function will conform to the data. When the value of the bandwidth is very small, the regression function will start to capture the random error in the data.\(^{51}\)

In this study, Imbens and Kalyanaraman’s (2009) approach to identifying an OBW is used as a starting point, as recommended. A further recommendation in the literature is

\(^{50}\) There is currently no recommended optimal bandwidth selection procedure for fuzzy designs. As explained in Nichols (2009) there is no clear guidance offered in the literature to date, regarding optimal bandwidth for fuzzy designs in particular, and even for sharp designs it is a matter of judgment which he describes as being more art over science, as explained in the STATA RD help file provided by Nichols (2011).

\(^{51}\) A detailed explanation of the algorithm used to calculate the optimal bandwidth is included in Imbens and Kalyanaraman (2009).
to examine and report multiple estimates based on several different bandwidths (Nichols 2009). Nichols (2009) advises that a minimum of three bandwidths are reported, preferably the OBW (100%) along with twice the OBW (200%) and half the OBW (50%). These guidelines are followed in this thesis. Typically, between 10 and 12 bandwidths were checked beginning with the OBW and then calculating from that base, 25% of the base, 50% of the base and so on, in increments of 25% up to 300% of the base.

Kernel choice is less important than bandwidth in terms of the potential effects on the estimates (Nichols 2009). However, it nevertheless requires consideration. There are several kernel function choices. Rectangular (or uniform) kernel functions assign equal weight to all observations that are inside the bandwidth (or within the bins). Therefore, in the case of a bandwidth of 100, all points that fall + or – 100 points away from the threshold value are given equal weighting whilst zero weight is given to observations that fall outside of the band. Scores of less or more than 100 points away from the threshold are, in effect, excluded. Triangular, biweight, quartic and Epanechnikov kernel functions allow adjustment of assignment weights within the band (or bin). In other words, more weight is given to observations that are inside the band and closer to the threshold whilst less weight is given to observations that fall within the bandwidth but lie further from the threshold. Gaussian kernel functions do not use a discrete band at all but instead assign some weight to all of the cases above and below the threshold. Higher weights are given to observations closer to the threshold and very low weights are given to observations far from the threshold.

The default kernel choice for the RDA module in STATA developed by Nichols (2011) is a triangle kernel. Nichols (2009) explains that although the Epanechnikov kernel is the more common choice for researchers conducting RDA, the triangle kernel has better properties at the boundaries which, he argues, makes the kernel more appropriate for the technique. That being said, estimates are unlikely to vary by kernel choice to such a degree as to significantly alter the results and subsequent conclusions. The RDA procedures undertaken in this study were run using the triangle kernel as the principal approach. However, the estimates were also generated using the rectangular kernel in order to consider the effect of kernel choice on the estimates. The investigation of kernel choice effects on the RDA estimates in this study is discussed in chapter 8, section 8.4.2.
4.5.3 Threshold assignment

A final key RDA implementation decision concerns the assignment of the cut-off point. In order to consider immediate pension responses, the threshold is intuitively assigned to the official age at which cases go from being ineligible to eligible. However, as explained originally in chapter one, one of the objectives of this study is to consider the potential for pension responses to occur in anticipation of receiving a pension. The approach that is taken in order to consider the potential for responses to occur in anticipation of age eligibility (as well as to consider the potential for delayed responses) is to use the RDA approach with a number of alternative threshold points assigned to ages immediately before and after the official point at which cases become age eligible. Using an RDA approach with alternative threshold points to consider response timing and, in particular, the potential for anticipatory responses, is an approach which has yet to be explored in the literature. It has the potential to generate valuable insights into pension responses and issues around timing which is a generally underexplored area in the social grants literature.

To consider response timing in this study, the RDA is conducted with thresholds set at one year intervals through to three years prior to official age eligibility and three years after. The exact positioning of thresholds in relation to the official age of eligibility is a somewhat arbitrary decision since there is no a priori reason to hypothesise that changes are likely to occur, for example, at 2 years prior to eligibility as opposed to 1 year or 3 years. That said, it seems reasonable to expect that changes (or at least potentially detectable changes using the RDA approach), are likely to be more apparent closer to the actual age eligibility threshold than further away. Previous findings from Harris, Inder et al. (2007) support this supposition. RDA was undertaken for all twelve of the outcome indicators, using the six alternative threshold points as well as the official age threshold. Table 4.3 (below) presents the age cut-off points which vary necessarily according to the gender of the case and the year of interview. The same samples of individuals aged 50-75 years were used for all the analyses.
### Table 4.3: Age cut-off points around the threshold of pension eligibility by gender and year of interview

<table>
<thead>
<tr>
<th>Years in relation to age eligibility</th>
<th>2002 Females Age cut-off (years)</th>
<th>2009 Females Age cut-off (years)</th>
<th>2002 Males Age cut-off (years)</th>
<th>2009 Males Age cut-off (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-3</td>
<td>57</td>
<td>57</td>
<td>62</td>
<td>60</td>
</tr>
<tr>
<td>-2</td>
<td>58</td>
<td>58</td>
<td>63</td>
<td>61</td>
</tr>
<tr>
<td>-1</td>
<td>59</td>
<td>59</td>
<td>64</td>
<td>62</td>
</tr>
<tr>
<td>0</td>
<td>60</td>
<td>60</td>
<td>65</td>
<td>63</td>
</tr>
<tr>
<td>+1</td>
<td>61</td>
<td>61</td>
<td>66</td>
<td>64</td>
</tr>
<tr>
<td>+2</td>
<td>62</td>
<td>62</td>
<td>67</td>
<td>65</td>
</tr>
<tr>
<td>+3</td>
<td>63</td>
<td>63</td>
<td>68</td>
<td>66</td>
</tr>
</tbody>
</table>

### 4.6 Supplementary fieldwork

When designing social research, a trade-off must always be made between intensive and extensive data. The AWD survey data sits within the spectrum between large-scale, nationally representative surveys at one end (with limited information but significant statistical power) and small-scale in-depth case studies at the other end of the spectrum, where the information gathered is typically much richer but also limited with regards to an ability to generalise results beyond the participants to a wider population. The AWD survey is one of the most in-depth surveys carried out to date in South Africa which was designed with the specific intention to capture dynamics in poor households with older people. The information gained from a survey of this nature is not however as rich as, for example, the information which typically results from an ethnographic case study. A comprehensive understanding of the context and the ‘on the ground’ realities of the processes being analysed is intuitively important both for survey data analysis, in general, and for the successful application of the RDA approach, in particular, as is emphasised throughout the RDA literature.

As a consequence of this intuitive need for a wider appreciation of the context, the decision to conduct small-scale primary data collection was taken at an early stage in the research. The fieldwork was planned *in advance* of the survey data analysis but the timing of the fieldwork was scheduled to take place *after* some preliminary analysis which was undertaken in order to identify specific points of interest for the fieldwork. In particular, it was established in the early stages that the study would benefit from additional detail regarding pension administration in 2002 and 2009, which was not readily available in the literature and other sources.
4.6.1 Primary data collection

There were two main objectives for the fieldwork. The first objective was to familiarise the author with the context and to gain an appreciation of the ‘on the ground’ realities which would inevitably assist in the interpretation of the estimates generated by the RDA and the results from the survey data analysis, in general. The second objective was to gain some deeper insight into the administration of the pension, how it may have varied between 2002 and 2009, how it may differ between rural Eastern Cape and urban Western Cape locations, and how it may differ in other regions of South Africa, beyond the survey sample population. Such information is of particular relevance to the interpretation of results produced when using pooled samples of cases from 2002 and 2009 and as well as rural and urban households.

The author undertook the supplementary fieldwork in September and October of 2010, in Cape Town in the Western Cape and in rural Grahamstown in the Eastern Cape Province. The chief mode of data collection was key-informant semi-structured interviews. However, the trip also included visits to a number of the AWD survey sites in the interests of gaining a wider appreciation of the context. Potential key-informants were selected based on the assumption that they would be likely to provide useful information about the administration and the effects of pensions and other social grants, and offer unique insights into the experiences of poor older people and intra-household dynamics. Interviewees were identified in a fairly ad hoc and opportunistic manner. A number of potential interviewees were identified and approached via email prior to the trip. Other prospective interviewees, who were not accessible via email, were contacted by telephone and approached in person during the fieldwork. Additional interviewees were then identified during the course of the fieldwork, as one key-informant would provide suggestions and the contact details of other prospective interviewees during their interview.

Before embarking on the fieldwork, the author had a general idea as to the number of interviews and the types of interviewee that would be required in order to extract the sought information. Once the necessary information had been gathered from interviewees, and having established that the information provided was consistent from one interview to the next in terms of the more technical questions, there was no need to conduct further interviews. In total, 15 formal interviews were conducted which ranged in their duration, level of formality and the degree to which the interview was
structured, according to the interviewee since the information sought from each interview varied. Readers are directed to Appendix 2 for an example of the questions asked during one of the more structured interviews that was undertaken as part of the research.

The fact that an opportunistic approach was taken to interviewee selection and that there was a ‘snow-balling’ element to it (with interviewees recommending other prospective key-informants), means that there is likely to be an element of bias amongst the interviewees. The objectives, the main lines of inquiry that were identified in advance of the fieldwork to be pursued, and the activities that were undertaken in order to achieve the objectives are summarised in table 4.4 below.

Table 4.4: Summary of fieldwork objectives and activities

<table>
<thead>
<tr>
<th>Objective</th>
<th>Main lines of enquiry</th>
<th>Activities for objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To familiarise the author with the context in order to facilitate the effective interpretation of the results from the survey data analysis.</td>
<td>Pension income-handling behaviour</td>
<td>Conduct key-informant semi-structured interviews with individuals who have first-hand experiences.</td>
</tr>
<tr>
<td></td>
<td>Intergenerational relations</td>
<td>Acquire information from time spent observing the local contexts whilst carrying out the fieldwork. Including but not limited to:</td>
</tr>
<tr>
<td></td>
<td>Inter-spousal relations</td>
<td>- Visiting townships in Cape Town and Grahamstown</td>
</tr>
<tr>
<td></td>
<td>Perceptions about pensions and social grants</td>
<td>- Reading newspapers, public notice boards</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Attending events/social activities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gather further insights from opportunistic conversations with South Africans (beyond the key-informants) from different walks of life including (but not limited to) staff at old age homes, a hospice, an informal orphanage (run by an older woman), an older person’s day centre, nurses who visited and distributed care packages to older people’s homes, taxi drivers, hotel staff and students.</td>
</tr>
<tr>
<td>2. To gain insights into the process of applying for and receiving a pension; pension administration; potential changes over time; and potential differences between Provinces.</td>
<td>Pension administration in practice</td>
<td>Conduct key-informant semi-structured interviews with individuals with first-hand experiences.</td>
</tr>
<tr>
<td></td>
<td>Disparities between 2002 and 2009</td>
<td>Examine service delivery (first- and second-hand).</td>
</tr>
<tr>
<td></td>
<td>Disparities between rural and urban locations</td>
<td>Observe how the grants administration system functions in practice at key stages of the process.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Compile documentation (including application forms, guidance notes for applicants, information booklets, guidance notes for employees etc).</td>
</tr>
</tbody>
</table>
4.6.2 The key-informants

Of the 15 interviewees, two participants worked for the human rights group, the Black Sash, one as a paralegal caseworker and the other as the regional director. The Black Sash is a South African human rights organisation that was originally founded in 1955 by a group of white women as a peaceful resistance movement against discriminatory Apartheid policies. The role of the Black Sash as a protest movement came to an end in the early 1990’s with the end of Apartheid but the organisation was reformed in 1995 as a non-racial humanitarian organisation. Although initially focused on women’s rights, it has since evolved into a human rights organisation that works for the protection and promotion of social justice for all South Africans. Today, the organisation focuses on three key areas: providing advice, advocacy and rights education. Through their capacity in the organisation, the interviewees frequently work directly with older men and women who seek their assistance to access social grants.

Two key-informants were nurses who were based at a hospice and were also part of a project for which they regularly visited health centres and the households of people living in poor areas. In addition to health care, the nurses distributed donations to households identified as being particularly vulnerable. Households comprised of older people caring for young children (typically but not always women), otherwise known as skip-generation households, were often identified as being vulnerable. The nurses also reported that they regularly assisted patients with social grant applications which included accompanying patients and their families to the local SASSA offices in order to assist them directly with applications. Thus, they had direct experience of the social grant system.

Three social workers at an organisation called the Family and Marriage Association of South Africa (FAMSA) were interviewed. FAMSA works with families to resolve problems including issues involving marital and intergenerational relationships. The organisation specifically focuses on assisting people with problems that occur in the family and household setting, so it was a useful exercise to hear from the interviewees generally about issues relating to intergenerational relations and disputes specifically concerning social grants.

Three staff members at a day centre for older people situated in a poor area were interviewed. One interviewee was the manager of the centre and the other two were
assistants to the manager. The interviewees (who, being in their fifties and sixties were also older people themselves in the context of this study), were knowledgeable about the finances and living arrangements of the centre’s members and very familiar with the social grants system.

Staff members at two private old age homes for poorer people were interviewed. At one home, a carer and manager were interviewed and at the other home, just a carer was interviewed. The majority of residents in both homes received a pension and used it as their sole source of funding to be a resident. Again, the staff reported that they would regularly aid residents in accessing the pension.

Finally, two academic professionals who work on issues relating to older people and household responses to social grants were consulted during the fieldwork and provided insightful responses to the questions posed to them. A noteworthy absence from the list of interviewees is SASSA employees. Considerable effort was made to interview SASSA employees with direct working knowledge of pension application and administration procedures. Interviewing the officials who process the applications and deal with the administration of grants is an obvious avenue to pursue. These efforts were, however, mostly unsuccessful. Repeated requests for an interview were not granted. At the time of the fieldwork, SASSA had recently been the subject of negative media attention. There were anecdotal accounts of incidences where journalists had gained access to SASSA offices and employees by pretending to be academics carrying out research. The resistance of SASSA to cooperate for the research undertaken for this study is expected to be at least partially related to this.

However, although gathering information from SASSA officials would likely have contributed to the study in a meaningful way, the information would have needed to have been considered carefully since officials may be more likely than other interviewees to present an account of the reality in a more favourable light. Consequently, any information provided by SASSA employees regarding timescales and any discrepancies between theory and practice may not have been as reliable as the information provided by other interviewees in this respect. That said, it is acknowledged that all interviewees have an agenda and, with such a small sample, the information provided by the interviewees must be considered cautiously in respect to their likely biases.
4.6.3 The contribution of the fieldwork

The supplementary fieldwork provides an additional viewpoint from which to consider the accuracy of the assumptions required for the RDA and the successful interpretation of the results. In particular, it provides useful information about pension receipt timing and potential variations between years and between rural and urban cases (discussed in chapter 7, section 7.4). The fieldwork also provides an additional angle from which to consider the general interpretation of the findings with regards to the reported income-handling behaviours of survey respondents discussed in chapter 5. However, 15 interviews constitute a very small set of data and one that was also collected in an opportunistic manner. As such, care is taken throughout to ensure that at no point do insights gathered from the fieldwork form the basis of any conclusions that are made.

4.7 Chapter summary

This methodology chapter began by outlining the research strategy and conceptual framework employed in this study. The original research questions that guide the inquiry were presented along with hypotheses that were formulated based on the literature that was reviewed and discussed in chapter 3. The chapter then went on to introduce and describe the principal data source: the AWD survey data. Key sample characteristics were presented and briefly discussed before the discussion moved on to the operationalisation of the key concepts involved in the study, namely, the concept of the household and of household composition. The information from the AWD survey that is used to consider intra-household pension sharing behaviour was also outlined.

The main data analysis technique employed in this study, RDA, was described and the reasons for its suitability for this study were discussed. An account of the implementation of the technique in this study was then provided and justified. Following this, the chapter then outlined the approach that was taken to the small-scale supplementary fieldwork that was undertaken in order to facilitate the interpretation of the RDA estimates and results, in general, from the survey data analysis. The purpose, aim and objectives of the fieldwork were outlined and the approach taken to the data collection, predominantly via key-informant semi-structured interviews, was described. The chapters that follow present and discuss the analyses and subsequent results for this study.
Chapter 5: Are pensions household or individual income?

5.1 Introduction

This chapter presents the analysis that was undertaken in order to answer the first of the three key research questions that frame this research:

Research question 1 - To what extent are pensions treated as household rather than individual income?

The findings with regards to the extent of pension sharing and the nature of pension sharing behaviours have direct implications for potential pension-related outcomes. If, for example, it is established that very little pension sharing apparently takes place within households, there would be no associated wider impacts of pensions on living arrangements. In other words, households would not be expected to recompose around pensions if pension income was not shared. It is therefore central to this thesis that the extent and nature of pension sharing is considered before going on to investigate potential household responses.

As discussed in chapter 3, knowledge of pension sharing as a practice in South Africa is fairly limited. Only a relatively small number of studies have specifically sought to directly investigate pension sharing within South African households and there has been little in the way of new research on the subject produced in the last decade since the important contributions of Ardington and Lund (1995), Møller and Sotshangaye (1996), Case and Deaton (1998), Sagner and Mtati (1999), Sagner (2000), Duflo (2003), Barrientos, Ferreira et al. (2003) and May (2003). The general consensus amongst these studies is that pensions are typically shared within households. Furthermore, it would appear from these studies, as reviewed in chapter 3, that pension sharing may well be a practice that is influenced by gender-based norms and cultural factors associated with the race of recipients.

One of the key objectives of this study is to contribute new contemporary evidence and insights into the practice of pension sharing. This includes how behaviours vary according to the characteristics of recipients (as well as their households) and to
establish whether or not there is evidence to suggest that pension-handling behaviour may be changing over time. It is an objective of this study to consider if pension sharing appears to be a persistent social norm relatively unaltered some 8-15 years after the end of Apartheid and the equalisation of pension amounts between South Africans regardless of race. Although an investigation of the motivations that drive the practice of pension sharing is beyond the scope of this study, the design of the AWD data set (which includes information about race), provides a valuable opportunity to begin to consider the degree to which pension sharing is driven primarily by economic factors.

This chapter presents an investigation of pension-handling behaviours. The following three sub-questions guide the inquiry:

1. Is pension pooling the norm for the households in the AWD data set?
2. Do reported pension-handling behaviours vary according to recipient/household characteristics (gender, location and race)?
3. Is there evidence to suggest that pension-handling behaviours may be changing over time?

This chapter is organised as follows. In section 5.2, the investigation of pension-handling is presented starting, in section 5.2.1, with an examination of the responses to the AWD survey question concerning the reported household income-sharing rule and then, in section 5.2.2, the results from two questions put directly to older respondents about how they handle their individual income are presented. In section 5.3, the key insights gained during the key-informant interviews are presented. In section 5.4, the findings from the investigation of pension-handling are discussed in terms of how they compare to the findings from other studies in the literature, in terms of the implications of the results for this study with its focus on household composition responses to pensions, and also with regards to the theoretical models of intra-household resource allocation as introduced in chapter 3. Section 5.5 concludes.
5.2 An investigation of pension-handling

5.2.1 Reported household sharing rule

Considering first the household level income-handling question (as introduced in chapter 4), table 5.1 below presents the responses, by year and household pension eligibility status, to the question included in the household questionnaire (D3) of the AWD survey which asked of the household representative:

When people in the household get their money each month, do they?
1 = Pool all their income
2 = Pool some of their income
3 = Each keeps their own income
4 = Cannot say/unsure

The samples exclude all single-person households since the question did not apply. The question does not ask about pension-handling specifically, rather, it asks about income-handling in general. It seems a fairly safe assumption to make, however, that pension income is included along with other income sources when participants respond to the question. The comparison of responses between pension-eligible and pension-ineligible households is useful in assessing whether or not there are obvious signs of disparities in the reported income-sharing rule.

<table>
<thead>
<tr>
<th></th>
<th>2002</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ineligible</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pool all their income</td>
<td>61.1</td>
<td>58.7</td>
</tr>
<tr>
<td>Pool some of their income</td>
<td>25.7</td>
<td>29.9</td>
</tr>
<tr>
<td>Each keeps their own income</td>
<td>9</td>
<td>9.1</td>
</tr>
<tr>
<td>Cannot say/unsure</td>
<td>4.2</td>
<td>2.3</td>
</tr>
<tr>
<td>Eligible</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pool all their income</td>
<td>58.7</td>
<td>60.4</td>
</tr>
<tr>
<td>Pool some of their income</td>
<td>29.9</td>
<td>22.7</td>
</tr>
<tr>
<td>Each keeps their own income</td>
<td>9.1</td>
<td>10.3</td>
</tr>
<tr>
<td>Cannot say/unsure</td>
<td>2.3</td>
<td>6.6</td>
</tr>
</tbody>
</table>

Notes: 'Eligible' households are all households with at least one pension age eligible member. Samples exclude households comprised of only one person.

52 Please note that the household representative was self-assigned and was either the household head, the partner of the household head or the person who was considered most knowledgeable about household finances.

53 Please note that the number of observations varies slightly between some of the tables and figures presented in this chapter due to item non-response.
It is clear from table 5.1 that, regardless of pension eligibility status, the majority of households in both years (around 60%) report that members of their household pool all their income. The second most frequent response was to 'pool some of their income' with between 21.4% and 29.9% (depending on year of interview and household pension eligibility status) of household representatives reporting that a proportion of member incomes are pooled. Around 10% of households in both years reported that no income was typically pooled and smaller proportions (between 2.3% and 11.6%) reported that they were unsure how to answer the question. From this simple table it would appear that income-sharing was the norm for the majority of the AWD households in both years, regardless of pension eligibility status.

Furthermore, from these responses it would appear that there are no obvious signs of major change between the two waves of data collection. Independent t-tests of the proportions per year that reported that they pooled all or none of their income were statistically non-significant. However, t-tests of the differences in the proportions per year which reported that they pooled some of their income or were unsure how to respond to the question were significant. 28.6% of 2002 households reported that they pooled some compared to 22.3% of households in 2009. This difference was significant: \( t(1483.3) = 2.9, p<0.05 \). 2.9% of 2002 households and 7.9% of 2009 households reported that they were unsure how to respond to the question. This difference was significant: \( t(989.9) = -4.254, p<0.05 \).

From the results presented in table 5.1, one can conclude that there is no indication of movement towards a higher degree of pooling over time. There may be, however, signs of a movement towards a lower degree of pooling in light of the marginally higher proportions of households in 2009 who reported that ‘each keeps their own income’, and the marginally lower proportions of households in 2009 who reported that they pool some, although this is speculative and a third wave of data would be required in order to move closer towards the establishment of a potential trend in this respect. A comparison of pension-eligible and pension-ineligible households within years fails to demonstrate any indication of disparities between responses according to whether or not the household is pension-eligible. All of the independent t-tests of the proportions reporting each response for pension-eligible and pension-ineligible households were

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54 59.4% of 2002 households pooled all compared to 59.1% of 2009 households. The difference was not significant: \( t(1659) = 0.123, p>0.05 \). 9.1% of 2002 households pooled none of their income compared to 10.6% of 2009 households. The difference again was not significant: \( t(1334.2) = -1.039, p>0.05 \).
The phrasing of the question asked of the respondents poses some limits to the interpretation of these responses and what can subsequently be concluded from them. The response ‘pool some of their income’ could represent two quite differing scenarios. On the one hand, the category could represent instances where every member pools part but not all of their individual income possibly in equal or unequal proportions. Alternatively, this category could represent cases where some members pool all or some of their individual income whilst other members retain all of their individual income. This lack of clarity could account, at least in part, for some of the respondents who responded to the question with ‘cannot say/unsure’. In other words, the unsure responses could be indicative, at least in some instances, of households where there is differential income-handling rules applied to different income sources. In such cases, it is not clear whether the household respondent would select the category which applies to the general rule, i.e. what is most often the case or the rule which applies to the majority (but potentially not all) household members, or whether they would report that they cannot say since they may consider that there is not a suitable category available which accurately describes what happens in their household. Ideally, an additional question or additional category could have been included in the questionnaire which asked if some household members’ incomes, or if certain types of income (for example, income from social grants versus paid employment), was pooled whilst other income was not.

**Racial group and income-handling**

As explained in chapter 2, due in no small part to the legacy of Apartheid and the Colonial period, poverty in South Africa today continues to be closely aligned with race as well as geographical location. Black households are typically poorer than households of any other race (Leibbrandt and Levinsohn 2011). Households in rural regions also tend to differ in systematic ways to households in urban locations in terms of poverty and other characteristics. Rural households are, on average, comprised of more household members; are more likely to have a female household head; and have larger numbers of children present (Stats SA 2011b). In the AWD data set, all households are indentified as belonging to one of three categories according to their race and location. It is, therefore, useful to break down the responses to the household income-handling question by these groups as well as by year of interview and pension
eligibility status to assess the degree of homogeneity between groups with regards to reported income-handling. The need for caution when pooling the groups during the investigation of potential responses to pension income presented in later chapters can also be assessed in light of such information.

**Figure 5.1** (below) presents the results for the same household income-handling question in 2002 organised by household pension eligibility status and race/location grouping. **Figure 5.2** (below) presents the same information but for the 2009 cross-section of households.
Figure 5.1 2002 Sample - Do household members pool none/some/all of their income?

$n = 1003$

Figure 5.2 2009 Sample - Do household members pool none/some/all of their income?

$n = 658$

Figure 5.1 indicates that in 2002 there was a prominent disparity between the responses given by the coloured urban households and the responses given by the households in the other two categories. The majority of coloured urban respondents reported that they pooled *some* of their income instead of *all*, with the opposite being the case for the majority of black respondents. This difference between the coloured
and black groups was not, however, present in the 2009 cross-section, as can be seen in figure 5.2. From a comparison of these two figures, it would appear that there was some convergence between all three groups over time with the coloured urban respondents being approximately twice as likely to report that they pooled all their income in 2009 as in 2002. Meanwhile, considerably fewer black respondents reported that they ‘pooled all’ in 2009 compared with 2002, with greater proportions reporting instead that they pooled some.

These observed differences between groups across years are of particular interest to this study in two respects. Firstly, coloured South Africans have not fared particularly well overtime relative to black South Africans as was explained in chapter 3 with regards to the findings from the work of Nattrass and Seekings (2002). As the racial disparity between coloured and black poverty levels has reduced over time, this appears to be as much as a result from coloured households not experiencing the same improvements in living standards relative to black households as it is attributable to a rise in living standards for black citizens. Secondly, the lower proportions of black households who reported that they pooled all their income in 2009, mostly in favour of pooling some, potentially constitutes evidence that income pooling in general might be becoming slightly less extensive than perhaps it has been in the past. The potential convergence between racial groups with respect to household income pooling could be telling in regards to the factors that drive pension sharing in poor households. Since coloured and black individuals typically have quite differing cultural backgrounds it is interesting to consider that although cultural factors are undoubtedly important, perhaps factors relating to economic survival strategies are highly influential with regards to the persistence of pension sharing among poor South Africans regardless of race.

5.2.2 Older person income-handling

The investigation now turns to a consideration of the responses given by the older people who completed the older person supplement component of the AWD questionnaire and the two key questions about how they typically handle their own individual income, as introduced in the methodology chapter. As discussed in chapter 4, the older person supplement included a question (AA10.1) that asked the respondents:
Do you regularly give money to family members who live elsewhere?

The responses given to this question by the 1619 older individuals who responded in both waves of data collection combined are presented in table 5.2 (below).

<table>
<thead>
<tr>
<th></th>
<th>Yes (%)</th>
<th>No (%)</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Older people living alone</td>
<td>7.5</td>
<td>92.5</td>
<td>146</td>
</tr>
<tr>
<td>Older people living with others</td>
<td>5.7</td>
<td>94.3</td>
<td>1473</td>
</tr>
</tbody>
</table>

It is not surprising to see in table 5.2 that a slightly higher proportion of older people who resided alone (7.5%) reported that they regularly gave money to family members living elsewhere compared to the older individuals who lived in households with other people (5.7%). However, it is clear from these responses that the majority of older people did not regularly give money to family members living elsewhere regardless of whether or not they lived alone. That being so, caution must be exercised when considering these responses in view of the possibility of disparities surrounding definitions of the ‘household’ (as previously discussed in chapter 4). For example, a relative who spends some time living in the older person’s household and some time living elsewhere may or may not be considered by the respondent to be a household member regardless of the official technical definition of who counts as a household member and who does not, as used by the AWD survey enumerators.

It is unlikely that older people would regularly give money to others living outside of their own household who they did not consider family, therefore, despite the potential effects caused by differences in the definition of the household, from the responses to this question it would seem fairly safe to conclude that when older people respond to questions relating to income-sharing, for the majority of respondents this sharing takes place within their household rather than between households.
The second direct income-handling question included in the older person supplement (question AA11), was put to the participants as follows:

\[
\text{How much of your pension and your own money can you keep for yourself?}^{55} \\
1 = \text{None} \\
2 = \text{A little} \\
3 = \text{Some} \\
4 = \text{Most} \\
5 = \text{All}
\]

Although this question asked about all individual income and not just pensions, for the vast majority of respondents the pension constituted their only or primary source of individual income.

Figure 5.3 (below) presents the responses from all the individuals aged 55+ who responded to the question about individual income-handling and who lived in a household with at least one other person.\(^{56}\) The responses show that the majority (over 50\%) of older people reported that they retained none of their individual income for themselves in both years. Considering the evidence in terms of potential signs of change over time, it would appear that a slightly smaller proportion of respondents reported that they shared all their individual income in 2009 than 2002 and, conversely, the proportion that reported that they retained a little in 2009 was around twice as large as it was in 2002. The proportions that reported retaining some and most individual income were small overall but slightly larger in 2009 than 2002. Finally, the proportion that reported that they retained all their individual income was smaller in 2009 than 2002 although, again, the overall proportions in both years were small. The main conclusion from these observations in terms of potential changes over time is that there may be signs of movement towards older people retaining slightly more of their individual incomes.

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55 The phrasing of the question appears slightly ambiguous as the word ‘can’ was used rather than ‘do’ which could lead to differing interpretations and subsequent responses, as previously discussed in chapter 4.

56 Single-person households were excluded from the analysis due to the desire to investigate intra-household income-handling. Effectively, however, the limiting of cases to exclude single-person households has little effect on the overall estimates and no influence over the trends or subsequent conclusions due to the small proportion of instances where older respondents resided alone.
**Figure 5.3** Question to older people - ‘How much of your pension and your own money can you keep for yourself?’ by year

<table>
<thead>
<tr>
<th>Year</th>
<th>None (%)</th>
<th>A little (%)</th>
<th>Some (%)</th>
<th>Most (%)</th>
<th>All (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>80</td>
<td>15</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2009</td>
<td>90</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

*n = 739 in 2002 and 631 in 2009*

**Figure 5.4** (below) presents the same responses to the individual income-handling question but with the two cross-sections pooled and the responses organised according to whether or not the responses were from an individual who lived in a pension-eligible or pension-ineligible household. From this representation of the responses, it appears that a higher proportion of the older people who reside in pension-ineligible households compared to pension-eligible households report that they do not retain any of their individual income. This could potentially constitute evidence that older people who previously had not been in a position to retain any of their individual income for themselves prior to pension receipt, were able to retain at least a little of their income from the pension. This could also be interpreted as evidence of the pension having an empowering effect for older people, which would be the case if pension income leads to older people having a higher degree of influence over how income is handled within households. The disparities between the pension-eligible and pension-ineligible groups should be regarded, however, with some caution due to the smaller cell counts for the ineligible group which limits what can be achieved statistically. They may be non-significant. The small cell counts for the ineligible group relative to the overall sample size were expected since participants needed to be aged 55 years or older in order to participate in the older person supplement component of the AWD survey and eligibility for the pension ranged from 60 to 65 years between gender and year of interview.
When comparing responses at the older person level, between pension-eligible and ineligible households, it is at the household level where the older person is categorised as residing within either a pension-eligible or pension-ineligible household, not at the older person level. Therefore, a proportion of the individuals who were not eligible for the pension themselves lived with another person (or persons) who were eligible. These individuals were nevertheless counted as being in the pension-eligible category. The potential effects of this approach to categorising need to be considered since households where there were two or more individuals aged 55 years or over are over-represented in the data relative to households with one single 55+ member. This could lead to biased estimates. The potential effect of this issue was thus explored by re-running the calculations for the individual income-handling question using two separate restricted samples in which only one older person per household was included. In households with more than one older person respondent there was no a priori reason to select one participant over the other(s), therefore, the choice between individuals was effectively an arbitrary decision. The method that was employed for this exercise was to, firstly, prioritise the oldest respondents over younger respondents in households and, secondly, to prioritise the youngest of the 55+ respondents per household. By checking the responses for the oldest and youngest respondents, it was possible to consider the potential for age-related effects which could potentially influence the
responses to the question asked. Overall, the maximum number of respondents to the older person supplement per household was three.

A comparison of the estimates produced using the full sample and the two restricted samples revealed that the potential ‘clustering’ of older individuals within households did not pose a significant threat to the validity of the results produced using the full sample since the estimates based on the restricted samples very closely resembled the full sample of older individuals.\textsuperscript{57} Most importantly, none of the overall trends or conclusions were affected by the potential clustering of older people within households.

\textit{Gender and income-handling}

It was previously established, based on the literature review, that the gender of an individual may influence how the income they bring into a household may be handled. Therefore, to consider this aspect, \textbf{table 5.3} (below) reports the responses for the older person income-handling question by year and by the gender of respondents.\textsuperscript{58}

\begin{table}[h]
\centering
\caption{Reported older person income-handling behaviour by year of survey and gender}
\begin{tabular}{lrrrr}
\hline
 & \multicolumn{2}{c}{2002} & \multicolumn{2}{c}{2009} \\
 & \textit{Females} & \textit{Males} & \textit{Females} & \textit{Males} \\
\hline
Keeps none (%) & 66.5 & 68.5 & 53.6 & 54.9 \\
Keeps a little (%) & 16.4 & 15.9 & 34.6 & 30.7 \\
Keeps some (%) & 6.5 & 8.2 & 6.2 & 9.3 \\
Keeps most (%) & 3 & 1.3 & 3.4 & 3.3 \\
Keeps all (%) & 7.7 & 6 & 2.2 & 1.9 \\
\hline
\textit{Observations} & 507 & 232 & 416 & 215 \\
\hline
\end{tabular}
\end{table}

\textsuperscript{57} In this context, ‘clustering’ simply refers to the grouping of cases within particular units. Specifically, it refers to the grouping of individuals within households which can result in biased estimates when cases are all treated as if being from unique households.

\textsuperscript{58} Please note that responses from all the older participants were included, therefore, the results are subject to potential bias caused by the incidence of multiple respondents of the same gender per household. However, the incidence of multiple respondents of the same gender per household was sufficiently low so as to leave the overall trends and conclusions unaffected by the potential clustering of individuals within households.
From the table (5.3), it would appear that there are no obvious gender differences in either year between the relative proportions of older people who responded that they kept *none, a little, some, most or all* of their individual income. Around 67% of both male and female eligible groups in 2002 and around 54% of both groups in 2009 reported that they retained *none* of their individual income. While 16.4% of females and 15.9% of males reported that they retained *a little* of their income in 2002, 34.6% of females and 30.7% of males reported they kept *a little* in 2009. Based on this evidence alone, a key conclusion is that there appears to be no systematic difference between the way older men and women report that they handle their individual income.

The main conclusions that can be taken away from interrogating the responses to the older person income-handling questions are thus that pension sharing within households appears to have been the norm for the majority of older people in the two waves in the AWD survey with little pension sharing appearing to take place *between* households by comparison. There was little indication of significant changes over time with regards to pension sharing. However, the slight shift from older people reporting that they retained *none* of their individual income to retaining *a little* (as per figure 5.3) is potentially indicative of change. Finally, based on the responses to the direct income-handling questions, gender does not appear to be associated with differential income-handling by older people.

**Summary of findings**

To summarise and conclude section 5.2, it is useful to consider the original questions that framed this investigation of pension sharing. Firstly, regarding the question of whether or not pension pooling is the norm for the households in the AWD samples, the evidence clearly demonstrates that income pooling appears to be the general sharing rule for the majority of households and pension sharing within households is, therefore, in line with the evidence from previous studies (discussed further in section 5.4). The propensity of people to pool their incomes with other household members does not appear to be correlated with the pension eligibility status of the household, although older people living in pension-ineligible households appeared to share greater proportions of their individual income with others compared to the older people who lived in pension-eligible households. The cell counts for the ineligible groups were, however, small thus there is a need for caution when attempting to draw conclusions from these particular observations.
The second question that guided this inquiry concerned potential disparities in terms of income and pension sharing between households/individuals with particular characteristics. The evidence suggests that there may be significant differences between households according to whether they are black African or coloured. In 2002, there appeared to be a notable disparity between the degrees of income pooling that reportedly took place in urban coloured households compared to the black groups with a considerably higher proportion of coloured households reporting that some of their incomes were typically pooled than for both the black groups, the majority of which claimed to pool all. This disparity, however, was not present in the 2009 wave of data and with marginally higher proportions of black rural and urban coloured households reporting that none of their incomes were pooled, this is, thus, suggestive of a degree of convergence between the three groups over time. As previously stated, however, further waves of data collection would be required in order to assess the validity of these results as being representative of a trend. With regards to older person gender, the basic cross-tabulations presented in this chapter do not reveal any evidence to suggest significant correlations between gender and reported income-handling behaviours.

The final question that guided the pension pooling investigation was: is there any evidence to suggest that pension-handling behaviours are changing over time? An examination of the household level question did not reveal any significant overall movement away from household income pooling in the AWD households, however, this masks some of the finer detail which suggests that whilst the black groups (and rural black households in particular) showed signs of slightly less degrees of pooling within households in 2009 than 2002, this was offset by quite a considerable degree of change for the urban coloured households in which incomes appeared to be shared to a greater degree in 2009 than 2002. The slight shift away from older people reporting that they retained none of their individual income to retaining a little, between the two years, is also potentially indicative of change.
5.3 Pension-handling: Insights from key-informant interviews

The key-informant interviews that were undertaken as part of this study provide an alternative vantage point from which to consider the responses concerning the pension and pension pooling given by the survey participants. Individuals who are 'on the ground' and in regular contact with pensioners and their households are potentially able to provide valuable insights which could not otherwise be acquired from a review of the literature, via a household questionnaire or even directly from the households themselves.

One of the three overarching research questions for this study was to assess the extent to which pensions are treated as household rather than individual income. During the course of the interviews conducted for the study, this was one line of enquiry that was pursued.59 Two main points of interest emerged during the interviews relating to pension handing which have implications for the conclusions concerning pension sharing and for the analysis of household composition responses to pensions. Both points concern intra-household tensions. The first point relates to the issue of pensioner gender and the second point relates to differential income-handling by source.

Intra-household tensions: gender

Firstly, two interviewees (working for the Black Sash and FAMSA) reported that they receive enquiries in their advisory capacity from female pensioners who report that their partners, who are also pensioners, do not share their grant money with the household to the same extent as is expected of them. The particular circumstances of each situation differed on a case-by-case basis, however, one common thread existed whereby there were feelings of injustice on the part of the older women who reported that they were expected (by their partners) to take care of household needs (and in particular expenses relating to grandchildren), using the pension money from the woman's grant only. In some instances, the older male allegedly contributed nothing at all to the communal pot. In other cases, the amounts contributed by the male beneficiaries varied but in all these instances the women reported that they were expected to contribute all of their individual income towards household expenses.

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59 As explained in chapter 4, there were four lines of enquiry: 1) pension pooling behaviours, 2) pension processing timing, 3) pension administration in practice, 4) intergenerational and inter-spousal relations.
The interviewees had direct experience of talking to the women who reported this was the situation in their household. According to the interviewees, these cases were neither commonplace nor rare. Of particular note, is that for every woman who approached one of the organisations represented by the interviewees, there were likely to be other women who chose not to (or were not able to) approach an organisation for assistance or were perhaps unaware of the option to do so. Ultimately, the interviewees explained that they were limited in their ability to assist the older women who approached them with this type of matter in achieving their desired outcomes (of either persuading the partners to share or, more often, to persuade SASSA to reassess their individual pension payment amounts based on their individual income as separate from their partner’s income when applying the means-test criteria).

It is difficult to estimate the proportion of households who operate in this way where conflict characterises relations in regards to the pension to some degree. This scenario represents one example whereby the gender of the pension recipient matters in determining the way in which individual income is used. Therefore, it is fair to assume that household responses to the income would also potentially vary in such circumstances. It is useful to consider how the differential income-handling by gender apparent in the described scenario above would come through in the AWD survey. In theory, if this particular scenario was commonplace, then a difference between the responses of men and women to the individual income-handling question asked to older people would have been apparent. This, however, would only be the case if respondents reported honestly. It is possible that some older men may claim to share more of their pension than they actually do. This remains, however, speculation but the possibility is worth bearing in mind.

**Intra-household tensions: social grants**

A second valuable insight from this avenue of enquiry during the key-informant interviews relates to the differential handling of income according to source. One key example involved disparities in income-handling according to different social grants. Income that entered households via the CSG in particular was reportedly perceived and handled, at least by some, in a different way to pension income in particular and to other income sources in general. A specific example that was offered during discussions with staff at the Eastern Cape older person's day centre involved a male pensioner who felt unhappy that his daughter who lived with him did not contribute the
income she received for her young child from the CSG to the family pot. The pensioner felt that this was unjust because his pension was always pooled and yet his daughter refused to pool the CSG money with the household, instead she allegedly used the money for expenses relating to herself and to her child. This was an interesting scenario in view that, at the time of the introduction of the CSG in the late nineteen nineties, considerable emphasis was made by policy makers of the fact that the grant should be directed to the costs of the child for whom it was intended and should not be regarded as a household grant. Therefore, in the case of the male pensioner described, it would appear that the CSG was being allocated, at least partially, as was intended by those who designed and administer the grant. According to the interviewees, differential handling of income according to source was a fairly frequent complaint from pensioners.

As explained in chapters 2 and 3, the government intent for the pension, when it was initially conceived, was to provide a safety-net for the poor white elderly. Following its expansion over the decades since, the extent to which governments have viewed pension-sharing in a positive light has varied between viewing it as exploitative to using it as justification for increasing social spending (Møller 2011). There is no doubt that the pension has been, and continues to be, considered by government officials as an effective method of redistribution due to the extent of pension-sharing. However, there is a notable difference between how explicit governments have been about the intended use of CSG income and pension income.

All the key-informants were in agreement that pension pooling in particular and income-sharing in general was and remains the norm in the majority of poor South African households. The majority of interviewees (but not all) could only speak directly to the experiences of black households. However, pension sharing was also thought by the interviewees to be a norm among many poor coloured households also. During one interview with the manager of an old age home in which the vast majority of the 30 or so residents were described by the interviewee as ‘coloured’ (the home itself was described by local people in general as ‘the coloured old age home’ with other homes designated as ‘white’ and ‘black’), it was explained that all the residents were in receipt of a pension and that almost all of the residents shared their pensions with family members who lived elsewhere. Once the cost of their care at the home was

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60 A comprehensive discussion of the CSG including its design and aims is provided in Lund (2008).
subtracted from the pension, a small amount was set aside for ‘luxuries’ such as toiletries and snack foods, the remainder was then given to relatives who visited the older people and collected the money to take back to their households. This care home was located in the rural Eastern Cape area so was not indicative of the experiences of poorer coloured people living in the Western Cape, however, it does provide a useful insight into pension sharing among coloured South Africans and the extent to which pensions are shared even when recipients live in old age homes.\(^{61}\)

**Summary of findings**

The main points from the key-informant interviews with regards to pension sharing behaviours were twofold. Firstly, despite the lack of evidence of any disparity in pensioner income-handling behaviour according to beneficiary gender from an examination of the responses given to the direct income-handling question included the AWD survey, gender disparities are certainly likely to exist at least in some of the households of interest. Secondly, the empirical investigation was very limited (due to the phrasing of the questions) in its ability to differentiate between the handling of different sources of income. However, there is due cause to believe that such disparities may exist, again, at least in some cases.

The function of the insights provided by the qualitative work in respect to income-handling behaviours is solely to provide an additional vantage point from which to consider the results from the survey data analysis. The insights discussed above highlight the need for caution when drawing conclusions based on the survey analysis work alone due to the inability of survey questions to pick up on some of the complex detail of the reality of intra-household decision making and resource allocation.

**5.4 Discussion**

Overall, the evidence demonstrates that pooling appears to be the general income-sharing rule in the households of interest and pension sharing within households is the norm for the older people. This is in line with the literature and the key contributions of Ardington and Lund (1995), Møller and Sotshangaye (1996), Case and Deaton

\[^{61}\text{It is worth noting here that only a small proportion of older South Africans live old age homes. The majority of people remain in households with their relatives in their older age.}\]
(1998), Sagner and Mtati (1999), Sagner (2000), Duflo (2003) and May (2003). In chapter 4, four hypotheses were formulated in response to the key research question that was investigated in this chapter. These hypotheses are now considered in light of the investigation presented above.

**Pension-handling and gender**

Previous studies have indicated that gender-based norms may be associated with pension sharing behaviours although the empirical evidence in this respect is predominantly based on indirect analyses of indicators of household responses to pensions. Duflo (2003), Edmonds, Mammen et al. (2004) and Ambler (2011) are key examples where gender disparities in pension-related outcomes have been identified, thus suggesting that pension income allocation is influenced by recipient gender. There was no empirical evidence produced in this study using direct income-handling questions to suggest that the gender of the pension recipient is associated with differential income-handling. The hypothesis that stated that ‘female pensioners do not share their pensions to greater degrees than their male counterparts’ cannot, therefore, be rejected based upon the evidence. That said, the key-informants who were interviewed generally concurred that although the general household income-sharing rule was not likely to vary on account of the pension or the gender of the recipient, there was less of a consensus regarding the handling of individual income by older people and gender. There was considerable (albeit, anecdotal) evidence that female recipients were, at least in some cases, under greater normative pressure to share more of their income with their households than their male counterparts.

It is possible that there are not any clear systematic differences in the extent of pension sharing according to beneficiary gender in the surveyed households. However, there may be other potential explanations to account for why the analysis of the survey data failed to identify such gender differences. It may be due, at least in part, to the phrasing of the questions that were asked in the questionnaire. The household representatives who reported they were unsure how money was handled in their household could potentially account for some instances where the respondent was unable to choose an alternative category because the income-handling rule in their household differed according to income source. For example, income may be handled differently depending on whether it comes from a social grant, paid employment or a remittance from outside the household. Also, the income-handling rule could differ
according to the income recipient. For example, income brought into the household by an older person could be handled differently to income brought in by a younger person or there could be differences in the handling of income brought in by females rather than males, and so on. Some respondents may have selected the rule that applied to the majority (but not all) of the household members. Some of the key-informants indicated that income from pensioners was more likely to be treated differently in households to income from other sources. Due to the design of the survey questions, it would be difficult to identify such disparities from a consideration of the direct responses to the income-handling questions included in the AWD questionnaire.

**Pension-handling, racial group and location**

It would appear from the literature that pension sharing may well be a practice that is influenced by cultural factors associated with the race of recipients. As discussed in chapter 3, May (2003) asserts that pension sharing is tied to the African cultural ethos that stresses the value of interdependence and the priority of family welfare over self-interest, with the vast majority of studies of pension sharing in general at least implicitly implying that pension and income-sharing is a practice which is most commonly associated with black Africans. Very little research has been undertaken into the pension income-handling behaviours of the relatively small proportion of non-black South Africans in the pensioner population which is not surprising considering the relatively small proportions they comprise of the population as a whole. Barrientos, Ferreira et al. (2003) produced evidence of notable disparities between the reported income-handling behaviours of urban coloured households and black households in rural and urban locations examining the same responses from the 2002 cross-section survey data that was used in this study.

Taking the 2002 sample as the base, the responses from the 2009 wave of data collection revealed some interesting observations with regards to income-handling and race. In 2002, considerably higher proportions of coloured households reported that ‘some’ of their incomes were typically pooled compared to the black groups, the majority of which claimed to pool ‘all’. This disparity was not, however, present in the 2009 wave of data collection and with marginally higher proportions of black rural and urban coloured households reporting that none of their incomes were pooled, this is suggestive of the possibility of a degree of convergence between the three groups over time. Additional waves of data would be required in order to assess the validity of such
a trend. However, this constitutes an important finding. Overall, while both the black groups appeared to move, over time, towards slightly lesser degrees of pooling, the coloured group moved in the opposite direction. Considering the trends over the same time period regarding race, inequality and poverty levels in general (namely the reduction of between racial group inequality and increased within racial group inequality), these findings perhaps suggest that although cultural factors are inevitably a key influencing factor regarding income and pension-handling norms, perhaps the practice of pension pooling is motivated to a significant degree by economic factors.

Two hypotheses were formulated in regards to the potential for differential income-handling behaviours according to racial group and location. One hypothesis stated that pensioners living in black households do not share their pensions to greater degrees than pensioners living in coloured households. Overall, the results from the investigation presented reject this hypothesis because black households reported greater degrees of income pooling than their coloured counterparts. A second hypothesis stated that pensioners living in rural households do not share their pensions to greater degrees than pensioners living in urban households. If basing the conclusions on the results from the 2002 wave alone, the hypothesis would be rejected because the rural group clearly reported higher degrees of income-sharing than the two urban groups. However, when considering the results from the 2009 sample, the disparity between groups is considerably less.

**Pension-handling over time**

The propensity of households to pool their incomes does not appear to be correlated to any significant degree with the pension eligibility status of the household. That said, the slightly higher proportions of individuals who lived in pension-eligible households who reported retaining a little, some or most of their individual income compared to those in pension-ineligible households in both years (see figure 5.4) is potentially an indication that the pension enables the recipients (and possibly other household members) to retain at least a little of their individual income which they would not otherwise have been able to retain. The slight shift away from older people reporting that they retained none of their individual income to retaining a little between the two years (see figure 5.3) is also potentially indicative of change although further data collection from additional time points would be needed before a trend could be established.
The general consensus amongst the key-informants was that pension sharing (and household income pooling) remains a social norm in poorer households which is unlikely to change significantly in the near future and the findings from the empirical work, in general, concurred with this assessment although there were some signs of a slight decline in the extent of sharing. Consequently, the evidence fails to reject the hypothesis that stated in chapter 4 that *pensions are increasingly being shared to a lesser extent*.

Considering the extent of income pooling in households and the fact that it appears to have been a persistent social norm between 2002 and 2009, the use of unitary models when considering the impact of pensions on households could offer a good starting point. As discussed in chapter 3, unitary models are based on an assumption that all incomes are pooled and that the source of the income is not associated with how the income is treated. However, unitary models are also based on an assumption of equality between household members. Considering the information gathered in the key-informant interviews in particular and the fact that the survey questions themselves are limited in their ability to differentiate to any significant degree between the handling of individual income sources, unitary models may become increasingly less efficient in their ability to provide insights into pension effects over time. The applicability of unitary household models in the consideration of pension effects will also become increasingly undermined if pension sharing, or income-sharing in general, becomes less pervasive as some of the evidence presented here suggests may possibly be the case.

**5.5 Conclusion**

This chapter presented an analysis of the extent to which old age pensions are shared in poor South African households. The findings contribute important new evidence to our knowledge of pension sharing as a practice. The extent and nature of pension sharing behaviours have direct implications for potential pension-related outcomes because as explained in the introduction to this chapter, households would not be expected to recompose around pensions if pension income was not typically shared to significant degrees. It was therefore central to this thesis that the extent and nature of pension sharing was considered before going on to investigate household responses to pensions.
Based on the findings presented and discussed above, it is concluded that pension income, and individual income in general, is shared to a high degree in poorer households and this appears to be a persistent social norm. Regardless of race (black or coloured) and household location (rural or urban), the vast majority of households who took part in the AWD survey reported that they pooled *all or some* of their income with very few reporting that each individual household member kept their own income or that older individuals shared none of their income. That said, evidence in the literature and the accounts provided by the key-informants who participated in the study suggest that some differences in pension sharing behaviour may potentially be associated with particular characteristics, such as gender, household location and ethnic background. Thus, the potential limitations of the AWD survey data and of survey data in general need to be considered in this respect and when investigating potential responses to pensions in the analysis that follows.
Chapter 6: Pensions and household composition: Naïve comparisons of pension-eligible and ineligible cases

6.1 Introduction

The previous chapter presented the investigation that was undertaken into the extent of income (and specifically pension income) sharing within poor households in selected rural and urban areas of South Africa. The analysis was undertaken in order to answer the first of the three research questions that frame this study. Having established that extensive income-sharing within households appears to be the norm, this chapter presents the first stage of the analysis that was undertaken in order to answer the second and third key research questions:

**Research question 2** – *Is there evidence to suggest that households reshape their composition following receipt of (or in anticipation of eligibility for) the pension by a household member?*

**Research question 3** – *How do household responses to pensions vary according to the gender of the recipient?*

This chapter presents and discusses the results from a simple comparison between pension-eligible and pension-ineligible cases with regards to the indicators of household composition that were initially introduced in the methodology chapter (section 4.3.2). This comparison of groups can be called a ‘naïve comparison’ because the two groups being compared are known to be systematically different from each other in ways that could potentially influence the estimates of interest. In other words, the estimates produced are expected to be biased. Nevertheless, the comparison provides a good starting point for the analysis of pension effects.

The cross-sections from the two years of the AWD survey data were pooled with male and female older people analysed separately to allow for a consideration of potential heterogeneous outcomes according to gender. In section 6.2, comparisons are made between older individuals who were pension-eligible and older individuals who were pension-ineligible in order to ascertain whether or not there is evidence to suggest that
systematic differences exist between the two groups which could potentially be attributed, at least partially, to the pension. The groups are compared in terms of some general demographic characteristics, their reported income-handling behaviour and, most importantly, their living arrangements as well as their reported pension status. Several statistically significant disparities between the groups are identified through this exercise. The significant disparities concerning living arrangements are discussed further in section 6.3 of this chapter along with the limitations of the estimates produced via such naïve comparisons between groups. Section 6.4 concludes. The findings from this stage of the analysis provide a starting point in the analysis of responses to pension income in this study upon which the further analysis builds in the subsequent chapters.

6.2 Comparing pension-eligible and ineligible cases

Table 6.1 (below) presents summary statistics based on the pooled samples of both waves of data in which pension-eligible and ineligible individuals are compared. Before discussing the content of the table, however, a few technical notes are required. Firstly, the estimates are reported at the individual level. Pension eligibility is also defined at the individual level rather than at the household level as was the case for the estimates presented previously in chapter 5. Secondly, although some of the reported information originates from the responses provided by the older person supplement respondents (thus, responses from individuals aged 55 years or older), the sample was expanded slightly to include individuals from age 50 in order to benefit from a slightly larger overall sample size and a larger proportion of pension- ineligible cases. In table 6.1, the responses where only individuals aged 55+ responded to a question are indicated by a hash sign (#) and the differing sample sizes are reflected in the reported numbers of observations.

The numbers of observations differ between calculations for some of the descriptive statistics presented in the table. This is mainly due to item non-response for particular questions but in some cases is also due to the fact that there were additional categories available to respondents which are not reported here. For example, when there was a ‘yes’ or ‘no’ response required, a very small proportion of respondents may have opted for 'do not know'. In all instances where a lower number of observations are reported
this was due to item non-response unless otherwise stated. Due to generally high levels of item non-response in the 2009 survey wave, it was decided to allow the number of observations to vary between calculations, where necessary, in order to benefit from higher overall sample sizes and then to take into account the disparities between the number of observations when considering the reporting and interpretation of results. The alternative would have been to exclude cases with some missing responses from all the analyses however this would have substantially reduced the sample sizes.

Furthermore, the pooled samples presented in table 6.1 are restricted by an upper as well as a lower age limit. The reason for this is that when comparing individuals the objective is to compare pension-eligible and pension-ineligible individuals who are similar in most ways and not dissimilar in systematic ways that would be likely to influence the outcomes of interest. If, for example, the pension-eligible category was inclusive of individuals aged over 75 years (or if the lower age limit was discarded and all household members were included as individual cases), this would increase the likelihood of pension-eligible and ineligible individuals being systematically different from each other in ways that are separate from potential pension associated effects.

The choice of the upper and lower age brackets was, to some degree, arbitrary in the respect that there was no firm theoretical reason to expect that the characteristics of, for example, an individual aged 75 years were likely to differ systematically from those of an individual aged 76 years. However, upper and lower age boundaries were necessary and thus two main factors were considered when selecting those boundaries. First and foremost, the ages of eligibility for the pension would intuitively be better situated towards the middle of the age range in order to benefit from similar sample sizes on either side of the threshold for pension eligibility. The eligibility ages range from 60 years for women to 65 years for men, therefore age 50 was considered to be a sensible lower boundary (10 years younger than female eligibility and 15 years younger than the oldest age eligibility point for men) and 75 years was considered a suitable upper boundary (15 years older than female eligibility and 10 years older than the older male age threshold). Admittedly, one can expect there to be systematic and significant differences between the characteristics of 50 year old individuals and 75 year old individuals. However, these age-related disparities are unavoidable at this stage of the analysis. In later stages, as presented in chapter 8, potential age-related effects can be more effectively controlled for, as initially discussed in chapter 4 when introducing the
RDA technique (section 4.4). A second influencing factor for the choices for the upper and lower age limits concerned comparability. Ambler (2011) used the same age range for her analysis of the South African pension and intra-household decision-making, hence using similar age boundaries aids the comparison of results between studies.

A final technical note, before proceeding to discuss the estimates presented in the table, concerns the decision to analyse male and female individuals separately. Although the analysis of pension sharing behaviours presented in chapter 5 failed to highlight significant gender differentials between male and female older people in terms of income-sharing behaviours, the literature review and information gathered via the key-informant interviews for this study provided firm theoretical reasons to anticipate that the outcomes of interest may vary in meaningful ways according to pension beneficiary gender. Therefore, in addition to the categorisation of pension-eligible and ineligible individuals, the pooled AWD samples were also organised according to gender.
## Table 6.1: Summary statistics for older people aged 50-75 years

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Females</th>
<th></th>
<th>Males</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ineligible</td>
<td>Eligible</td>
<td>Ineligible</td>
<td>Eligible</td>
</tr>
<tr>
<td>1 Age (mean)</td>
<td>55.07</td>
<td>66.41</td>
<td>58.07</td>
<td>68.6</td>
</tr>
<tr>
<td>2 Black rural (%)</td>
<td>22.7</td>
<td>34.3</td>
<td>21.1</td>
<td>35.4</td>
</tr>
<tr>
<td>3 Black urban (%)</td>
<td>31.6</td>
<td>22.4</td>
<td>30.5</td>
<td>18.1</td>
</tr>
<tr>
<td>4 Coloured urban (%)</td>
<td>45.7</td>
<td>43.3</td>
<td>48.5</td>
<td>46.5</td>
</tr>
<tr>
<td>n</td>
<td>462</td>
<td>921</td>
<td>456</td>
<td>387</td>
</tr>
</tbody>
</table>

### Intra-household dynamics (based on households with at least 2 members)

<table>
<thead>
<tr>
<th>Intra-household dynamics</th>
<th>Females</th>
<th></th>
<th>Males</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Ineligible</td>
<td>Eligible</td>
<td>Ineligible</td>
<td>Eligible</td>
</tr>
<tr>
<td>5 Household pools all (%)</td>
<td>59.1</td>
<td>59.3</td>
<td>56.3</td>
<td>59.9</td>
</tr>
<tr>
<td>6 Household pools some (%)</td>
<td>27.8</td>
<td>27.4</td>
<td>30.1</td>
<td>30.4</td>
</tr>
<tr>
<td>7 Household doesn't pool (%)</td>
<td>8.1</td>
<td>10.6</td>
<td>9.4</td>
<td>6.9</td>
</tr>
<tr>
<td>8 Unsure if household pools (%)</td>
<td>5.0</td>
<td>2.7</td>
<td>4.3</td>
<td>2.9</td>
</tr>
<tr>
<td>n</td>
<td>443</td>
<td>831</td>
<td>416</td>
<td>349</td>
</tr>
</tbody>
</table>

### Household Composition

<table>
<thead>
<tr>
<th>Household Composition</th>
<th>Females</th>
<th></th>
<th>Males</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ineligible</td>
<td>Eligible</td>
<td>Ineligible</td>
<td>Eligible</td>
</tr>
<tr>
<td>11 Household size (mean)</td>
<td>5.36</td>
<td>4.76</td>
<td>5.29</td>
<td>4.61</td>
</tr>
<tr>
<td>12 Household members 0-5 yrs</td>
<td>0.52</td>
<td>0.40</td>
<td>0.47</td>
<td>0.37</td>
</tr>
<tr>
<td>13 Household members 6-11 yrs</td>
<td>0.56</td>
<td>0.59</td>
<td>0.56</td>
<td>0.44</td>
</tr>
<tr>
<td>14 Household members 12-17 yrs</td>
<td>0.65</td>
<td>0.62</td>
<td>0.68</td>
<td>0.53</td>
</tr>
<tr>
<td>15 Household members 18-29 yrs</td>
<td>1.25</td>
<td>0.87</td>
<td>1.13</td>
<td>0.83</td>
</tr>
<tr>
<td>16 Household members 30-39 yrs</td>
<td>0.47</td>
<td>0.52</td>
<td>0.39</td>
<td>0.40</td>
</tr>
<tr>
<td>17 Household members 40-49 yrs</td>
<td>0.12</td>
<td>0.32</td>
<td>0.27</td>
<td>0.25</td>
</tr>
<tr>
<td>18 No. men (women) 50+*</td>
<td>0.62</td>
<td>0.38</td>
<td>0.72</td>
<td>0.75</td>
</tr>
<tr>
<td>19 Men 18 – 39 yrs</td>
<td>0.85</td>
<td>0.66</td>
<td>0.73</td>
<td>0.59</td>
</tr>
<tr>
<td>20 Women 18 – 39 yrs</td>
<td>0.87</td>
<td>0.72</td>
<td>0.79</td>
<td>0.63</td>
</tr>
<tr>
<td>21 Boys 0-15 yrs</td>
<td>0.75</td>
<td>0.71</td>
<td>0.75</td>
<td>0.60</td>
</tr>
<tr>
<td>22 Girls 0-15 yrs</td>
<td>0.76</td>
<td>0.68</td>
<td>0.72</td>
<td>0.58</td>
</tr>
<tr>
<td>n</td>
<td>462</td>
<td>921</td>
<td>456</td>
<td>387</td>
</tr>
</tbody>
</table>

**Reported pension status**

<table>
<thead>
<tr>
<th>Reported pension status</th>
<th>Females</th>
<th></th>
<th>Males</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ineligible</td>
<td>Eligible</td>
<td>Ineligible</td>
<td>Eligible</td>
</tr>
<tr>
<td>23 Receives pension (AA2.1) (%)</td>
<td>11.2</td>
<td>86.9</td>
<td>15.63</td>
<td>83.94</td>
</tr>
<tr>
<td>n</td>
<td>241</td>
<td>780</td>
<td>352</td>
<td>355</td>
</tr>
<tr>
<td>24 Receives pension (D1.1)** (%)</td>
<td>7.4</td>
<td>86.1</td>
<td>8.7</td>
<td>74.3</td>
</tr>
<tr>
<td>n</td>
<td>445</td>
<td>837</td>
<td>450</td>
<td>385</td>
</tr>
</tbody>
</table>

Notes: Where statistically significant disparities of at least $p<0.05$ were observed between eligible and ineligible groups, estimates are in bold. Estimates and eligibility status are all at the individual level and not at the household level. No account is taken of how many older people reside in households. For indicators 5-10, samples are based on individuals living in households with at least two people. For all other indicators the samples are inclusive of single-person households.

* indicates where responses to the corresponding question in the AWD sample was asked only of those who completed the older person supplement component, which was administered only to individuals aged 55 years and older (as discussed in the text above).

** For indicator 24, the total was out of the individuals who answered either 'yes' or 'no' to the question. Those who answered 'don't know' or 'unsure' were not included in the percentages or totals.

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62 Two questions regarding pension receipt status were included at two different points in the AWD questionnaire, labelled as question ‘AA2.1’ and ‘D1.1’ (see Appendix 1).
**Key sample demographics**

The first four indicators presented in table 6.1 provide information about some key sample demographics. Firstly, with regards to the age variable, the estimates demonstrate that the mean age of pension-eligible respondents was approximately 10 years older than the mean age of pension-ineligible respondents within both gender groups with the female categories being, on average, approximately 2-3 years younger than their respective male counterparts. It is not surprising, therefore, that when comparing the estimates for the two groups (pension-eligible and ineligible) within gender sample, independent t-tests indicate statistical significance (as shown in the table by the bold font). This is as expected since pension-eligible individuals are, by definition, older than pension-ineligible individuals. The fact that the female groups are slightly younger than the male groups reflects the design of the pension for which eligibility is at a lower age for women than men.

Indicators 2, 3 and 4 in the table provide information about the distribution of the samples between the three sub-groups of respondents: black rural, black urban and coloured urban. As explained in chapter 4, the AWD survey sample was designed so that the distribution between these groups is approximately equal. The estimates presented in the table suggest that the distribution of the urban coloured men and women between the eligible and ineligible groups was approximately the same, which is reflected by the fact that there was no evidence of statistically significant differences between groups. For the two black categories, there appeared to be uneven distribution between the eligible and ineligible groups for both the male and female samples. For the black rural cases, there were fewer ineligible individuals than eligible with the opposite being true for the black urban male and female groups. This observation is consistent with the theory that greater proportions of older black South Africans live in rural areas than urban areas. As noted in chapters 2 and 3, there is a tradition of black Africans returning to their rural place of origin in their older age even if they lived for many of their younger years in urban locations (see, for example, Møller 1984). Furthermore, it is a widely acknowledged characteristic of the lives of many South African families that the oldest and youngest family members reside in rural areas whilst the middle generations reside in urban areas in order to benefit from better employment opportunities (Ardington, Case et al. 2009). It is also worth noting that for the coloured urban group, although the distribution between the eligible and ineligible groups was more even and statistically non-significant, the eligible groups were,
nevertheless, marginally smaller than the ineligible groups for both the male and female samples. This suggests that perhaps some coloured individuals move away from urban areas in their older age in a similar fashion to their black counterparts.

Ultimately, the distribution of black older people between the eligible and ineligible groups has a cancelling out effect when the rural and urban samples are grouped together. This underscores the need to consider the potential for heterogeneous pension effects between rural and urban cases in terms of living arrangements. When these groups are combined, pension effects may be obscured due to a cancelling out effect which could, in turn, potentially lead to inaccurate conclusions.

**Intra-household dynamics**

Although household income pooling behaviour was considered in the previous chapter it is useful to briefly consider the association between pension eligibility status and the degree of income-sharing with pension eligibility status determined at the *individual* rather than at the *household* level. The pooling and sharing indicators (variables 5-10) in table 6.1 do not suggest that a higher or lower propensity to pool is associated with pension eligibility status for men or women. The only statistically significant difference established through this exercise was between the female pension-ineligible and eligible groups in terms of the proportions who reported that they were unsure about their household’s main sharing rule. 5% of ineligible and 2.7% of eligible respondents reported this which was significant at $t(704.72) = 1.98$, $p<0.05$. In other words, almost twice as many pension-ineligible respondents reported that they were unsure of their household’s sharing rule than pension-eligible respondents. This said, the overall proportions of respondents who answered in this way were very small. One way of interpreting this difference, which was discussed in the previous chapter, is that for older people living in households without a pension, the general sharing rule may be less clear than in households where there is a pension. This is, however, speculative. Further research would need to be carried out in order to consider the validity of this potential interpretation.

The estimates for the older person income-handling question (indicators 9 and 10), show a significant difference between groups in terms of the proportion of older people who reported that they shared *none* of their individual income for the female sample. 1.5% of the pension-ineligible group and 6.3% of the pension-eligible group responded
in this way which was significant at \( t(117.18) = -2.63, p<0.05 \). For the male sample there was a significant difference between groups who reported that they pooled all their individual income with 78.5\% of pension-ineligible and 59.1\% of pension-eligible cases responding in this way which was significant at \( t(112.06) =3.25, p<0.05 \). In line with the discussions in the previous chapter, these estimates could be interpreted as evidence that at least some of the pension remains in the hands of the recipients. Older people may not have had enough individual income to be in a position to retain some whilst also contributing to the household pot prior to when they started receiving a pension. However, after they started receiving a pension they could then share some but also retain some for themselves.

That said, from this exercise alone it is not possible to establish causal links between the pension and income-handling behaviours since potential pension effects cannot be separated out from other potential confounding factors. What can be concluded is that there is no clear evidence to suggest that there is a correlation between pension eligibility status and reported income-handling behaviour but there is the potential for a link between the two. Furthermore, in terms of the research question and requisite hypotheses concerning the importance of gender and income-handling, again, there is no evidence from this exercise to suggest that female pensioners are likely to share their pensions to greater degrees than their male counterparts.

**Household composition**

Moving on to the main objective of this chapter, which is to compare pension-eligible and ineligible groups in terms of living arrangements, indicators 11-22 in table 6.1 provide information about the living arrangements of the cases in the samples. Indicator 11, household size (mean), shows the average number of people living in the households of the respondents by group. The estimates indicate that mean household size was slightly larger for the pension-ineligible groups compared to the pension-eligible groups with no evidence to suggest a gender difference in respect to overall household size. For the female sample, the households of pension-ineligible individuals (\( m = 5.36, SE = 0.15 \)) were, on average, larger than the households of pension-eligible individuals (\( m = 4.76, SE = 0.10 \)) at \( t(1381) = 3.44, p<0.05 \). For the male sample, households of pension-ineligible individuals (\( m = 5.29, SE = 0.16 \)) were also, on average, larger than households of pension-eligible individuals (\( m = 4.61, SE = 0.15 \)) at \( t(841) = 3.09, p<0.05 \).
The pension-eligible and ineligible groups were compared in respect to all the indicators of household composition using independent t-tests. For the female sample, there appeared to be statistically significant differences between the pension-ineligible and eligible groups for the following indicators: the number of 0-5 year olds (-), 18-29’s (-), 40-49’s (+), 50+ men (-), men 18-39 (-), women 18-39 (-). For the male sample, there appeared to be statistically significant differences between the pension-ineligible and eligible groups for the following indicators: the number of 0-5 year olds (-), 18-29 (-), men 18-39 (-), women 18-39 (-), boys 0-15 (-). The results from the independent t-tests for each of the indicators of household composition, by sample, are presented in table 6.2 (below). Most of the results are presented in the table are positive. This indicates that the estimates are larger for the eligible group than for the ineligible group. Where the t-test estimate is negative, this indicates that the estimate was smaller for the eligible group than for the ineligible group. For example, for the female sample, the fact that the t-test estimate for the household size (mean) indicator is positive (3.44), indicates that the mean household size for the eligible group is larger than for the ineligible group. Likewise, for the female sample, where the t-test estimate for the outcome indicator of ‘Household members 40-49 yrs’ is negative (-7.49), this indicates that the mean number of household members aged 40-49 years is smaller for the eligible group than for the ineligible group.

63 Please note that the direction of the effect is reflected in the brackets following each indicator. Thus, for the female sample being eligible for a pension is associated with a lower average number of 0-5 year old people living in the same household as the case.
<table>
<thead>
<tr>
<th></th>
<th>Females</th>
<th>Males</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household size (mean)</td>
<td>$t(1381) = 3.44$</td>
<td>$t(841) = 3.09$</td>
</tr>
<tr>
<td>Household members 0-5 yrs</td>
<td>$t(795.84) = 2.55$</td>
<td>$t(835.84) = 1.79$</td>
</tr>
<tr>
<td>Household members 6-11 yrs</td>
<td>$t(1381) = -0.45$</td>
<td>$t(841) = 1.91$</td>
</tr>
<tr>
<td>Household members 12-17 yrs</td>
<td>$t(1381) = 0.59$</td>
<td>$t(840.92) = 2.52$</td>
</tr>
<tr>
<td>Household members 18-29 yrs</td>
<td>$t(799.69) = 5.33$</td>
<td>$t(831.55) = 3.39$</td>
</tr>
<tr>
<td>Household members 30-39 yrs</td>
<td>$t(1381) = -0.45$</td>
<td>$t(841) = 1.91$</td>
</tr>
<tr>
<td>Household members 40-49 yrs</td>
<td>$t(1290.76) = -7.49$</td>
<td>$t(841) = 0.79$</td>
</tr>
<tr>
<td>No. men (women) 50+*</td>
<td>$t(1381) = 8.24$</td>
<td>$t(833.3) = -0.89$</td>
</tr>
<tr>
<td>Men 18 – 39 yrs</td>
<td>$t(1381) = 3.52$</td>
<td>$t(841) = 2.12$</td>
</tr>
<tr>
<td>Women 18 – 39 yrs</td>
<td>$t(1381) = 2.53$</td>
<td>$t(841) = 2.33$</td>
</tr>
<tr>
<td>Boys 0-15 yrs</td>
<td>$t(809.77) = 0.62$</td>
<td>$t(841) = 2.22$</td>
</tr>
<tr>
<td>Girls 0-15 yrs</td>
<td>$t(1381) = 1.32$</td>
<td>$t(841) = 1.93$</td>
</tr>
</tbody>
</table>

Notes: n = 1383 for the female sample and n = 843 for the male sample. Estimates are presented in bold italics where p<0.05. Estimates and eligibility status are all at the individual level not at the household level. No account is taken of how many older people reside in households.

*The indicator ‘No. Men(women) 50+’ represents the number of men aged 50+ for the female sample and women aged 50+ for the male sample, thus the number of older people in the household of the opposite sex to the case themselves.

For all the indicators with evidence of statistical significance, with the exception of the average number of household members aged 40-49 for the female sample, the mean number of household members within each age/gender group was less for the eligible groups than the ineligible groups. One of the most notable disparities between the two gendered samples were the estimates for the variable indicating the number of fellow household members of the opposite sex aged 50+. For the female sample, whilst the mean number of 50+ men was 0.62 for the pension-ineligible women this number is appreciably lower for the eligible group with a mean of 0.38. This difference was significant at $t(1381) = 8.24$, p<0.05. Meanwhile, for the male sample there was no statistically significant difference between the mean numbers of 50+ women for the ineligible group with 0.72 compared to 0.75 for the eligible group. This observation is consistent with known gender differentials regarding life expectancy and also average age gaps between spouses. In 2008, for example, the median age gap at time of first marriage was 5 years with men being, on average, 5 years older than their female
According to the life tables compiled by the WHO, in 2009 men aged 50-59 years had an expectation of life that was almost 4 years less than that for women of the same age.\textsuperscript{64} The findings from this exercise are discussed further in section 6.3.

**Reported pension status**

At this point in the analysis, it is useful to consider the degree of alignment between the assessed pension eligibility status of participants (based solely on age) and reported pension status which is possible to do since two direct questions were included in the AWD questionnaires that asked about pension receipt. One question was asked in the main household component (question D1.1) and one in the older person supplement (question AA2.1).

The estimates presented in **table 6.1** (variables 23 and 24) indicate that in the vast majority of instances there appears to be alignment between individuals’ assessed and reported pension status. However, there are a proportion of individuals who reported that they were in receipt of a pension when they appear not to be age-eligible and, vice versa, a number of individuals who appear to be of pension-eligible age but who report that they are not in receipt of a pension.

When individuals of pension age report that they are not in receipt of a pension this may be due to two known factors. Firstly, they may not qualify for the pension based on the means-test criteria.\textsuperscript{65} Although the cases are situated in areas which were identified as being particularly poor and where medium incomes were lower than the means-test threshold, it remains possible that a number of households may, nevertheless, have significantly higher incomes than the majority of households in their area. Secondly, these cases may technically qualify but may not receive a pension for any number of reasons. For example, they may not have applied yet, may have applied and still be awaiting first payment or a mistake may have been made somewhere between the application for the pension through to the recording of the answers to the questions by the AWD survey enumerators.

\textsuperscript{64} Although the gap progressively narrows with age after that.

\textsuperscript{65} The assumption about income eligibility is investigated and discussed in chapter 8.
When individuals who are age-ineligible report that they are in receipt of a pension the potential explanations are less clear. Again, this could be partially due to manual error at some point along the line. An alternative explanation, however, could relate to a misunderstanding on the part of the participants concerning the distinction between the DG and the pension. It would appear from both the indicators of reported pension status that alignment between age eligibility and reported pension status was, in general, higher for the female sample than the male sample. Between 7.4% and 11.2% of the female sample and 8.7% and 15.62% of the male sample reported pension receipt despite being age-ineligible (depending on the indicator used). This observation is consistent with information gathered during the key-informant interviews that were undertaken as part of this study regarding issues around changes in the age threshold for men and a lack of awareness about the changes.\textsuperscript{66} The age-ineligible cases where pension receipt was reported could be explained, at least in part, by issues relating to the DG. Anecdotal evidence suggests that there is some blurring of the line between the DG and the pension for some people who regard them, effectively, as the same grant but with two different versions. It is also possible that some of the older men were given DG’s perhaps with some leniency of the rules for eligibility by way of compensation for the perceived unfairness of the system before the age threshold was officially changed.\textsuperscript{67} The level of compliance with the eligibility rule was high as expected. However, the fact that there is not perfect alignment between age eligibility and reported pension status has the potential to cloud some of the findings. This issue and the implications for the study are discussed further in chapter 7.

6.3 Discussion of pension status and living arrangements

The findings from the naïve comparison of pension-eligible and ineligible groups in terms of living arrangements can be summarised as follows:

- For the female sample, pension eligibility appears to be correlated with overall household size (-) and the number of children 0-5 (-), adults 18-29 (-), adults 40-49 (+), men 50+ (-), men 18-39 (-), women 18-39 (-).

\textsuperscript{66} These issues relating to the change in age eligibility for men, initially discussed in chapter 2 section 2.4, are discussed further in Chapter 7.

\textsuperscript{67} There is anecdotal evidence of assessors signing off on grant applications for men approaching pension age although this was technically against the rules. Such scenarios were discussed during the key-informant interviews and are generally acknowledged by researchers who work on this topic. However, a comprehensive search failed to find mention of this in the current academic literature.
Male pension eligibility appears to be correlated with overall household size (-) and the number of boys 0-15 (-), young people 12-17 (-), adults 18-29 (-), men 18-39 (-) and women 18-39 (-).

Assuming, momentarily, that the pension is indeed a causal factor in these established differences, there are several potential explanations. Two principal theories relate to older person independence and labour migration. The overall trend of fewer household members for pensioners of either gender could be due in part to the pension facilitating the independence of older people. The pension income could mean that some previously dependent individuals become financially independent and subsequently live in smaller households either by their own choice or as a result of a decision made by younger relatives who no longer feel it necessary for their older relatives to live with them. A second theory which could explain why pensioners have fewer household members than non-pensioners relates to migration. As discussed in chapter 3, one of the key theories in the literature is that pensions facilitate the labour migration of younger, more physically able, household members to migrate away when prior to the pension income the household would not have been in a position to take the financial risks associated with such a move. This may account for the smaller numbers of adults living with pensioners but may not apply to child household members unless children were to migrate along with their parents which may apply at least in some cases.

These theories are based on an assumption that the pension is associated with living arrangements. However, as previously explained, it is not possible from this exercise alone to isolate associations from other factors related to, among other things, age. Nevertheless, it is useful to consider what the estimates suggest in terms of the key research questions. Firstly, regarding whether or not households recompose upon receipt of a pension, it is not possible to establish whether or not households recompose upon first receipt but the evidence does suggest that, at a minimum, household composition is associated with age, and that potentially the pension may be associated with fewer household members. Secondly, regarding the question of whether or not the gender of the recipient is correlated with the nature of such responses, the evidence from this stage of the analysis suggests that perhaps there are some gender differentials (on account of there being differences between the two samples in terms of the indicators of household composition that demonstrated evidence of being associated with being in either the pension-eligible or ineligible groups). However, the general
trend of smaller households for the older pensioners compared to the younger non-pensioners is true for both genders.

6.4 Conclusion

This chapter presented the preliminary stage of the analysis of household composition responses to pensions. Several statistically significant disparities between pension-eligible and pension-ineligible groups were established. Some potential explanations for these differences were suggested and the limits of the estimates were also highlighted.

The main findings are that there are differences between the living arrangements of older people aged from 50 years up to the age of pension eligibility and older people aged from pension age up to 75 years. For females, pensioners (or at least, women of pension age) appear to live with fewer people overall and, in particular, with fewer 0-5 year olds, 18-39 year olds and men aged 50 plus, although they also appear to live with slightly more people in their forties. For men, the pensioners also live with fewer people overall and, in particular, with fewer boys aged between 0 and 15 years and people aged 12 through to 39 years of age.

These observations serve as a starting point in the investigation of whether or not households recompose around pension income. From the analysis so far, it is not possible to ascertain the reasons for the identified differences between the pension-eligible and ineligible groups. The pensioner groups are, by definition, older than the non-pensioner groups, therefore, potential explanations for these established differences between groups are likely to be related, at least partially, to age. To establish whether or not there is a direct causal link between the pension specifically and the established differences in living arrangements between groups is the primary objective of the RDA. The analysis presented in chapter 8 effectively builds upon this stage in order to determine whether or not these identified correlations between the pension and the outcomes remain once other potential influencing factors have been controlled for. Furthermore, the RDA takes the investigation further by considering timing aspects to pension responses. However, before presenting and discussing the RDA results, the RDA approach and its ability to provide reliable estimates of pension
effects on living arrangements is considered further in chapter 7.
Chapter 7: Regression Discontinuity Analysis: Pension eligibility and pension receipt considered

7.1 Introduction

In chapter 6, it was shown that age eligibility for a pension and reported pension status are not perfectly aligned for the cases in the AWD sample. In this chapter work is presented that was undertaken in order to investigate the extent to which age eligibility is a predictor of pension status, to investigate potential explanations which may account for the identified misalignment and to consider the implications for the RDA estimates and the subsequent study conclusions. If age were a perfect predictor of actual pension status then the estimates produced using RDA and the subsequent conclusions about pension responses would be afforded further weight. If age is not a predictor of actual pension status at all, then the estimates produced using RDA are invalid. What is the case, however, is that age is a good but imperfect predictor of pension status because there are some instances where age eligible individuals are not in receipt of a pension as well as some age ineligible individuals who are in receipt of a pension.

The individuals, and their households, who apply for the pension immediately upon eligibility may differ systematically from those who do not apply immediately in ways that may influence the outcomes of interest. For example, a poorer individual living with a higher number of dependents may be quicker to apply for a pension than an individual who is less poor and has fewer dependents. Potential responses to the pension, in terms of changes to living arrangements, may also differ systematically between these two hypothetical cases. Therefore, a direct comparison between recipients and non-recipients is problematic. RDA provides an alternative way to identify direct causal links through a comparison of eligible and ineligible cases. In other words, what is being modelled, using age as an indicator of pension eligibility status, is the intention to treat (ITT) as opposed to the effect of the treatment itself. Nevertheless, it is important to consider the extent of the disparity between eligibility status and actual pension status when considering the RDA results and conclusions.
The content of this chapter is organised as follows. In section 7.2, the credibility of age as the forcing variable for the RDA in this study is examined by modelling reported pension status and age with the AWD data and the RDA approach. In section 7.3, some potential explanations that may account for why there appear to be a number of ‘ineligible pensioners’ and ‘eligible non-pensioners’ are considered empirically (namely, factors relating to income and age misreporting), and further potential explanations which cannot be assessed empirically with the available data are also discussed. In section 7.4, potential systematic disparities in timing aspects of pension receipt according to gender and year of survey are considered. Section 7.5 provides a summary of the chapter findings and conclusions are presented in terms of the implications of the findings for the study.

7.2 Establishing the credibility of the forcing variable

The ability of the RDA to generate useful and meaningful estimates is reliant upon the fact that pension receipt is age-discontinuous. In other words, age should be an effective predictor of whether or not an individual is a pensioner or a non-pensioner. For the credibility of age as a forcing variable to be established, it must be accepted (either through demonstration or convincing circumstantial evidence) that there is a clear discontinuity in pension receipt at the time of age eligibility. Since the AWD survey includes information about reported pension status there is an opportunity to consider empirically the degree of alignment between age eligibility and pension status. As explained in chapter 2, in 2002 the age of pension eligibility was 60 years for women and 65 years for men. Following a change of policy in 2008, the age for male eligibility was changed. The age was gradually brought in line with the female age of eligibility in staggered stages between 2008 and 2010, thus, at the time of the second round of data collection, the age was 63 for men.

In the household section of the AWD survey questionnaire, question D1 asked the household representative to provide information about the income that each member of the household received in a typical month. The information gathered was used to model the relationship between age and reported pension status using the RDA approach.

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68 See Appendix 1 for a copy of the questionnaire.
Figure’s 7.1 and 7.2 (below), provide RDA representations of the relationship between age and reported pension receipt for women and men, respectively. The proportion of cases within each age year who reported that they were in receipt of a pension are plotted with the standardised ages along the horizontal axis (zero being the official threshold for pension eligibility), and the proportion who reported that they were in receipt of a pension along the vertical axis. Noted beneath each figure are the number of observations, the fact that a triangle kernel was used to generate the estimates and the bandwidth along with the resulting Wald coefficient, standard error, z-score and p-value.

It was explained in chapter 4 (section 4.5) that a special case of the Wald test can be used in bivariate regression analyses, such as for RDA, in order to identify whether or not there is a significant difference at the cut-off point. In this application of the Wald, the Wald statistic provides a measure of the discontinuity at the cut-off point measured in the units of the dependent variable. Thus, in figures 7.1 and 7.2 (below), the Wald coefficient represents the percentage difference between the two estimates of reported pension receipt just to either side of the threshold which, in figure 7.1 is 28.124% and in figure 7.2 is 32.523%.
Figure 7.1: Reported pension receipt by age for female sample

n = 1282, kernel: triangle, bandwidth: 2.018, Wald coefficient: 28.124, standard error: 0.033, z = 843.05, p<0.00.

Figure 7.2: Reported pension receipt by age for male sample

n = 835, kernel: triangle, bandwidth: 4.308, Wald coefficient: 32.523, standard error: 0.681, z = 47.74, p<0.00.
In both figures, the increase in the proportion of cases who reported that they were in receipt of a pension at the cut-off point of age eligibility is highly statistically significant (as indicated by the z-scores and p-statistic values), confirming that pension receipt is indeed age-discontinuous. As anticipated, these figures demonstrate that age is not a perfect predictor of reported pension status. If that was the case, in figures 7.1 and 7.2 there would be two horizontal regression lines either side of the cut-off point at the value of 0 on the vertical axis on the left-hand side and at 100 on the vertical axis on the right-hand side of the threshold point. As it stands, it appears that in some instances, non-eligible cases reported that they received a pension and, vice versa, some age eligible cases reported that they did not receive a pension.

The potential explanations for the observed non-compliance of some cases are investigated and discussed in section 7.3. The implications for the study conclusions of modelling age eligibility rather than actual pension receipt are discussed further in sections 7.4 and 7.5.

7.3 Explanations for ‘ineligible pensioners’ and ‘eligible non-pensioners’

In this section, potential explanations which may account, at least in part, for why there appear to be some ‘ineligible pensioners’ and some ‘eligible non-pensioners’ in the AWD data are considered. Leaving the other minor administrative criteria aside, the only other criteria that applies to the pension beyond age is the means-test. Thus, it is possible that some of the AWD eligible non-pensioners may be age eligible but means-ineligible. This potential explanation is considered empirically in section 7.3.1. A second potential explanation relates to the misreporting of age. It is possible that some individuals may habitually round their age up or down and, in doing so, violate the age eligibility timing assumption. This may occur, for example, when a woman reports during the survey that she is 60 years old when in fact, she is 59. As a result, it may be assumed that she is pension age eligible when in fact, she is not, resulting in the individual being categorised as an ‘eligible non-pensioner’. The potential extent of age

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As discussed in chapter 2, some additional minor criteria for pension eligibility applies including South African residency status and that the applicant does not live in a State old age facility. Since only people living in households were included in the survey the latter criteria is satisfied by default. It is also fairly safe to assume that the vast majority, if not all, of the AWD respondents were South African nationals (although this was not a question that was asked in the AWD survey) since the likelihood of interviewing a non-South African household would have been extremely low in the areas surveyed.
misreporting is considered empirically in section 7.3.2. In section 7.3.3, other potential explanations are considered including the possibility of a lack of information about the pension application process and respondent confusion between the pension and the DG.

7.3.1 Age and income
As explained in chapter 4, the households sampled in the AWD survey were from areas that were intentionally identified as being amongst the poorest in South Africa. For this reason, it is assumed that the vast majority of the individuals and households who took part in the AWD survey would qualify to receive the pension if eligibility were based solely on means-test alone. However, since information about individual incomes was collected as part of the AWD survey there is an opportunity to consider the reliability of this assumption empirically. Income information was obtained from the questionnaire responses to questions D1 – D12 (see Appendix 1).

Figures 7.3 and 7.4 (below) present the distribution of individual incomes by age and gender for the two survey years separately, as calculated (admittedly, in a fairly crude way) by taking the sum of the reported amounts of monthly income from social grants (including the pension), earnings from work and income from the selling of home produced goods, which are likely to have constituted the main income sources for the majority of individuals living in poor South African households. It is important to note, however, that only individual incomes were calculated in this way. As explained in chapter 2, the means-test is applied to the individual income of both the applicant and their spouse if they have one. Therefore, when individual incomes are calculated for the individual only, it is likely that for some individuals their spouse’s individual income is likely to be higher than their own and, vice versa, for other individuals their spouse’s individual income is likely to be considerably lower than their own. Furthermore, the means-test is applied to income and assets. The calculations shown here take no account of assets. For these reasons this exercise is limited in what it can reveal about means-eligibility. However, it does provide some initial insights into the likely extent to which cases in the AWD data set are likely to comply with the means-test criteria.
Please note that one case was removed from the graph shown in figure 7.4 for presentation purposes only, where one female’s income exceeded R20,000 per month which was in excess of R5,000 more than the next highest recorded income. The explanation for this individual’s particularly high income is not clear. It could be the result of a mistake or possibly be correct and represent an exception to the rule. Since the explanation is not apparent and the single case is not likely to have significant effects on the estimates from the analysis, the individual was retained in the sample.
The means-test criterion is periodically adjusted. As reported in chapter 2, the individual income threshold as of May 2012 was R3,950 per month for unmarried applicants (adjusted for married applicants). In 2008, the threshold was closer to R2,250 per month. From figures 7.3 and 7.4, it is apparent that for the majority of respondents, their individual income appeared to be below R1,000 per month in 2002 and close to R1,000 per month in 2009, with high proportions of individuals, in both years, reporting zero individual income per month. Thus, the likelihood of most cases complying with the means-test criteria is expected to be high. However, there does appear to be some cases whose individual income exceeds the maximum and therefore, the conclusion from this exercise is that means-ineligibility is likely to account, at least partially, for some of the ‘eligible non-pensioners’ in the AWD data. That said, due to the fact that neither assets nor spousal income were considered, these results merely provide a rough idea of how likely it is that the eligible non-pensioners in the data are accounted for by means-ineligibility.

When means-ineligible cases are included in the RDA, this increases the probability of meaningful disparities at the threshold being obscured, what is commonly referred to as type II error. Type II error occurs when an analysis fails to identify a significant effect (also known as a ‘false negative’), whilst type I error occurs when a non-significant effect is mistakenly identified as being significant (a ‘false positive’). Consequently, where discontinuities are established by the RDA, the subsequent conclusion is that these discontinuities are strong enough not to be masked by the inclusion of a small number of cases for whom it is assumed will receive a pension at the age threshold but, in fact, would probably not due to their income being above the maximum threshold. A higher degree of caution, however, is required when considering the interpretation of non-significant associations in light of this evidence.

The information in figures 7.3 and 7.4 suggests that there are high proportions of cases for whom their income appears to be either 0 or close to 1000 rand per month (being slightly less in 2002 and slightly more in 2009). It is not surprising that many individuals who are under pension age report that their income is 0 considering the limited opportunities for income generating activities for many older South Africans. It is also not surprising that many cases who are of pension age appear to have very similar income levels since, for many of these individuals, the pension is their only individual income source and the pension is, in effect, a flat rate for the majority of
recipients. The AWD survey included a question asking respondents to provide information about the value of the pension that was received each month (D1.2, see Appendix 1). In the 2002 wave, 78.5% of pensioners reported that they received R620 per month. A further 9.2% reported that they received R640 and 5.7% reported a value of R660. Some remaining 6.6% of pensioners reported other values which ranged between R180 and R1000. In the 2009 wave, 84% of pensioners reported that they received R960, with a further 9.4% reporting that they got R940. The remaining 6.6% reported values in the range of R96 and R1600. During the second wave of data collection the official value of the pension was in the process of being changed from R940 to R960, which accounts for the 2009 results.

For the 6.6% of respondents who reported values which did not appear to correspond with the design of the grant and the responses of the vast majority, there are a number of possible explanations which could account for this including reporting error, recording error, misinterpretation of the question by respondents (for example, if they reported the combined amount for themselves and their spouse), mistake by pension administrators or possibly another explanation. Regardless of the explanation, it is useful to note the generally high level of consistency between grant values within years and that there is a clear shift in both figures, between higher proportions who report 0 rand towards the left-hand side of the graphs and higher proportions whose income is calculated as being around 1000 rand, towards the right-hand side. The fact that the pension value may vary between cases does not pose any direct problems for the RDA method and the vast majority of cases appear to receive the maximum pension value per month. However, the fact that there are some variations between pension amounts needs to be kept in mind when considering the RDA estimates.

Although means-ineligibility may account for at least some of the eligible non-pensioners, some doubt is cast on the extent to which it explains the non-compliers by Sieneart’s (2007: 5) assertion that the means-test is non-binding and “in practice is

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71 As explained in chapter 2, the design of the pension is such that, in theory, the grant amounts vary according to the income level of the applicant. The poorest applicants receive the maximum value with amounts progressively decreasing according to income up to a point at which the applicant no longer qualifies for the grant based on their income. In practice, the value of the pension is essentially a flat rate for the majority of applicants with a small additional supplement (R20) for the oldest of the old.

72 The income levels reported in figures 7.3 and 7.4 were calculated by combining the reported income from separate potential sources, therefore, it is unlikely that the high proportions of cases whose income appears to be the same comes as a result of respondents having a tendency to round their income up or down to a particular level, such as R1000 per month.
rarely administered”, due, he presumes, to the fact that the means-test is set at a high enough level to render the vast majority of people eligible. Other potential explanations also need to be considered. From the information available in the AWD survey it is not possible to determine whether or not the means-test was applied to the sampled cases. This underlines the need to consider other potential explanations for the apparent eligible pensioner cases in the data as well as explanations for the ineligible pensioners which cannot be accounted for by means-ineligibility.

7.3.2 Age misreporting
McCrary (2008) recommends examining the forcing variable (in this case, age) as a standard assumption check when conducting a RDA in order to confirm that there is no sign of manipulation by the cases of the assignment rule on who receives the treatment and who does not. As explained in chapter 4, the likelihood of cases being able to manipulate the rule in this context is low because age eligibility is not easily manipulated. However, if individuals or another household member reporting on their behalf, unintentionally misreport their age by rounding up or down the true age to the nearest decade or nearest 5 years, this may result in cases being wrongly assigned in terms of their pension eligibility status. For example, if a woman is aged 59 years they or their household representative may report that the individual is 60 years old. The RDA timing assumption is then violated. This may occur when an individual habitually rounds their own age up or down, or in other instances when other household members are reporting the ages on behalf of fellow household members and the respondent may not know or accurately remember the exact age of everyone in the household.

Misreporting of age could also occur should an individual not know their exact date of birth. This scenario was a more frequent occurrence in the past in contexts where birthdays were not traditionally remembered or celebrated and where events such as births were not formally registered by local authorities. However, it is unlikely that many respondents who took part in either wave of the AWD survey and who were aged around the ages of eligibility for pension receipt would have been unaware of their exact age. It is probable that some of the oldest respondents may not have known their exact date of birth. However, they would not have been aged near the threshold point, which is where potential age inaccuracies become problematic for the RDA.
The misreporting of age for any reason is potentially problematic if a sizeable proportion of cases in the sample were wrongly classified in this way. It is particularly problematic where the misreporting is skewed one way or the other if, for example, there is a greater tendency to overestimate rather than underestimate or vice versa. If this were the case, a cancelling out effect would not occur to help to offset the biasing effects of age misreporting on the estimates. Such misreporting would be likely to obscure potentially significant effects leading to the aforementioned type II error.

The misreporting of age also has the potential to introduce a particular type of selection bias to the results if cases that are more likely to misreport ages differ systematically in the outcomes of interest from cases that are less likely to misreport ages. Edmonds, Mammen et al. (2004) approached the issue of what they refer to as potential age clustering around the threshold by eliminating from their RDA any individuals who were of the exact age of eligibility. However, since these ages are of particular importance to the RDA design, unless there is a strong indication that age misreporting is likely to be significant to a degree that it is likely to bias the results, on balance, there is potentially more to be gained by not excluding individuals at the exact age threshold than from excluding many of the individuals who are of most relevance to the analysis and, in the process, reducing the statistical power of the RDA by reducing the sample size.

This issue can be considered empirically albeit in a fairly tentative and crude way. **Figures 7.5** and **7.6** (below), present a graphical representation of the distribution of reported ages around the threshold of pension eligibility age. These figures facilitate a visual assessment of the likely extent of age misreporting on the RDA results. **Figure 7.5** presents the information for the female sample and **7.6** presents the same information for the male sample.
Figure 7.5: Age distribution for women 50-75 years
- Pooled 2002 and 2009 cases

n = 1383

Figure 7.6: Age distribution for men 50-75 years
- Pooled 2002 and 2009 cases

n = 843
In **figure 7.5**, at age 60 (the pension threshold for women), there appears to be a higher number of 60 year old women than 59 and 61 year old women, this may be entirely coincidental but it may also indicate evidence of age misreporting. The fact that there is a similar disparity between the number of 61 and 62 year old women, for whom there is no *a priori* reason to believe would be influenced by age misreporting is reassuring. For the male sample in **figure 7.6**, the number of respondents aged 61 and 71 both appear to be notably less than the respondents aged 60 and 70, respectively. This suggests that there may be some age misreporting in the sample. However, the age eligibility threshold for men is 65 or 63 years (depending on the year of interview) and at 63 years, there is no evidence to suggest any systematic age misreporting. This is not surprising since people tend to round up or down to the nearest decade or lustrum. There may, however, be some clustering around the age of 65 years for men which may influence the RDA estimates. These observations suggest that age misreporting may account for some of the misalignment between age eligibility and reported pension status for the male sample. This may, therefore, account for some of the male ‘ineligible pensioners’ and ‘eligible non-pensioners’.

An additional consideration which relates to age and timing, but which is separate from the issue of age misreporting, concerns survey timing. Whilst, for example, two women may have reported being 60 years old in the 2002 survey, one woman could potentially have had her 60th birthday the day before the questionnaire was completed and thus not yet have received any pension income, whilst the other may have taken part in the survey the day before she was due to turn 61 and, therefore, have been receiving pension payments for the majority of the previous year. RDA is not able to incorporate this sort of detail into the analysis without additional information about exact date of birth which is not available in the AWD data. However, although this issue weakens the potential power of the RDA method and needs to be noted when considering the RDA estimates, ultimately, it does not pose significant cause for concern because there is no reason to believe that the distribution of birthdays in the data is likely to be uneven or skewed across the days of the year. Furthermore, whether or not the RDA technique would generate more reliable estimates if able to model age in months as well as years is debatable. If pension age in months was a perfect predictor of actual receipt then the RDA estimates would undoubtedly be more precise and accurate. However, age is not a perfect predictor. Some cases apply immediately upon turning the age of eligibility whilst for others there is a delay. Some cases would
begin receiving the pension within a matter of weeks after applying whilst for other it may take a number of months (with a back payment to the date of application). Both the time between birthday and putting in a pension application and the time between applying and first pension receipt are likely to be influenced by case characteristics which may also influence pension responses. As explained in chapter 4, RDA is able to control for such potential influencing factors by modelling eligibility for a pension based on age (the ITT) rather than actual pension receipt.

7.3.3 Other potential explanations
Whilst means-ineligibility and age misreporting can, to an extent, be considered empirically, there are other potential explanations which cannot be tested directly. There may be some cases that are age-eligible, means-eligible and for whom their age is accurately recorded in the AWD survey and yet they report that they are not in receipt of a pension. A number of factors could account for this. Firstly, it may be related to awareness levels about the pension and the application process. Some cases may not be aware that they are, in fact, eligible for a pension due to misinformation or a general lack of awareness about the pension or the eligibility criteria. The likelihood of awareness issues being a common explanation for delayed pension uptake is, however, low for the majority of AWD cases due to the fact that it is a grant that has been around for a long time and is an important income source for many poor South African households (as concluded by, amongst others, Vorster, Rossouw et al. 1996; Barrientos 2003; Legido-Quigley 2003; Barrientos and Mase 2012).

In a similar vein, it is also possible that in some instances a pensioner may have been delayed in applying for a pension if they happen to live far away from a place where they can apply and/or if in poor health. The likelihood of these factors playing a significant role in accounting for many of the eligible pensioners is, however, expected to be low for a variety of reasons including the fact that the pension is such an important source of income that it would be a high priority for most households so the motivation to get to an application point soon after turning the age of eligibility would be high. Mobile application points are also available regularly in remote areas and procedures are in place which allow for family members to apply on behalf of a pensioner who cannot apply in person due to health reasons.
A final potential explanation is the possibility that some respondents may mistakenly regard the pension and the DG as the same grant. Thus, when asked if they receive an old age pension they report ‘yes’, when in fact they are in receipt of a DG. There are several factors which make this a possibility: the two grants are of the same value; the means-test criteria is the same; the DG is sometimes referred to as the ‘disability pension’; and by 2009 the system operated in such a way that someone receiving a DG would automatically have their DG changed in status to a pension upon turning the age of eligibility without the individual needing to do anything. Thus, it is possible, that some confusion between the two separate grants could occur.

The DG could have been included in the RDA estimates. However, the decision was taken not to include DG in the RDA for several reasons. Firstly, although some recipients and their households may regard DG and pension income as the same, it is also possible that income from a DG is perceived in a different light and treated in a different way to pension income, at least in some cases. Since older age and the pension are somewhat intertwined in the South African context, it is possible that income from a pension may be handled slightly differently once a household member becomes a pensioner compared to how their income was handled previously when they received a DG. This, in turn, may prompt different responses in terms of changes to living arrangements although this is speculative. As it stands, despite the fact that there was a notable rise in the DG beneficiary numbers over the first 15 years after Apartheid (Woolard and Leibbrandt 2010), only a relatively small proportion of cases overall reported that they were in receipt of a DG. 5.5% of the 50-75 year old individuals included in the RDA samples reported that they were in receipt of a DG and 16.8% of 50-75 year olds who were potentially eligible for a DG based on their age (in other words, they were too young for a pension), reported that they were in receipt of a DG. The effect on the estimates of excluding the DG is to increase the risk of type II error because some cases would have been in receipt of a DG in the years immediately preceding pension age which means their individual income would, in effect, have remained unchanged when they became of pension age.
7.4 Considering the timing assumptions, gender and survey year

The relationship between reported pension receipt and age eligibility is examined further in this section in order to consider the implications for the RDA both in general and specifically with regards to the results from using RDA to consider anticipatory and delayed pension responses. It has been touched upon in this chapter that there may be systematic differences in the extent of the misalignment between age eligibility and pension receipt according to both pensioner gender and the year of survey. The evidence regarding these factors is considered further in this section.

7.4.1 Key-informant insights into timing aspects of pension receipt by gender and survey year

As explained in chapter 4, one of the key objectives of the primary data collection was to aid in the appropriate interpretation of the RDA estimates and the other results from the survey data analysis. The theory and literature concerning pension application and processing were presented in chapter 2, section 2.4. The information that was gathered through the key-informant interviews that concerns timing aspects to pension receipt is summarised in table 7.1 (below).

In general, the interviewees reported that improvements to social grant administration over time meant that waiting times between application and first payment, as well as between age eligibility and application, had reduced between 2002 and 2009. Furthermore, the likelihood of there being systematic disparities in timescales between applicants living in rural and urban locations was reported as lower in 2009 compared to 2002 due in part, to ongoing efforts made by the South African governments to increase accessibility to social grants for those living in remote rural areas. The most notable potential area for disparities between genders and/or survey data collection waves was in relation to the policy changes that were made to the male pension eligibility criteria in 2008. Interviewees reported that this change resulted in a degree of confusion which, in turn, led to delays in application by men who were newly eligible for a pension due to an initial lack of awareness about the detail of the changes made.

The RDA estimates produced in this study are calculated based on two samples of male and female cases but the two years are pooled due to the need for larger sample sizes.
The fact that the average (median) time between application and first receipt allegedly went from being around 2-3 months in 2002 to less than 1 month in 2009 does not pose any particular problems to the methodology in this study. The same applies to the potential for a shorter average time span between becoming age-eligible and application. If the disparities in average timeframes between survey waves had reduced more dramatically, for example going from over 1 year in 2002 to a matter of weeks in 2009, then this would have presented significant challenges to the RDA technique. As it stands, the alleged changes in timeframes could potentially result in a sharper discontinuity in actual pension receipt at the official age threshold in 2009 than 2002, at least for the female sample. For the male sample, however, any improvements in pension processing which may have resulted in a sharper discontinuity in 2009 would likely have been negated, at least to an extent, by the staggered changes to the age eligibility criteria brought in around that time and the subsequent confusion and lack of awareness about the specific detail of the changes. The information provided by the key-informants and the implications are considered further in section 7.4.2 below.
Table 7.1 Pension receipt timing considerations for Regression Discontinuity Analysis: Information from key-informants

<table>
<thead>
<tr>
<th>YEAR</th>
<th>GENDER</th>
<th>AGE of Eligibility*</th>
<th>TIME between eligibility &amp; application</th>
<th>TIME between application &amp; first receipt</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Average</td>
<td>Disparities between rural and urban locations</td>
</tr>
<tr>
<td>2002</td>
<td>Female</td>
<td>60</td>
<td>Most apply shortly after eligibility but more variation between individuals with some people not applying for 1 year or more. Awareness good but lower than 08/9.</td>
<td>Greater disparities between rural and urban areas than 08/9. Some rural people having to wait to apply for several months due to lack of access.</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>65</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>60</td>
<td>Greater awareness and less variation between timing of applications with vast majority applying within days/weeks of becoming eligible.</td>
<td>Considerably less disparity between rural and urban pensioners as awareness and access for people in rural areas improved significantly</td>
</tr>
<tr>
<td>2009</td>
<td>Female</td>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>65 – before July 2008</td>
<td>High level of awareness of pension and less variation in timing of application in general but some lack of awareness of changes to male age eligibility resulting in delays in applications from newly eligible males.</td>
<td></td>
</tr>
</tbody>
</table>

*on applicant’s birthday, although eligibility for some men would have been on the 1st April of a particular year rather than their birthday due to the changes in age-eligibility. Therefore, a man of 62 would have become eligible for the pension on 1st April 2009 as opposed to his 62nd birthday.
7.4.2 Empirical analysis of pension status by gender and survey year

In the AWD survey questionnaire two questions were included which asked respondents to report whether or not an older individual was in receipt of a pension at the time of completing the questionnaire. In the household section of the questionnaire, D1.1 asked the household representative to provide information about the income that each person in the household received in a typical month (this was the information that was used to establish that age is a predictor of pension receipt presented in section 7.2). In the older person supplement section of the questionnaire, there was a section which asked the older individuals about their personal income sources. Question AA2.1 asked the older person: Do you receive any of the following grants?, for which the pension was listed as the first grant for which respondents were offered a ‘yes’ or ‘no’ option. Questions D1.1 and AA2.1 allow for cross-referencing between responses in terms of respondent age and reported pension status at the time of the survey. This information can also be triangulated with information about take-up and time scales available in the literature and from the key-informant interviews.

As was explained in chapter 2, the official pension eligibility age varied by recipient gender and year of survey. Thus, there were, in effect, four categories of cases: 2002 Females; 2009 Females; 2002 Males; 2009 Males. Reported pension status was examined for each of the four gender/age groups using the two indicators available in the survey data. The age criteria for women did not change between 2002 and 2009, nevertheless, in light of the information gained via the key-informant interviews, it is useful to consider whether or not there is evidence of systematic differences in timing aspects to pension receipt according to year of survey which may influence the RDA estimates.

Figure 7.7 (below) presents the responses to question D1.1 and AA2.1 for the 2002 cross-section and figure 7.8 (also below) presents the same information for the 2009 sample. The proportion of respondents who reported that they were currently in receipt of a pension is shown by gender group. The number of observations varies between years and question due to item non-response.

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73 See Appendix 1 for a copy of the questionnaire.
Figure 7.7: 2002 Reported pension status by gender and survey question

Male sample: n = 537 for D1.1 and 482 for AA2.1
Female sample: n = 861 for D1.1 and 704 for AA2.1

Figure 7.8: 2009 Reported pension status by gender and survey question

Male sample: n = 267 for D1.1 and 222 for AA2.1
Female sample: n = 448 for D1.1 and 400 for AA2.1
Figures 7.7 and 7.8, demonstrate that the responses to the two separate survey questions about pension receipt do not correspond exactly. An investigation of the particular cases where responses from the same household appeared to conflict between the questions indicated that this applied to 1.96% of households in the pooled samples. Any outstanding disparity between the two indicators is, therefore, attributed to sample variations which occurred as a result of item non-response.

Where conflicting responses from the same questionnaire were identified there are a number of potential explanations. It is possible that some older people may not have been fully aware or knowledgeable about their individual finances whilst a fellow household member may have been more informed. Although it is possible that a small number of older people may not have been aware or as knowledgeable about their finances as another member of their household, it is unlikely, however, that the majority of participants would not have been aware of whether or not they were in receipt of a pension since they would have needed to have applied for it in person and would have needed to collect it themselves or have given express permission for someone else to collect it on their behalf.

It is possible, but unlikely, that some participants would have felt the need to resist disclosing to the interviewer that they received the pension due to embarrassment or pride since very little stigma is known to be attached to this grant (Sienaert 2008). It is possible that the household representative may not have been fully aware of all the income sources of all household members. However, it is unlikely that many, if any, older people would have been in a position where they were actively concealing the fact that they were in receipt of a pension, since it would be difficult to hide this from fellow household members. Older people may have chosen not to share all or some of the income with others but it is unlikely that the other household members would not have known that they were claiming it. Furthermore, even if this were the case for some individuals it is also unlikely that they would have disclosed this income source to the interviewer. On the balance of things, it is perhaps more likely that where discrepancies between two responses provided by the same household were evident, that these were either mistakes made during the recording or data inputting stages.

Figure 7.7 suggests that in 2002, for both the male and female samples, the shift between reported non-receipt and receipt was relatively sharp at the thresholds of
official age eligibility (60 for women and 65 for men). In figure 7.8 the shift between non-receipt and receipt for the male sample in 2009 is less sharp. This is not surprising in light of the policy changes in the male age eligibility criteria that occurred shortly before the second wave of data collection. The conclusion from this exercise, therefore, is that the RDA estimates generated when including the 2009 male cases may be less reliable than the estimates generated when running the RDA on the pooled female sample or if the estimates were generated using a sample of the 2002 male cases only.

The key-informants suggested that time-frames between age eligibility and first pension receipt were, on average, shorter in 2009 than in 2002 due to administrative efficiency and general measures taken to improve accessibility to social grants. However, there was no indication in figures 7.7 and 7.8 of a sharper discontinuity in reported pension receipt at the age of eligibility for the 2009 females compared to the 2002 females. One potential explanation concerns the DG. A higher proportion of cases were in receipt of a DG in 2009 than 2002, and in 2009 (unlike 2002) when a DG beneficiary turned the age of pension eligibility, their grant was automatically changed from a DG to a pension. It is possible, therefore, that some 2009 cases around the pension age threshold may have thought that they were still in receipt of a DG when in fact it had automatically changed to a pension and, vice versa, individuals who were just approaching the age of pension eligibility may have assumed their DG had already been changed to a pension when in fact they were a few weeks, months or years short of the age eligibility threshold.

The fact that there appears to be a sharper discontinuity in reported pension receipt at the age eligibility threshold for the female sample than the male sample, in general, is consistent with the observations made in previous studies. Several of the key studies of pension effects in the literature opted to focus exclusively or primarily on capturing the effects of female pension receipt due to gender-based disparities in the sharpness of the change in pension receipt at the age threshold. Bertrand, Mullainathan et al. (2003), Duflo (2003) and Edmonds, Mammen et al. (2004) are key examples where arguments have been put forward in favour of restricting analyses to female pension recipients. Bertrand, Mullainathan, and Miller (2003) argue that since there is evidence to suggest that pension take-up ages vary significantly more for males between provinces, the results produced from an examination of male pension effects at the time of official age
eligibility will produce unreliable estimates. This is a legitimate concern, the
importance of which is heightened in this study by the fact that the pension age for men
changed from 2008 onwards and thus resulted in some, at least temporary, confusion
over the age of pension eligibility for males.

These issues and the implications for the findings in this study are considered further in
chapter 8. However, as Harris, Inder et al. (2007) assert in defense of their decision to
examine the pension effects for male beneficiaries, differential gender effects constitute
an important empirical question which should be tested with the data that is available.
Furthermore, Harris, Inder et al. (2007) assert that by extending analyses of potential
pension effects over a range of ages rather than just at the time of age eligibility, as is
done in the analysis presented here, this goes some way in addressing potential
measurement error associated with pension take-up. Ultimately, the implications for
the RDA are that the estimates for the male sample (which is based on pooled years),
may be less reliable than those for the female sample because there is a higher
likelihood of type II error.

7.4.3 Using RDA to consider immediate, anticipatory and delayed responses
The overarching conclusion based on the evidence presented in this chapter is that the
RDA estimates of immediate responses to pension eligibility (when the threshold is
assigned to the official age) are likely to provide an indication of lower-bound pension
effects. Following on from this, when the threshold is assigned to the years
immediately following the official age in a bid to consider delayed pension responses,
the conclusions are tentative because it is debatable as to whether such an approach is
indeed modelling delayed responses or, in actuality, immediate responses (because
there is a delay in pension take-up).

When the threshold is assigned to 1, 2 or 3 years after age eligibility, as it is in this
study (as explained in chapter 4), it is assumed that what is being examined are delayed
responses which occur following the passing of a certain amount of time during which
a pension is being received. The fact that age is an imperfect predictor of pension
status means, therefore, that when the threshold is assigned to, for example, 2 years
after official age eligibility, some cases will have been receiving pension payments for
the best part of 2 years. Other cases, however, may have been receiving pension
payments for considerably less time because, amongst other potential reasons, they did
not apply for a pension immediately upon turning the age of eligibility. The fact that age eligibility is not a perfect predictor of actual pension receipt is less problematic when using RDA to consider anticipatory responses because the timing of actual pension receipt is, at least partially, inconsequential. If households were to restructure their composition at a time point prior to age eligibility because they anticipate that an older person will soon become eligible and begin to receive a pension then, theoretically, it does not matter whether the older person begins to receive a pension immediately upon turning the age of eligibility or if there is a delay for any reason. Nevertheless, the extent of alignment between age eligibility and actual receipt has implications for the examination of anticipatory responses with closer alignment likely to yield more reliable estimates. Despite the limitations using RDA to examine timing aspects to pension effects remains a useful exercise by which to begin to consider the issue of response timing which is currently an under-explored area in the literature.

7.5 Summary and conclusions

This chapter presented and discussed the results from the steps that were taken to assess the extent to which age eligibility and reported pension status correspond. The findings are important because they have implications for the interpretation of the RDA estimates and the subsequent study conclusions.

Firstly, it was established that pension receipt is age-discontinuous but that age is an imperfect predictor of pension receipt. Several potential explanations which may account for the minority of cases where there appeared to be non-compliance with the age eligibility rule were considered. This included the possibility of cases being means-ineligible for a pension, age misreporting, DG confusion and the potential for delayed application due to illness or living long distances from an application point. An empirical investigation of age and income indicated, as expected, that the vast majority of cases would likely qualify for the pension based on the means-test criteria but that some may be income-ineligible, thus potentially accounting for some of the age eligible cases who reported that they were not in receipt of a pension. That said, the approach used to consider age and income did not consider the asset component of the means-test or spousal income, so the results only provide a rough indication of the likelihood that non-compliers are accounted for by means-ineligible cases.
The examination of reported ages around the threshold of pension age eligibility indicated some potential evidence of age misreporting for the male sample although there was no clear evidence of extensive age misreporting which would pose a particular threat to the reliability of the RDA estimates produced in this study. The relationship between age eligibility and pension receipt was examined further by considering the potential for systematic differences according to both gender and survey year. Information about such potential disparities was gathered via the key-informant interviews and was examined empirically using the AWD survey data. The findings suggest that the RDA estimates for the male sample may be less reliable than the estimates for the female sample.

Information gathered from the key-informants suggested that time-frames between age eligibility and first pension receipt were shorter in 2009 compared to 2002 due to administrative efficiency and general measures made to improve accessibility to social grants. A sharper discontinuity was not, however, observed in 2009 for the male sample which is explained, at least partially, by the changes made to the male age pension eligibility criteria. Furthermore, in the AWD data there was a slightly sharper discontinuity in reported pension receipt at the threshold of age eligibility in 2002 than 2009 for the female sample. The explanation for this was not clear, but it was speculated that this could be linked to a general rise in the number of DG beneficiary numbers over the time period.

Regardless of the explanations for the cases where there was non-compliance with the age eligibility rule, the implications for the RDA estimates is that there is a greater probability of type II error, for both the female and male samples, compared to the expected results from using a true experimental design to examine pension effects. Furthermore, the risk of type II error is greater for the male sample than the female sample. The potential for significant pension effects to be missed needs to be carefully considered when drawing conclusions from the RDA presented in the following chapter. That being said, the fact that there is a heightened likelihood of the estimates suffering from type II error (due to non-compliance) suggests that there is a lower likelihood of the RDA estimates generated in this study suffering from type I error. In other words, there is less likelihood for non-significant effects to be falsely identified as being significant. This, therefore, provides further confidence in the reliability of the estimates where pension responses are identified by the RDA.
A final issue that was considered in this chapter was the extent to which RDA can be used to consider anticipatory and delayed responses when assigning the threshold to ages immediately preceding and following the official age of eligibility. It was concluded that this approach to considering timing aspects of responses is limited due to the fact that age is not a perfect predictor of pension receipt. However, providing the limitations of this approach are acknowledged and carefully considered, it nevertheless has the potential to provide valuable insights into pension responses. This is particularly so when using the approach to consider the possibility of anticipatory responses, because the extent of non-compliance with the assignment rule is arguably less problematic than when attempts are made to identify immediate and delayed responses. Having considered some of the strengths and weaknesses of the RDA approach, in general, and with regards to the implementation for the purposes of this study, the RDA results are presented and discussed in the next chapter.
Chapter 8: Regression Discontinuity Analysis: Pensions and household composition

8.1 Introduction

The purpose of this chapter is to present the findings from the analysis of pension effects on the living arrangements of older South Africans using RDA. Chapter 6 presented the initial stage in the investigation undertaken in this study in order to answer two of the three overarching research questions:

**Research question 2** – *Is there evidence to suggest that households reshape their composition following receipt of (or in anticipation of eligibility for) the pension by a household member?*

**Research question 3** – *How do household responses to pensions vary according to the gender of the recipient?*

In chapter 6, pension-eligible and ineligible cases were compared using twelve indicators of household composition. Although a useful exercise, such naïve comparisons between eligible and ineligible groups are limited in what they can establish in terms of direct effects because they are based on the questionable assumption that, with the exception of their pension eligibility status, the cases in the two groups do not differ systematically in any other way that could influence the outcomes of interest. The analysis presented in this chapter builds on the initial stage using the more advanced technique, RDA, which was introduced in chapter 4 and discussed further in chapter 7, in order to answer the two research questions above.

The results presented in this chapter suggest that, on the whole, for the sample of older men examined, male pension eligibility is not associated with changes to living arrangements although it may be linked to a systematic decline in the average number of children and, in particular, male children, living in households. Consistent with previous studies, there is stronger evidence of a link between female pension eligibility and changes to living arrangements. The results suggest that the average number of young adults living with older women is particularly influenced by the pension. The
direction of the effect varies according to the specific outcome indicator used and the age to which the threshold is assigned (either at, before or after the official age of eligibility).

The chapter is organised as follows: section 8.2 presents the results from using RDA to measure immediate pension effects; section 8.3 presents the results from using RDA to consider anticipatory and delayed pension effects; section 8.4 presents and discusses the results from a number of checks that were undertaken in order to further consider the accuracy and robustness of the RDA estimates; section 8.5 concludes. The results that are presented in this chapter are discussed further in chapter 9.

8.2 Using RDA to measure immediate pension effects on living arrangements

RDA was used to test the following hypotheses that were put forward originally in chapter 4:

*Households do not recompose upon receipt of a pension.*

Sub-hypotheses:
- *The pension is not associated with the crowding in of children.*
- *The pension is not associated with the crowding out of prime working-age adults.*

*The gender of the recipient is not correlated with the nature of the recomposition experienced as a result of the pension in poor households.*

*Compositional responses to pensions occur immediately upon initial receipt of a pension. There is no evidence of anticipatory effects.*

The results from the RDA that was undertaken to consider immediate pension effects, with the threshold assigned to the official age of pension eligibility, are presented and discussed in this section. *Table 8.1* (below), presents the RDA estimates for each of the twelve outcome indicators of household composition, for the two separate samples of older men and women, when using Imbens and Kalyanaraman’s (2009) optimal
recommended bandwidth. Before discussing the results themselves a few general notes are required.

Firstly, as was the case for the analysis presented in chapter 6, all the estimates reported in this chapter are at the individual level and pension eligibility is also defined at the individual level rather than at the household level (as was the case in chapter 5).

Furthermore, the same upper and lower age limits that were used in chapter 6 were used for the RDA so that the two samples (of men and women) include older people aged from 50 to 75 years only.\textsuperscript{74} Also in line with the analysis presented in chapter 6, the male and female cases are analysed separately because it is one of the objectives of the analysis to consider the importance of pensioner gender when examining responses to pensions which, in turn, is based upon the fact that there are theoretical reasons to expect that the outcomes of interest may vary in meaningful ways according to pensioner gender (see, for example, the work of Duflo (2003) and Edmonds, Mammen et al. (2004)).

Twelve indicators of household composition are modelled using RDA. In addition to an indicator of overall household size, there are five indicators of children living with older people and six indicators of adults living with older people. The rationale for the organisation of these age/gender outcome indicators was previously explained in chapter 4, section 4.3.2.

As previously explained, the choice of bandwidth influences the estimates significantly. The estimates presented in table 8.1 are calculated using Imbens and Kalyanaraman’s (2009) optimal recommended bandwidth. As stated in chapter 4, Imbens and Kalyanaraman's recommended OBW is used as a base from which smaller and larger bandwidths are assessed. However, there is no set rule in determining the correct bandwidth to use. As Nichols (2009) explains, it is more a case of art than science. Thus, the OBW should be regarded as a starting point. For the analysis in this study, between ten and twelve bandwidths were checked for each outcome indicator starting at 25% of the OBW (where sample sizes permitted), up to 300% of the OBW in increments of 25%.\textsuperscript{75} In table 8.1, the indicators for which at least one of the bandwidths checked generated estimates that indicated a statistically significant jump

\textsuperscript{74} The rationale for these limits was previously discussed in chapter 6, section 6.2.

\textsuperscript{75} Twelve bandwidths were typically checked. However, in some instances, due to issues related to sample size, it was more appropriate to consider slightly fewer.
(at p<0.05), at the threshold of pension eligibility, are highlighted in bold italics. As a general rule, the higher the number of bandwidths for which statistically significant estimates are generated, the more convincing the evidence that a discontinuity is present in the data.

### Table 8.1: RDA estimates for indicators of household composition using Imbens and Kalyanaraman’s (2009) recommended bandwidth

| Indicator          | OBW  | Wald estimate | Standard Error | z    | P>|z| | Number of bandwidths |
|--------------------|------|---------------|----------------|------|-----|------------------------|
| **Female sample**  |      |               |                |      |     |                        |
| Household size     | 4.265| -0.1699       | 0.6840         | -0.25| 0.804 | 0                      |
| 0-5 years          | 3.898| -0.1304       | 0.2113         | -0.62| 0.537 | 0                      |
| 6-11 years         | 2.651| 0.1072        | 0.3200         | 0.34 | 0.738 | 0                      |
| 12-17 years        | 3.011| -0.0423       | 0.2958         | -0.14| 0.886 | 0                      |
| 0-15 yr girls      | 4.184| 0.0041        | 0.2577         | 0.02 | 0.987 | 0                      |
| 0-15 yr boys       | 4.007| -0.0986       | 0.2870         | -0.34| 0.731 | 0                      |
| **18-29 years**    | 4.097| 0.3330        | 0.2490         | 1.34 | 0.181 | 7/12                   |
| 30-39 years        | 3.724| -0.3780       | 0.2146         | -1.76| 0.078 | 0                      |
| 40-49 years        | 2.933| -0.1703       | 0.1507         | -1.13| 0.258 | 0                      |
| **18-39 women**    | 3.247| 0.3631        | 0.2460         | 1.48 | 0.140 | 6/11                   |
| **18-39 men**      | 2.629| -0.8658***    | 0.3158         | -2.74| 0.006 | 2/11                   |
| 50+ men            | 2.640| -0.0413       | 0.1654         | -0.25| 0.803 | 0                      |
| **Male sample**    |      |               |                |      |     |                        |
| Household size     | 4.125| -0.9578       | 0.7855         | -1.22| 0.223 | 7/12                   |
| 0-5 years          | 3.439| -0.3487       | 0.2883         | -1.21| 0.227 | 0                      |
| 6-11 years         | 3.689| -0.4201       | 0.3006         | -1.40| 0.162 | 6/11                   |
| 12-17 years        | 3.567| -0.3169       | 0.2345         | -1.35| 0.177 | 6/11                   |
| 0-15 yr girls      | 3.800| -0.3465       | 0.3622         | -0.96 | 0.339 | 0                      |
| 0-15 yr boys       | 3.845| -0.5637*      | 0.2945         | -1.91| 0.056 | 9/11                   |
| 18-29 years        | 2.834| 0.2117        | 0.4630         | 0.46 | 0.648 | 0                      |
| 30-39 years        | 3.498| 0.0455        | 0.2054         | 0.22 | 0.825 | 0                      |
| 40-49 years        | 2.905| 0.1471        | 0.1543         | 0.95 | 0.340 | 0                      |
| 18-39 women        | 3.263| 0.1829        | 0.2464         | 0.74 | 0.458 | 0                      |
| 18-39 men          | 3.129| -0.0379       | 0.2953         | -0.13| 0.898 | 0                      |
| 50+ women          | 3.192| -0.0963       | 0.1674         | -0.58| 0.565 | 0                      |

Notes: n = 1383 for female sample and n = 843 for male sample. Estimates are presented using Imbens and Kalyanaraman’s (2009) recommended OBW only and a triangle kernel. Results in **bold italics** indicate evidence of statistical significance (at p<0.05) for at least one bandwidth within the vicinity of the OBW. Significance levels: *** p<0.01, ** p<0.05, * p<0.1. # The ‘Number of bandwidths’ column presents the number of bandwidths (out of the total checked) for which the resulting Wald estimates were statistically significant at p<0.05.

As explained in section 7.2, the Wald statistic provides a measure of the difference in the outcome variable between the two groups on either side of the cut-off. Thus, in table 8.1, the Wald estimate is -0.1699 for the female sample and the outcome of household size. The interpretation of this estimate is that the difference between the mean household size for the ineligible group and the eligible group is approximately 0.17 people. The negative value indicates that it is the eligible group which has the smaller mean household size. A positive Wald statistic would indicate that the value is
higher for the eligible group. However, the Wald estimate for the outcome of mean household size for the female sample is statistically non-significant \((z = -0.25, p>0.804)\). Therefore, the conclusion, based on this result, is that there is no established difference in mean household size at the threshold of pension eligibility. Thus, it would appear that female pension eligibility status is not associated with a change in overall household size.

In general, the estimates presented in table 8.1 suggest that for the majority of the outcome indicators the RDA estimates, when using the OBW, are non-significant. This is reflected by the \(z\)-scores with non-significant \(p\)-values. This suggests that, in general, pension eligibility is not associated with immediate changes in the composition of the households in which the cases live regardless of pensioner gender, at least not with systematic increases or decreases. That said, some discontinuities are apparent for certain age/gender categories, with differing effects according to older person gender. Two of the outcome indicators generate statistically significant estimates when using the OBW: the average number of 18-39 year old males for the female sample; and the average number of 0-15 year old boys for the male sample. As explained in chapter 4, section 4.5.2, Nichols (2009) recommends that estimates are reported for half and twice the OBW as well as the OBW itself. Therefore, table 8.2 (below) provides this information for the two indicators in question. The estimates in table 8.2 suggest that the identified decline in the average number of boys aged 0-15 years for the male sample is stable across alternative bandwidths. There was less stability across bandwidths for the female sample and the indicator of men 18-39. The results presented in tables 8.1 and 8.2 are discussed further in the sections that follow.

**Table 8.2: RDA estimates for select indicators of household composition using three bandwidths**

<table>
<thead>
<tr>
<th>Sample</th>
<th>Outcome indicator</th>
<th>Bandwidth as % of OBW</th>
<th>Bandwidth</th>
<th>Wald estimate</th>
<th>Standard error</th>
<th>(Z)-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>Men 18-39</td>
<td>100</td>
<td>2.629</td>
<td>-0.866***</td>
<td>0.316</td>
<td>-2.74</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>1.315</td>
<td>-0.326*</td>
<td>0.178</td>
<td>-1.83</td>
<td></td>
</tr>
<tr>
<td></td>
<td>200</td>
<td>5.258</td>
<td>-0.200</td>
<td>0.186</td>
<td>-1.07</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>Boys 0-15</td>
<td>100</td>
<td>3.845</td>
<td>-0.564*</td>
<td>0.295</td>
<td>-1.91</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>1.923</td>
<td>-0.482**</td>
<td>0.219</td>
<td>-2.20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>200</td>
<td>7.691</td>
<td>-0.515***</td>
<td>0.195</td>
<td>-2.64</td>
<td></td>
</tr>
</tbody>
</table>

Notes: \(n = 1383\) for female sample and \(n = 843\) for male sample. Estimates are presented using Imbens and Kalyanaraman’s (2009) recommended OBW plus 50% and 200% of the OBW, and a triangle kernel. Significance levels: *** \(p<0.01\), ** \(p<0.05\), * \(p<0.1\).
8.2.1 Female pension eligibility and immediate responses

For the female sample, there is no suggestion from the RDA estimates presented in table 8.1 that the pension is associated with an immediate systematic increase or decrease in overall household size. Furthermore, the estimates suggest that pension eligibility is not associated with any immediate changes in the average number of children living with older women. For all five of the indicators relating to children, none of the estimates using a number of different bandwidths resulted in any suggestion of a discontinuity at the threshold point of pension eligibility.

There is evidence, however, to suggest that female pension eligibility may be associated with immediate changes in the average number of household members aged between 18 and 39 years. For the outcome indicator of mean number of males aged 18-39 years, the RDA estimate generated when using the OBW suggests a statistically significant decline of around 0.87 people in this category at the time of pension eligibility. However, when the RDA procedure is run again using alternative bandwidths that are slightly larger or smaller than the OBW, the estimate for this outcome indicator becomes non-significant for most bandwidths (the exception being for a bandwidth of 3.3 which is 125% of the OBW). In table 8.2 (above), the estimates generated when using bandwidths of 50% and 200% of the OBW are presented. At 200% of the OBW, no disparity is identified. At 50% of the OBW, there is a potential discontinuity but the level of significance is low. Thus, the difference may or may not be statistically significant.

When applying a RDA design, the less stable the level of significance across alternative bandwidths, the less reliable the result. Therefore, despite the statistically significant discontinuity when using the OBW, the conclusion for this result is that there may be a meaningful decline in the average number of 18-39 year old males living with older women which occurs as an immediate response to pension eligibility. However, the results are inconclusive from this exercise alone.

The RDA estimates for the indicators of mean number of 18-29 year old household members and women 18-39 years suggest that the pension may be associated with an immediate increase of around 0.33 and 0.36, respectively (see table 8.1). Both of these

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76 As explained previously in section 7.2 (page 148), the Wald coefficient is measured in the units of the dependent variable. Thus, in this application, the Wald is measured in number of individuals.
discontinuities are statistically significant for around half of the bandwidths that were examined, not including the OBW. For the indicator of 18-29 year olds, the estimates were significant for bandwidths set at 6.1 (150% of the OBW) through to 12 (300% of the OBW). For the indicator of women 18-39 years, the estimates were significant for bandwidths set at 1.6 (50% of the OBW) and for all bandwidths from 6.5 (200%) through to 9.7 (300% of the OBW). The conclusion for these two indicators, therefore, is that there may be signs of a discontinuity at the threshold, however, a greater degree of stability across bandwidths would be desired, and preferably inclusive of the calculated OBW, before the estimates could be considered to be reliable enough to allow for finite conclusions to be made. There was no further evidence to suggest a link between female pension eligibility and changes in the outcomes that were examined.

Assuming momentarily that these results for the female sample do indeed represent meaningful pension responses, there is some consistency and some inconsistency with the empirical findings and established theories from previous studies in the literature. Edmonds, Mammen et al. (2004) concluded in their study that the pension was associated with an increase in very young children for female pensioners. One of the pervasive theories in the literature, is that young children may be moved into the households of grandmothers (with or without the parents of the children), so that the grandchildren may benefit from the pension and the parents of the children may be in a better position to seek better employment opportunities because the older women can provide child care services. When the job search includes relocation, this results in the aforementioned ‘skip generation’ households. The results presented in table 8.1, however, provide no evidence to suggest that for the AWD cases, pensions are associated with an immediate systematic increase (or decrease) in child household members for female pensioners.

There is evidence in the literature to suggest that the pension may be associated with both increases and decreases in the average number of adults living with female pensioners. The potential increase in the average number of women aged 18-39 and 18-29 year olds living with older women identified here, could constitute further evidence in support of the ‘crowding in’ theories, as previously demonstrated by Hamoudi and Thomas (2005). However, as initially discussed in chapter 3, a number of studies have concluded that the pension and labour migration are linked due to the
pension facilitating the migration of household members in search of better employment opportunities (including, amongst others, Maitra and Ray 2003a; Edmonds, Mammen et al. 2004; Posel, Fairburn et al. 2006). The results from using RDA to examine immediate pension effects in this study suggest that for the female sample pension eligibility may be associated with changes in the mean number of younger adults living with older women, although the direction of the effect varies according to the indicator used. Whilst there appears to be a potentially meaningful (but tentative) decline in the mean number of men aged 18-39 years at the time of pension eligibility, there is also evidence of an increase in aged women 18-39 years and in young adults aged 18-29 years which, again, is potentially meaningful but inconclusive due to the instability of the results across bandwidths. The apparent decline in men aged 18-39 years could be explained by labour migration theories if the pension leads to these prime working-age men migrating for work. The results are discussed further in section 8.3 of this chapter and in chapter 9.

8.2.2 Male pension eligibility and immediate responses
For the male sample, the RDA estimate for the indicator of overall household size presented in table 8.1, which was calculated using the OBW, is statistically non-significant. However, when eleven alternative bandwidths were checked, close to half generated statistically significant estimates.\textsuperscript{77} The results suggest that male pension eligibility may be associated with an overall decline in average household size by close to one person. Again, the fact that the estimate is not statistically significant when using the OBW, and is not stable across the majority of alternative bandwidths, suggests a need for caution when drawing conclusions about the link between the pension and the indicator. However, for the outcome indicator of mean number of boys aged 0-15 years there is stronger evidence of an immediate pension response. This can be observed in table 8.2 (above), where the estimates generated when using three different bandwidths (100%, 50% and 200% of the OBW) are shown to be statistically significant.

Figure 8.1 (below), provides a visual representation of the RDA estimate for the male sample and the indicator of average number of males aged 0-15 years. The figure suggests that there is evidence of a tailing-off effect in the oldest years, with a general

\textsuperscript{77} Significant estimates were produced when using bandwidths ranging from 7.2 (175% of the OBW) through to 12 (300% of the OBW).
rise in the average number of 0-15 year old boys in the years leading up to the threshold of pension eligibility and an immediate decline at the threshold point indicated by the separate regression lines on either side of the threshold which do not meet. Figure 8.2 (also below) provides a visual representation of the degree of dependency of the results for the indicator of mean number of boys 0-15 years on bandwidth choice. The estimates for each bandwidth are plotted along with their corresponding confidence intervals and the OBW is indicated by a solid vertical line. The estimates show a statistically significant disparity at the threshold point for a wide range of bandwidths which constitutes persuasive evidence that for the older male’s in the AWD sample, pension eligibility is associated with an immediate decline in the average number of 0-15 year old boys living with them.

Twelve bandwidths were typically checked. However, in some instances, it was more appropriate to consider slightly fewer due to issues related to sample sizes, as shown in figure 8.2 where the estimates are reported for eleven bandwidths only.
Figure 8.1: Mean number of boys aged 0-15 years living with older men by age

n = 843, kernel: triangle, bandwidth: 3.845, Wald coefficient: -0.564, standard error: 0.295, z = -1.91, p = 0.056.

Figure 8.2: Mean number of boys aged 0-15 years living with older men by age: Visual representation of dependency of estimates on bandwidth
In light of the results for the indicator of boys 0-15 years, it is not surprising, due to the overlap in outcome indicators, that there is also tentative evidence of statistically significant declines for the outcomes of children aged 6-11 and 12-17 years (refer back to table 8.1). The estimates for these two indicators were, however, non-significant for the OBW and less stable with the level of statistical significance being highly dependent upon the choice of bandwidth.\textsuperscript{79} Thus, although the discontinuities may be meaningful and should not be disregarded, the high degree of dependency on bandwidth selection means that the evidence is not strong enough to constitute conclusive evidence of a meaningful pension response.

A link between male pension eligibility and the average number of children living in households was previously observed by Edmonds, Mammen et al. (2004). However, in their case, male eligibility appeared to be associated with increases in the average number of primary school aged children. There is no clear explanation to account for why male pension eligibility may be associated with declines in the average number of children in general, or boys in particular, although Duflo (2003) and Hamoudi and Thomas (2005) have also presented evidence to suggest that pension effects on living arrangements may differ according to the gender of children. Further discussion of these findings and the potential explanations for them is presented in chapter 9.

The results presented in table 8.1 provide no evidence to suggest that male pension eligibility is associated with any systematic declines or increases in the average number of adults in the household and, thus, there is no suggestion of a link between the pension and labour migration of younger men and women for male pensioners. This is at odds with the findings from some previous studies such as Edmonds, Mammen et al. (2004). However, there is a general consensus in the literature that there are stronger links between female pension receipt and labour migration than between male pension receipt and labour migration (see, for example, Edmonds, Mammen et al. 2004 and Sieneart 2007). Therefore, in one respect, the fact that there is some evidence to suggest that female pension eligibility may be associated with changes in the average number of adults aged 18-39 in households, with no such effect for male pensioners is, at least partially, consistent with the general consensus regarding gender disparities in

\textsuperscript{79}For the outcome of mean number of household members aged 6-11 years, significant estimates were produced when using bandwidths ranging from 6.5 (175% of the OBW) through to 11 (300% of the OBW). For the outcome of mean number of household members aged 12-17 years, significant estimates were produced when using bandwidths ranging from 5.3 (150% of the OBW) through to 9.8 (275% of the OBW).
pension effects. Pensioner gender and potential labour migration responses are considered further in section 8.3.

8.2.3 Summary of findings

In summary, if basing the conclusions of the study as a whole on the results from this stage of the analysis alone, in which only immediate pension effects on living arrangements were considered, the conclusions would be as follows:

1) For the majority of the indicators of household composition which were modelled using the RDA approach, there was no evidence of pension effects on the living arrangements of the AWD cases, regardless of pensioner gender.

2) For a few of the indicators of household composition which were modelled using the RDA approach, there was some evidence of pension effects and the nature of these responses differed according to pensioner gender.

3) For the female sample, there is no evidence to suggest that there is a link between female pension eligibility and any systematic change in the average number of children. There is some tentative evidence to suggest that female pension eligibility may be associated with changes in the average number of young adults although the evidence is inconclusive and appears to differ in nature according to the gender of the young adults. Whilst there is no systematic change in overall household size, there appears to be a cancelling out effect taking place due to simultaneous increases in 18-39 men and decreases in 18-39 women.

4) For the male sample, evidence was established to suggest that pension eligibility is linked to a decline in the average number of boys aged 0-15 years, with some tentative evidence to suggest the existence of a link to declines in children, in general. There is no evidence to suggest that there is a causal link between male pension eligibility and immediate changes in the average number of adults living with older men.

These initial conclusions are reconsidered after the analysis is expanded to include an examination of potential anticipatory and delayed pension effects on living arrangements (section 8.3).
8.3 Using RDA to consider timing and pension effects on living arrangements

The RDA approach compares cases on either side of an assigned threshold in order to establish whether or not there is a cause and effect relationship between the pension and the living circumstances of the recipients. In section 8.2, the threshold point was assigned to the official age at which the cases went from being age ineligible to eligible for a pension. When the threshold point is assigned to the official age of eligibility there is an implicit assumption that any responses are likely to occur at the time of first receipt. As previously explained, there is very little in the literature to date concerning the issue of pension response timing. However, based upon the limited literature that there is (namely, the work of Harris, Inder et al. (2007)), as well as an intuitive sense of the context, it is reasonable to speculate that not all potential changes to living arrangements that may occur as a response to the pension are likely to take place only at the precise time of eligibility or first receipt. It is likely instead, that some responses may occur shortly prior to first receipt, in anticipation of a household member becoming pension-eligible, and also that there may be a delay between initial pension eligibility and any household reorganisation it may prompt. The wish to consider timing aspects to pension responses in order to help to fill in the gap in the literature is reflected in the phrasing of the second key research question that frames this study:

Research question 2: Is there evidence to suggest that households reshape their composition following receipt of (or in anticipation of eligibility for) the pension by a household member?

In light of the existing evidence, as reviewed in chapter 3, a hypothesis was formulated and presented in chapter 4 (section 4.2), which states:

Compositional responses to pensions occur immediately upon initial receipt of a pension. There is no evidence of anticipatory effects.

In this section, this hypothesis is explored using the same RDA approach that was applied in section 8.2, but with the use of alternative threshold points. The examination of alternative thresholds can be used to gain additional insights into the possibility of changes occurring in anticipation of receiving a pension and following pension receipt.
8.3.1 Female pension eligibility and response timing

As explained in chapter 4 (see table 4.3), the RDA was run for all twelve of the outcome indicators using six alternative thresholds as well as the official threshold of age eligibility. These thresholds were assigned to 1, 2 and 3 years before official age as well as 1, 2 and 3 years after official age. For seven out of the twelve indicators, there was little to no evidence of a relationship between the outcomes and the pension beyond the evidence previously presented in section 8.2. In all instances, the estimates produced when using thresholds assigned to 2 and 3 years before and after official age, were either non-significant or the level of significance was highly dependent upon bandwidth choice. However, for five of the outcome indicators, there was evidence of potential pension effects, either 1 year before or 1 year after official eligibility age. Table 8.3 (below) presents the RDA estimates for the outcome indicators for which discontinuities were identified either 1 year before or after official age eligibility. Estimates are presented for the OBW as well as half and twice the OBW. The estimates for the three indicators for which there was some evidence of a discontinuity at the official age of eligibility are also presented in the table.
Table 8.3: RDA estimates for female sample and select outcome indicators with threshold assigned to ages 59, 60 and 61 years

<table>
<thead>
<tr>
<th>Time point (in relation to official age)</th>
<th>Indicator</th>
<th>Bandwidth as % of OBW</th>
<th>Band-width Wald estimate</th>
<th>Standard error</th>
<th>Z-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Household size</td>
<td>100</td>
<td>4.662</td>
<td>1.359**</td>
<td>0.631</td>
</tr>
<tr>
<td></td>
<td>Adults 18-29</td>
<td>100</td>
<td>4.283</td>
<td>0.653***</td>
<td>0.220</td>
</tr>
<tr>
<td></td>
<td>Men 18-39</td>
<td>100</td>
<td>4.024</td>
<td>0.518***</td>
<td>0.202</td>
</tr>
<tr>
<td></td>
<td>Adults 18-29</td>
<td>100</td>
<td>4.097</td>
<td>0.333</td>
<td>0.249</td>
</tr>
<tr>
<td></td>
<td>Women 18-39</td>
<td>100</td>
<td>3.247</td>
<td>0.363</td>
<td>0.246</td>
</tr>
<tr>
<td></td>
<td>Men 18-39</td>
<td>100</td>
<td>2.629</td>
<td>-0.866***</td>
<td>0.316</td>
</tr>
<tr>
<td></td>
<td>Household size</td>
<td>100</td>
<td>3.994</td>
<td>-2.054***</td>
<td>0.668</td>
</tr>
<tr>
<td></td>
<td>Children 0-5</td>
<td>100</td>
<td>3.375</td>
<td>-0.355*</td>
<td>0.225</td>
</tr>
<tr>
<td></td>
<td>Adults 18-29</td>
<td>100</td>
<td>2.395</td>
<td>-0.702**</td>
<td>0.352</td>
</tr>
<tr>
<td></td>
<td>Women 18-39</td>
<td>100</td>
<td>2.456</td>
<td>-0.969***</td>
<td>0.322</td>
</tr>
</tbody>
</table>

Notes: n = 1383. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

* 75% of the OBW was reported instead of 50% on account of the small OBW.

The information presented in table 8.3 suggests that despite the lack of evidence of pension effects on the living arrangements of older women observed at the official age of eligibility (presented in section 8.2), when alternative thresholds are considered, both one year before and after official age, there is stronger evidence of a link between female pension eligibility and changes in living arrangements.

Although no change in overall household size was detected at the official threshold of age eligibility, at 1 year either side of this threshold there appear to be discontinuities. At 1 year before eligibility, there is an average increase of around 1.4 people (see table 8.3 and the Wald estimates generated for the outcome of household size at one year.
before official eligibility), with a decrease of between 1 and 2 people at 1 year after age eligibility (see table 8.3 and the Wald estimates generated for the same outcome indicator at one year after official eligibility). These estimates were statistically significant at the OBW (recorded in table 8.3 as 100% of the OBW), and across a high number of alternative bandwidths which allows for confidence in their reliability. In order to assess the reliability of the estimates further, a visual examination of the relationship between the forcing variable and the outcome variable around the cut-off is useful. In figure 8.3 (below), the threshold is assigned to age 61 years, which is one year after official age eligibility. The discontinuity between the two regression lines to either side of the cut-off point is evident with signs of increases in the average number of household members between the ages of 59 and 61 years and an apparent drop at age 62.

Figure 8.3: Mean number of household members for older women by age

When only the threshold of official age eligibility was used for the RDA in section 8.2, there was no evidence to suggest that female pension eligibility was associated with systematic changes in the average number of children in the household whilst there was...
evidence of a link between male eligibility and declines in children. The estimates that were generated when using alternative thresholds, as a means to consider the potential for anticipatory changes in the average number of children living with older women, provided no evidence to suggest such an effect. However, for the indicator of 0-5 year olds, there appears to be a decrease of around 0.3 at 1 year after age eligibility (refer to table 8.3).

As was previously the case in relation to male pension eligibility and the observed decline in children and particularly boys 0-15 in section 8.2, these findings differ with those from Edmonds, Mammen et al. (2004) who concluded that female pension eligibility is linked to increases in young children. Further consideration of the evidence relating to the outcome indicators for adults may help to shed some light on the potential explanation for the apparent link between female pension eligibility and declines in young children around 1 year after official age eligibility, for the AWD cases.

The estimates for the outcomes relating to adult household members (refer back to table 8.3), demonstrate evidence of both potential anticipatory and delayed pension responses. As discussed in section 8.2, the indicator of 18-29 year old household members is potentially associated with a slight increase at the time of age eligibility (although the evidence is tentative). An examination of other cut-off points suggests that pension eligibility may be associated with an increase in the average number of 18-29 year olds 1 year prior to official age (by around 0.6), which was statistically significant for the majority of the bandwidths that were checked. At 1 year after the official age, there appears to be a decline in the average number of 18-29 year olds by approximately the same amount, although the significance of this estimate was less stable across bandwidths. Overall, the results for this indicator suggest that the pension may well be associated with increases in 18-29 year old household members at, or slightly before, the official age of eligibility, with signs of declines one year after official age.

As explained in chapter 4, section 4.3.2, several overlapping indicators of adult household members were constructed. The indicator of 18-29 year olds provides a narrow age bracket but does not distinguish between male and female young adults whilst the indicators of 18-39 year old males and 18-39 year old females include this
gender information. However, in the interests of maintaining substantial cell counts, the age bracket is wider. When using the threshold of official age eligibility, the pension was potentially associated with a slight increase (of around 0.3-0.4) in the average number of 18-39 year old women and a simultaneous decrease (of around 0.2-0.87) in the average number of 18-39 year old men (see Table 8.3 above). When examining alternative threshold points, the average number of 18-39 men appears to increase (by around 0.5) at 1 year before actual eligibility and, conversely, the average number of 18-39 women appears to decrease (by around 0.5-1) at 1 year after actual eligibility. The statistical significance of both these estimates holds across bandwidths.

The declines at one year after official age eligibility for the indicators of 18-29 year olds and women 18-39 years could be linked to the previously identified declines in children at the same time point. It is possible that young women, and some younger men, may relocate along with their children around one year after a female household member becomes pension-eligible (or as an immediate effect if there was a delay between becoming age eligible and beginning to receive pension payments). One potential explanation for this is that the pension may facilitate labour migration with young adults who relocate, with or without their children, as either an immediate response to a pension or as a delayed response after some savings have accumulated from regular pension receipt by the household.

Finally, the results presented in Table 8.3 suggest that at one year before pension eligibility age there is an increase in the average number of men aged 18-39 years living with older women which is in contrast to the previously identified decline that appears to occur at official age. One possible interpretation of these results, therefore, is that young adult males may move in with an older female shortly before she becomes pension-eligible but also potentially move out at a later date. These findings, in general, act to highlight the fact that when pension responses are identified using quantitative approaches, such as RDA, there is very little information to suggest how temporary or longer term any changes that occur as a response to a pension may be. There is currently little empirical evidence in the literature on this issue which is not surprising considering how challenging it is to establish causal relationships, in general, and longer-term outcomes, in particular.

Some of the observations from this stage of the analysis are consistent with the findings
from previous studies whilst others appear to differ. Harris, Inder et al. (2007) concluded that households with pension recipients are more likely to send young adults in search of work. Furthermore, from their investigation of anticipatory responses to the pension, the authors conclude that households do not seem to wait for the older household members to become actually eligible to receive a pension before sending adults away. The results from the investigation of anticipatory responses to the pension in this study partially conflict with Harris, Inder et al. (2007), in that the only statistically significant discontinuities that were observed in advance of actual pension age were in a positive direction which is consistent with crowding in theories rather than crowding out theories. At one year before age eligibility, overall household size increased rather than decreased for the female pensioners with this increase appearing to be driven primarily by people aged 18-29 years and males aged 18-39 years. However, as previously discussed, there is evidence to suggest that males aged 18-39 years exit at the official age whilst women aged 18-39 and children appear to exit at around 1 year after official age. Although the timing of the effects differs from the findings in Harris, Inder et al. (2007), there is still an overall decline in household size at 1 year after official age which could be explained, at least partially, by labour migration theories. Furthermore, despite the differences in the direction of effects, the identified changes prior to actual age eligibility are consistent with the conclusion in Harris, Inder et al. (2007), that older people and their families are forward-planning when it comes to living arrangements and pension responses.

8.3.2 Male pension eligibility and response timing
In contrast to the results from the examination of alternative threshold points using RDA for the female sample, for the male sample very little evidence of potential pension responses was identified. In section 8.2, it was established and discussed that male pension eligibility was linked to a decrease in the mean number of 0-15 year old boys living with older men. The results from the RDA that was undertaken for the male sample, in order to consider alternative thresholds for pension responses, are not presented in a table because there was so little to report beyond this previously identified and discussed pension response.

None of the estimates for any of the RDA regressions that were run using the three alternative threshold points prior to official eligibility demonstrated any evidence of a discontinuity. It is perhaps not surprising that male pension eligibility does not appear
to be associated with anticipatory effects regarding household composition, at least not in the context of the AWD sample. As discussed initially in chapter 2, the age criteria for male pension eligibility changed between 2008 and the second wave of data collection which took place at the end of 2008 and the beginning of 2009. As discussed in chapter 7, section 7.4.1, according to the key-informants who were interviewed as part of this research, there was some initial uncertainty surrounding these changes, what they were and when they would come into effect and, thus, there was a delay in take-up of the pension by some newly eligible men. Ultimately, this uncertainty may have resulted in less likelihood of responses to the pension occurring in anticipation of pension eligibility.

The investigation of threshold points set in the first three years after actual age eligibility revealed that, for the male sample, in only one instance did the resulting estimates come close to showing any signs of a discontinuity. A decline in the mean number of 18-29 year olds was significant for several bandwidths at 1 year after eligibility age, with the level of significance varying between p<0.05 and p<0.1 depending on bandwidth. The lack of stability of the estimates across bandwidths indicates that these observations need to be regarded as potentially meaningful but inconclusive.

The overall lack of statistically significant discontinuities for the male sample at any of the alternative thresholds leads to several conclusions. Firstly, the anticipation of receiving a pension does not appear to be associated with systematic changes to the living arrangements of older men which may or may not be partially related to a higher degree of uncertainty about the age of eligibility for the 2009 cases. Secondly, there is very little evidence to suggest that responses to the pension are delayed by 1 to 3 years. That said, it is possible that pension responses may be obscured if they are spread out over a wider age range due to pension receipt also being spread across a wider range of ages. It was demonstrated in chapter 7, section 7.4.2, that the discontinuity between reported pension receipt and non-receipt was less sharp for the 2009 men than it was for the 2009 women and the 2002 men and women thus increasingly the risk of underestimating pension effects when running RDA on a sample that includes the 2009 male cases. However, it is unlikely that the general lack of evidence of pension responses for males, overall, is accounted for entirely by a weaker discontinuity between receipt and non-receipt for the 2009 males, particularly because the
discontinuity between receipt and non-receipt appeared to be just as sharp for the 2002 men as it was for the 2002 women.

When considered alongside the results from section 8.2, one further conclusion that can be drawn is that the statistically significant discontinuity that was previously established between male pension eligibility and boys aged 0-15 years (and, to a lesser extent, the other indicators of children), at the official pension age, is afforded further authority. The fact that the only convincing evidence of systematic responses to pension income, by way of changes to living arrangements, is demonstrated at the official threshold of pension eligibility for men is reassuring in this respect.

8.3.3 Summary of findings
Having used a RDA approach to consider the potential for responses to pension eligibility to occur at time points other than the official age of eligibility, the conclusions that were initially based on the analysis of immediate pension effects only alter:

1) For most of the indicators of household composition which were modelled using the RDA approach, there was no evidence of pension effects on the living arrangements of the AWD cases, regardless of pensioner gender.

2) When examining alternative threshold points around the official age threshold, for the male sample, there was no further evidence to suggest the existence of a causal link between pension eligibility and changes in the average number of household members (both children and adults), beyond the previously identified link between the pension and declines in the average number of boys aged 0-15 years at the official age of eligibility.

3) For the female sample, there was stronger evidence of a link between pension eligibility and systematic changes in the average number of young adults, in particular, and to a lesser extent, young children. The direction of specific effects varies by threshold point and outcome indicator. Overall, for the female sample, household size appeared to increase 1 year before official age and decrease 1 year after official age. While younger adults aged 18-39 years appear to move in with older women just before pension age, young men in that age bracket appear to move out at official age and young women appear to relocate 1 year after official age.

4) The contrast in results, when examining alternative thresholds, between the
male and female samples is noteworthy. If drawing conclusions based upon these estimates alone, one key conclusion would be that pension eligibility appears to be associated with changes to the living arrangements of older women to a greater extent than older men.

The RDA estimates and the subsequent conclusions are considered further in light of the results from a number of checks that were carried out to assess the robustness of the RDA estimates (section 8.4). The significance of the findings, possible explanations for them, and how they compare to the findings from previous studies is discussed further in chapter 9.

8.4 Sensitivity checks

In order to assess the robustness of the RDA estimates and the subsequent conclusions, a number of checks were carried out. The first check involves running the RDA using arbitrary age thresholds. There should, in theory, be no evidence of inexplicable discontinuities in the outcomes of interest at these arbitrary thresholds. If there are, then the reliability of the RDA estimates is called into question. The second check involves running the RDA using alternative kernel functions. As previously explained, the expectation is that the estimates will not differ significantly according to the choice of kernel. If that were the case, then additional investigation would be required before the results could be validated. The third check involves running the RDA using the fuzzy version of the design to generate the estimates in order to compare the results and consider the implications for the study conclusions. The final check involves using multiple linear regression analysis to consider further the potential implications for the RDA estimates of the decision to pool rural and urban cases in the AWD sample.

8.4.1 Arbitrary age thresholds

In the RDA literature, it is standard practice to run the RDA using purposefully arbitrary threshold points in order to check that the estimates generated do not indicate the presence of unexplained discontinuities. If no discontinuities are identified through this exercise then this is reassuring. This suggests that the detected changes at the non-arbitrary thresholds are indeed attributable to pension eligibility and are not as a result of the incorrect application of the method or a failing of the method itself. If
inexplicable discontinuities are identified at arbitrary thresholds, this signals a cause for concern.

For this purpose, four age threshold points were selected that were far away from pension eligibility. Two points were selected prior to official age eligibility (45 years and 50 years) and two points after official age eligibility (75 years and 80 years). These selected threshold points needed to be far enough away from official age eligibility so that the risk that pension-related outcomes were potentially influencing the outcomes of interest was low. In order for RDA to produce accurate estimates, there needs to be a number of observations on both sides of the threshold point. If, for example, one was to use the threshold of 74 years with a sample of 50-75 year old cases, any estimates produced would be weak and unreliable because the number of observations on one side of the threshold would not be sufficient. For this reason, in order to check the arbitrary thresholds, different samples were used for the thresholds set prior to official age-eligibility (35-60 year olds) and after official age-eligibility (65-90 year olds).

Since these checks were arbitrary and not associated with the pension, there was no need to allow the thresholds to differ according to either gender or year of interview. Nevertheless, the RDA procedures using the 4 arbitrary thresholds were run separately for the male and female samples, for all twelve outcome indicators of household composition, based on between 10 and 12 bandwidths. Nearly all of the 1152 or so estimates that were generated through this exercise were statistically non-significant. There were, however, a few exceptions. For both the female and male samples, the RDA of the outcome of interest of average number of 40-49 year olds in the household was statistically significant for a number of bandwidth choices, for both samples, when the threshold was assigned to 50 years of age. This was not surprising since the outcome indicator is closely related to the cut-off point and so this offers further assurance that the RDA is operating as intended.

There were no inexplicable estimates for the female sample. For the male sample, there was one indicator for which there was some cause for concern. The outcome of mean number of 12-17 year olds in the household when using the 50 year age threshold

---

80 Separate estimates were calculated for the two samples of men and women for all 12 outcome indicators with 4 alternative threshold points and 10-12 different bandwidths which amount to around 1152 estimates in total.
generated statistically significant estimates (at p<0.05) for 2 out of 10 bandwidths which indicated an increase at the threshold. There is no obvious reason to expect that there would be a systematic increase in the average number of 12-17 year old individuals living with older men at the age of 50 years. However, the fact that the estimates are only significant when using 2 of the 10 bandwidths that were checked means that the evidence is weak and inconclusive which is reassuring. Ultimately, the fact that the only evidence of inexplicable discontinuities was for one outcome indicator, for the male sample, at one threshold and for only two bandwidths constitutes strong evidence that the RDA method is only identifying meaningful discontinuities.

### 8.4.2 Kernel function

As discussed initially in chapter 4, Nichols (2009) recommends using a triangle kernel over other kernels when running RDA although the effect of kernel choice on the estimates is typically minor. In order to assess the influence of kernel choice for the estimates generated in this study, the RDA was re-run with the threshold assigned to the age of eligibility using an alternative kernel to the triangle kernel: a rectangle kernel. As explained in chapter 4, section 4.5.2, whilst the triangular kernel adjusts the weight assigned to each observation according to its proximity to the threshold, the rectangular kernel assigns equal weight to all observations that fall within the bandwidth. **Table 8.4** (below) presents the RDA output for a selection of the outcome variables, by gender, using the triangle and rectangle kernels.
Table 8.4: Considering the impact of kernel choice on the RDA estimates of pension effects on household composition

<table>
<thead>
<tr>
<th></th>
<th>Triangle Kernel</th>
<th></th>
<th></th>
<th>Rectangle Kernel</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wald estimate</td>
<td>SE</td>
<td>z-statistic</td>
<td>No. BW’s</td>
<td>Wald estimate</td>
</tr>
<tr>
<td></td>
<td>(for OBW)</td>
<td></td>
<td></td>
<td></td>
<td>(for OBW)</td>
</tr>
<tr>
<td>Female sample</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household size</td>
<td>-0.1699</td>
<td>0.684</td>
<td>-0.25</td>
<td>0/12</td>
<td>-0.147</td>
</tr>
<tr>
<td>Adults 18-29</td>
<td>0.333</td>
<td>0.249</td>
<td>1.34</td>
<td>6/12</td>
<td>0.393</td>
</tr>
<tr>
<td>Women 18-39</td>
<td>0.363</td>
<td>0.246</td>
<td>1.48</td>
<td>6/12</td>
<td>0.292</td>
</tr>
<tr>
<td>Men 18-39</td>
<td>-0.866***</td>
<td>0.316</td>
<td>-2.74</td>
<td>2/11</td>
<td>-0.868***</td>
</tr>
<tr>
<td>Male sample</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household size</td>
<td>-0.958</td>
<td>0.786</td>
<td>-1.22</td>
<td>5/12</td>
<td>-1.011</td>
</tr>
<tr>
<td>Boys 0-15</td>
<td>-0.564*</td>
<td>0.295</td>
<td>-1.91</td>
<td>8/11</td>
<td>-0.584*</td>
</tr>
<tr>
<td>Children 6-11</td>
<td>-0.420</td>
<td>0.301</td>
<td>-1.40</td>
<td>5/11</td>
<td>-0.345</td>
</tr>
<tr>
<td>Children 12-17</td>
<td>-0.317</td>
<td>0.235</td>
<td>-1.35</td>
<td>4/11</td>
<td>-0.325</td>
</tr>
</tbody>
</table>

Notes: n = 1383 for the female sample and n = 843 for the male sample. Estimates are presented using Imbens and Kalyanaraman’s (2009) recommended OBW. The threshold was assigned to the official age of pension eligibility. The ‘No. BW’s’ column presents the number of bandwidths for which statistically significant estimates were produced at p<0.05. 11-12 bandwidths were checked for each indicator. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

The RDA estimates presented in table 8.4 vary according to the choice of kernel as expected. However, the conclusions remain mostly unaffected by kernel choice as anticipated. Where a discontinuity was detected when using a triangle kernel, the discontinuity was also detected when a rectangle kernel was used and, likewise, where there was no discontinuity detected when using the triangle kernel, the same was true for the rectangle kernel. What varied most notably according to kernel choice was the number of bandwidths for which the estimates were statistically significant. The estimates generated when using the triangle kernel are arguably more reliable than the estimates generated when using the rectangle kernel because, as explained by Nichols (2009), the weighting of cases according to their proximity to the threshold point seems an intuitively appropriate method to increase the precision of the estimates generated by this approach. However, it is reassuring to note that the conclusions based upon the RDA are not highly dependent on kernel function selection.

8.4.3 Fuzzy RDA

The RDA estimates produced and presented in this chapter are based on a sharp design for the reasons explained in chapter 4. However, the estimates of immediate effects at the threshold of age eligibility were also generated using a fuzzy design in order to compare and contrast them with the sharp RDA estimates. As explained previously,
the fuzzy design incorporates information about reported pension receipt into the RDA and relaxes the assumption that the assignment of the treatment goes from 0 to 1 at the threshold.

When sharp RDA is applied, the Wald coefficient is calculated by taking the difference between the value of the dependent variable for the two groups just to either side of the cut-off point. This difference was then divided by 1. In other words, when the sharp version is used to consider whether or not the pension is associated with differences in overall household size, the difference between the mean household size for the cases just before the cut-off age of pension eligibility and the cases just after the cut-off age was measured and then divided by 1. The construction of the sharp RDA variable can therefore be illustrated as follows:

$$\frac{\text{Difference in mean household size between ineligible group and eligible group}}{1}$$

When fuzzy RDA is applied, the Wald coefficient is calculated by taking the difference between the value of the dependent variable for the two groups just to either side of the cut-off point divided by the difference between the value for the forcing variable for the two groups just to either side of the cut-off point. Therefore, when the fuzzy version is used the difference between the mean household sizes for the two groups is then divided by the difference between the two groups in terms of the proportions who reported that they were in receipt of a pension. The construction of the fuzzy RDA variable can therefore be expressed as follows:

$$\frac{\text{Difference in mean household size between ineligible group and eligible group}}{\text{Difference between ineligible group and eligible group in % who report that they are pension recipients (value between 0 and 1)}}$$

Table 8.5 (below) presents the RDA estimates, both sharp and fuzzy, by gender sample, for the outcome indicators for which there was at least some tentative evidence of statistically significant disparities. For all the other outcome indicators not presented in the table, there was no evidence of disparities at the threshold of official age eligibility regardless of whether the sharp or fuzzy design was used.
Table 8.5: Comparison of RDA estimates of pension effects on household composition generated from sharp and fuzzy designs

<table>
<thead>
<tr>
<th></th>
<th>Sharp Design</th>
<th>Fuzzy Design</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OBW</td>
<td>Wald</td>
</tr>
<tr>
<td><strong>Female Sample</strong></td>
<td></td>
<td>estimate</td>
</tr>
<tr>
<td>Household size</td>
<td>4.265</td>
<td>-0.1699</td>
</tr>
<tr>
<td>Adults 18-29</td>
<td>4.097</td>
<td>0.333</td>
</tr>
<tr>
<td>Women 18-39</td>
<td>3.247</td>
<td>0.363</td>
</tr>
<tr>
<td>Men 18-39</td>
<td>2.629</td>
<td>-0.866***</td>
</tr>
<tr>
<td><strong>Male Sample</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household size</td>
<td>4.125</td>
<td>-0.958</td>
</tr>
<tr>
<td>Boys 0-15</td>
<td>3.845</td>
<td>-0.564*</td>
</tr>
<tr>
<td>Children 6-11</td>
<td>3.689</td>
<td>-0.420</td>
</tr>
<tr>
<td>Youths 12-17</td>
<td>3.567</td>
<td>-0.317</td>
</tr>
</tbody>
</table>

Notes: Sharp design: n = 1383 for female sample and n = 843 for male sample. Fuzzy design: n = 1282 for female sample and n = 835 for male sample. Estimates are presented using Imbens and Kalyanaraman’s (2009) recommended OBW. The threshold was assigned to the official age of pension eligibility. Significance levels: Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

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The sample sizes for the fuzzy RDA were smaller than for the sharp RDA because additional information about reported pension status was required for the calculation of the estimates for the fuzzy design. Subsequently, the cases from whom this information was not available due to item non-response were excluded from the fuzzy RDA samples.
As anticipated, the estimates differ according to design choice. The size of effects (as indicated by the Wald coefficients), and the requisite standard errors, are larger when using the fuzzy version and, as with the effect of kernel choice, the number of bandwidths for which statistically significant disparities are generated differs according to whether a sharp or fuzzy design is employed. On the whole, the study conclusions would not differ according to whether a sharp or fuzzy RDA design was used. For the outcome indicators for which there was no evidence of a discontinuity at the cut-off point when using the sharp design (not shown in the table), the same was true when using the fuzzy design. For the estimates with some evidence of a discontinuity when using the sharp design, the same was true when using the fuzzy design (shown in the table), with some exceptions.

For the female sample, the results and conclusions remain mostly unaltered. The only outcome indicator for which the conclusion may differ, at least slightly, according to the fuzzy and sharp estimates is for the outcome of mean number of men aged 18-39 years for which there was some evidence to suggest a decline at the threshold of age eligibility when using the sharp design but for which there was no evidence to suggest a discontinuity when the fuzzy design was used. However, when using the fuzzy design was used to examine the males aged 18-39 indicator, the estimates based on the 4 bandwidths closest to the OBW (inclusive of the OBW) were only marginally non-significant in all instances. Thus, the results for this indicator are similar regardless of design choice.

For the male sample, when the fuzzy design was used, the evidence in terms of the identified discontinuities was weaker on account of the instability across bandwidths. For all four of the indicators presented in table 8.5, fewer bandwidths generated statistically significant estimates (at p<0.05) when a fuzzy design was used. This signals a need for caution when considering the estimates generated for the male sample. As previously discussed, the fact that the male sample is notably smaller than the female sample, and that the discontinuity between pension receipt and non-receipt is less sharp, reduces the statistical power of the RDA estimates.

Whilst the robustness of the RDA results generated when using a sharp design relies upon the fact that pension eligibility is age-discontinuous, the robustness of the RDA results generated when using a fuzzy design depend also upon the accuracy of reported
pension status. It was demonstrated in chapter 7, section 7.4.2, that there was some risk of inaccuracies concerning reported pension status due to some inconsistencies that were detected when cross-referencing the responses given to two separate survey questions about pension status. The pension status of individuals was asked of both the household respondent, who completed the household component of the questionnaire, and also in the older person supplement which was completed by the older individuals. It was demonstrated that in approximately 2% of cases, conflicting responses were given in terms of the pension status of an individual. This somewhat undermines confidence in the accuracy of the information regarding individual pension status and, therefore, the estimates based on the fuzzy design. That said, the fuzzy estimates arguably move closer to providing information about actual pension effects on recipients by reducing the bias introduced by the inclusion of ‘ineligible pensioners’ and ‘eligible non-pensioners’ in the sharp RDA estimates. Ultimately, regardless of whether a sharp or fuzzy design is used, the conclusions from the analysis do not alter significantly.

8.4.4 Sample considerations
As explained in chapter 4, due to the sampling design for the AWD survey, there were three categories of household selected to participate: urban black, rural black and urban coloured. The RDA presented in this chapter was run using pooled samples of these three groups. The literature review, presented in chapter 3, presented evidence to suggest that the composition characteristics of poor rural households may differ in systematic ways from poor urban households (Stats SA 2011b). Furthermore, if the labour migration theories are correct, then one can speculate that in rural areas the pension may facilitate the exit of household members to a greater extent than perhaps would be the case for urban households. Regardless of whether or not this is the case, it is nevertheless possible that responses to pensions in terms of changes to living arrangements may differ in systematic ways between rural and urban households. If there are heterogeneous pension effects between rural and urban cases, then the RDA approach, implemented as it was in this study, may underestimate pension effects.

In order to consider whether or not pension effects are likely to vary to a significant extent between rural and urban cases, the RDA could be run again using separate samples of urban and rural cases. The estimates could then be compared. However, as previously explained, RDA is a data hungry procedure and the statistical power of the
approach would be significantly reduced if the cases were separated into separate rural and urban, as well as male and female, samples. Therefore, as an alternative approach designed to gain some initial insights into whether or not location is likely to influence household responses to the pension, a standard multiple regression framework was used to model the relationship between pension status, the outcomes of interest and location whilst controlling for age. The regression model that was used for the purpose of considering potentially differing pension responses according to location was as follows:

The number of people living with the case in a certain age/gender group = Is the case age-eligible to receive a pension? + The case’s age (Age and Age^2) + Does the case live in a rural or urban location? + Is the case age-eligible to receive a pension? * Does the case live in a rural or urban location? (Interaction term) + Error term

Separate regressions were run with the same 12 outcome indicators of household composition using the same samples of older men and women aged 50-75 years. The fact that the samples are restricted to 50-75 year old individuals partially controls for the potential age effects that may be associated with household composition. However, age is also included in the model as a separate independent variable in raw and squared form as a second step towards controlling for potential age effects, since the separation of pension effects from age effects is a fundamental aspect to this study.83

The results from these regressions suggested the presence of some systematic differences between ineligible and eligible cases and between rural and urban cases for both the female and male samples, which was expected. For the female sample, in all instances the interaction between pension status and location was non-significant. Thus, there was no evidence produced in this preliminary exercise to suggest that responses to pensions are likely to vary systematically between the rural and urban cases for the female cases in the AWD data set. For the male sample, three out of the twelve outcome indicators produced statistically significant interaction terms: 18-29 year olds, women 18-39 and men 18-39. The results for these three outcome indicators are presented in table 8.6 (below).

83 The inclusion of a polynomial term is intuitively desirable as a standard technique whereby the potential effect of age is permitted to vary across the years of age.
Table 8.6: Effect of pension eligibility status on living arrangements for older men (multiple linear regressions)

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No. 18-29 yrs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-4.336</td>
<td>4.020</td>
</tr>
<tr>
<td>Pension-eligible</td>
<td>-0.515***</td>
<td>.166</td>
</tr>
<tr>
<td>Age</td>
<td>0.173</td>
<td>.129</td>
</tr>
<tr>
<td>Age²</td>
<td>-0.001</td>
<td>.001</td>
</tr>
<tr>
<td>Rural</td>
<td>-0.132</td>
<td>.149</td>
</tr>
<tr>
<td>Pension-eligible*Rural</td>
<td>0.574***</td>
<td>.204</td>
</tr>
<tr>
<td>R²</td>
<td>0.013</td>
<td></td>
</tr>
<tr>
<td>ΔR²</td>
<td>0.022</td>
<td></td>
</tr>
<tr>
<td><strong>No. Women 18-39</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-5.119</td>
<td>3.084</td>
</tr>
<tr>
<td>Pension-eligible</td>
<td>-0.235</td>
<td>.127</td>
</tr>
<tr>
<td>Age</td>
<td>0.191</td>
<td>.099</td>
</tr>
<tr>
<td>Age²</td>
<td>-0.002</td>
<td>.001</td>
</tr>
<tr>
<td>Rural</td>
<td>-0.169</td>
<td>.114</td>
</tr>
<tr>
<td>Pension-eligible*Rural</td>
<td>0.315**</td>
<td>.156</td>
</tr>
<tr>
<td>R²</td>
<td>0.006</td>
<td></td>
</tr>
<tr>
<td>ΔR²</td>
<td>0.010</td>
<td></td>
</tr>
<tr>
<td><strong>No. Men 18-39</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-4.888</td>
<td>2.796</td>
</tr>
<tr>
<td>Pension-eligible</td>
<td>-0.350***</td>
<td>.115</td>
</tr>
<tr>
<td>Age</td>
<td>0.173</td>
<td>.089</td>
</tr>
<tr>
<td>Age²</td>
<td>-0.001</td>
<td>.001</td>
</tr>
<tr>
<td>Rural</td>
<td>-0.102</td>
<td>.104</td>
</tr>
<tr>
<td>Pension-eligible*Rural</td>
<td>0.385***</td>
<td>.142</td>
</tr>
<tr>
<td>R²</td>
<td>0.005</td>
<td></td>
</tr>
<tr>
<td>ΔR²</td>
<td>0.017</td>
<td></td>
</tr>
</tbody>
</table>

Observations: 843

Notes: Each cell is the coefficient on pension eligibility in a separate regression.
Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

The results presented in table 8.6 suggest that the fact that significant discontinuities in these three indicators were not identified by the RDA could, at least partially, be due to systematically different pension responses between rural and urban cases. In other words, for the male sample, meaningful correlations between the pension and the outcomes may have been obscured by the pooling of urban and rural cases. Therefore, the conclusion from this exercise is that the pension may be associated with further changes to the living arrangements of older men that go beyond those suggested by the RDA results because the pooling of rural and urban cases may have obscured the correlations. That being said, the multiple linear regression results need to be regarded as merely preliminary due to several factors. Firstly, it is possible that other factors
which were not controlled for in the regressions may have influenced the results. Furthermore, multicollinearity between explanatory variables weakens the reliability of the estimates and finally, the coefficients of determination ($R^2$), which provide a measure of how well the regression line fits the data, were very low for all the regressions. This suggests that the models were not very effective in modelling the relationships in question. These preliminary results are useful, however, in that they provide further incentive to consider the potential for heterogeneous pension responses according to geographical location when taking the research further, beyond the thesis.

8.5 Conclusion

The results presented in this chapter contribute new empirical evidence concerning responses to pensions and the link between social pensions and living arrangements in South Africa. Some evidence of an association between male eligibility and declines in the average number of children living with them was established. However, in general, there was very little evidence to suggest the presence of a meaningful relationship between male pension eligibility and changes to living arrangements. Whether this general lack of pension responses for males represents an accurate picture of reality or is, at least partially, accounted for by limitations in the methodology was considered and is discussed further in chapter 9.

There was stronger evidence of a link between female pension eligibility and changes to living arrangements. Although there was little evidence of a direct link when the threshold was assigned to the official age of eligibility, when alternative thresholds were examined, both before and after official age eligibility, stronger evidence of pension effects was established. Specifically, the average numbers of younger adults appeared to vary within the vicinity of the official age threshold for women. Some potential explanations which may account for the identified effects were discussed. These results, and potential explanations for them, are discussed further in chapter 9.

The results from several checks that were carried out in order to consider the reliability of the estimates lead to several conclusions. Firstly, the estimates, in general, are afforded further legitimacy by the fact that, in almost all instances, no discontinuities were established at arbitrary thresholds. Furthermore, the results from running the
analysis using an alternative kernel function and a fuzzy RDA design did not alter the conclusions. The results from considering the potential for responses to differ systematically between rural and urban cases suggested that the estimates from this study may underestimate the extent of responses, at least when considering responses to male pensions. The implications of these results are discussed further in chapters 9 and 10.

Overall, the results presented in this chapter lead to three general conclusions. Firstly, the fact that evidence of pension effects was identified at time points both prior to and following actual age eligibility highlights the importance of considering the timing of hypothesised responses. When only responses at the official age of pension eligibility are considered, information could potentially be missed and, thus, the extent of pension effects could be grossly underestimated leading to inaccurate conclusions. Secondly, the findings presented in this chapter act to highlight the fact that when pension responses are identified using quantitative approaches, such as RDA, there is little to no information to provide an indication as to how temporary or longer term such changes may be. There is currently little empirical evidence in the literature on this issue. Finally, the observed differences between the results for the male and female samples presented in this chapter highlight the fact that, despite the results presented with regards to reported income-handling which suggested that pensions are shared to the same extent within households regardless of pensioner gender (see chapter 5), pensioner gender appears to be an important consideration when examining pension effects in terms of living arrangements. The evidence is discussed further in the following chapter.
Chapter 9: Discussion: Do households recompose around pensions?

9.1 Introduction

The purpose of this chapter is to discuss the results from the analysis of pensions and living arrangements that were presented in chapter 8. The results are discussed in terms of potential explanations for them; how the results from this study compare to the evidence from previous studies; established theories in the literature concerning household organisation and pension effects; and in terms of a general assessment of the reliability of the RDA estimates. In section 9.2, the discussion is framed by the crowding in and crowding out theories that were first introduced in chapter 3, focusing first on the results concerning the evidence of links between pension eligibility and the average number of children living with older people (9.2.1). Following this, the evidence regarding links between pension eligibility and the average number of young adults living with older people is discussed (9.2.2). In section 9.2.3 the significance of beneficiary gender, when considering responses to pensions, is discussed further. The reliability of the results is then discussed in section 9.3 and section 9.4 concludes.

9.2 The RDA results considered

When naïve comparisons were made between pension-eligible and ineligible cases in chapter 6, systematic differences between the two groups were established. Pensioners appeared to live in smaller households overall. For female pensioners, there appeared to be a lower average number of 0-5 year olds, 18-39 year olds and men aged 50 years and older. For the male pensioners, there appeared to be a lower average number of boys aged 0-15 years and also people, in general, aged between 12 and 39 years. When the RDA technique was used as a means to disentangle pension effects from other potential confounding effects, the results suggested that some of these established differences were attributable to the pension whilst others were not.

For the female sample, there was no evidence of a link between pension eligibility and male household members aged 50+ from the RDA results. This is not surprising since there are clear theoretical reasons, relating to life expectancy rates, to expect that this
particular relationship is influenced, to a significant extent, by age. The lower average number of older men living with older women who are pension-eligible is more likely due to the deaths of spouses rather than any response prompted by pension eligibility status or pension receipt by an older woman. There was, however, evidence to suggest that the pension may be linked to systematic decreases in the average number of 0-5 year old children at one year after official age eligibility. The strongest evidence of pension effects, however, was for the indicators of 18-39 year old household members for which there was evidence of systematic increases and decreases depending upon threshold assignment and the specific outcome indicator.

For the male sample, the average number of adults aged 18-39 years did not appear to be linked directly to the pension. The results did, however, suggest that pension eligibility may be associated with an immediate decline in children and particularly for the indicator of mean number of boys aged 0-15 years. Beyond this link between the pension and a decline in children, there was very little evidence to suggest that the pension is associated with systematic changes in the living arrangements of older men. These results are discussed in the sections that follow.

**9.2.1 The crowding out of children**

Edmonds, Mammen et al. (2004) concluded in their study that the pension was associated with the crowding in of very young children for female pensioners and of primary school aged children for male pensioners. The authors speculate that the crowding in of young children around female pensioners can be explained by theories concerning child care roles which, it is generally acknowledged, are traditionally performed by older women (Schatz and Ogunmefun 2007). Meanwhile, they speculate that the crowding in of primary school age children around male pensioners could be related to the pension income enabling older men to take older children or grandchildren into their household in order that they may provide non-tradable goods or services (for example, fetching water, shopping or other such tasks) that improve the wellbeing of their family.

There is no evidence from the analysis in this study to suggest that pensions are associated with the crowding in of children for male or female pensioners in the AWD samples. In fact, the opposite appears to be the case. Although the pension appears to be associated with the exit of children from the households of male pensioners but not
female pensioners when the threshold was assigned to the official age of pension eligibility, when RDA was run with the threshold assigned to 1 year after official age eligibility, there was also some evidence to suggest a decline in the average number of young children, aged between 0 and 5 years, for the female sample. In other words, based on the estimates generated in this study, the pension may be associated with declines in the average number of children regardless of pensioner gender but the timing of such a response may be influenced by pensioner gender. Edmonds, Mammen et al. (2004) did not examine separate indicators for female and male children. It is possible, therefore, that their findings may have differed, at least slightly, should they have used outcome indicators which incorporated gender information for children.

As is the case in this study, Duflo (2003) and Hamoudi and Thomas (2005) have found evidence that pension effects on living arrangements differ in terms of the gender of children. However, there is no clear explanation, based on the existing literature (or the insights from the key-informant interviews that were undertaken as part of this study), to account for why the pension might prompt the exit of young boys in particular, and children in general, from the households of older males at the time of pension eligibility and also potentially for females shortly after official age. This study contributes new empirical evidence of patterns and facts and does not extend so far as to attempt to explain the reasons behind them. Nevertheless, there are a number of factors which could potentially help to explain the apparent declines in children living with pension-eligible older people, in general, and, in particular, the apparent decline in male children associated with male pension eligibility.

One can speculate that when an older person begins to receive a pension, in light of the extent of intra-household pension sharing, the financial situation of the household would improve. As a result of this, the daily activities of the pensioner, and of the other people that live with them, may change. It is possible, for example, that children living in very poor households may spend more of their time participating directly or indirectly in income generating activities than children living in less poor households. Thus, when the economic situation of a household improves due to a pension, a child may spend less time participating in income generating activities. This, in turn, could influence whether they remain in the same household as the pensioner. It is possible, at least for rural households where schooling options are more limited, that some children may relocate to other households in locations where there are better schooling options.
opportunities.

It is also possible that children may be relocated to households that are less financially well off. A South African government survey carried out in 2010 found that 28.6% of 7-17 year old black African young people were involved in economic activities, either for market production or the production of goods and services for household use (not including household chores) (Stats SA 2010). Therefore, it is possible that children may be relocated to other households where there is a greater need for them to help out either directly with income generating activities, or perhaps indirectly by undertaking household tasks that, in turn, allow older household members to spend their time undertaking income generating activities. Furthermore, the introduction of a new pension into a household may alter the extent to which the household depends on any CSG income that they may also be in receipt of. This could prompt the relocation of children to other households where the CSG that is attached to them is needed to a greater extent.

A further potential explanation for why pension eligibility, and male pension eligibility in particular, may be associated with declines in the average number of children in households relates to preferences. It was previously explained, and demonstrated in chapter 4, that older South Africans tend not to live alone and often live in multigenerational households. The extent to which this reflects preference versus necessity is debatable. It is possible that older people (and/or their families) may prefer to live in smaller households and, thus, when their financial situation improves they may either move out of a household themselves or ask others to relocate.

With regards to the potential decline in the average number of children living with older women identified shortly after eligibility, there was also a decline identified at the same time point in the average number of women aged 18-39 years and 18-29 year olds. Therefore, one possible explanation is that the young children who appear to move out of households one year after age eligibility may be moving out alongside their mothers (or fathers aged 18-29) which, in turn, may or may not be related to labour migration.

There is no clear explanation to account for why male pension eligibility would be linked to declines in male children to a greater extent than female children. In other
contexts, one potential theory may relate to education and a preference for educating boys over girls which, in turn, could lead to boys being related to households in other locations where the educational opportunities are better, to a greater extent than girls. However, in the South African context, this is unlikely to explain the results in view of the fact that studies have demonstrated there to be virtually no gender gap in schooling in South Africa (Case and Deaton 1999; Anderson, Case et al. 2001).

According to the results from the aforementioned South African government survey (Stats SA 2010), there was no gender difference in the likelihood of children participating in economic activities. However, the results did indicate that 4% more girls than boys participated in household chores suggesting that there are potentially differences between the daily activities of children according to their gender. Based on a general knowledge of South African society and the extent of gender-inequity, it is not surprising that gender appears to play a role in the individual experience of family life in poor South African households. Therefore, there may not be an obvious explanation for why male eligibility is associated with declines in the average number of boys living with older men to a greater extent than girls. However, the fact that differences according to child gender were identified by the analysis is not surprising. One potential avenue for further research would be to consider this potential link between male pension eligibility and the average number of children, in general, and male children, in particular, living in households.

9.2.2 The crowding in and out of young adults
As explained in chapter 3, May (2003) suggests that for some older people and particularly older women, the pension might be associated with a ‘crowding in’ effect with family members moving in with recipients in order to benefit from the pension income. Hamoudi and Thomas (2005) presented empirical evidence which is consistent with this theory. Specifically, they concluded that the pension was associated with the crowding in of other adults with lower human capital (as measured by height and education). In this study, no evidence of crowding in was identified for the sample of older males. For the female sample, however, there was some evidence to suggest that the pension may be associated with a systematic crowding in effect shortly before and at pension age. In particular, the RDA produced evidence to suggest that the pension leads to an increase in the average number of adults, and in particular males aged 18-39, living with older women at one year prior to official age eligibility.
Additional tentative evidence was also produced which suggests that at the time of the official eligibility age there may be a systematic increase in 18-29 year olds and women aged 18-39 years, although the estimates for these two indicators at pension age were not stable across bandwidths and the overall effect on household size was cancelled out by the simultaneous crowding out of people in other age/gender categories.

Whether or not the adults who appear to move into the households of older women before or at the time of age eligibility are of low human capital cannot be established from the analysis presented here because no attempt was made to measure and incorporate such information. Further data collection and analysis would be required to consider the characteristics of the individuals who appear to move into (as well as out of) households around the time of pension eligibility in order to consider this aspect of pension effects. This is one potential avenue for taking the research forward beyond this thesis. The fact that there was some evidence which could be interpreted as a crowding in effect for older females but not males suggests that May’s (2003) conclusion, that crowding in is likely to be associated with female pensioners to a greater extent than male pensioners, is given further weight.

As discussed in chapter 3, such a crowding in effect can be interpreted in either a negative or positive light. On the one hand, the individuals who appear to move in with the older people may move in to benefit from the pension income against the preferences of the pensioner. On the other hand, the pensioner may welcome such a response since they may benefit in other ways from having family members move in with them. They may, for example, receive other forms of benefit such as assistance with household chores as a ‘trade-off’ for using their pension to take care of household expenses.

Case and Deaton (1998) point to labour migration as a key driving factor in South African household structures and living arrangements (at least for black South Africans). A number of subsequent studies have concluded that the pension and labour migration are linked, due to the pension facilitating the migration of household members in search of better employment opportunities (including, amongst others, Maitra and Ray 2003a; Edmonds, Mammen et al. 2004; Posel, Fairburn et al. 2006). Maitra and Ray (2003a) identified a decrease in working-age adults in households as a result of pension income and concluded that this could well be explained by people
migrating for work. Edmonds, Mammen et al. (2004) also concluded that the pension is associated with the crowding out of prime working-age household members. Furthermore, their evidence suggests that the nature of the effects differs systematically according to beneficiary gender. Specifically, the authors identified evidence that male pension eligibility is associated with declines in prime working-age men but not women, whilst female pension eligibility is associated with declines in both prime working-age men and women, with a larger effect for working-age women.

In this study there was no evidence to suggest that male pension eligibility is associated with adults moving away for better employment opportunities, or for other reasons. For the female sample, the evidence suggests that pension eligibility is associated with declines in men aged 18–39 at official pension age and with women aged 18–39 one year after pension eligibility age, which is consistent with labour migration theories. Therefore, in terms of pensioner gender and potential labour migration theories, the evidence produced using RDA in this study is consistent with the conclusion made by Sieneart (2007) that there is stronger evidence of an association between the pension and increases in labour migration for female than for male pensioners. That being said, the results from the preliminary exercise undertaken and presented in section 8.4.3, to consider the likely implications of the decision to pool rural and urban cases for the RDA suggest that pension effects on household composition may vary according to whether a pensioner lives in a rural or urban household, at least for male pensioners. For this reason, it is possible that in this study responses to pensions may be underestimated, in general, and particularly with respect to male pensioners and prime working-age adults.

Harris, Inder et al. (2007) concluded that households with pensioners are more likely to send migrants in search of work, that those households do not seem to wait for the members to become actually eligible to receive a pension, and that there is stronger evidence of responses occurring the closer the older person is to becoming pension-eligible. The results produced in this study do not suggest that household members move out of households in anticipation of an older person becoming pension-eligible. However, there was evidence suggesting that individuals are indeed forward-thinking insofar as it seemed there was crowding in, in anticipation of a female becoming pension-eligible. Furthermore, the estimates clearly suggest that responses to pensions

84 Please note that the authors define prime working-age adults as those aged 25–49 years.
are more evident just before and just after pension eligibility than further away from this time point, so the conclusions are consistent with those of Harris, Inder et al. (2007). That being said, the RDA conducted in this study considered only the potential for changes to occur from 3 years prior to pension eligibility age up to 3 years after. Therefore, any systematic responses that may have occurred outside of this timeframe would have been missed.

9.2.3 The significance of pensioner gender

There are two key methodological factors to bear in mind when comparing the RDA estimates for the male and female samples. Firstly, the overall sample size was notably smaller for the male sample which, all other things being equal, means that the estimates for the male sample are not as robust as those generated for the female sample. Secondly, as demonstrated in chapter 7, section 7.4.2, initial pension take-up rates appear to have been lower for the male sample in 2009 than for women in the same year. Therefore, it is possible that responses to pensions may have been diluted for the male sample if they were spread out over a greater time period than was the case for the female sample. The implications of this, if this were the case, would be that the effect of pensions on the outcomes of interest may be underestimated for the male sample. This would lead to inaccurate conclusions about the significance of recipient gender when considering pension effects. That being said, following the examination of multiple threshold points, it is unlikely that methodological issues account fully for the gender-based differences observed in this study with regards to potential links between pensions and living arrangements.

There are several potential substantive explanations for the identified disparities in pension responses according to recipient gender. Firstly, there may well be systematic gender-based disparities in preferences. One possible reason for the disparity may be that older men prefer to live with fewer children than older women. However, alternative explanations relate to differences in the extent of pension sharing according to recipient gender, differences in the services that older men and women are willing and able to provide within their households, and differences in the expected life-span of newly pension-eligible males and females. These explanations are discussed, in turn, below.
One of the prominent theories in the literature concerning intra-household dynamics is that income brought into households by men may be allocated differently to income brought into households by women due, in part, to socially and culturally defined gender roles. In line with this theory, Duflo (2003) and Bertrand, Mullainathan et al. (2003) argue that women’s pensions are more likely to have significant effects on household behaviours than men’s pensions because female pensioners are more likely to share their pension income with other household members. Whether or not female pension income is shared with other household members to a greater extent than men’s pension income is, however, a matter of debate. The investigation of reported incoming handling presented in chapter 5 of this study, failed to identify gender differences in pension sharing behaviour. That being said, the fact that the results from the analysis of pension effects do indeed suggest that pensioner gender is correlated with pension responses does, on the other hand, lend support to the theory put forward by Duflo (2003) and Bertrand, Mullainathan et al. (2003), that women’s pensions are more likely to have significant effects on household behaviour than men’s pensions. However, this does not constitute direct evidence that female pensions are shared to a greater extent than male pensions since there are viable alternative explanations.

Ambler (2011) suggests that the higher incidence of changes in household behaviours associated with female pension eligibility may be related to the fact that males may have been more likely to have higher incomes prior to the pension than their female counterparts. Whilst in many instances the pension may represent a partial replacement of previous income for males, for many females the income may represent additional income, over and above anything else they may have been receiving at any point prior to the pension. This may or may not account for some of the gender disparities identified in the analysis presented in this thesis. Some doubt is cast over this potential explanation by the fact that the majority of older people in the AWD sample, both eligible and ineligible cases, were unemployed regardless of gender. What are arguably more probable explanations for the gender-based differences concern gender-based disparities in services and life expectancy.

It was highlighted in chapters 2 and 3 that traditional gender roles continue to persist to a large extent in many South African communities. Specifically, there is a long-standing tradition of grandmothers providing care for their grandchildren (Møller and Sotshangaye 1996; Schatz and Ogunmefun 2007; Schatz 2007). Thus, it is possible
that the disparities in pension effects may be linked to differences in gender roles within households. It is possible, for example, that pension income may facilitate the labour migration of a young adult from the household. However, if the potential migrant has children they may only migrate if someone in the household stays behind to care for the children. In this context, this could result in systematically differing pension responses. Female pensioners may be more willing or able than their male counterparts to provide certain services, such as child care, while the migrant is away (Posel, Fairburn et al. 2006). Alternatively, mothers (or parents) may be unwilling to leave their children in the care of a male relative due to concerns about child safety. South Africa has one of the highest rates of child abuse in the world, both in terms of sexual abuse and non-sexual child abuse (Pawelczyk 2012). Furthermore, the majority of sexually abused children are abused by a close male relative (Richter and Higson-Smith 2004). Eyal and Woolard (2011) previously concluded that labour migration options for females may be limited by child care options. If such factors do, at least partially, account for these differences, then male and female pensioners may well share their pension income to a similar extent with their fellow household members and yet the outcomes, in terms of changes to living arrangements, may differ systematically according to pension recipient gender.

A further potential explanation relates to labour migration and gender-based differences in mortality rates which was also touched upon in chapter 6, section 6.2. On average, the life expectancy of a male pensioner is shorter than the life expectancy of a female pensioner.\textsuperscript{85} When a female becomes pension-eligible at age 60, on average, she is expected to live and receive the pension for longer than a male once he becomes pension-eligible at age 65 (in 2002) or 63 (in 2009). Therefore, responses to the pension may differ in systematic ways according to pensioner gender if the households in which these pensioners live are forward-planning as the evidence, at least in terms of potential anticipatory pension responses demonstrated in the previous chapter, suggests is the case.

The process of migrating in order to seek better employment opportunities is a costly and long-term strategy (Posel, Fairburn et al. 2006). It may take several months for a migrant to settle in a new location, several additional months before they are able to

\textsuperscript{85} The WHO life tables (which can be found at http://www.who.int/gho/mortality_burden_disease/life_tables/life_tables/en/) confirm that, on average, life expectancies are shorter for South African males than females.
find work, and then more time is likely to pass before they are in a position where they can send some of that earned money back to their original household. The potential migrant and their household may be less likely to take the financial risks associated with labour migration if there is less likelihood of a pensioner being around for a long time to come. Since female pensioners tend to live longer and begin receiving the pension at a younger age (at least, this was the case during the time period considered in this study), female pensions may be linked to labour migration to a greater extent than males which, as was pointed out in relation to gender-based differences in roles and services, has little or nothing to do with gender-based differences in the extent of intra-household pension sharing.

9.3 RDA estimate reliability

In order to assess the reliability of the RDA estimates presented in chapter 8, a number of factors were considered and checks undertaken as part of the research. These issues and their impact on the results are discussed further in this section.

Balancing bandwidth and sample size

It was explained in chapter 4, that one of the challenges associated with a RDA approach is in achieving an appropriate balance between using larger bandwidths, which increase statistical power but reduce precision, and using smaller bandwidths, which increase precision but reduce statistical power. In other words, when larger bandwidths are used, the method benefits from having a larger number of cases upon which to calculate the estimates but by including cases that are further away from the threshold point, the accuracy of the approach is weakened as the assumption that cases are similar in all relevant ways, with the exception of the treatment, becomes less convincing. Meanwhile, when smaller bandwidths are used the method suffers from the lower number of observations upon which to base the estimates but benefits from the fact that the assumption of comparability is afforded a greater amount of legitimacy.

The sample sizes used in this study are generally smaller than the samples used by previous researchers to examine South African pension effects. This is because the survey data that was used was not from a nationally representative government survey,
such as the GHS or LFS, as is typically used in such research. The checking of alternative bandwidths that are both smaller and larger than the OBW intuitively helps to assess the reliability of the RDA estimates that are generated. Nevertheless, generally speaking, the larger the sample sizes the better. Therefore, the statistical power of the estimates from this study is less than would be the case were sample sizes notably larger. Furthermore, due to the relatively small size of the AWD sample, although male and female cases were modelled separately, the decision was made to pool cases from two separate waves of data collection; to pool cases from rural and urban locations; and to pool black and coloured urban cases. The decision to pool cases in this way was made despite the fact that there were theoretical reasons to believe that there may be disparities in outcomes which could be obscured as a result. The potential implications of this pooling of cases for the RDA are now considered.

Firstly, by pooling the two waves of survey data collection for the analysis of pension responses, an implicit assumption is made that pension responses are expected to be similar or the same, regardless of year. There are factors which cast some doubt over the basis for this assumption. Firstly, the economic status of the AWD households improved marginally between the first wave of survey data collection in 2002 and the second wave in 2009 (Barrientos and Mase 2012). This is consistent with the national trends over the same time period (Leibbrandt, Woolard et al. 2010). The reasons which may account for the slight improvement in the financial status of the AWD cases are likely to include the expansion of both the CSG and DG. Since economic factors are expected to play a key role in decisions about living arrangements for older people and thus, responses to pensions, it is possible that responses may vary, in systematic ways, according to year of survey. It is possible that responses in 2002 may have been more extensive than in 2009 due to the fact that households may, in theory, have been less dependent on pension income in 2009 than 2002. This theory is granted further weight by the observations that were made in regards to reported income-handling behaviour (see chapter 5), which suggests that pensions were shared to a greater extent in 2002 than 2009. Although it is arguably doubtful that responses would have differed between years to a great extent, nevertheless, further work could be undertaken in order to consider this aspect, although an alternative methodological approach would be required in light of the sample size restraints associated with a RDA approach.
Secondly, in chapter 8, section 8.4.4, a basic multiple linear regression model was used as a very preliminary means to begin to assess the extent to which the estimates generated from the RDA conducted in this study are likely to be influenced by the decision to pool urban and rural cases. On the whole, the results did not suggest that the relationship between pension eligibility status and household composition differed significantly between rural and urban cases whilst controlling for age. The exception to this was for the male sample and the outcome indicators relating to younger adults. The results suggested that for the male sample at least, the effect of pension eligibility status on living arrangements may be underestimated by the analysis in this study. It is possible that responses may differ systematically between rural and urban households which, in theory, could have a cancelling out effect when rural and urban cases are pooled, as they were in the analysis that was conducted in this study.

A further issue that may influence the results in this study is the inclusion of coloured cases in the analysis. It is possible, that despite the fact the cases included in the AWD data were selected from the poorest areas within the Western and Eastern Cape provinces, responses to pensions may, nevertheless, have differed in systematic ways between the black urban cases and the coloured urban cases. It was shown in chapter 5, that in both waves of data collection, there were systematic differences between coloured and black cases in terms of their reported income-handling behaviour, although the disparities between groups were noticeably less in the second wave. Therefore, it is possible that responses to the pension in terms of changes to living arrangements may also have differed between racial groups. Thus, a potential avenue for further research, beyond the thesis, would be to consider the significance of race in terms of responses to pension income.

**Modelling eligibility rather than receipt**

The reason for using RDA to examine pension effects was to overcome the challenges associated with examining pension effects in the absence of a control group. Comparisons between pensioners and non-pensioners can be made but the results are undermined by the fact that the two groups differ systematically in ways that could influence the outcomes of interest. RDA offers a way of comparing these two groups which, in effect, reduces the potential bias by only including cases that are close to the threshold of treatment and by using weights so that the cases nearest the threshold are given greater weight than those further away.
The RDA estimates were generated using a sharp design which modelled pension eligibility status without taking into account the fact that eligibility and receipt are not perfectly aligned, as was demonstrated to be the case in chapter 7. Therefore, these estimates provide a measure of the ITT. In other words, the estimates provide a measure of the effect of the offer of the pension on cases, regardless of whether or not the cases were actually pensioners or not. This approach has both advantages and disadvantages. On the one hand, the fact that it is merely the ITT that is measured rather than the ATE, means that the estimates may underestimate actual pension responses. On the other hand, a principal advantage to modelling the ITT is that by including ‘non-compliers’ in the calculations, no assumptions are made in terms of whether or not compliers and non-compliers are likely to differ systematically in ways that may influence the outcomes of interest.

Some of the estimates were generated using a fuzzy as well as sharp design in order for comparisons to be made, as presented in chapter 8, section 8.4.3. When using a fuzzy design, the estimates provide a measure of the LATE, which is the estimated effect of the pension on the outcomes for the compliers around the threshold of age eligibility. A comparison of estimates produced using both the sharp and fuzzy approaches revealed that, as expected, the estimated effects were larger (and with larger standard errors) for the fuzzy design. However, in general, the conclusions remained the same, regardless of design choice. The main difference in this respect, concerned the male sample and the fact that where evidence of a discontinuity was detected by the sharp design, the results based on the fuzzy design were generally less stable across bandwidths. This result suggests a need for extra caution when drawing conclusions about the effects of male pensions on living arrangements.

When deliberately arbitrary thresholds were examined, as discussed in chapter 8, the results were reassuring because in the vast majority of instances, the relationship between the outcome indicators and age was continuous at the arbitrary thresholds for both the male and female samples. This allows for confidence in the fact that where the RDA approach identified discontinuities around the time of pension eligibility, these are indeed meaningful and did not result from a failure in the method or its application.

A further methodological factor to bear in mind is that cases that were eligible for a DG were included in the RDA. As explained in chapter 2, section 2.4, DG’s are worth the
same value and use the same means-test criteria for eligibility as pensions. When an individual who receives a DG turns the age of eligibility, their grant becomes a pension rather than a DG. This change in status was automatic in 2009. As explained in chapter 7, section 7.3.3, 16.8% of the age ineligible AWD cases who were aged 50-75 years reported that they were DG beneficiaries. When a DG recipient becomes age eligible for a pension, their income remains unchanged. Therefore, the potential for the pension to be linked to changes in living arrangements is potentially less for a newly pension-eligible individual who had previously been in receipt of a DG than for a newly pension-eligible individual who was not previously in receipt of a DG. Although the estimates are unlikely to vary considerably by the inclusion of a relatively small number of cases who were DG recipients, this aspect of the analysis should be remembered when considering the interpretation and conclusions from the RDA estimates.

9.4 Conclusion

In this chapter, the results from the RDA presented in chapter 8 were discussed. Reference was made to the findings from previous studies and established theories concerning pension effects on living arrangements. Potential explanations for established effects were offered. The RDA estimates and the subsequent conclusions were also considered in light of the methodology used.

The general conclusion from the results presented in chapter 8, and discussed further in this chapter, is that pensions do not appear to be associated with extensive changes to the composition of the households in which older people live. However, there is evidence to show that decisions about living arrangements are influenced by the pension eligibility status of older people. Overall, there is stronger evidence of a crowding out effect (or no effect at all), as opposed to a crowding in effect, regardless of pensioner gender. Pensioner gender does, however, appear to play an important role in terms of household composition responses. The implications of the findings in this study, in terms of the current debates around social grants in South Africa, and the conclusions for the study, as a whole, are discussed in chapter 10.
Chapter 10: Conclusion

10.1 Introduction

The overarching aim of this study was to establish whether or not households recompose around the South African social pension. In the course of this research, it was established that income pooling appears to be the norm within the AWD survey households. Therefore, it is not surprising that further analysis generated evidence which links pensions to slight changes to the composition of households. These changes are limited to particular categories of household member which, in turn, appear to differ according to the gender of the pensioner. Furthermore, evidence was generated that suggests that responses occur in anticipation of pension receipt and not just after an older person becomes age eligible for a pension. In this concluding chapter, the study findings are summarised, the subsequent policy implications are discussed and recommendations for further research are made.

The RDA estimates that were generated using the AWD survey data potentially underestimate the full extent to which households recompose as a response to pensions. This is due, in part, to sample size constraints which meant that cases from different years, races and locations were pooled despite the potential for heterogeneity in outcomes. Furthermore, the analysis was based on age eligibility rather than pension receipt which are not perfectly aligned. Bearing this in mind, the overarching conclusion from this research is that the households of the older South Africans who participated in the AWD survey are not fixed social units. Instead, household membership is fluid and responsive to social pension transfers.

New research concerning the relationship between household composition and social pensions in the South African context is important in several respects. Firstly, there is considerable interest in the poverty reducing potential of social non-contributory pensions in low and middle income countries. The governments of such countries face the challenging task of attempting to reduce persistent and pervasive poverty in a context of increasingly rapid demographic ageing. Thus, any new evidence concerning the outcomes associated with existing social pension programmes is of value to discussions on what works and what does not work in terms of social pensions in
contexts of widespread poverty.

Secondly, social grants and other government interventions can have unintended adverse effects. New evidence concerning the wider knock-on effects of government policies, which extend beyond the intended financial benefit to the recipients, is intuitively desirable. In a direct sense, living arrangements play a key role in individual wellbeing. Thus, it is important to consider how pensions influence decisions about household composition. In a less direct sense, the results are of relevance to current debates, both within and outside of South Africa, concerning the broader societal effects of pensions and other social grants. New empirical evidence concerning pension effects in terms of changes to living arrangements is of relevance to debates concerning issues around creating or exacerbating citizen dependency on government transfers and a disincentive to work.

Finally, the results have implications for the way in which analyses of large social transfers targeted at older people are approached and considered by researchers and policy makers. Household composition is sometimes regarded as being fixed when impact assessments are undertaken. The results from this study contribute evidence which underlines the need to question this assumption and to consider if, how, and to what extent, household composition is responsive to social grant income.

This thesis makes an original contribution to knowledge by providing new empirical evidence concerning income-handling in poor households with older people; new empirical evidence regarding responses to pensions in terms of changes to living arrangements; new evidence regarding response timing; and new evidence regarding the significance of gender in both incoming handling behaviour and responses to pensions. In section 10.2, the three research questions that were initially posed in chapter 1 are revisited. The main findings are summarised with reference to the relevant literature and the research methods employed. Policy implications are then discussed in section 10.3. Section 10.4 brings the thesis to a close with some final conclusions and proposals for further research.
10.2 Research questions revisited

10.2.1 Pensions: household or individual income?
The first stage in the investigation of household responses to pensions was to examine the evidence regarding intra-household income-handling behaviour. This was an intuitively important stage in the research because the extent to which pensions are shared has direct implications for knowledge about household responses to pension income as well as the approach taken to the analysis of household composition and pensions in this study. The first research question asked: *To what extent are pensions treated as household rather than individual income?* To answer this question, responses to direct income-handling questions included in the AWD survey were examined.

*Pension sharing the norm but potential signs of change*
The general consensus in the existing literature is that pensions are typically shared with other household members and also with family and kin who live in separate households, at least for black households (Møller and Sotshangaye 1996; Sagner and Mtati 1999; Duflo 2000; 2003; May 2003; Møller 2011). Since the AWD data had a temporal dimension to it, there was an opportunity to consider pension sharing as a practice and the extent to which it remains pervasive and persistent. Based on the existing evidence, namely the contributions of Ardington and Lund (1995), McKendrick and Shingwenyana (1995), Møller and Sotshangaye (1996), Sagner and Mtati (1999), Duflo (2000; 2003), Barrientos, Ferreira et al. (2003) and May (2003), a testable hypothesis was proposed stating: *pensions are increasingly being shared to a lesser extent.*

The findings from the analysis that was undertaken in this study concur with the general consensus in the literature that income is typically pooled within South African households, often to a considerable extent. However, there were some potential signs of change. Older people in 2009 reported that they retained a little of their individual income for themselves more frequently than the older people in 2002. Whether or not this is an indication of a wider movement towards older people retaining more of their individual income for themselves is not possible to ascertain from a survey with only two waves of data collection. However, it is speculated that the signs of lesser sharing observed in 2009 may be related to general improvements in the economic situation of
the AWD households over time (as demonstrated in Barrientos and Mase 2012). That said, in general the households in the 2009 cross-section were both slightly smaller and some 6 years older than the 2002 households (as discussed in chapter 4), which may have influenced the results. Further analysis and a third wave of data collection has the potential to provide new insights in terms of general trends in this regard. Overall, despite signs of slightly less income pooling over time, income pooling and pension sharing nevertheless remains the norm.

The wording of the survey questions that were available in the AWD data limits the extent to which the handling of pension income can be distinguished from the handling of non-pension income and the extent to which intra-household income-sharing can be distinguished from inter-household income-sharing. However, there are several factors which support the study conclusions in this regard. Firstly, for many of the AWD households that included at least one older person over the age of pension eligibility, pensions represented a main income source for the household. Thus, when questions were asked regarding the general income-sharing rule in the household, it would seem fair to assume that pension income was included under the umbrella of income. Secondly, for the vast majority of older people of pensionable age, the pension was their only or principal individual income source. Thus, when responding to questions about how they handle their individual income, it would seem fair to assume that they were talking about their pension, as well as any other income they may have had, when responding. Thirdly, the responses to an additional survey question were examined, in which older people were specifically asked to what extent they shared their income with family members who did not live in their household. The responses to this question indicated that there was very little inter-household income-sharing on the part of older people. Thus, the assumption was made that when older people answered questions regarding the extent to which they shared their individual income, they were referring to intra-household sharing despite some lack of clarity in the wording of the questions.

**Convergence between groups**

The evidence in the literature concerning the motivations for pension sharing suggests that it can be attributed to a number of interlinking factors, including socio-economic circumstances, political and historical developments in South African society, and

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86 These improvements were likely due to a number of factors including an increase in the number of CSG and DG beneficiaries.
cultural and traditional influences (Møller and Sotshangaye 1996; Sagner and Mtati 1999; Sagner 2000; May 2003). Although the factors that drive, or at least act to maintain, the practice of pension sharing were not investigated directly in this study, the sampling design of the AWD data facilitated the consideration of the extent to which race plays a role. Barrientos, Ferreira et al. (2003) identified disparities in terms of pension sharing behaviour between households which were categorised as urban black, rural black and urban coloured. The authors concluded that there was a higher propensity to share more of the pension income among rural black households and pensioners than among urban black households and pensioners who in turn, appeared to share more of the pension than urban coloured households and pensioners. The authors used survey data from 2002 which was the same data used in this study, except that in this study there was the addition of a second wave of data collection from 2009. The second wave of data collection added a temporal dimension to the data, which facilitated an analysis of pension sharing behaviour over time, whilst the inclusion of a variable which identified whether the households were black or coloured, as well as situated in rural or urban settings, facilitated comparisons between these different categories of cases.

In light of the shifting nature of inequality in South Africa, as demonstrated by Nattrass and Seekings (2002), and discussed in chapter 2 (section 2.3), it was posited that since there is evidence to show that during the time period in question, income inequality between racial groups decreased while within racial group inequality increased, there may be signs of convergence between the three groups identified in the AWD survey data. Based on an assumption that pension sharing is likely to be influenced to a significant extent by economic factors, the hypothesis was put forward that pensioners living in black households do not share their pension to greater degrees than pensioners living in coloured households.

Differences in sharing behaviour between groups were confirmed by the analysis. In the 2002 cross-section black households, both rural and urban, reported higher degrees of pooling than the coloured urban households. However, in the 2009 cross-section the disparity according to racial group was considerably less, the convergence being accounted for by both declines in sharing for the black groups and increases in reported sharing for the coloured group. To consider the evidence further, another hypothesis was proposed which stated that pensioners living in rural households do not share their
Pensions to greater degrees than pensioners living in urban households. Again, in 2002 there was a clear disparity in the extent of income pooling between the rural and urban cases. However, this disparity was markedly less in 2009. The results suggest that although pension sharing remained a highly pervasive practice over time for the majority of the AWD households, there were signs of convergence between rural and urban groups. A third wave of data collection at a later time point would undoubtedly provide further insights in this regard.

No empirical evidence of gender-based differences in income-handling
A final dimension of pension-handling behaviour that was considered was the relevance of pensioner gender. In the literature, it is suggested that pension income may be handled in different ways within pensioner households according to the gender of the recipient due, at least in part, to societal gender-based norms (Møller and Sotshangaye 1996; May 2003). Although direct evidence of pension-handling behaviour is limited, several studies have provided indirect evidence to show that pensioner gender is associated with different household level pension-related outcomes (Duflo 2003; May 2003; Ambler 2011). The small sample of key-informants who were interviewed as part of this study also provided further anecdotal accounts of such potential differences.

Based on the evidence, the hypothesis was put forward that female pensioners do not share their pensions to greater degrees than their male counterparts. The survey data analysis of reported income-handling that was undertaken for this study failed to reject this hypothesis because no evidence of disparities in pension sharing behaviour according to recipient gender were identified. Whilst the limitations associated with acquiring information about intra-household income-handling via survey questions (both in general and with the specific questions available in the AWD survey), as well as the potential for respondent dishonesty were acknowledged and discussed, it remains a valid prospect that, for the AWD cases, pensions are shared to similar extents regardless of pensioner gender in many households. The influence of pensioner gender on intra-household pension sharing behaviour and pension-related outcomes was considered further in terms of the second and third key research questions.
10.2.2 Do households recompose around pensions?
Having considered the evidence in terms of income-handling in pensioner households, the study moved on to examine the potential link between pensions and household composition. Labour migration patterns, the HIV/AIDS epidemic and cultural factors have been identified as determinants of living arrangements in South Africa (Case and Deaton 1998). The extent to which social pensions in particular, and other social grants in general, influence decisions about living arrangements is unclear. A number of studies have attempted to consider the influence of the old age social pension on living arrangements directly (Edmonds, Mammen et al. 2004; Hamoudi and Thomas 2005). Further empirical evidence has also been contributed by studies which have sought to consider potential links between social grants and labour force participation and, thus, in the process have provided empirical evidence regarding the link between social grants and changes to household composition as a result of labour migration (Maitra and Ray 2003a; Inder and Maitra 2004).

The evidence to date regarding pension effects on living arrangements is somewhat mixed. Some studies have generated evidence which suggests that the pension leads to the crowding in of children (Edmonds, Mammen et al. 2004) and needy adults (Hamoudi and Thomas 2005) into the households of pensioners. However, other studies have generated evidence which suggests that the pension leads to the crowding out of adults from pensioner households by facilitating labour migration (Posel, Fairburn and Lund 2006). Furthermore, with the notable exception of a study by Harris, Inder et al. (2007), there is little empirical evidence to date concerning potential anticipatory responses. Their evidence suggests that responses to pensions in South Africa, in terms of changes to living arrangements, may occur in advance of actual pension receipt due to forward-planning decision-making.

In order to contribute new empirical evidence to the debates on social grant effects on living arrangements, the second key research question posed in this study asked: Is there evidence to suggest that households reshape their composition following receipt of (or in anticipation of eligibility for) the pension by a household member? Two principal hypotheses were proposed, based on the existing evidence, which stated: 1) Households do not recompose upon receipt of a pension; and 2) There is no evidence of anticipatory effects.
Slight but meaningful changes

The AWD data and a RDA approach were used to consider responses to pensions. Twelve overlapping indicators of household composition (grouping household members by age and gender) were modelled using the RDA technique. For the majority of the outcome indicators, there was no evidence of a change at the point in the age variable at which individuals went from being age ineligible to age eligible for a pension. This suggests that the pension may not be a key driver of living arrangements, as previously concluded by Case and Deaton (1998). However, for a number of the indicators, evidence of pension effects was identified in the vicinity of the threshold of pension age eligibility. The precise nature of these effects varied notably according to pensioner gender. This suggests that although the pension may not be a key driver, nevertheless, pensions influence decisions about living arrangements.

For the female sample, the RDA estimates indicated a link between the pension and a systematic increase in the average number of household members one year before age eligibility, which appeared to be driven by increases in the average number of 18-29 year old household members and males aged 18-39 years. At the official age of eligibility, overall household size appeared to remain unaltered. However, this masked a simultaneous decrease in males 18-39 years and increase in females 18-39 years (as well as increases in individuals 18-29 years). At one year after age eligibility, there was a decrease in overall household size with the main driver appearing to be declines in women aged 18-39 years (and adults 18-29), and to a lesser extent young children.

For the male sample, there was considerably less evidence of a link between the pension and changes in living arrangements. Firstly, there was no evidence to suggest that changes occur in anticipation of a pension. There was also very little evidence of changes occurring shortly after official age eligibility. The only credible evidence of a response that was produced through the analysis in this study was at the threshold of official age eligibility, at which point a decline in the average number of 0-15 year old boys was identified with additional tentative evidence of declines in children of both genders in the 6-17 year age range.
Crowding in and out

There are several distinct explanations for some of the specific pension responses that were identified in the analysis for this study whilst the explanations for other responses are not quite so straightforward. May (2003), Edmonds, Mammen et al. (2004) and Hamoudi and Thomas (2005) are among studies which have concluded that pensions may result in the crowding in of new household members, children and/or adults, into the households of recipients and that the extent and nature of this effect is likely to be influenced by pensioner gender. In this study, no evidence of crowding in was identified for the male pensioners. However, for the female recipients there was some evidence to suggest that the pension may be associated with a systematic crowding in effect shortly before and at the official pension age. All of the evidence, in this regard, related to adult groups (18-39 years), with no evidence to suggest that the pension is associated with increases in the average number of children living with pensioners. The fact that there was some evidence of a crowding in effect for female pensioners but not males acts to support theories of gender-based disparities in responses to pensions.

Crowding in effects have been framed in both a positive and negative light. On the one hand, pensioners may welcome new individuals into the household, perhaps because they value the various forms of assistance they may provide in return for sharing the financial benefits of the pension income. On the other hand, the moving in of new household members may not be a welcome pension effect if the pensioner prefers to live with fewer people and/or the new individual(s) dilute the economic benefit of the pension without providing much or anything of perceived benefit to the older person in return. Whilst there was some evidence of crowding in for the female sample, ultimately, there was more evidence of the pension being associated with the crowding out of other household members. Evidence of systematic declines in the average number of children living with older women around the time of pension eligibility may be explained, at least in part, by the simultaneous exit of young adults (18-29 years) and, in particular, women aged 18-39 years, with children potentially relocating alongside parents.

There is no clear explanation based on the existing literature to account for why the pension might prompt the exit of young boys in particular from the households of male recipients at the time of pension eligibility with no evidence of a simultaneous decline in adults observed. Several factors were highlighted which may help to explain the
relocation of children without adults when the financial situation of a household improves from a new pension. Firstly, there may be a preference for older people towards living without children and in smaller households in general. Secondly, children may be relocated in order to access better schooling opportunities. Thirdly, children may be relocated due to a greater financial need for them in the households of other family members. This financial need may be tied to the CSG income associated with the child or to the income generating activities that children can assist with directly or indirectly. As explained in the previous chapter, it has been estimated that around one in four black South African children aged between 7 and 17 are involved directly in income generating activities which does not include regular household chores (Stats SA 2010).

There is no clear explanation as to why male children may be relocated to a greater extent than female children from the households of male pensioners. In fact, this finding could be regarded as somewhat at odds with the theory relating to responses to pensions concerning child safety concerns. If mothers or parents were more hesitant about leaving children in the care of older males than females due to concerns about potential abuse, one might expect that female children may be more likely than male children to be relocated from the households of older males. The results are unlikely to be accounted for by gender-based disparities for children in schooling opportunities (Case and Deaton 1999; Anderson, Case et al. 2001), or participation in income generating activities (Stats SA 2010). However, it was also noted that gender plays a prominent role in shaping the everyday lives of many South Africans. Thus, it is not surprising that gender-based disparities in pension effects are observed in the analysis both in terms of pensioner gender and the gender of household members. Further investigation of this particular result provides a potential avenue for further research.

One of the key theories in the literature concerning pension effects, is that labour migration is a driving factor in South African household structures and living arrangements, and that the pension facilitates labour migration (Case and Deaton 1998; Posel, Fairburn et al. 2006). In this study there was no evidence to suggest that male pension eligibility is associated with adults moving away. For the female sample, the evidence suggests that pension eligibility is associated with declines in men aged 18-39 at pension age and with women aged 18-39 one year after pension eligibility. This is consistent with labour migration theories. In terms of pensioner gender and potential
labour migration theories, the evidence from this study is consistent with the conclusion made previously by Sieneart (2007), that there is a stronger association between the pension and increases in labour migration for female than for male pensioners, although the evidence cannot be used to directly test labour migration hypotheses.

The importance of timing
Harris, Inder et al. (2007) provided evidence to suggest that households may not wait to receive pension income before responding with changes to living arrangements. This study contributes new evidence of anticipatory pension effects. The specific nature of the anticipatory pension responses varied between this study and Harris, Inder et al. (2007), with the results from this study suggesting a crowding in effect one year before age eligibility as opposed to crowding out. It was speculated that the younger adults, and, in particular, males aged 18-39 years, who appear to move into the households of older women who are nearing the age of pension eligibility, could be of lower human capital. That said, the fact that there appeared to be evidence of systematic increases and decreases at different time points for the same outcome indicators acts to underscore the fact that when pension responses are identified using quantitative approaches, such as RDA, at a single point in time, there is little to no information which indicates how temporary or longer term such changes may be. More information is needed about the enduring nature of the changes to living arrangements that are identified by studies such as this one, as well as the specific motives for the observed fluctuations in household membership that appear to be associated with social pensions.

Despite the disparities in effects between studies, the fact that anticipatory responses were identified both in this study and by Harris, Inder et al. (2007), acts to underscore the importance of considering the potential for responses to occur in advance of actual social grant receipt, at least when a grant is predictable, of significant value to the recipients, and is likely to represent a long-term income source. Furthermore, the fact that evidence of pension effects was identified in the years immediately following age eligibility, as well as in advance of age eligibility, highlights the importance of considering timing aspects in general. When only immediate responses are considered, information could potentially be missed and thus the extent of effects could be grossly underestimated, resulting in inaccurate conclusions and subsequent policy recommendations.
10.2.3 Recipient gender and pension effects

It was discussed in chapters 4 and 8 that a number of arguments have been put forward in the literature in favour of restricting analyses of pension effects to female recipients. These arguments relate to differences in take-up rates (Bertrand, Mullainathan et al. 2003), differences in the likelihood of retirement incentives (Edmonds, Mammen et al. 2004), and differences in the extent of intra-household pension sharing (Bertrand, Mullainathan et al. 2003; Duflo 2003). The validity of each argument was considered in terms of the analysis undertaken in this study.

Changes made to the age of male eligibility for the pension between 2009 and 2010 meant that there was a heightened likelihood of there being systematic differences in the speed of pension take-up between males and females. Take-up rates were examined as part of the study (in chapter 7), where signs of a slower take-up rate for men in 2009 were identified. Harris, Inder et al. (2007) argue that extending analyses of potential pension effects over a range of ages rather than just at the time of age eligibility, as was done in this study, goes some way to addressing the potential measurement error associated with pension take-up. Nevertheless, it would seem instinctively wise to regard the estimates for the male sample more cautiously than the results for the female sample in this study.

The extent to which retirement issues may influence responses to pensions is debatable for the AWD sample participants because the households are amongst some of the poorest and the likelihood of both men and women opting to retire because of the pension is low. The majority of older people would not have been in formal employment to begin with. It is just as likely that if they were working before the pension, that they would continue to do so afterwards, regardless of gender.

The validity of the argument in terms of promoting a focus on the effect of female over male pensions, based on the proposition that female pensioners share their pensions to greater extents is discussed further below. However, in light of the earlier stages in the analysis, in which gender disparities in reported income-handling behaviour for pensioners and their households were not observed, the credibility of this argument as a reason to focus on responses to female pensions was called into question.
All things considered, the potential for differential pension effects based on gender constitutes an important empirical question which should be tested with the data that is available. Thus, whilst keeping the issues around comparing male and female pension effects in mind, the third and final key research question asked: *How, if at all, do household responses to pensions vary by the gender of the recipient?*

**Household composition more responsive to female pensions**

The results from this study suggest that, in general, female pensioners appear to be linked to changes in household composition to a greater extent than male pensioners. This conclusion lends support to the theory put forward by Duflo (2003) and Bertrand, Mullainathan et al. (2003), that women’s pensions are more likely to have significant effects on household behaviour than men’s pensions. The hypothesis stating that ‘the gender of the recipient is not correlated with the nature of the re-composition experienced as a result of the pension in poor households’, is thus rejected based on the findings in this study. Possible methodological issues aside, several potential explanations for the identified disparities in pension responses according to recipient gender were considered.

**Pension sharing**

As previously stated, one of the key theories in the literature is that income brought into households by men may be allocated differently to income brought into households by women due, in part, to socially and culturally defined gender roles. In line with this theory, Duflo (2003) and Bertrand, Mullainathan et al. (2003) argue that women’s pensions are more likely to have significant effects on household behaviours than men’s pensions because female pensioners are more likely to share their pension income with other household members. Whether female pension income is shared with other household members to a greater extent than men’s pension income is, however, a matter of debate.

If there were indeed gender disparities in the extent to which pensions were shared within households, then this would contribute to the ever growing body of evidence which acts to challenge unitary conceptions of the household unit. However, the investigation of reported incoming handling conducted in this study failed to identify gender differences in reported pension sharing behaviour. In this respect, the AWD households are exhibiting behaviour which is consistent with unitary household
models. However, despite the lack of gender-based differences in income-handling, the results from the analysis of pension effects suggest that pensioner gender is, nevertheless, correlated with pension responses. This does not, however, constitute direct evidence that female pensions are shared to a greater extent than male pensions because there are viable alternative explanations.

**Service provision**

It was highlighted in chapters 2 and 3 that traditional gender roles continue to persist to a large extent in many South African communities and that there is a long-standing tradition of grandmothers providing care for grandchildren (Møller and Sotshangaye 1996; Schatz and Ogunmefun 2007; Schatz 2007). Thus, it is possible that the gender-based disparities in pension effects might be linked to differences in gender-roles within households. It is possible, for example, that pension income may facilitate the labour migration of a young person from the household. However, if the potential migrant has children then they may only migrate if someone else in the household stays behind to care for the children.

In this context, this could result in systematically differing pension responses if female pensioners are more willing or able to provide certain services, such as child care, while the migrant is away than their male counterparts (Posel, Fairburn et al. 2006). It is also possible that mothers may have a preference for leaving their children in the care of female rather than male relatives in light of the relatively high rates of child abuse by close male relatives in South Africa (as discussed in chapter 9, section 9.2.3). If this is the case, then male and female pensioners may well share their pension income to a similar extent with their fellow household members and yet the outcomes, in terms of changes to living arrangements, may differ systematically according to recipient gender.

In terms of established theories regarding household organisation and intra-household decision making, based on the evidence in this study, collective models which assume that household decisions, including labour supply decisions, are influenced by gender-based norms are arguably more likely to provide a closer reflection of reality than unitary models. That said, the findings potentially act to challenge all formal household models which are premised upon an assumption of economic efficiency. If the theory regarding gender-based disparities in child care services is accurate, then it is
possible that for some households the more economically efficient response to a pension may be for a young adult household member to migrate for employment purposes and to leave their children behind with the pensioner. However, if the pensioner is male and unwilling or unable to provide child care services, or if the parent is unwilling to leave their children in the care of a male relative due to safety concerns, then the potential migrant will remain in the household, which is arguably an economically inefficient outcome.

**Perceived permanence of the pension**

A further potential explanation relates to labour migration and gender-based differences in life expectancy rates. On average, the life expectancy of a male pensioner is shorter than the life expectancy of a female pensioner.\(^{87}\) When a female becomes pension-eligible at age 60, on average, she is expected to live and receive the pension for longer than a male once he becomes pension-eligible at age 65 (in 2002) or 63 (in 2009). Therefore, responses to the pension may differ in systematic ways according to pensioner gender if the households in which pensioners live are forward-planning as the evidence, in terms of potential anticipatory pension responses, suggests is the case.

The process of migrating in order to seek better employment opportunities is a costly and long-term strategy (Posel, Fairburn et al. 2006). The process of settling in a new location, securing regular work and then being in a position to send some of the money earned back to the original household is a long-term strategy. The potential migrant and their household may be less likely to take the financial risks associated with labour migration if there is less likelihood of a pensioner being around for a long time to come. Since female pensioners tend to live longer and begin receiving the pension at a younger age (at least this was the case during the time period considered in this study), female pensions may be linked to changes in household composition (either due to labour migration or other factors) to a greater extent than males. Furthermore, as was pointed out in relation to gender-based differences in roles and services, this has little or nothing to do with gender-based differences in the extent of pension sharing. If gender disparities in life expectancy are linked to gender disparities in outcomes, then this, in and of itself, demonstrates the forward-planning decision-making of households and has important implications in terms of theories regarding intra-household resource

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\(^{87}\) The WHO life tables (which can be found at [http://www.who.int/gho/mortality_burden_disease/life_tables/life_tables/en/](http://www.who.int/gho/mortality_burden_disease/life_tables/life_tables/en/)) confirm that, on average, life expectancies are shorter for South African males than females.
allocation.

10.2.4 Methodology and limitations of results

Entitlement versus receipt

The fact that the RDA focused on pension entitlement as opposed to receipt can be considered to be both a significant advantage and a potential limitation of the research. By estimating the ITT, the analysis overcomes many of the challenges commonly associated with policy evaluation methods in the absence of a control group. In instances where there is evidence that some ineligible cases receive the treatment and some eligible cases do not receive the treatment, if direct comparisons are made between pension recipients and non-recipients, then resulting estimates may be biased because the cases who are eligible and do not receive a pension may be different from eligible cases who do receive a pension, and so on. RDA overcomes this problem by comparing cases based on eligibility rather than receipt. In this way, the estimates represent the effect of the pension programme separately from the influence of the specific way in which it is implemented.

However, when the analysis focuses on entitlement rather than actual receipt, the resulting estimates are likely to underestimate pension effects to some extent. This is for two principal reasons. Firstly, the RDA approach can only identify disparities at the threshold which are systematic across a wide number of cases. Therefore, if the responses are not systematically in the same direction (increases or decreases) and are not for the same outcome indicators, then the RDA will not detect them. Secondly, RDA designs require larger sample sizes than experimental designs in order to attain the same degree of statistical power. The AWD sample sizes were limiting in the sense that the samples could not be restricted (beyond gender) in order to consider the potential for heterogeneous pension effects according to factors such as survey year, location and race, despite the fact that there were theoretical reasons to believe there may be disparities which could be obscured as a result of the pooling of cases. The results from the checks that were undertaken and presented in chapters 7 and 8 suggest that the RDA estimates for the male sample may be less accurate and, thus, less reliable in general, than the estimates for the female sample due to smaller sample sizes and a weaker relationship between eligibility status and reported pension status.
The fact that the analysis conducted in this study may underestimate the full extent of pension effects leads to two general conclusions. On the one hand, the estimates are more likely to underestimate rather than overestimate pension effects, so this needs to be considered in relation to any overall study conclusions and subsequent policy implications. On the other hand, the estimates for which there was evidence of changes in the outcomes at the pension eligibility threshold are afforded further legitimacy, since the risk of overestimating pension effects with the approach that was taken in this study is low.

**Using RDA to consider response timing**

The fact that RDA can be used to consider timing aspects to pension responses is a strength of the RDA technique because alternative approaches, such as multivariate regression analysis, allow for little or no consideration of timing aspects at all. However, there are limits as to how effective the approach is at capturing effect timing. The fact that age is an imperfect predictor of pension status means that when the RDA threshold is assigned to ages just after official age, some cases will have been receiving pension payments for longer than others because, amongst other potential reasons, they did not apply for a pension immediately upon turning the age of eligibility. This limits the ability of the RDA design to consider delayed effects as something different from immediate effects.

The fact that age eligibility is not a perfect predictor of actual pension receipt is less problematic when using RDA to consider anticipatory responses because the timing of actual pension receipt is, at least partially, inconsequential. Nevertheless, the extent of alignment between age eligibility and actual receipt has implications for the examination of anticipatory responses with closer alignment likely to yield more reliable estimates. Despite these acknowledged limitations, using RDA to consider pension response timing remains a useful and insightful exercise by which to begin to consider the issue of response timing which is currently an under-explored area in the literature.

A further consideration for the results in this study concerns the fact that only systematic responses that occur around the threshold of age eligibility were considered. If responses to pensions were to have occurred earlier than 3 years before or 3 years after age eligibility then they would be missed. Furthermore, whilst this study has
focused on attempting to identify systematic changes in living arrangements around the time of age eligibility, it is important to consider not only that changes could occur at alternative time points and yet still be linked to the pension, but also that sometimes the lack of change can be just as meaningful as change itself. Whilst the concept of ‘crowding in’ typically refers to an influx of household members, the concept could also apply to the situation where household members who would otherwise have exited the household chose to remain in a household because they anticipate that another household member will begin receiving a pension at some point in the future, possibly many years down the line. Attempting to identify and measure such pension effects using statistical methods would be extremely challenging. However, alternative methods and qualitative methods, in particular, potentially have much to offer in this regard.

**The household concept**

Definitions of the household unit are challenging in any context. Many South Africans live in stretched households, where members of one family live in two separate locations with individuals going back and forth between the two. The analysis in this study did not attempt to incorporate such complex living arrangements into the analysis and thus, the study is limited by this. It is notoriously challenging to incorporate such complexities into the quantitative analysis of survey data, which is certainly a valid criticism of household survey data in general. Hamoudi and Thomas (2005) urge researchers to move beyond theory and data when considering policy impacts because analyses based at the household level are bound by the confines of a spatially determined definition of the household. The findings from this study, lend support to this conclusion, in that for the AWD participants, the household, as a social unit, is fluid and responsive to fluctuations in income. Household level empirical evidence in isolation, therefore, provides an incomplete reflection of reality. As Kabeer (1999) advises, statistical perspectives on intra-household processes should always be regarded as simple windows on complex realities. Nevertheless, despite the limits posed by a relatively narrow definition of the household unit, the study provides valuable new evidence concerning both income-handling behaviour and responses to pensions.

**Inference**

As previously stated, the survey data used in this study was produced by the AWD project. The households and individuals that participated were located in the Eastern
and Western Cape provinces only. As such, the data is not nationally representative of South Africa as a whole. As previously explained, the AWD data has several features which made it a useful data set for the purposes of this study. Namely, the survey instrument was designed with the specific purpose of gathering information about the lives and living arrangements of poor older South Africans; the survey instrument included direct questions to respondents regarding income and pension income-handling behaviours which large nationally representative data sets, such as the General Household Survey (GHS) and Census data, typically do not; the survey included a temporal component as a result of collecting and compiling information from two waves of data collection which was useful for achieving the aim and objectives of the study. Although the results from this study are not nationally representative, they nevertheless offer valuable insights into the effect of pensions in South African households.

A further consideration for the study conclusions, which relates to the AWD data, is that for the RDA that was conducted, the samples included pooled cases from two separate years: 2002 and 2009. The cases were pooled in order to benefit from the increased statistical power resulting from larger sample sizes. The potential for the same individual to be included as two separate cases at different ages (for example, a person aged 56 in 2002 and 63 in 2009) was not problematic for the RDA method because the analysis attempted to identify changes in the outcomes at the threshold of pension eligibility. However, it is possible that responses to pensions in 2002 may have differed from responses in 2009. Potential changes between the two years in terms of reported income-handling behaviour were noted earlier in the chapter. It was speculated that such changes over time may be linked to improvements in the financial situation of the households which, in turn, may lessen the extent of the reliance of households on pension income. Bearing this in mind, it is therefore possible that responses to pensions may have differed in systematic ways between survey waves, in which case such heterogeneous effects according to survey year would have been missed due to the methodological approach taken in this study.

Fieldwork contributions
Although RDA is a statistical technique that was used to analyse survey data, the successful application of the approach relies upon a comprehensive knowledge of the context in which it is being applied, as is arguably the case for all statistical methods.
The fieldwork that was undertaken as part of this research was intended to contribute to the study by familiarising the author with various aspects of the context, which was arguably not achievable from studying the available literature. Contextual insights were gained from the fieldwork. However, the information that was gathered, predominantly via key-informant interviews, was collected in an opportunistic manner and comprises a small set of data. Consequently, the role of the fieldwork in the study, beyond its stated objectives, is limited. When taking the research further, qualitative methods possess great potential in terms of interrogating the results further, particularly with regards to the potential explanations for the empirical results that were offered in this study.

10.3 Policy implications

The current issues and debates concerning social assistance in South Africa were outlined in chapter 2 (section 2.4). In particular, key arguments for extending, restructuring and rolling back social assistance in South Africa were discussed. The sustainability, constitutional and ethical aspects aside, the results from this study contribute to the debates by contributing new empirical evidence concerning social grant effects.

10.3.1 A dependency culture and perverse incentives

In addition to the arguments against extending social assistance which are based on affordability and sustainability concerns, arguments against expansion tend to hinge on the potentially negative social and economic consequences of fostering a ‘dependency culture’ and creating ‘perverse incentives’. It has been speculated, and in some instances argued, that over-generous social grants in South Africa may lead to a disincentive to work (Daniels 2006; Department of Social Development 2007). It has been suggested that the pension may lead to a disincentive to work for both the pensioners themselves (Ranchhod 2006), and also for other household members (Department of Social Development 2006). It has been theorised that family members who may otherwise have lived elsewhere sometimes crowd in around a pensioner in order to benefit from the income as a viable alternative to seeking and securing regular employment (Sagner and Mtati 1999). If such claims were demonstrated to be true, this would constitute a strong argument against extending social assistance or restructuring it along the lines of introducing a separate unemployment grant or a BIG
to fill the gap caused by high unemployment in South Africa, which has been an ongoing area of debate (Seekings 2002). Such evidence could also be used to argue in favour of rolling back the current grants by reducing grant values, changing the eligibility criteria or ceasing particular grants altogether.

As explained in chapter 4, a number of studies have investigated the link between employment activity and grants with mixed results. Bertrand, Mullainathan et al. (2003) and Dinkelman (2004) have demonstrated evidence to suggest that grant income is associated with a decrease in labour participation in the households of recipients. However, interpretations along the dependency lines have been challenged, with lower labour participation being potentially due to the fact that more economically vulnerable individuals are, understandably, more likely to live with grant recipients than family members who are employed (Muller 2006; Klasen and Woolard 2009). Surender, Noble et al. (2010), investigated the link between grants and employment and concluded that there was no evidence of such a dependency culture or a lack of motivation to seek or maintain employment among grant recipients. Other studies have suggested that grants may even lead to improved labour market outcomes due to the facilitation of job searches (Kingdom and Knight 2000; Schöer and Leibbrandt 2006), financing migration, helping to manage negative shocks (Booysen 2004), funding small business activities (Lund 2002), and increasing productivity through improved health and education outcomes (Samson, Babson et al. 2002).

The empirical evidence presented in this study cannot be used to directly test hypotheses regarding pension effects on labour force activity. However, it does provide empirical evidence about pensions and changes in living arrangements which such theories need to consider and be able to explain. There is some evidence in this study of pensions having a crowding in effect with higher average numbers of individuals within certain age/gender groups appearing to live with newly pension-eligible (and soon to be eligible) women compared with ineligible women. However, overall, there was notably more evidence of pensions either having no effect on living arrangements or of pensions having a crowding out effect, than a crowding in effect. This applies to female pensioners, in particular, but male pensioners also. This general observation is consistent with the evidence from the aforementioned studies in the literature which cast doubt on some of the dependency theories.
That being said, the findings from this study, as a whole, suggest that making assumptions about the motivations behind any established changes in living arrangements associated with the pension may be unwise. Ultimately, where changes to living arrangements are established around the threshold of pension eligibility, regardless of the direction of the effect, there remains very little information about how temporary or longer term such changes may be. Thus, an incomplete picture is provided by such empirical evidence.

10.3.2 The pension as a household grant
The findings in this study suggest that some 15 years after the end of Apartheid and the equalisation of pension amounts between racial groups, the pension continues to be a household grant to a considerable extent. This is despite the targeting of the old age social pension at older people. Consequently, the grant has far reaching effects that extend beyond the older recipients, to include other household and family members, whilst the extent to which pensions financially benefit older people themselves is debatable. From a policy perspective, the pension appears to be an effective channel through which social assistance reaches a wide number of people that, from a political point of view, possesses a level of perceived legitimacy which many other social grants, both existing (for example, the CSG) and prospective (for example, an unemployment grant or BIG), do not possess.

For the AWD participants, the pension appeared to be an influencing factor in decisions about living arrangements. Living arrangements are an aspect of people’s daily lives which have very direct implications for their wellbeing which are difficult to quantify. Bearing this in mind, any changes to the design of the pension, for example, in its value or the eligibility criteria, could potentially have considerable and far reaching effects which policy makers should always keep in mind.

In terms of the implications for policy evaluations of social grants, this thesis provides empirical evidence which demonstrates the importance of considering assumptions about household composition which is often treated as being fixed and not responsive to the policies being evaluated. The findings from this study lend support to general calls echoed in the literature for researchers and policy analysts to exercise caution when conditioning grants on household demographics and when organising households into composition categories, whilst attempting to explore and analyse pension and other
10.4 Conclusions and directions for further research

10.4.1 Conclusions
In this chapter, the study conclusions and subsequent policy implications were discussed. Ultimately, the study was successful in achieving the overarching aim of establishing whether or not households recompose around the South African social pension. The study contributes new evidence which demonstrates that the pension is linked to changes in living arrangements. The changes are not extensive and are restricted to particular age/gender groups. Nevertheless, pension responses were identified, which is not surprising in light of the fact that pensions are a regular, reliable and principal income source for many households (Schatz and Ogunmefun 2007). Furthermore, it is not surprising based on new evidence contributed by this study, as well as previous studies (including Møller and Sotshangaye 1996; Duflo 2003; May 2003), that intra-household pension sharing appears to be a pervasive and persistent social norm.

The study contributes new evidence concerning two key aspects of pension responses in particular: gender and timing. Overall, the evidence suggests that male pensions lead to fewer changes in household composition than female pensions, the key difference being that there was no evidence to suggest that pensions are associated with changes in the number of adults living with male pensioners, which was not the case for female pensioners. It is speculated that the extent of responses to pensions may be underestimated in this study, regardless of the gender of the recipient, due to methodological challenges. However, the risk of underestimating effects was arguably higher for the male sample in light of the fact that the discontinuity between pension receipt and non-receipt was less defined for the male sample in 2009 than for the female sample. Therefore, any conclusions about gender-based disparities in pension effects need to be considered carefully in light of this.

The explanations for the observed gender-based differences could not be established based on the empirical evidence generated in the course of this study, and it was not an objective of the study to do so. However, one of the key theories in the literature to
account for such disparities is that the differences are due to systematic differences in the extent of intra-household pension sharing (Bertrand, Mullainathan et al. 2003; Duflo 2003). Since income-handling behaviour was also considered as part of this study there was an opportunity to consider the validity of this theory. The findings from an examination of responses to direct income-handling survey questions provided no indication of a systematic gender disparity in the extent to which pensions are pooled. The methodological challenges associated with the analysis of intra-household income-handling were acknowledged and certainly there are limits as to how effectively the analysis of the survey questions available in the AWD data was able to pick up on potential gender-based differences in the extent of pension pooling. However, with no evidence of differences in pension sharing behaviour observed, other potential explanations which could account for the gender disparities in responses were considered. In particular, it was speculated that gender-based differences in child care provision by pensioners may affect the ability of parents to become labour migrants and that gender-based disparities in life expectancy after pension eligibility age may be important factors.

A final key contribution made by this study concerns social grants and response timing. The RDA approach was used in this study as a way to consider response timing and, in particular, the possibility for responses to occur prior to actual age eligibility, in anticipation of a household member becoming pension-eligible. Evidence of anticipatory responses was established for the female sample using this approach. For a small number of outcome indicators there appeared to be a discontinuous decline at one threshold and a discontinuous increase at an alternative threshold just one or two years apart. The mean number of women aged 18-39 years, for the female sample, was a prime example. The approach of varying the RDA threshold in order to consider response timing aspects is a somewhat rudimentary method and, thus, the details of these potential responses should be considered tentatively due to the limitations of the methodology. Nevertheless, the results underscore the challenges associated with using statistical methods, such as RDA, to attempt to identify and measure responses. In particular, it brought to the fore questions about the nature of established responses and the extent to which changes in living arrangements are temporary or longer term. More information is needed in terms of what influences the timing of responses, the extent to which such responses are temporary or longer term, as well as the motives for the established changes, in general. All of these timing aspects of pension responses, as
well as the gender issue, have policy implications.

Bearing in mind that the estimates generated in this study may underestimate the full effect of pensions on living arrangements, the overarching conclusion from this research is that the households of the older South Africans who participated in the AWD survey are not fixed social units. Instead, household membership appears to be fluid and potentially responsive to social grant transfers. This fact, in itself, is important for policy makers to keep in mind when making decisions about social grants.

The findings from this study contribute to current South African policy debates in two key respects. Firstly, one of the key arguments against widening the South African social safety net to cover other groups which do not currently have access to grants (such as the unemployed), either by the introduction of new grants, the extension of current grants or through replacing the current system of grants with a BIG, is based upon the premise that social grants foster dependency. Empirical evidence which suggests that needy family members move into the households of pensioners has been used to suggest that social grants create a disincentive to work with family members making the choice to be a dependent of a pensioner as an alternative to seeking and maintaining employment (Bertrand, Mullainathan et al. 2003; Dinkelman 2004). The evidence in this study of pensions having a crowding in effect, with family members moving into the household of an older person in order to benefit from the pension income, was low. There was some evidence of a crowding in effect for female pensioners. However, the evidence suggested a greater deal of crowding out as opposed to crowding in which suggests that instead of creating or exacerbating a disincentive to work, the pension may actually lead to better employment prospects for the families of pensioners, if the pension provides the capital needed for family members to migrate in search of better employment opportunities. The empirical evidence presented in this study cannot be used to directly test theories regarding pension responses in terms of labour force activity but it does provide empirical evidence about changes in living arrangements which theories concerning dependency and the effects of social grants need to be able to explain.

Finally, the findings in this study highlight the importance of recognising that some 15 years after the end of Apartheid and the equalisation of pension amounts between racial
groups, the pension continues to be, to a considerable extent, a household grant rather than income which supports individuals in their old age. This is despite the expansion of social assistance since the end of Apartheid, with the proportion of social grant beneficiaries in South Africa increasing overall.

**10.4.2 Further research**

This study began with one overarching research question which was then broken down into smaller questions: *Do households recompose around the South African social pension?* As is often the case, the process of answering one question resulted in the identification of a number of further questions. Based upon the study conclusions and observations made during the course of conducting the research, a number of areas particularly deserving of further attention were identified.

**Pension-handling**

Although there is a healthy body of literature concerning responses to the pension (and to other social grants in South Africa), relatively little research has been undertaken in the last decade or so which directly considers pension income-handling behaviour. Based on the findings in this study, which point to the possibility of there being changes over time, there is a need for more contemporary information on the factors that motivate pension sharing; the extent to which income from pensions is handled differently to income from other grants and non-grant income; and general investigation into whether or not the role that pensions play in households, and for the recipients as individuals, is changing. The answers to such questions have implications for current policy developments and debates in South Africa.

**Pension effects on living arrangements: Heterogeneous effects**

One key question which has received some attention but remains underexplored in the literature to date is how responses, in terms of changes to living arrangements, may vary in systematic ways according to where beneficiaries live. This is both in terms of potential differences between those living in rural and urban areas and also different regions of South Africa.

The results from this study are limited by the fact that they are not nationally representative. They are representative only of specific geographical areas in the Eastern Cape and Western Cape provinces. Furthermore, the estimates were generated
using pooled samples of rural and urban cases due to sample size considerations. One potential avenue for taking this research further would be to use a similar methodological approach to the analysis of pension responses as was used in this study, but using a nationally representative data set which would allow for cases from different geographical areas to be analysed separately and for the results to then be compared. The AWD data could also be matched with a larger data set using propensity score matching (PSM) or a similar established matching technique.88

Pension effects on living arrangements: Gender
Further research into the explanations which account for gender-based differences in pension-related outcomes is needed. Specifically, further information is required to establish whether or not the identified differences are due to gender-based differences in service provision, life expectancy after first pension receipt, the extent of intra-household pension sharing or other explanations.

If the gender-based differences can be accounted for, at least partially, by the fact that older women traditionally provide child care services which males do not, then disparities in outcomes may change over time as gender roles shift and men possibly become more involved in child care. The extent to which gender roles are likely to shift in terms of child care related activities will inevitably be influenced by any broad societal developments relating to the pervasive problems of gender-based violence and child abuse. If differences can be accounted for, at least in part, by differences in life expectancy after first pension receipt, then disparities in outcomes may reduce over time as a result of, firstly, the recent policy changes which brought the age of male eligibility for a pension into line with the female age and, secondly, general trends in life expectancy which demonstrate that gender disparities are in decline.

Pension effects on living arrangements: Timing
The fact that evidence of pension effects was identified prior to age eligibility highlights the importance of considering the timing of hypothesised pension effects. When only immediate effects are considered, a lot of information could be missed. The extent of pension effects could, thus, be grossly underestimated and inappropriate conclusions may be drawn. The results also highlight the general lack of information about how temporary or longer term any established changes to living arrangements

88 For an introduction and practical guide to PSM, refer to Caliendo and Kopeinig (2005).
attributed to the pension may be. Further research is needed to establish what causes the timing of responses and, therefore, what motivates such responses, since this is of direct relevance to current debates on social grants and their wider impact.

**Pension effects on living arrangements: Pensioner exit**

The analysis in this study focused on establishing whether or not changes are made to the composition of households as a response to the pension around the time of age eligibility. A final potential avenue for further research in this area, that would potentially offer valuable insights in terms of the extent to which pensions influence living arrangements, would be to examine household composition responses when a pensioner exits a household. Very little research has been undertaken to date, that investigates what happens to households when a pension ceases after an older person exits the household due to death or moving away for another reason (a key exception being Ranchhod (2009)).

Investigating the effects of a grant can be achieved by examining potential responses around the time of the introduction of a grant to a household, as was done in this study. However, an alternative strategy would be to examine potential responses to the *cessation* of grant payments. Where a pensioner has died, it is possible that the death and subsequent cessation of their pension may have been sudden and, thus, it can be speculated that households may recompose once a pension has ceased. Examining such responses could provide valuable insights into the role of pensions and the extent to which pensions influence living arrangements.
References


Bertrand, M., S. Mullainathan, et al. (2003). "Public policy and extended families:


CSVR (2010). Why South Africa is so violent and what we should be doing about it. Johannesburg, Statement by the Center for the Study of Violence and Reconciliation.


OECD (2001). Glossary of statistical terms, OECD.


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Appendices

Appendix 1: Copy of AWD 2002 survey questionnaire

NON-CONTRIBUTORY PENSIONS AND POVERTY STUDY:
SOUTH AFRICAN SURVEY 2002

My name is ___________________. I am working for DRA representing several organisations including Rhodes University, the University of Cape Town and the University of Manchester in the UK. We are interviewing household heads or their partners and persons 55 and over in order to gain a better understanding of the issues that are important to households containing older persons. The study is especially concerned with the income and expenditure of these households and the realities faced by persons 55 and over, including access to pensions and grants as well as support required by older people. I will be asking you and members of the household some questions. Your answers are completely confidential. Your assistance in this survey would be appreciated.

RESPONDENT SELECTION (INTERVIEWER: ASK THE PERSON WHO ANSWERS THE DOOR)

001. Does a person 55 years or older live in this household? 1= yes; 2= no IF NO TERMINATE INTERVIEW

002. Who is the head of this household? Enter Name

003. Who is the person most knowledgeable about how the money is spent in this household? Enter Name

INTERVIEWER: INTERVIEW THE PERSON WHOSE NAME APPEARS IN 003 ABOVE. THIS PERSON IS THE RESPONDENT.

Visit 1 Visit 2 Visit 3

1.1 Fieldworker name & surname 2.1 Fieldworker name & surname 3.1 Fieldworker name & surname

1.2 Day of the week 2.2 Day of the week 3.2 Day of the week

1=Mon, 2=Tues, 3=Wed, 4=Thu, 5=Fri, 6=Sat, 7=Sun

1=Mon, 2=Tues, 3=Wed, 4=Thu, 5=Fri, 6=Sat, 7=Sun

1=Mon, 2=Tues, 3=Wed, 4=Thu, 5=Fri, 6=Sat, 7=Sun

1.3 Date [dd/mm/yy] 2.3 Date [dd/mm/yy] 3.3 Date [dd/mm/yy]

1.4 Time [00H00] 2.4 Time [00H00] 3.4 Time [00H00]

1.5 Outcome 2.5 Outcome 3.5 Outcome

1=Household roster complete, 2=No one home, 3=Household Respondent not at home, 4= Household Respondent refused, 5=Older Adult not at home, 6=Older Adult refused, 7=Interview partially completed, 8=Interview complete -99=No eligible Older Person

89 Please note that additional pages were provided (not presented here), so that the older person supplement could be administered to multiple older people. Some formatting changes have been made to facilitate the presentation of the questionnaire for the purposes of the thesis. Original copies of the questionnaire for both years of data collection can be found at www.sed.manchester.ac.uk/research/ageingandwellbeing.
**ENUMERATOR DECLARATION**

I declare that I have asked this entire questionnaire as it is laid out and as I have been briefed.

I declare that all the responses and answers recorded by me in this questionnaire were given to me by the correct respondent.

This questionnaire has been fully checked by myself.

**PLEASE PRINT:**

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<td>First name</td>
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<td>Surname</td>
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<tr>
<td>Signature</td>
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<td>Date</td>
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**QUALITY CONTROL RECORD SHEET**

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<th>QUALITY CONTROL</th>
<th>CORRECTION</th>
<th>CORRECTION CHECKED</th>
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<tbody>
<tr>
<td>Date</td>
<td>Initial</td>
<td>Question number</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Description of problem</td>
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<td></td>
<td>Date</td>
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<tr>
<td></td>
<td>Initial</td>
<td>Date</td>
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<td>Initial</td>
<td>Initial</td>
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</table>

**FOR SUPERVISOR / OFFICE USE ONLY:**

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<thead>
<tr>
<th>Name of supervisor</th>
<th>Date checked [dd/mm/yy]</th>
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<tbody>
<tr>
<td>Selected for callback</td>
<td>1=Yes 2=No</td>
</tr>
<tr>
<td>Name of quality controller</td>
<td>Date checked [dd/mm/yy]</td>
</tr>
<tr>
<td>Name of capturer</td>
<td>Date captured [dd/mm/yy]</td>
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</table>
SECTION A: HOUSEHOLD PROFILE

I am going to ask you some questions about this household.

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<tr>
<th>No.</th>
<th>Questions</th>
<th>Coding categories</th>
<th>Codes</th>
</tr>
</thead>
</table>
| A1  | Language mainly spoken in the household. | 1= English  
2= Xhosa  
3= Afrikaans  
4= Southern Sotho  
5= Zulu  
Other (Specify) ______________ |       |
| A2.1 | How many years has the head of this household lived in [Name of Place]? | ___ = Number of years  
-95= < 1 year  
-96= Head of household’s whole life |       |
| A2.2 | How many years has the head of this household lived in this house? | ___ = Number of years  
-95= < 1 year  
-96= Head of household’s whole life |       |
| A3  | INTERVIEWER: SPECIFY WHETHER THE HOUSEHOLD OCCUPIES A SINGLE DWELLING OR A MULTIPLE DWELLING COMPOUND | 1= Single dwelling  
2= Multiple dwelling |       |
| A4  | INTERVIEWER: NOW SPECIFY THE TYPE OF HOUSE IN WHICH THE RESPONDENT LIVES | 1= House or brick structure on a separate stand or yard  
2= Traditional dwelling/Hut  
3= Flat in a block of flats  
4= Townhouse cluster/ semi-detached house  
5= House/Flat/Room in backyard  
6= Informal dwelling/shack, not in backyard  
7= Informal dwelling/shack, in a backyard  
8= Room(s)/Garage not in backyard but on a shared property  
9= Container  
Other (Specify) ______________ |       |
| A5  | INTERVIEWER: INDICATE THE TOTAL NUMBER OF ROOMS IN THE HOUSE (INCLUDING KITCHEN BUT EXCLUDING BATHROOM) | Rooms |       |
| A6  | Is this dwelling...? | 1= Owned  
2= Rented  
3= Free |       |
| A7  | What is the main source of drinking water for members of your household? | 1= Piped (tap) water in dwelling  
2= Piped (tap) water on site or in yard  
3= Public tap  
4= Water carrier/tanker  
5= Borehole on site  
6= Borehole off site/Communal  
7= Rainwater tank on site  
8= Flowing water/stream  
9= Dam/Pool/Stagnant water  
10= Well  
11= Spring  
Other (Specify) ______________ |       |
**A8. What kind of toilet facility does your household have?**

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<tbody>
<tr>
<td><strong>A8.1</strong></td>
<td>Flush toilet</td>
<td>1= Yes - On site</td>
</tr>
<tr>
<td><strong>A8.2</strong></td>
<td>Chemical toilet</td>
<td>2= Yes - Off site</td>
</tr>
<tr>
<td><strong>A8.3</strong></td>
<td>Pit toilet</td>
<td>3= No</td>
</tr>
<tr>
<td><strong>A8.4</strong></td>
<td>VIP ventilated</td>
<td></td>
</tr>
<tr>
<td><strong>A8.5</strong></td>
<td>Bucket toilet</td>
<td></td>
</tr>
<tr>
<td><strong>A8.6</strong></td>
<td>No toilet</td>
<td></td>
</tr>
</tbody>
</table>

**A9. Which of the following items does the household have in working order?**

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<tbody>
<tr>
<td><strong>A9.1</strong></td>
<td>Telephone or cell phone</td>
<td>1= Yes OR 2= No</td>
</tr>
<tr>
<td><strong>A9.2</strong></td>
<td>Stove-electric or gas</td>
<td></td>
</tr>
<tr>
<td><strong>A9.3</strong></td>
<td>Stove-coal, wood or paraffin</td>
<td></td>
</tr>
<tr>
<td><strong>A9.4</strong></td>
<td>Electricity</td>
<td></td>
</tr>
<tr>
<td><strong>A9.5</strong></td>
<td>Television set</td>
<td></td>
</tr>
<tr>
<td><strong>A9.6</strong></td>
<td>Radio or stereo</td>
<td></td>
</tr>
<tr>
<td><strong>A9.7</strong></td>
<td>Refrigerator/deep freeze</td>
<td></td>
</tr>
<tr>
<td><strong>A9.8</strong></td>
<td>Sewing machine</td>
<td></td>
</tr>
<tr>
<td><strong>A9.9</strong></td>
<td>Car</td>
<td></td>
</tr>
<tr>
<td><strong>A9.10</strong></td>
<td>Bicycle</td>
<td></td>
</tr>
<tr>
<td><strong>A9.11</strong></td>
<td>Motorcycle</td>
<td></td>
</tr>
</tbody>
</table>

**SECTION B: HOUSEHOLD COMPOSITION**

**INTERVIEWER: CRITERIA FOR "PERSONS IN THIS HOUSEHOLD":**

*All persons who*

1. live under the same roof or in the same compound/homestead at least four months of the year and
2. share food and living expenses when they are here.

**B1. How many persons live in this household aged 16 years and over? (Enter actual number of persons if none = 0)**

<table>
<thead>
<tr>
<th></th>
<th>MEN</th>
<th>WOMEN</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B1.1</strong></td>
<td>How many persons live in this household aged 16 years and over? (Enter actual number of persons if none = 0)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**B1.2 How many persons live in this household aged 0 to 15 years? (Enter actual number of persons if none = 0)**

<table>
<thead>
<tr>
<th></th>
<th>BOYS</th>
<th>GIRLS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B1.2</strong></td>
<td>How many persons live in this household aged 0 to 15 years? (Enter actual number of persons if none = 0)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**B1.3 How many persons live in this household IN TOTAL?**

<table>
<thead>
<tr>
<th></th>
<th>TOTAL</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B1.3</strong></td>
<td>How many persons live in this household IN TOTAL?</td>
<td></td>
</tr>
</tbody>
</table>

**INTERVIEWER: ENSURE THAT MEN + WOMEN = TOTAL IN B1.1 AND BOYS + GIRLS = TOTAL IN B1.2. FURTHER ENSURE THAT TOTAL IN B1.3 IS EQUAL TO NUMBER OF PERSONS IN HOUSEHOLD MATRIX IN B2.**
<table>
<thead>
<tr>
<th>B2</th>
<th>B3</th>
<th>B4</th>
<th>B5</th>
<th>B6</th>
<th>B7</th>
<th>B8</th>
<th>B9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person Code</td>
<td>What is X’s relationship to the head of the household?</td>
<td>What is X’s gender?</td>
<td>What is X’s age? (at last birthday)</td>
<td>What is X’s marital status?</td>
<td>What is X’s level of education?</td>
<td>If absent, why is X absent?</td>
<td>How many months has X been absent in the past 12 months?</td>
</tr>
<tr>
<td>Start with respondent</td>
<td>1= Head of household</td>
<td>1= Male</td>
<td>1= Married</td>
<td>1= No schooling - cannot read, write</td>
<td>0= Not Absent</td>
<td>Write in Months; -99 if less than one month</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2= Spouse, partner</td>
<td>2= Female</td>
<td>2= Never married</td>
<td>2= No schooling - can read, write</td>
<td>1= Employment</td>
<td>0 if none</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3= Son, daughter</td>
<td></td>
<td>3= Widowed</td>
<td>3= Grade 1-2</td>
<td>2= Looking for employment</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4= Father, mother</td>
<td></td>
<td>4= Divorced</td>
<td>4= Grade 3-4/ Std 1-2</td>
<td>3= Schooling</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5= Grandchild</td>
<td></td>
<td>5= Separated</td>
<td>5= Grade 5-7/ Std 3-5</td>
<td>4= Training</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6= Grandparent</td>
<td></td>
<td>Other (specify in grid)</td>
<td>6= Grade 8-9/ Std 6-7/ Form 1-2</td>
<td>5= Personal reasons</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7= Mother/father in-law</td>
<td></td>
<td></td>
<td>7= Grade 10-11/ Std 8-9/ Form 3-4</td>
<td>6= Escape violence, political problems</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8= Son/daughter in-law</td>
<td></td>
<td></td>
<td>8= Matric/ Grade 12/ Std 12/ Form 5</td>
<td>7= Visiting spouse, family</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9= Brother/sister in-law</td>
<td></td>
<td></td>
<td>9= Grade 8 + diploma</td>
<td>8= Visiting friends</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10= Aunt, uncle</td>
<td></td>
<td></td>
<td>10= Matric + diploma</td>
<td>9= Visiting other home</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11= Sister, brother</td>
<td></td>
<td></td>
<td>11= Matric + teacher training</td>
<td>10= Living with other partner</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12= Niece, nephew</td>
<td></td>
<td></td>
<td>12= Matric + nursing</td>
<td>11= Prison</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>13= Cousin</td>
<td></td>
<td></td>
<td>13= University courses</td>
<td>12= Hospital</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14= Great-grandparent</td>
<td></td>
<td></td>
<td>14= Completed University degree</td>
<td>13= Business</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15= Household help</td>
<td></td>
<td></td>
<td>15= Creche/daycare</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16= Lodger</td>
<td></td>
<td></td>
<td>16= Pre-primary</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>17= Other family</td>
<td></td>
<td></td>
<td>Other (specify in grid)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>18= Other non-family</td>
<td></td>
<td></td>
<td>Other (specify in grid)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### SECTION C: HOUSEHOLD ECONOMIC ACTIVITY

I will now ask you about the work that all persons in this household aged 16 years and over do.

<table>
<thead>
<tr>
<th>Code of person</th>
<th>Number of months worked in the last year</th>
<th>Hours ON AVERAGE</th>
<th>Did X work in the last month?</th>
<th>What is the main reason X did not work last month?</th>
<th>What job does X do?</th>
<th>What is the main activity in X’s main job (SECTOR)?</th>
<th>In X’s main job does she/he work as an</th>
<th>How many people work at the place where X works? (It refers to the physical workplace)</th>
<th>What is the location of X’s main job?</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>C2</td>
<td>C3</td>
<td>C4</td>
<td>C5</td>
<td>C6</td>
<td>C7</td>
<td>C8</td>
<td>C9</td>
<td></td>
</tr>
<tr>
<td>16 and over</td>
<td>16 and over</td>
<td>16 and over</td>
<td>16 and over + C4=2</td>
<td>16 and over + C4=1</td>
<td>16 and over + C4=1</td>
<td>16 and over + C4=1</td>
<td>16 and over + C4=1</td>
<td>16 and over + C4=1</td>
<td></td>
</tr>
</tbody>
</table>

**Enter in Months; none=0**

(work is defined as paid employment/self-employment or helping out relatives/others in exchange for goods or services)

- 1= Care for children or older relatives
- 2= Suffers from chronic illness or disability
- 3= Student
- 4= Retired
- 5= Works occasionally
- 6= Is looking for employment but cannot find
- 7= Has independent income and doesn’t need to work
- Other (specify IN GRID)

- 1= Employee
- 2= Employer
- 3= Unwaged family worker
- 4= Is self-employed
- 5= Is member of cooperative
- Other (specify IN GRID)

- 1= One
- 2= 2 to 5 persons
- 3= 6 to 9 persons
- 4= 10 to 49 persons
- 5= 50 to 199 persons
- 6= 200 or more persons
- 1= Don’t know

- 1= At home - without separate workshop/space
- 2= At home - with separate workshop/space
- 3= On a street
- 4= In a firm, business, office, private institutions
- 5= In a factory, assembly plant
- 6= In a market
- 7= In the house of an employer, customer
- 8= On a farm
- 9= Government institution
- Other (specify IN GRID)
### SECTION D: HOUSEHOLD INCOME AND ASSETS

(Now I would like to ask you about the income that each person in this household receives CURRENTLY in a typical month)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Receives? 1=Yes 2=No</td>
<td>Amount in Rands (R)</td>
<td>Receives? 1=Yes 2=No</td>
<td>Amount in Rands (R)</td>
<td>Receives? 1=Yes 2=No</td>
<td>Amount in Rands (R)</td>
<td>Receives? 1=Yes 2=No</td>
<td>Amount in Rands (R)</td>
<td>Receives? 1=Yes 2=No</td>
<td>Amount in Rands (R)</td>
<td>Receives? 1=Yes 2=No</td>
<td>Amount in Rands (R)</td>
<td>Receives? 1=Yes 2=No</td>
</tr>
<tr>
<td>D2</td>
<td>How much income does this household receive in a typical month from each of the following sources which I will read to you?</td>
<td>Receives from source?</td>
<td>AMOUNT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D2.1</td>
<td>Savings, interest</td>
<td>1= Yes 2= No</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D2.2</td>
<td>Property rental</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D2.3</td>
<td>Church/ NGO</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D2.4</td>
<td>Money from lodgers</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D2.5</td>
<td>Money received from a person outside the household (remittance from members working elsewhere, money from boyfriends, etc.)</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D2.6</td>
<td>Goods (e.g. groceries, gifts) from a person outside the household. (Estimate value)</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D2.7</td>
<td>Other (Specify)</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D3</th>
<th>When people in the household get their money each month, do they?</th>
<th>1= All pool their income 2= Pool some of their income 3= Each keeps their own income 4= Cannot say/unsure</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>D4</th>
<th>Who in the household has the most say on how money is spent?</th>
<th>Enter person code</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>D5.1</th>
<th>Does the household own livestock?</th>
<th>1= Yes 2= No SKIP TO D6</th>
</tr>
</thead>
<tbody>
<tr>
<td>D5.2</td>
<td>If yes, how many livestock does this household own? (enter actual number)</td>
<td></td>
</tr>
<tr>
<td>D5.2.1</td>
<td>Chickens, ducks and geese</td>
<td>Enter row number</td>
</tr>
<tr>
<td>D5.2.2</td>
<td>Pigs</td>
<td>Enter row number</td>
</tr>
<tr>
<td>D5.2.3</td>
<td>Horses, mules and donkeys</td>
<td>Enter row number</td>
</tr>
<tr>
<td>D5.2.4</td>
<td>Sheep and goats</td>
<td>Enter row number</td>
</tr>
<tr>
<td>D5.2.5</td>
<td>Cattle</td>
<td>Enter row number</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D6</th>
<th>Does this household grow its own vegetables?</th>
<th>1= Yes 2= No SKIP TO D8</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>D7</th>
<th>Think about the vegetables grown and consumed by the household in a typical month during harvest time. If you had to buy the vegetables, about how much would it cost?</th>
<th>R</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>D8</th>
<th>Does anyone in this household have a bank or savings account?</th>
<th>1= Yes 2= No</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>D9</th>
<th>Does anyone in this household participate in a stokvel?</th>
<th>1= Yes 2= No</th>
</tr>
</thead>
</table>
### SECTION E: HOUSEHOLD EXPENDITURE

Now I am going to ask you a couple about expenditure of this household.

#### E1.1 In the past 12 months, did this household have any major unforeseen or unexpected expenses?

1= Yes  
2= No **SKIP TO E2**

#### E1.2 What were these expenses and what were the amounts involved. *Interviewer: indicate up to three expenses. Probe, if needed. Do NOT read out options.*

<table>
<thead>
<tr>
<th>CODE</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1=</td>
<td>Funeral expenses;</td>
</tr>
<tr>
<td>2=</td>
<td>Expenses relating to traditional customs or ceremonies;</td>
</tr>
<tr>
<td>3=</td>
<td>Voluntary building renovations/ construction;</td>
</tr>
<tr>
<td>4=</td>
<td>Education related expenses;</td>
</tr>
<tr>
<td>5=</td>
<td>Damages/ renovations because of rain/ wind/ storms</td>
</tr>
<tr>
<td>6=</td>
<td>Damages/ renovations because of fire</td>
</tr>
<tr>
<td>7=</td>
<td>Payments for bail/ legal representation, etc.</td>
</tr>
</tbody>
</table>

Specify other in block

#### E1.3

<table>
<thead>
<tr>
<th>CODE</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td></td>
</tr>
</tbody>
</table>

#### E2

What is your best estimate of what the entire household spends on various items? *Interviewer: record for last month or last 12 months. Allow respondent to work in order which he/she prefers*

<table>
<thead>
<tr>
<th>ITEM</th>
<th>LAST MONTH</th>
<th>LAST 12 MONTHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>E2.1 Groceries (exc. meat, vegetables, fruit)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E2.2 Vegetables and fruit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E2.3 Meat, chicken and/or fish</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E2.4 Food eaten out, or from street vendor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E2.5 Rent or bond payment on dwelling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E2.6 Rates</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>E2.7 Electricity</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>E2.8 Water</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>E2.9 Fuel (coal, paraffin, wood)</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>E2.10 Telephone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E2.11 Hire purchase, furniture, appliances</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E2.12 Clothing and shoes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E2.13 Health (doctor’s visits, medicines...)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E2.14 Personal items (haircuts, toiletries, birthday gifts)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E2.15 Transportation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E2.16 Church dues, clubs</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>E2.17 School uniforms, fees, books including tertiary education</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>E2.18 Alcohol</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>E2.19 Tobacco</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>E2.20 Holidays and entertainment</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>E2.21 Lottery and gambling</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>E2.22 Money or goods given to person outside the household</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>E2.23 Burial society dues</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>E2.24 Stokvel</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>E2.25 Savings</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>E2.26 Payment of other debts, instalments or micro-loans, etc.</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>E2.27 Money spent on business, farming or livestock</td>
<td>R</td>
<td></td>
</tr>
</tbody>
</table>

#### E3 About how much money does this household spend in a typical month on all its expenses? (ask and do not calculate)

1= R0-R399  
2= R400-R799  
3= R800-R1199  
4= R1200-R1799  
5= R1800-R2499  
6= R2500-R4999  
7= R5000-R9999  
8= R10000 or more

#### E4 How does your household pay for food?

1= Cash  
2= Credit / book  
3= Both
| E.5.1 | Do members of this household have any debts at present? | 1= Yes  
2= No SKIP TO E6  
-1= Don’t know |
| E.5.2 | If yes, what debts do members of this household have at present and what are the amounts of these debts? | Interviewer: indicate up to six debts, the amounts and the total amount. Probe, if needed. |
| | 1= Clothing account;  
2= Account at furniture store;  
3= Education fees;  
4= Paraffin;  
5= Food & groceries (incl. Meat);  
6= Home loan;  
7= Construction/building renovations (not part of home loan);  
8= Telephone/cellphone account (exc. prepaid packages);  
9= Advance / loan from work;  
10= Loan from micro-lender;  
11= Bank loan  
12= Outstanding Municipal rates/ water/ electricity  |
| | DESCRIPTION OF DEBT (INDIVIDUAL OR HOUSEHOLD) | MONTHLY REPAYMENT | OUTSTANDING DEBT AMOUNT (INCL. INTEREST) |
| E5.2.1 |  |
| E5.2.2 |  |
| E5.2.3 |  |
| E5.2.4 |  |
| E5.2.5 |  |
| E5.2.6 |  |
| E5.3 | Have you started repaying any of the above debts? | 1= yes, all  
2= yes, some  
3= no, none |
| E6 | Has this household experienced financial difficulties in the last three years? | 1=Yes  
2=No IF NO, SKIP TO SECTION F |
| E7 | When the household is in financial difficulty, do you? Read out options | 1=Yes or 2=No |
| E7.1 | Ask friends and relatives for help? |
| E7.2 | Ask employer for help? |
| E7.3 | Ask church/ NGO for help? |
| E7.4 | Borrow from bank, moneylender or loan shark? |
| E7.5 | Cut down on food consumption? |
| E7.6 | Try to find extra work? |
| E7.7 | Run up an account with a shop? |
| E7.8 | Other (Specify) |
**SECTION F: HEALTH AND CARE**

Now we’d like to talk to you about health and health care in this household:

<table>
<thead>
<tr>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
<th>F5</th>
<th>F6</th>
<th>F7</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All</strong></td>
<td><strong>Sick or injured</strong></td>
<td><strong>Sick or injured</strong></td>
<td><strong>With Consultation</strong></td>
<td><strong>With Consultation</strong></td>
<td><strong>Without consultation</strong></td>
<td></td>
</tr>
<tr>
<td>Has any member of this household been sick or injured in the past month?</td>
<td>What was the nature of the illness or injury? (See Codelist)</td>
<td>How many days of the past month was X not able to do what he/she normally does because of illness or injury?</td>
<td>Who, if anyone, was consulted to treat the illness or injury? 1= No-one 2= Clinic/Hospital 3= Private doctor 4= Traditional healer 5= Pharmacy, chemist 6= Shop/Supermarket 7= Consulted more than one agency 8= Some persons consulted, others did not Other (specify IN GRID)</td>
<td>How much was paid in total for consultation, including medicines in the last month for X?</td>
<td>How much was paid for transport to the places of consultation in the last month?</td>
<td>If “no-one” in F4 (=1), what was the main reason that X did not consult/see someone or go somewhere for treatment? 1= Did not want or need to 2= Transport costs 3= Had no money to pay for consultation 5= Would lose pay from work 6= Too long to wait 7= Consulted the previous month Other (specify IN GRID)</td>
</tr>
<tr>
<td><strong>Interviewer:</strong> exclude all acute or chronic illness or disability</td>
<td>Enter person code if none=0, skip to F8</td>
<td>Other (specify IN GRID)</td>
<td>Enter Days</td>
<td>Enter in Rand</td>
<td>Enter in Rand</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>F8</th>
<th>F9</th>
<th>F10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are there any persons in this household who need special care because of disability or illness? Interviewer: include all acute or chronic illness or disability Write person code OR 0= None If none, skip to F12</td>
<td>What is the nature of his/her disability or illness? (See Codelist)</td>
<td>Who is the main caregiver to this person? Enter person code Or Specify other in grid</td>
</tr>
</tbody>
</table>

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>

268
<table>
<thead>
<tr>
<th></th>
<th>Member 1</th>
<th>Member 2</th>
<th>Member 3</th>
<th>Member 4</th>
<th>Member 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>F11</td>
<td>Has a member of the household died within the last 2 years?</td>
<td>1= Yes</td>
<td>2= No IF NO, SKIP TO SECTION G</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F12</td>
<td>Relation to the head of the household</td>
<td>1= Head of household</td>
<td>2= Spouse, partner</td>
<td>3= Son, daughter</td>
<td>4= Father, mother</td>
</tr>
<tr>
<td>F13</td>
<td>Age at death IN YEARS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F14</td>
<td>What in your opinion was the cause of death?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SECTION G: QUALITY OF LIFE**

| G1 | Taking everything into account, how satisfied is this household with the way it lives these days? Is this household you very satisfied, satisfied, dissatisfied or very dissatisfied? | 1= Very satisfied | 2= Satisfied | 3= Neither satisfied nor dissatisfied | 4= Dissatisfied | 5= Very dissatisfied |
| G2 | How would you rate the financial situation of this household AT PRESENT? Is it very good, good, average, bad or very bad? | 1= Very good | 2= Good | 3= Average | 4= Bad | 5= Very bad |
| G3 | How would you rate the financial situation of the household compared to three years ago? Would it be better, same or worse than three years ago? | 1= Better | 2= Same | 3= Worse |
| G4 | What would you say is the MAIN reason for the change in the financial situation of the household? *(Write exact words and only ONE reason)* |

THANK YOU FOR YOUR TIME!
SECTION AA: OLDER ADULT SUPPLEMENT

This supplement questionnaire to be administered to all persons 55 years and over identified from the household composition matrix. A strong effort should be made to interview these people directly. Proxy interviews are acceptable only if the older person is mentally or otherwise incapacitated.

OLDER PERSON 1.

<table>
<thead>
<tr>
<th>PERSON CODE NUMBER</th>
<th>Proxy interview</th>
<th>1= Yes</th>
<th>2= No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>COMMENTS:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AA1</th>
<th>AA2</th>
<th>AA3</th>
<th>AA4</th>
<th>AA5</th>
<th>AA6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are you entitled to any of the following grants? 1= Yes 2= No -1= Don’t know</td>
<td>Do you receive any of the following grants? 1= Yes 2= No</td>
<td>When did you start receiving it? ENTER YEAR</td>
<td>What is the amount you receive monthly from the grant? ENTER AMOUNT IN RANDS</td>
<td>Where is the money collected? 1= At a bank 2= At a post office 3= From a mobile pay point Other specify IN GRID</td>
<td>Does someone accompany you when you collect your pension? 1= Yes 2= No 3= Someone collects on my behalf</td>
</tr>
<tr>
<td>1 State old age pension AA1.1</td>
<td>AA2.1</td>
<td>AA3.1</td>
<td>AA4.1</td>
<td>AA5.1</td>
<td>AA6.1</td>
</tr>
<tr>
<td>2 Disability pension AA1.2</td>
<td>AA2.2</td>
<td>AA3.2</td>
<td>AA4.2</td>
<td>AA5.2</td>
<td>AA6.2</td>
</tr>
<tr>
<td>3 Veteran’s pension AA1.3</td>
<td>AA2.3</td>
<td>AA3.3</td>
<td>AA4.3</td>
<td>AA5.3</td>
<td>AA6.4</td>
</tr>
</tbody>
</table>

IF RECEIVING A STATE OLD AGE PENSION COMPLETE AA7 – AA12. IF NOT SKIP TO AA13:

<table>
<thead>
<tr>
<th>AA7</th>
<th>Do you have /did you have any difficulties in accessing your pension? 1= Yes 2= No If 2 skip to AA9</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA8</td>
<td>What are/what were these difficulties? (Record up to two) 1= Getting pension paid into a bank account 2= Getting a new power of attorney 3= Grant stops when not collected 4= Office runs out of money 5= No back pay 6= New ID book 7= Officers unhelpful/rude 8= Not paid on time Others (specify)</td>
</tr>
<tr>
<td>AA9.1</td>
<td>What type of work did you do for the main part of your working life?</td>
</tr>
<tr>
<td>AA9.2</td>
<td>Have you ever received a pension payment of any kind from your employer? 1= Yes, lumpsum 2= Yes, payments 3= Yes, both 4= Yes, uncertain how paid 2= No</td>
</tr>
<tr>
<td>AA9.3</td>
<td>Do you receive money from children living elsewhere? 1= Yes, regularly 2= Yes, from time to time 3= No</td>
</tr>
<tr>
<td>AA10.1</td>
<td>Do you regularly give money to family members who live elsewhere?</td>
</tr>
<tr>
<td>--------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>AA10.2</td>
<td>If yes specify what the money is for and the AVERAGE MONTHLY amount? (UP TO 3 ANSWERS) AMOUNT</td>
</tr>
<tr>
<td>AA10.2.1</td>
<td></td>
</tr>
<tr>
<td>AA10.2.2</td>
<td></td>
</tr>
<tr>
<td>AA10.2.3</td>
<td></td>
</tr>
<tr>
<td>AA11</td>
<td>How much of your pension and your own money can you keep for yourself?</td>
</tr>
<tr>
<td>AA12.1</td>
<td>Have you ever used your pension to start/support an income earning project or a small business?</td>
</tr>
<tr>
<td>AA12.2</td>
<td>Have you ever taken a loan from a &quot;loan shark&quot; or micro-lender or a micro-loan for pensioners?</td>
</tr>
</tbody>
</table>

**For all older adults:**

| AA13 | How do you rate your health at present? Would you say it is very good, good, average, poor or very poor? | 1= Very good 2= Good 3= Average 4= Poor 5= Very poor |
| AA14.1 | If yes, do you belong to any of the following organisations? | 1= yes 2= no |
| AA14.2 | Senior centre or luncheon club |
| AA14.3 | Church group/ choir |
| AA14.4 | Burial society |
| AA14.5 | Stokvel |
| AA14.6 | Sports club |
| AA14.7 | School organisation |
| AA14.8 | Trade union |
| AA14.9 | Political party/ organisation |
| AA14.10 | Women’s club/ organisation |
| AA15 | Thinking about crime and violence, would you say that compared to two years ago you feel more safe, the same or less safe? | 1= More safe 2= The same 3= Less safe |
| AA16 | Thinking over your whole life, which ONE of these would have made your life better? (READ OUT AND PROBE FOR SPECIFIC ANSWER) | 1= More personal independence to make your own choices in life 2= Better education 3= More equality for people like yourself |
| AA17 | Here is a list of things people sometimes do as citizens. Please tell me whether you, personally, have done any of these things in the past year? | 1= yes 2= no |
| AA17.1 | Attended a community meeting |
| AA17.2 | Got together with others to raise local concerns/ matters |
| AA17.3 | Complained to an official |
| AA17.4 | Worked to get a party candidate elected into government |
| AA18 | Taking all things together, how satisfied are you with your life as a whole these days? Would you say you are very satisfied, satisfied, dissatisfied or very dissatisfied? | 1= Very satisfied 2= Satisfied 3= Neither satisfied nor dissatisfied 4= Dissatisfied 5= Very dissatisfied |
| AA19 | What are three good things in your life? | (1) |
| | | (2) |
| | | (3) |

THANK YOU FOR YOUR TIME!
### SECTION H: HOUSEHOLD QUESTIONNAIRE EVALUATION

<table>
<thead>
<tr>
<th>H1</th>
<th>Duration of Interview</th>
<th>minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>H2.1</td>
<td>Personal observations of the respondents</td>
<td></td>
</tr>
<tr>
<td>H2.2</td>
<td>Personal observations of the interview</td>
<td></td>
</tr>
<tr>
<td>H2.3</td>
<td>Personal observations of the household situation</td>
<td></td>
</tr>
<tr>
<td>H3</td>
<td>Other observations or comments</td>
<td></td>
</tr>
</tbody>
</table>

THANK YOU FOR YOUR TIME!
Appendix 2: Example – Semi-structured interview

EXAMPLE – SEMI-STRUCTURED INTERVIEW
Questions posed to Black Sash Paralegal Caseworker

Part 1: Applying for and first receiving the old age pension

1. Do you get a lot of inquiries or requests for assistance or advice from people about the old age grant? And do these inquiries generally come directly from older people themselves or from their relatives or friends on their behalf?

2. When are prospective applicants first able to submit an application for the old age grant? E.g. the day of their 60th birthday? Theoretically and in practice, in 2002, 2009 & now?

3. What proportion of applicants applies as soon as they are age eligible? Any change 02-09?

4. Do you think there are any differences between the typical applicant that applies immediately and the typical applicant who applies a bit later and the typical applicant who applies very late?

5. What proportion of the applications are returned or rejected by SASSA because they haven’t been completed properly or require additional documentation to support the application? What is the procedure for dealing with this? Change 02-09?

6. Where an individual has been receiving the disability grant before reaching age eligibility and then reaches 60 years old, what happens? Is the individual flagged on the SASSA system and the grant automatically changed? Or does the individual cease receiving the disability grant upon turning 60? Do they then need to apply for the old age grant separately? Change 02-09?

7. Approximately how long should an applicant expect to wait between the time that they submit an application for an old age grant and hearing about whether they are successful or not? 02 & 09?

8. What is the method by which they are informed of the decision and amount they will receive each month? (Says letter in guidelines if denied) 02 & 09?

9. What is the typical time between submission of application and the receipt of the first payment? 02 & 09?

10. In theory, payments are supposed to be back dated to the time of application not eligibility, is this correct and does it work in practice? 02 & 09?

11. Do these back payments come as one lump sum or in instalments? 02 & 09?

12. Is there an appeals process for applications that have been rejected or if applicants wish to question the monetary amount they are given? How often do decisions get challenged? 02 & 09?
**Part 2: Changes to male eligibility and general grant administration**

13. What was the timing of the changes to male age eligibility? Were they the same in theory and in practice? Or do you think there will have been some inconsistency between geographical areas in the implementation of these changes?

14. How knowledgeable were the men who became eligible due to the changes in age eligibility? Did most men apply as soon as they became eligible on account of the changes or did there appear to be delays?

15. When responsibility for processing grants was handed over to SASSA in 2006, how smooth was this transition and what were the main difficulties?

16. Do you think there is consistency in the processing of applications and the following of guidelines both in terms of outcomes (accepted/rejected and monetary amounts) and in terms of timing (e.g., waiting period between application submission and first payment)? 02 & 09?

17. Do you think there is consistency in the processing of old age grant applications across the country?

18. Do you think there is consistency in the processing of other grant applications across the country or are there differences between provinces and so forth?

19. In theory and in practice, are old age grants reviewed regularly in terms of means test eligibility? 02 & 09?

20. In theory, how soon after the death of a pensioner should the pension payments stop and is this how it works in practice? 02 & 09?

21. When a pensioner dies, whose responsibility is it to report the death to SASSA? 02 & 09?

22. How often is this information delayed and are there cases of over-payment? If so, does the household have to pay back that money in theory and in practice? 02 & 09?

**Part 3: Other**

23. Do you think older people (and all people in general) consider that they have a right to the old age grant or that it is a gift from the government? Do you think perceptions in this regard have changed at all 02 & 09?

24. Success and rejection rates for different grants – is there a noticeable difference? If so, why?

25. What are the most common reasons for rejection of an application for any grant

26. How accessible is the grant application documentation for prospective applicants?