Detailed Abstract

Social protection and labor market outcomes in South Africa: Employment and Youth Transitions to the Marketplace

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Introduction

South Africa has put in place an extensive system of social grants over the post-apartheid years. It is well known that these grants have important direct impacts on poverty alleviation. However, not much is known about the interactions between these social grants and successful integration of individuals into the labor market. On the basis of little evidence, there is loud speculation in policy circles about South Africa's culture of dependency and the effects of social grants on incentives to work as it was once the case with social welfare transfers in the USA. However, it is also possible that social grants facilitate job search by financing costly search activities. Both, positive and negative labor supply effects are possible and it is crucial that this debate is informed by careful analysis of the evidence. In this paper we use longitudinal data to assess the impact of social grants on the labor market behavior of youth.

South African households tend to be heavily reliant on both public and private transfers. The welfare system is anchored by an extensive state old-age non-contributory pension with a child support grant becoming increasingly important. The old-age pension pays more than twice median per capita African income and represents an important source of income for a third of all African households. Although the pension is, in principle, means tested, in practice it pays the maximum each month (currently R1010, about $253 in PPP dollars) to most women and men who reach pension age without access to a private pension. About 90% of age-eligible Africans report receiving the state pension in recent national household surveys.

Youth unemployment is a widespread problem in most of the world. Although youth aged 12-24 constitute only 25% of the world's working-age population, they make up 47% of the world's unemployed (World Bank 2006). Youth unemployment tends to be 2 to 3 times higher than adult unemployment, and global youth unemployment rates have increased since the 1990s (ILO 2004). In addition to high rates of formal unemployment, high rates of inactivity -neither in the labor force nor in school- reach very high levels in many countries. High rates of inactivity might reflect participation in non-market tasks but may also represent discouraged workers. Kabbani and Kothari (2006) report very high and persistent rates of inactivity and unemployment among youth in Middle Eastern and North African countries. There is evidence of increasing unemployment and reduced labor force participation of young workers in Latin American countries along with more difficult transitions from school to work (IDB 2004, Gasparini et al. 2006 and Justesen and Verner 2007).

South Africa suffers very severe youth unemployment. Official unemployment (requiring that individuals were actively looking for work) was 50% for 20-24 year-olds in 2007, with a rate of 65% using the broader definition that includes those who say they were willing to take a job. There are enormous racial disparities in employment. Only 16% of African women and 25% of African men aged 20-24 had jobs, compared to 49% of white women and 59% of white men.

A key aspect of youth unemployment is the job search behavior of young people entering the labor market. Job search may be affected by family support systems, with reservation wages potentially being raised by both access to resources like the old age pension and by the implicit tax imposed on young people's earnings when they are expected to support other household members. Kingdon and Knight (2001) consider the impact of household income in South Africa in the context of distinguishing voluntary from involuntary unemployment among those who say they want work but are not actively searching. They find that higher household income does not discourage job search, and conclude that non-active searchers are "discouraged" workers rather than those with a "taste for unemployment". Klasen and Woolard (2009) also find little evidence of a direct disincentive effect of pension and remittance income on search activities. A number of studies document that the material costs of job search in South Africa are high. In addition, there has long been evidence that poverty increases unemployment duration in South Africa, perhaps by inhibiting search. Clearly this literature reflects ongoing debate over the potential disincentive effects of family support systems versus their role in ameliorating credit constraints.

This same tension is evident in the growing literature on labor market responses to the pension. Bertrand et al. (2003), using cross-sectional data, find that prime-aged adults living in three-generation households with pensioners have significantly lower rates of labor force participation. In contrast, using the same data, Posel et al. (2006) argue that the labor supply effects are more nuanced—households with pensioners may have lower labor force participation among *resident* prime-aged members, but these households are significantly more likely to have members who have migrated to work or to look for work. Ardington et al. (2009) examine the same questions using longitudinal data from KwaZulu-Natal. When they estimate labor supply effects using only cross-sectional data, they replicate the findings of the earlier studies. In their longitudinal analysis, however, they find a significant increase in the probability of prime-aged adults working, and a significant increase in the probability that prime-aged adults migrate for work when pension receipt begins in their household.

A model of job search and entry into the labor market

We frame our approach on search theory of labor markets (see Rogerson et al. 2005 for a recent survey). We derive a simple model that captures the interactions between a young potential worker and her household. We assume household income is at least partially pooled. When the young adult is unemployed (*U*), she is a net receiver of support and her income comes from other household members. To be concrete, assume that she receives $p \geq 0$, a share of the old age pension. When she is employed (*E*), she becomes a net contributor to the household. To take the extreme case, we assume that when she starts receiving a wage her support from the household disappears and her income becomes $w = W - \tau$, where W is her wage and $\tau \geq 0$ is the portion she transfers to others in the household in each period. The transfer τ can be thought of as a "family tax" on the young adult's earnings. We assume young people have no savings or access to financial markets.

We follow a simple job search model such as Mortensen (1977). In period t=0, the young adult is not employed and she chooses search effort, s, and reservation wage, W*. The distribution of job and wage offers is exogenous and, given the search effort, the arrival rate of job offers is constant A(m,s), where m is the monetary cost of job search. Wages are randomly drawn from the distribution F(W) and jobs last forever. She derives utility from income and disutility from working or searching. When unemployed her utility is given by u(p-m) −v(s). If she is employed, her utility is u(W-τ)) −v(h) where h are the hours of work.

The young adult's value function when she is employed is given by:

$$V^E(W - \tau) = u(W - \tau) - v(h) + \beta V^E(W - \tau), \tag{1}$$

where $\beta \in (0,1)$ is the discount factor. The value function when she is unemployed is

$$V^U = \max_{s, W^*} \left(\begin{array}{l} u(p - m) - v(s) + \\ \beta \left\{ \left[(1 - A(m,s)) + A(m,s) F(W) \right] V^U + A(m,s) \int_{W^*}^{\infty} V^E(W - \tau) dF(W) \right\} \end{array} \right) \tag{2}$$

If search cost *m=0*, unemployment income (her share of the old age pension) acts like unemployment insurance in a standard job search model (Mortensen 1977) but is provided by the family. In this case, higher support *p* reduces search effort and increases reservation wages. However, in the presence of hedonic search costs *m>0*, *p* facilitates search and its predicted effect on search effort is ambiguous. The net effect depends on the substitutability between *m* and *s* and the concavity of the utility function.

This simple model suggests that government transfers and intra-family support could affect the job search behavior of young adults in a number of ways. In standard models of job search, with no monetary search costs, increases in unemployment benefits have adverse effects on incentives to leave unemployment. Empirical research shows that more generous UI benefits correlate with longer spells of unemployment (Krueger and Meyer 2002 provide a review) and that job-finding rates spike around the expiration of benefits (e.g., Katz 1986, Katz and Meyer 1990, Card and Levine 2000). Similarly, in a setting without unemployment benefits but in which unemployed individuals receive transfers from other family members, higher household income and sharing would imply higher expected utility of being unemployed. Assuming that leisure is a normal good, one might therefore expect that the

arrival of the old-age pension (and other forms of household support) provide direct disincentives by raising reservation wages or encouraging less active patterns of job search. An alternative hypothesis is that other sources of household income, such as the pension, could allow households to overcome financial constraints to finance costly job search activities.

Whether, and to what extent, household resources affect labor market behavior of young adults is an empirical question. For example, in related research using Danish micro data, Lentz and Tranaes (2005) and Lentz (2009) find that spouse's income increases the length of unemployment spells for women, but does the opposite for men. Card et al. (2009) show that severance payments reduce job finding rates in a way similar to UI, suggesting the presence of "an income or liquidity effect rather than moral hazard caused by distortion in incentives." Their work exploits a discontinuity in the rule for eligibility for severance payment which allows the comparison of the job search behavior of workers that received lump-sum compensations after losing their job with those that did not. The difference in the hazard rate of finding a job during the first 20 weeks of unemployment is 8-12% lower for those eligible for severance payment. Using the NSLY, McElroy (1985) shows that parents can provide insurance for their children against adverse labor market conditions. Unfortunately, despite the wide interest that labor market researchers have in these topics, few datasets contain the necessary information to explore them. This is particularly the case in developing countries. In addition, wealth or other household members' income are arguably endogenous in the estimation of search effort and reservation wages. South African datasets have a significant advantage in this respect given that age eligibility for the state old age pension creates a potentially exogenous source of variation in household resources.

There is another important dimension to interactions between labor supplying individuals and their households. If an individual obtains employment and starts earning, she loses her previous support and may also be expected to use a portion of her wages to support other family members. In a world where individuals get utility only from maximizing their personal consumption, the degree to which they are expected to share wages is a disincentive to search or may raise reservation wages. Under this assumption, sharing labor earnings has the same effect that taxes have. A model in which increasing government taxation reduces search effort is provided, for example, in Ljungqvist and Sargent (1995). The role of the "family tax" τ is clear in Equations (1) and (2). It decreases the value of being employed and therefore reduces search effort and increases the reservation wage. One interesting aspect of job search within a household or extended family is that it is likely to be difficult to observe. While family members are likely to know whether a young adult has a job and will have a good estimate of what that job pays, it is much harder to know whether an unemployed young adult is actively searching for work.

Data

Our analysis uses data from four of the five waves of the Cape Area Panel Study (CAPS), a longitudinal survey of young adults and their households in metropolitan Cape Town. The CAPS has tracked a representative sample of over 5000 young South Africans who were 14-22 years old in 2002. The fifth wave of CAPS was collected during 2009. Each wave collected detailed information on basic demographics, schooling, labor force status, job search effort, reservation wages, health, family formation, and intergenerational support systems. We exclude observations from the second wave as the questions about job search were not asked of all respondents in this wave.

Methods

We are interested in how social grants in particular and household resources and intergenerational support in general affect youth transitions into employment. We exploit South Africa's unique state old-age pension, described above, as one source of plausibly exogenous increases in household resources. We begin our analysis of the impact of the pension by including indicators for the presence of pension-eligible household members as one of the household variables included in the models. Since eligibility is based primarily on age, with the means test rarely imposed, the use of pension eligibility rather than actual pension receipt removes one of the major sources of endogeneity in looking at the impact of the pension.

Our longitudinal data allow us to estimate individual fixed effect models where we can use changes in the presence of resident old age pensioners between waves as our independent variable. To the extent that the presence of pensioners is correlated with individual unobservables that are also determinants of our outcomes of interest, fixed effect estimation will produce less biased estimates of the effect of the pension than cross sectional estimates. We can for example, analyze whether the job search effort S of a young individual i that belongs to household h and is observed in wave t, increases or decreases when a grandparent becomes eligible for the old-age pension P:

$$S_{iht} = \alpha_i + P_{ht}\beta + X_{iht}\gamma + \varepsilon_{iht}$$

where X are household and individual controls that change overtime that can affect search effort and ε_{iht} is the error term.

Using the same approach we estimate the effect of the old age pension on other outcomes, such as inactivity -not working, not studying and not searching- and reservation wages.

Preliminary Results

To analyze how the state old age pension affects youth transitions into employment, we restrict our sample to all observations where the individual was aged 18 or older. Table 1 presents the overall sample sizes and the number of individuals from whom we observe at least one change in their households' pension status between waves. Several studies on the South African old age pension document significant differences in the impact of pension income in the hands of men and women (Ardington et al. 2009, Duflo 2003, Case and Menendez 2007). These studies also find that there is a gender dimension in the impact of the pension on outcomes for other household members. For example, in the study most closely related to this paper, Ardington et al (2009) find that the presence of a female pensioner is associated with higher levels of labor migration for both men and women while the presence of a male pensioner is only positively associated with labor migration of men. We therefore examine the impact of a change in both the presence of male and female pensioners and allow for different effects by sex of the young adult.

One of the main aims of the CAPS project was to examine racial differences in youth transitions in education and the labor market post apartheid. In previous work on progress

through school and family support we document persistent racial differences along many dimensions (Lam et al 2011). We therefore allow for differences in the impact of the presence of a pensioner between African and coloured young adults and we exclude whites from our analysis as take up of the state old age pension is non- existent in white households..

Our sample consists of 3943 young adults on whom we have 10656 observations. Around 45% of the individuals are African and roughly half the sample is female. Overall 478 and 316 young adults experience at least one change between waves in the presence of a female pensioner and a male pensioner respectively. There are sufficient transitions in pension status to allow us to estimate effects by race and sex.

Figure 1 shows the labor force status of our sample by sex and population group over time. In early waves of the survey coloured men and women report lower levels of non-participation and higher employment than Africans. Clearly, as the groups age over time, we can observe a reduction in the levels of inactivity and an increase in employment. This is more accentuated for Africans narrowing down the gap with coloured youth. Although the proportion of unemployed and discouraged youth also goes down as the groups get older, it remains very high for all of them and in particular for African men and women. In the case of African females, for example, 23% report being unemployed and searching for a job while 27% can be classified as discouraged. Similarly, 47% of African males in the sample are unemployed or discouraged. These figures, although still high are lower for coloured males (29%) and females (33%).

Table 2 shows estimates for individual fixed effect models of the effects of a change in the pension receipt in the household where the young adult lives on changes in a range of labor market outcomes. Each regression includes indicators for age, wave dummies, and household size. The indicators for the presence of a male and female pension in the household are interacted with indicators for the youth's race and sex.

The dependent variable in the first two columns is equal to 1 if the individual is looking for a job and 0 otherwise. In column 1 the sample we use excludes observations when individuals are working or studying, while column 2 includes observations when individuals are classified as broad unemployed (i.e. searching or discouraged). A change in the presence of a female pensioner significantly reduces the probability that an African female would search for a job. A change in female pension status is also associated with a decrease in the probability of searching for coloured females although the coefficient is smaller in absolute magnitude and only significant at the 10% level. The presence of a male pensioner also reduces the probability that an African female would search for a job.

Results in column 2 where the sample is restricted to observations where the individual is classified as broad unemployed (i.e. searching or discouraged) are similar although the absolute magnitude of the effect of a female pension on African females is substantially smaller. Coloured males are significantly less likely to look for work in periods when they are living with a male pensioner than periods when they are not.

In column 3, the dependent variable equals 1 if the youth is working or looking for a job and the sample excludes individuals who are studying. We find no evidence that the arrival of a pension in the hands of a female has any impact on the probability of working or looking for work for African men or women. The probability of coloured males working or looking for work increases on the arrival of a female pension while coloured females are around 14 percentage points less likely to work when they live with a female pensioner than in periods when they do not. The arrival of a male pension appears to reduce the probability of working or looking for work for both coloured males and African females although the coefficients are only significant at the 10% level.

In columns 4 and 5 we examine the relationship between changes in pension status and changes in levels of inactivity. The dependent variable in column 4 equals 1 if the youth is neither working, studying nor looking for work and the sample includes all observations. In column 5 the dependent variable equals 1 if the youth is neither working nor studying. For both measures of inactivity, coloured females are more likely to be inactive in periods where they live with a female pensioner than in periods where they do not. Coloured males, on the other hand, are less likely to be inactive when living with a female pensioner. A change in the presence of a male pensioner is associated with higher levels of inactivity for African males.

In column 6, the dependent variable is the logarithm of the individual's reservation wage in 2002 South African Rands and the sample includes all individuals. We find no evidence of young adults' reservation wages changing in response to a change in the presence of the old age pension in their household.

The regressions in Table 2 treat pension gain and loss as symmetric. A positive coefficient in the first column could be driven by the arrival of the pension being associated with a higher probability of looking for work or by the loss of the pension decreasing the probability that they youth looks for work. In further work we will include separate effects for pension gain and loss and test whether the effects are indeed opposite and equal.

Our preliminary findings suggest that the arrival (departure) of the female pension reduces (increases) the probability of Coloured females working or looking for work. Coloured males appear to respond differently to pension income in the hands of men and women. The arrival of a female pension is associated with higher probability of working or looking for work and a reduced probability of inactivity. Male pensions, on the other hand, are associated with a reduced probability of working or looking for work. Changes in the presence of a female pension is not associated with any changes in labor market behavior of African men. There is some evidence that the arrival of male pension leads to higher levels of inactivity among African men. African females are less likely to work or look for work in periods when they live with pensioners than in periods when they do not. The arrival (or departure) of the pension does not appear to affect levels of inactivity among African females. We find no evidence of young adults' reservation wages changing in response to the arrival (or departure) of the old age pension in their household.

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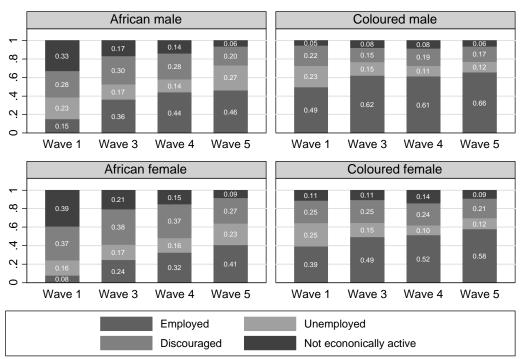
Figure 1: Employment status by population group, sex and panel wave

African male

	Wave 1	Wave 3	Wave 4	Wave 5
Not economically active	0.33	0.17	0.14	0.06
Unemployed	0.28	0.30	0.28	0.20
Discouraged	0.23	0.17	0.14	0.27
Employed	0.15	0.36	0.44	0.46

Coloured male

	Wave 1	Wave 3	Wave 4	Wave 5
Not economically active	0.05	0.08	0.08	0.06
Unemployed	0.22	0.15	0.19	0.17
Discouraged	0.23	0.15	0.11	0.12
Employed	0.49	0.62	0.61	0.66

African female

	Wave 1	Wave 3	Wave 4	Wave 5
Not economically active	0.39	0.21	0.15	0.09
Unemployed	0.37	0.38	0.37	0.27
Discouraged	0.16	0.17	0.16	0.23
Employed	0.08	0.24	0.32	0.41

Coloured female

	Wave 1	Wave 3	Wave 4	Wave 5
Not economically active	0.11	0.11	0.14	0.09
Unemployed	0.25	0.25	0.24	0.21
Discouraged	0.25	0.15	0.10	0.12
Employed	0.39	0.49	0.52	0.58

Legend: Employed, Unemployed, Discouraged, Not economically active

Graphs by sex and population group

Table 1: Pension transitions for respondents aged 18 and older – CAPS Waves 1, 3, 4 and 5

	Number of individuals	Number of observations	Individuals with at least one change in:		
			female pension	male pension	any pension
African male	873	2307	86	58	111
Coloured male	885	2477	119	94	163
African female	1140	2963	123	73	163
Coloured female	1045	2909	150	91	180
Total	3943	10656	478	316	617

Table 2: Labor market behavior and the old age pension - individual fixed effects

				Dependent variable:		
	Searching	Searching	Working or Searching	Not working, not studying, not searching	Not working, not studying	Logarithm of reservation wage (in 2002 SA Rands)
Female pensioner x African male	0.143	0.063	0.035	-0.018	0.032	0.022
	(0.104)	(0.110)	(0.070)	(0.046)	(0.062)	(0.091)
Female pensioner x Coloured male	0.111	0.172	0.077**	-0.080**	-0.036	0.038
	(0.137)	(0.114)	(0.038)	(0.034)	(0.044)	(0.058)
Female pensioner x African female	-0.312***	-0.153*	-0.092	0.049	-0.023	-0.044
	(0.095)	(0.086)	(0.067)	(0.050)	(0.056)	(0.073)
Female pensioner x Coloured female	-0.172*	-0.156*	-0.140***	0.130***	0.090**	0.021
	(0.088)	(0.082)	(0.040)	(0.036)	(0.040)	(0.055)
Male pensioner x African male	0.103	0.066	0.035	0.085	0.184**	-0.024
	(0.172)	(0.125)	(0.076)	(0.061)	(0.076)	(0.115)
Male pensioner x Coloured male	-0.168	-0.235*	-0.081*	0.051	-0.019	-0.055
	(0.132)	(0.139)	(0.042)	(0.038)	(0.047)	(0.064)
Male pensioner x African female	-0.186*	-0.117	-0.183*	0.102	0.102	0.029
	(0.104)	(0.104)	(0.095)	(0.072)	(0.074)	(0.135)
Male pensioner x Coloured female	0.015	0.020	0.043	-0.071	-0.092	-0.009
	(0.097)	(0.113)	(0.052)	(0.047)	(0.059)	(0.060)
Observations	3,892	4,442	8,383	10,374	10,374	9,829
Number of individuals	2,392	2,721	3,587	3,928	3,928	3,880

Notes to Table 2: Each regression includes a full set of indicators for age, indicators for panel wave and household size. The sample in column 1 excludes observations when individuals are working or studying. The sample in column 2 includes observations when individuals are classified as broad unemployed (i.e. searching or discouraged). The sample in column 3 excludes observations when individuals are studying. The samples in columns 4 to 6 include all observations. Robust standard errors that allow for correlation in the unobservables for individuals drawn from the same primary sampling unit are presented below the regression coefficients in parentheses (*** p<0.01, ** p<0.05, * p<0.1).