

Social Transfers and the Labor Supply Response: Revisiting the South African Old Age Pension

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PRELIMINARY AND INCOMPLETE. DO NOT CITE.

Abstract

South Africa pursues a unique social transfer scheme under its Old Age Pension program, with payments made under this program amounting to more than half of household per-capita income for households at or below median income levels. The impact of such large payments on labor supply command attention, particularly given the high levels of unemployment in South Africa that haven't reduced in the two decades since Apartheid. Using panel data designed to be representative of the entire country, I find members of households that have a pensioner are 9% less likely to be employed. These results contradict existing estimates using similar methods. By focusing on a suitable sub-sample, however, I am able to recover a positive effect. The pension appears to have heterogeneous effects: while allowing some households to fund labor migration, arguably it lowers the incentive to work for others; the latter effect dominates, leading to an overall negative impact.

Keywords: Pension, Labor Supply, Panel Data, NIDS; **JEL Codes:** H23, H55, I38, J22, O15

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1 Introduction

The South African Old Age Pension is one of the more generous social transfer schemes in the world. The pension payments under this program account for more than half of household per-capita income for those households at or below the median income level in per-capita terms: Figure 1 plots the average fraction of the real, per-capita household income (in Jan 2015 prices) that comes from the Old Age Pension for each household income decile.¹ The size and scale of these transfers sets it apart from social transfer programs in most developing countries. Consequently, it is important to ask what impact this program has and to what extent can these impacts be generalized to other developing countries (Case and Deaton 1998).

The nature of South Africa's labor market further highlights questions about the role of the pension in affecting labor supply. South Africa faces extremely large unemployment together with low levels of labor force participation (Kingdon and Knight 2004), neither of which have changed substantially since the end of Apartheid: in 1993, unemployment stood at 24% of the total labor force and the latest estimates in 2017 place the unemployment rate at 27%.² How the pension program affects employment and labor supply is therefore a very important question to ask.

Various studies suggest the pension program has either positive or negative effects on employment and labor supply. Bertrand, Mullainathan and

¹These are estimates from the first wave of the National Income Dynamics Survey (Southern Africa Labour and Development Research Unit, National Income Dynamics Study 2008, Wave 1).

²These are estimates from the World Bank's World Development Indicators, which are drawn from the International Labor Organization's ILOSTAT database.

Miller (2003) find working hours of prime age individuals fall in households that have a pensioner as a resident member. The extent of the drop depends on both the age and the gender of the prime age individual with the oldest son reducing his hours the most. Ranchhod (2006) finds similar negative effects on employment rates and labor supply for the elderly.

In contrast, Pospel, Fairburn and Lund (2006) argue the pension plays a positive role by allowing pension recipient households to fund labor migration. Using a panel specification which helps eliminate individual level unobservables, and a more recent dataset, Ardington, Case and Hosegood (2009) also find evidence in favor of this mechanism. They contrast their results with those of Bertrand, Mullainathan and Miller (2003) as evidence that the use of a first-difference method - which a panel dataset allows - results in estimates uncontaminated with an omitted variables problem. Cross-sectional datasets cannot easily avoid this problem and estimates from such data are thus suspect. Ardington et al (2016) document that young men who complete high school are the most likely to migrate, while the youngest household members are most likely to return.³

Although Ardington, Case and Hosegood (2009) represents one of the more careful evaluations of the pension program, their area of study concentrated in one district alone. This is the Umkhanyakhude district, located in the KwaZulu-Natal province. It is entirely open to question whether their results generalize to the entire country. For instance, KwaZulu-Natal is one

³The source of the data are the same for both Ardington, Case and Hosegood (2009) and Ardington et al (2016): multiple survey rounds from one site in South Africa. Ardington et al (2016) use eight rounds, while Ardington, Case and Hosegood (2009) focus on the first two.

of the poorest provinces in the country and Umkhanyakhude is particularly stricken: in 2008, average incomes were around Rand 614 for the district, while for KwaZulu-Natal the same number stood at Rand 1532 and for the country as a whole at Rand 2566.

I use multiple waves of the National Income Dynamics Survey (NIDS), a nationwide survey that captures information on individual employment and pension payments. These data are designed to follow individuals over time. It is therefore possible to estimate panel data specifications in the spirit of Ardington, Case and Hosegood (2009) to eliminate the influence of unobservables that may otherwise bias estimates of the pension program. In addition, the data I use run from 2008 onward, allowing an update of earlier estimates of the program.

Belonging to a household that has a pension recipient, I find, leads to a lower probability of employment. For Umkhanyakhude district, however, I am able to replicate - at least in terms of direction - the same results as in Ardington, Case and Hosegood (2009). Such a pattern suggests a heterogeneous response to the pension program: while it appears to have allowed some households to fund out-migration and thus employment, it also appears to have drawn down employment in other households.

2 The South African Old Age Pension: a brief history

The pension program dates back from pre-Apartheid days, wherein it was constructed as a way to support elderly Whites who retired from the labor force. It is a means-tested payment, available at present to anyone over the age of 60. In the past, the age of eligibility varied by gender: the cut-off age was 60 for women and 65 for men.

Both the level of the pension and the maximum level of income recipients of the pension can have adjusted upwards over time. In 1993, Case and Deaton (1998) report the maximum benefit was Rand 370 a month, while at present it is Rand 1690 per month. In 1993, the level of the pension would start adjusting downward when the pre-pension sum of income and the value of assets owned exceeded Rand 90 per month and would go to zero if the sum exceeded Rand 370 a month. At present, the maximum level of income is Rand 6510 per month and of assets owned is Rand 1,115,400 per month. In addition, at present, for recipients over the age of 75, the value of the pension increases to Rand 1710 per month. For married individuals, at present, these figures double.⁴

The data I examine comes from surveys held between 2008 and 2010. During this period, the maximum amount of the pension was set at Rand 1140 per month. In practice, though, I find actual pensions received were a little lower: around three quarters of the individuals receiving a pension in

⁴The source for these numbers is the website maintained by the South African government on the old age pension: <https://www.gov.za/services/social-benefits-retirement-and-old-age/old-age-Pension>

2008 got either Rand 870 a month or Rand 940 a month in nominal terms.⁵

Given the racial disparity in income levels, the nature of the labor market and the distribution of unemployment, fundamentally the pension program amounts to a transfer from the White South African to the Black South African population. In 2008, according to the data I have, the real per-capita monthly household income for the White South African population stood at Rand 8762, while the Black South African population received Rand 1245. White South Africans therefore earned 7 times what the Black South Africans earned. Black South Africans were 14% less likely to be employed and 20% more likely to be in informal occupations. For a country with a very high rate of formality - 2/3rds of the jobs were in the formal sector in 2008 - in its labor market, a 20% difference in formal employment is very big.⁶ That is, even when Black South Africans are able to work, this is concentrated in a small sector of the economy. Identifying the effect of large transfer payments in such a scenario is crucial.

⁵Converting to real terms - January 2015 prices - puts most of the pensions received at between Rand 1240 and Rand 1340. This calculation allows for inflation at a monthly level, and inflates the value of the pension depending on which month during the survey year the household was interviewed in.

⁶The definition of formality I use is if the agreement to work was a written contract.

3 Summary Evidence: Comparing the National Income Dynamics Survey (NIDS) and the Ardington, Case and Hosegood (ACH) Sample

In this section and the next, I closely analyze both the data I use and that used by Ardington, Case and Hosegood (2009) - ACH for short. As my focus is on understanding the differences a change in sample can cause, I will use exactly the same specification and methodology used by ACH. The resulting differences therefore arise entirely from the selection of the sample used to estimate parameters.

The data ACH use comes from the Africa Centre Demographic Information System (ACDIS), beginning in January 2000. This survey contains information on pension receipt, employment and migration for around 100,000 people in 11,000 households from the Umkhanyakude District situated in northern KwaZulu-Natal, one of the nine provinces in South Africa and also one of the poorest. The two rounds of the survey took place in 2001 and again 2003/04.

Two features of the data ACH use stand out for our purposes. First, while these data are quite rich, they are also drawing from a very specific part of the country: a single district in one of the poorest provinces. As explained above, it is hard to know if the results in ACH hold true for the rest of the country as well.

The second deals with a crucial feature of household membership within

the ACDIS. Household members were free to name whoever they considered to be part of the household, even if that person was not living physically in the household. In this way, migrants can be captured. Yet at the same time, such a definition may capture members of the family that simply live in another part of the country. So although a survey respondent in a village claims (for instance) her daughter to be part of her household, it may be the daughter is working and living by herself in a city. It is not transparently clear whether the daughter can be considered a migrant: one can imagine various scenarios under which the daughter may or may not be.

The National Income Dynamics Survey (NIDS) potentially helps on both counts. It is meant to be nationally representative, so we can understand the average impact of the pension program across the country. Household definitions are quite strict, requiring a household member to fulfil three conditions. First, they would have to physically live together - either share a roof or a compound or homestead - for at least 15 days in the last year. Second, food must be shared from a common source amongst all members. Third, all members contribute to or share in a common resource pool. Given this definition, and going back to our example in the last paragraph, as long as the daughter does not visit her mother for more than 15 days and vice versa, mother and daughter will be classified into separate households.

NIDS gathers information on employment and pension receipt amongst many other variables. The first survey was held in 2008 and a new round is held every 2 years. In the first wave, a little over 7,000 households comprising around 26,000 individuals were interviewed. In subsequent waves, these numbers grow. Crucially, NIDS also follows people over time so by the sec-

ond survey round we have information of the same nature as ACH: we can see changes in employment and changes in pension receipt. The focus is on the first two survey waves, because they are closest to the time frame that ACH analyze.

The variation in the rules for classifying people into households between the NIDS survey and the sample ACH use have their clearest impact on household size. Given the differences between NIDS and what ACH use, households ought to be smaller under NIDS than in the ACH sample. This is indeed what we see: households are on average much smaller in NIDS than in the ACH sample. Table 1 provides evidence for this, which I shall now describe.

Table 1 groups households into 4 distinct groups, based on the existence, addition, or subtraction of a pensioner. I use data from the first two waves of NIDS to classify whether a household never had a pensioner, always had a pensioner, gained or lost a pensioner between the waves. Sample averages from the ACH sample are also included for comparison. Since NIDS covers the entire country but the ACH sample covers one district, I also present these averages from the NIDS for sub-samples defined to include information only from KwaZulu-Natal and from Umkhanyakude district. Unfortunately, this leaves us with too small a sample to compare districts across the four sub-samples; nevertheless, I present it for completeness' sake.

For any of the four groups of households, we can see the NIDS data do indeed have smaller households than what is captured in the ACH sample. There are, on average, two fewer residents in each household in NIDS as compared to the ACH sample. As a consequence of the stricter definition

under NIDS, I am able to record very few household members as being non-resident. Therefore there are very few differences between the total number of members and the total number of resident members in the NIDS data.

In many other ways, however, both NIDS and the ACH sample display similar behavior. For instance, comparing between households that have a pensioner versus those that do not, the age composition of the households switches in similar ways. Having a pensioner leads to the household adding on both very young and very old members. Such a pattern is sensible since the addition of the pension to the household income means more people can be supported. Households that never had a pensioner tend to be richer than ones that always had a pensioner.

Very large and important differences show up when we look at migrancy, employment and education. NIDS captures many more people with a lower level of education. Moving from a house that never had a pensioner to one that always had one lowers the education levels considerably in NIDS but has little impact in the ACH sample. Employment and migrancy though show very different patterns between the two samples.

The probability of employment for an individual in a household that always had a pensioner is much lower than those individuals in households that never did under NIDS. While the same pattern shows up in the ACH sample, the fall is much more muted. Differences in the pattern of migration are even more stark: moving from a household without a pensioner to one that always had one lowers the probability of labor migration under NIDS but raises it in the ACH sample. A similar drop can be seen in the NIDS data when comparing households that lost a pensioner to ones that gained,

while the ACH sample shows an increase.

In sum, households tend to be smaller, while employment differences between household groups are much larger in the NIDS data compared to the ACH sample. Additionally, migration decisions not only differ by a greater amount under NIDS between household groups, but move in a direction opposite to that captured in the ACH sample. Overall, NIDS captures more poorly educated individuals but going by total number of assets, NIDS households are actually poorer.⁷ Last, changes in household composition as a result of the presence of a pensioner have similar effects under both NIDS and the ACH sample.

These summary statistics, while informative, cannot be taken as evidence of the effect of a pension on employment or migration. They lack controls for possible factors correlated with both outcomes, such as household composition and education levels. I now move on to econometric specifications to isolate the effect of a pension on employment and migration which control for these factors, as well as those that are unobservable but plausibly affect the outcomes we are interested in.

4 Cross-Section and Panel Estimates of the Labor Supply Response

Cross-Sectional Estimates In Table 2, I present cross-sectional estimates of the effect of having a pensioner on the probability of being employed and

⁷Such a pattern is puzzling. One needs to be cautious in interpreting this, however: the way assets are measured may differ considerably between the two surveys.

a labor migrant. These are estimates coming from the regression:

$$y^o_{iht} = \gamma * X_{iht} + \beta * P_{iht} + \epsilon^o_{iht}$$

where $o = \{e, m\}$, correspond to employment and migration respectively. y denotes the outcome and equals 1 if the individual is employed and 0 if the not; the outcome is defined similarly for labor migration. i indexes the individual in household h at survey wave t . X is a vector of controls and P is an indicator variable denoting whether individual i resides in a household h which has a pensioner at wave t .

Our parameter of interest is β : the effect of a household pensioner on the probability of employment and labor migration. Panel A of Table 2 shows the estimates of β using the NIDS data, specifically the second wave conducted in 2010. Panel B shows estimates from a similar regression, but taken from the ACH sample and carried out on the second wave of the survey they use. I also report results using specifications that come as close to the ACH sample as possible: I estimate the regression for both the province (KwaZulu-Natal) and the district (Umkhanyakude) using the NIDS data. ACH use a sample that is based off of only Umkhanyakude district.

The impact of the pension on employment appears to be negative, if we look at the NIDS estimates and the residents only sub-sample from the ACH study. The coefficient estimates show similar patterns as well, with men being more strongly affected than women. Standard errors are larger for the NIDS data, a reflection of the smaller sample size. The results at the province level are quite similar, but once we drill down to the district level,

we notice the signs change. The results at the district level look quite similar to the full sample used by ACH, which includes residents and non-residents. Here, the effect of the pension is positive but small and estimated with large standard errors.

Important differences do come about, though, when we look at labor migration. NIDS does allow for recording labor migrants but the migrants have to fulfil the three criteria for household membership described above. While it is not difficult to imagine migrants that might fulfil these criteria, the looser definition of household residents followed by the survey ACH rely on would arguably include more individuals. In addition, information on why a particular household member is absent on the day of the interview is missing for a large number of observations in the NIDS data. This lowers the number of labor migrants that I can reliably capture in the NIDS data.

According to the NIDS data, households that have a pensioner see a reduction in labor migration. This effect is particularly large and statistically significant for women. According to the ACH sample, however, labor migration increases, and the increase is statistically significant. The sample doesn't change between the employed and labor migration regressions for the data ACH use, but suffers considerable loss in the NIDS data. Estimates from the province level regressions are once again similar to those from the country level regressions in sign but the size of the sample is much reduced.⁸ The focus thus from hereon is on the status of employment for individuals, as information here is much more complete and reliable.

⁸District level regressions for labor migrancy were not possible as the sample was much too small.

Panel data Estimates Of course, a potential problem with the cross-section estimates is the possible contamination by unobserved individual variables. Panel data estimates, presented in Table 3 are free from this problem, provided the unobservables do not vary with time. We can write the econometric specification as follows:

Let a_i^o represent the individual level unobservable, which can be ability, gender, year of birth or the circumstances i grew up in such as the neighborhood or peer group. We can then write the error term as $\epsilon_{iht}^o = a_i^o + u_{iht}^o$. Taking a difference between two consecutive survey rounds of the cross-sectional specification will give us⁹

$$y_{ih1}^o - y_{ih0}^o = \gamma * \{X_{ih1} - X_{ih0}\} + \beta * \{P_{ih1} - P_{ih0}\} + \{u_{ih1}^o - u_{ih0}^o\}$$

Panel A of Table 3 shows estimates of β for the NIDS data, while Panel B shows the estimates in the ACH study. The first three rows show the impact of a change in whether a household has a pensioner or not - this can take on three possible values: no change, the addition of a pensioner and the loss of a pensioner. The first row shows results from any change in household pensioner status while the next two rows show results from the loss or gain of a pensioner. As the sample ACH use can be split by resident status I also report their results using residents only. In the NIDS data, by contrast, nearly everyone is a resident so this difference is not relevant. Once again, I report results from estimating the panel regression on the province and the district.

⁹The first survey round gets the value “0” while the second gets the value “1”.

At the country level, the NIDS data shows coefficients of the opposite sign as that reported in the ACH study. In most cases, these coefficients are statistically significant and of larger size. The overwhelming conclusion from the NIDS data would be then exactly opposite to that of ACH: the pension reduces employment, and when a household loses a pensioner, the probability of someone in the household getting employed rises. This dramatically overturns the conclusions of ACH, and suggests the pension program is severely detrimental in its effects on employment. The results from the province level regressions show insignificant coefficients.

Once we examine the same at the district level, however, I do obtain coefficients similar in sign to those in ACH. This happens despite the very low sample size. The estimates for the women and men sub-sample seem very high, particularly for the cases where households lose pensioners. Including both men and women, however, the coefficients are similar in sign if not in size. The pattern between losing and gaining a pensioner is also similar: the effects of a loss are stronger than those of a gain.

To conclude: I find results using the panel specification on the NIDS data vary drastically from those reported by ACH when the entire country is included. The pension program appears to be detrimental as far as employment is concerned. When I estimate the same specification using NIDS, but only on the district where ACH draw their sample from, I find results being broadly similar. Such a pattern suggests the presence of a heterogeneous impact of the pension: it was likely positive and funding migration in the district that ACH study.¹⁰ For the entire country, however, as the results move

¹⁰Ideally, one would like to re-estimate the various specifications ACH carry out to test

in the opposite direction, there are likely provinces and/or districts where the pension has a negative effect of employment. These negative effects must be stronger than the positive for the average effect to be negative.

5 Other possible reasons for the difference

There are two other reasons that could be the reason behind the difference in estimates. The first would be the issue of sampling weights and the second would be the differences in household assignment between NIDS and the ACH sample.

ACH do not use sampling weights in their estimates; all of what I have presented use sampling weights. The reason is straightforward: NIDS was designed to be representative of the country and the households were drawn from a two stage sampling design to reflect this. Using unweighted estimates ignores how the data were generated. Nevertheless, I have also estimated the same regressions without sampling weights and find similar results: these are available on request.

An important source of difference between NIDS and the ACH sample is that household assignment varies between the two. It is possible to think of examples in which this difference alone accounts for the differences in results. The difference in household assignment cannot however explain why I get similar results under the panel specification - arguably free from certain endogeneity problems that plague the cross-sectional specification - when the sample is selected to be the same district in which ACH concentrate their

their hypothesis using labor migration as the outcome. However, this variable has too little variation for these tests to be possible.

study on.

6 Conclusion

The Old Age pension program in South Africa stands out for the size of the transfers made under it. Using nationally representative data, I find the effects of this program to have negative effects overall with employment falling in households that start to receive a pension, and rising in households that lose it. Earlier work (Ardington, Case and Hosegood 2009) uses the same methodology and specification, but concentrates instead on one district - Umkhanyakude in the KwaZulu-Natal province - and finds the opposite result. When I restrict the sample I use to just this district, I am able to estimate a positive effect of the pension. The difference in results therefore appears to come from the choice of the sample, and suggests the pension has heterogeneous effects depending on which part of the country we study.

Changing the sample might influence the eventual result by highlighting the role of migration. As mentioned in the introduction, Umkhanyakude district is one of the poorest in all of South Africa. In such circumstances, it is probable that the extent of outward migration from Umkhanyakude is high as people seek to improve their lives by looking for work elsewhere. Nevertheless, while poverty can be a factor pushing people to migrate, it can also hold people back as migration is expensive. The role of the pension for these people could potentially improve their lives considerably. While on average, the pension reduces employment, it does play a positive role for some parts of the country. My results suggest these positive effects are

dwarfed by the negative effects.

Moving forward, a potential implication of these findings would be to alter the way the pension is structured. If the main positive impact of the pension lies in funding labor migration, a better way to achieve the same goal would be to directly attempt the same outcome. While the pension is means-tested, the main constraint the poor face is in getting credit (Ardington et al 2016). Easing these constraints would be a more straightforward way to enable migration and better target the funds being used in the pension transfer, avoiding the loss of employment that appears to overpower at present.

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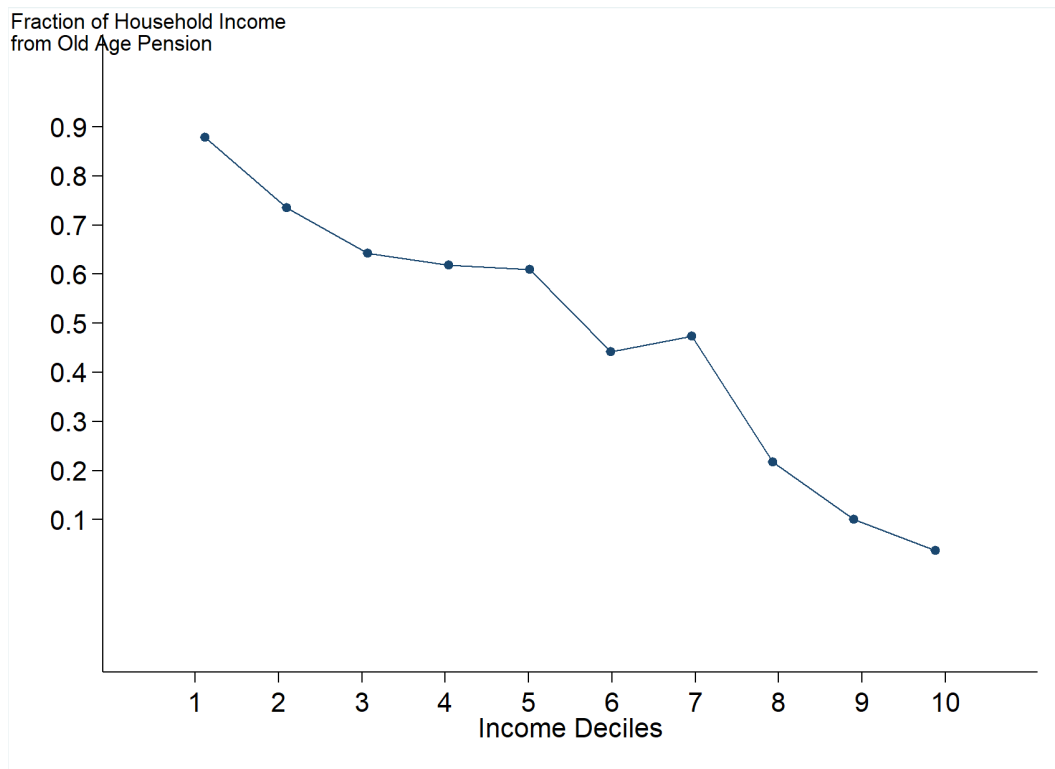


Figure 1: This figure shows the average fraction of the real, per-capita household income (in Jan 2015 prices) that comes from the Old Age Pension, plotted against each decile of household income (Source: National Income Dynamics Survey Wave 1, Author's Calculation)

Table 1: Summary Statistics comparing those With and Without a Pension

	Never Had a Pension				Always Had a Pension			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	All South Africa	KwaZulu -Natal	District	ACH Sample	All South Africa	KwaZulu -Natal	District	ACH Sample
<i>Household</i>								
# households	6,861	1,617	113	5,625	2,171	739	28	2,661
# members	4.74	5.60	5.60	7.48	7.53	9.11	7.26	9.93
#resident members	4.74	5.59	5.60	5.34	7.53	9.11	7.26	6.94
Residents aged								
0 to 5	0.71	0.89	0.88	0.78	1.06	1.27	0.93	0.92
6 to 17	1.39	1.69	1.86	2.09	2.17	2.88	2.67	2.44
18 to 50	2.28	2.56	2.48	2.12	2.82	3.50	2.31	2.20
51+	0.36	0.45	0.38	0.36	1.47	1.46	1.35	1.37
# Labor Migrants	0.03	0.03	0.06	0.77	0.02	0.03	0.00	1.14
# Assets	7.17	6.36	3.89	5.45	6.15	5.26	3.85	4.90
Expenditure	2,486	2,340	762		689	634	404	
Income	2,573	2,424	652		818	714	440	
<i>Individual</i>								
# Individuals	26,177	6,903	442	1,439	11,033	4,354	150	8,466
Female	0.50	0.52	0.56	0.55	0.57	0.57	0.67	0.51
Education (Years)	7.31	6.91	5.56	8.54	5.45	5.13	4.33	8.57
Employed	0.41	0.37	0.26	0.48	0.22	0.20	0.24	0.45
Labor Migrant	0.22	0.26	0.43	0.23	0.13	0.12	0.00	0.31

Columns (1) to (3), (5) to (7) use data from Waves 1 and 2 of NIDS, covering the years 2008 and 2010. ACH refers to Ardington, Case and Hosegood (2009).

Table 1 Continued: Summary Statistics comparing those With and Without a Pension

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Lose Pension Status				Gained Pension Status			
	All South Africa	KwaZulu -Natal	District	ACH Sample	All South Africa	KwaZulu -Natal	District	ACH Sample
<i>Household</i>								
# households	480	120	6	342	922	298	8	465
# members	6.09	6.89	5.92	8.80	6.41	7.75	6.47	9.28
# resident members	6.09	6.86	5.92	5.57	6.41	7.75	6.47	6.61
Residents aged								
0 to 5	0.73	0.86	1.01	0.87	1.00	1.18	1.29	0.98
6 to 17	1.65	1.52	1.95	2.13	1.70	2.25	1.46	2.28
18 to 50	2.68	2.94	2.32	2.27	2.53	3.28	2.51	2.01
51+	1.03	1.54	0.65	0.30	1.18	1.05	1.21	1.33
# Labor Migrants	0.03	0.09	0.00	0.92	0.00	0.01	0.00	1.15
# Assets	6.86	6.54	3.48	4.80	6.95	5.36	1.85	5.15
Expenditure	1,667	1,131	568		1,663	580	341	
Income	1,398	1,472	615		1,621	627	573	
<i>Individual</i>								
# Individuals	2,095	638	32	1,044	4,181	1,621	50	1,364
Female	0.52	0.55	0.67	0.51	0.55	0.52	0.68	0.50
Education (Years)	6.51	6.17	5.14	8.59	6.56	5.92	3.98	9.10
Employed	0.24	0.25	0.55	0.42	0.28	0.24	0.10	0.47
Labor Migrant	0.20	0.41		0.25	0.04	0.06	0.00	0.33

Columns (1) to (3), (5) to (7) use data from Waves 1 and 2 of NIDS, covering the years 2008 and 2010. ACH refers to Ardington, Case and Hosegood (2009).

Table 2: Effect of the Pension on Employment and Migration: Cross Sectional Estimates

	(1)	(2)	(3)	(4)	(5)	(6)
	Employed			Labor Migrant		
	Full Sample	Only Women	Only Men	Full Sample	Only Women	Only Men
<i>Panel A: Estimates from the National Income Dynamics Study</i>						
<i>All South Africa</i>						
Pensioner in Wave 2	-0.062	-0.009	-0.139	-0.123	-0.337	-0.003
	(0.023)	(0.024)	(0.030)	(0.084)	(0.106)	(0.102)
Controls [†]	Y	Y	Y	Y	Y	Y
Observations	10,694	5,913	4,781	352	177	175
<i>KwaZulu-Natal Province</i>						
Pensioner in Wave 2	-0.088	-0.028	-0.158	-0.053	-0.231	0.177
	(0.040)	(0.044)	(0.045)	(0.078)	(0.144)	(0.121)
Controls [†]	Y	Y	Y	Y	Y	Y
Observations	3,196	1,800	1,396	92	48	44
<i>Umkhanyakude District</i>						
Pensioner in Wave 2	0.006	0.009	0.060	-	-	-
	(0.067)	(0.082)	(0.157)			
Controls [†]	Y	Y	Y			
Observations	164	101	63			

Table 2 Continued: Effect of the Pension on Employment and Migration: Cross Sectional Estimates

	(1)	(2)	(3)	(4)	(5)	(6)
	Employed			Labor Migrant		
	Full Sample	Only Women	Only Men	Full Sample	Only Women	Only Men
<i>Panel B: Ardington, Case & Hosegood (2009) Sample</i>						
<i>Residents Only</i>						
Pensioner in Wave 2	-0.027	-0.009	-0.051			
	(0.009)	(0.011)	(0.013)			
Controls	Y	Y	Y			
Observations	21,103	12,314	8,789			
<i>Residents and Non-Residents</i>						
Pensioner in Wave 2	0.003	0.014	-0.012	0.045	0.051	0.034
	(0.007)	(0.009)	(0.010)	(0.006)	(0.008)	(0.009)
Controls [†]	Y	Y	Y	Y	Y	Y
Observations	35,842	19,103	16,739	35,842	19,103	16,739

†: Controls include total household members aged 0 to 5, 6 to 17, 18 to 50, and over 51; a complete set of indicators for each year of education completed and a quartic in the member's age. The sample is restricted in all cases to contain only household members between the ages of 17 and 51. Standard errors in every case are clustered to account for correlation within a members' household. Estimates for Panel A use sampling weights and come from the second wave of the National Income Dynamics Survey, conducted in 2010.

Table 3: Effect of the Pension on Employment and Migration: Panel Estimates

	(1)	(2)	(3)	(4)
	Change in Employment Status			
	Full Sample	Women Only	Men Only	Residents Only
<i>Panel A: Estimates from the National Income Dynamics Study</i>				
Change in Household Pension Status	-0.104 (0.036)	-0.072 (0.051)	-0.139 (0.041)	
Household Lost Pension	0.124 (0.057)	0.173 (0.084)	0.071 (0.063)	
Household Gained Pension	-0.093 (0.046)	-0.012 (0.060)	-0.177 (0.054)	
Controls [†]	Y	Y	Y	
Observations	8,718	4,876	3,842	
<i>KwaZulu-Natal Province</i>				
Change in Household Pension Status	-0.020 (0.073)	0.036 (0.072)	-0.089 (0.087)	
Household Lost Pension	-0.029 (0.069)	-0.043 (0.083)	0.007 (0.092)	
Household Gained Pension	-0.035 (0.095)	0.033 (0.096)	-0.111 (0.112)	
Controls	Y	Y	Y	
Observations	2,513	1,437	1,076	

Table 3 Continued: Effect of the Pension on Employment and Migration: Panel Estimates

	(1)	(2)	(3)	(4)
	Change in Employment Status			
	Full Sample	Women Only	Men Only	Residents Only
<i>Umkhanyakude District</i>				
Change in Household Pension Status	0.098 (0.081)	0.213 (0.155)	-0.238 (0.257)	
Household Lost Pension	-0.197 (0.082)	-0.524 (0.215)	0.354 (0.117)	
Household Gained Pension	0.050 (0.126)	0.083 (0.188)	-0.156 (0.417)	
Controls	Y	Y	Y	
Observations	141	89	52	
<i>Panel B: Ardington, Case & Hosegood (2009) Sample</i>				
Change in Household Pension Status	0.033 (0.011)	0.029 (0.015)	0.036 (0.016)	0.005 (0.016)
Household Lost Pension	-0.042 (0.017)	-0.048 (0.024)	-0.036 (0.025)	-0.011 (0.024)
Household Gained Pension	0.026 (0.015)	0.015 (0.021)	0.037 (0.021)	-0.001 (0.023)
Controls [†]	Y	Y	Y	Y
Observations	24,921	13,183	11,738	12,222

This table reports coefficients of regressions of a change in an individual's employment status on an indicator for a change in whether the household has a pensioner member.

†: Controls include the change in the number of residents in the household, and the number of days between the survey waves. The sample is restricted in all cases to contain only household members between the ages of 17 and 51. Standard errors in every case are clustered to account for correlation within a members' household. Estimates for Panel A come from the first and second wave of the National Income Dynamics Survey, conducted in 2008 and 2010 respectively, and use sampling weights.