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Gender-based Household Compositional Changes and Implications for Poverty in South Africa

By Chijioke O. Nwosu¹ and Catherine Ndinda²

Abstract

Poverty is one of the most challenging socio-economic problems in South Africa. Though poverty rates have been substantially reduced in the post-apartheid period, many South Africans remain poor. Available evidence also indicates a substantial gender gradient to the prevalence of poverty in the country. A standard indicator of gendered power structures is the gender of the household head. We examine the effect of transitioning from a male- to a female-headed household over time (relative to remaining in a male-headed household) on changes in the probability of transitioning into poverty from a non-poor state over a two- to six-year period. This type of longitudinal analysis is largely lacking in South Africa, where most previous studies have largely focused on cross-sectional and repeated cross-sectional analyses. The results indicate that transitioning from a male- to female-headed household is associated with an increase in the probability of falling into poverty from a previous non-poor state. The results hold true across all poverty lines and also indicate that the effect of gender-based transitions is not significant in the short term (i.e. for the one-period transitions), but over more persistent transitions.

Keywords: Household, poverty transitions, inequality, longitudinal survey, South Africa

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Introduction

Over a billion people live in extreme poverty globally and South Africa has its fair share of poor people. Indeed, poverty, along with high unemployment and nontrivial inequality, forms a tripartite socio-economic malaise plaguing South Africa. Though the prevalence of poverty has substantially declined over the post-apartheid period, many South Africans still live in extreme poverty. Also worrying is the fact that the poverty headcount – the proportion of the population living below a given poverty line – has actually increased in the last few years. For instance, data from Statistics South Africa indicates that the percentage of South Africans living in extreme poverty declined from 28.4% in 2006 to 21.4% in 2011, but increased to 25.2% in 2015. A similar trend obtains for poverty headcounts based on higher poverty lines (Statistics South Africa, 2017).

A feature of global and South African poverty is that it is gendered. This implies that females and female-related socio-economic structures bear a significantly higher burden of poverty than their male counterparts. A number of studies in South Africa have shown that females are more likely to belong to poorer households than males (Posel & Rogan, 2012), and that female-headed households are more likely to be poor than their male-headed counterparts (Posel & Rogan, 2012; Rogan, 2013). The latter is especially worrying given the rise in the proportion of South African households headed by women (Madhavan & Schatz, 2007). Furthermore, it has been shown that (unearned) mothers' income has a higher effect on the family's health than income under fathers' control (Thomas, 1990). Thus, it stands to reason that higher female poverty is likely to have serious ramifications for household welfare (especially with respect to health).

Though the foregoing indicates that a number of studies have been conducted on the relationship between gender and poverty in South Africa, there is virtually no evidence on the implications of transitions into female headship (from a male-headed household) for transitions into poverty in South Africa. While previous studies (Ndinda & Ngandu, 2016) mostly focused on the cross-sectional relationship between belonging to a female-headed household and poverty at a given point in time, it is important to ascertain if individuals who were initially non-poor and who belonged to male-headed households stand the risk of being pulled into poverty if they become members of female-headed households. This is the major gap in the literature that this paper seeks to fill. Our results indicate that transitioning into a female-headed household is associated with an increased probability of transitioning into poverty. This significant relationship apparently does not occur spontaneously; it kicks in when the transition becomes more persistent. Further analysis exploiting the longitudinal nature of the data indicates that between the groups of individuals who would subsequently transition into female-headed households and those who would remain in male-headed households, there was no significant difference in the probability of being poor prior to the gender-related transitions. This strengthens the argument that at least part of the observed significant relationship between future transitions into female-headed households and transitions into poverty may be causal.

Gender and Poverty in South Africa

Poverty in South Africa cannot be comprehensively understood without a gender disaggregation of the poverty statistics. As early as 1954, South African women understood the gendered dimensions of poverty when they in the Women's Charter noted that:

We women share with our men folk the cares and anxieties imposed by poverty and its evils. As wives and mothers, it falls upon us to make small wages stretch a

long way. It is we who feel the cries of our children when they are hungry and sick. It is our lot to keep and care for the homes that are too small, broken and dirty to be kept clean... We know the bitterness of children taken to lawless ways, of daughters becoming unmarried mothers whilst still at school, of boys and girls growing up without education, training or jobs at a living wage... These evils need not exist. They exist because the society in which we live is divided into poor and rich They exist because there are privileges for the few, discrimination and harsh treatment for the many. We women folk have stood and will stand shoulder to shoulder with our menfolk in a common struggle against poverty ... and class discrimination....

(Women's Charter, 1954).

When the Women's Charter was drafted, poverty had a predominantly African face. Decades after the Women's Charter, poverty remains predominantly African and has become feminised (Ndinda & Uzodike, 2008; Ndinda, 2009). Studies on gender and poverty have increasingly acknowledged what has commonly become known as the feminisation of poverty, a situation where "women have a higher incidence of poverty than men; that their poverty is more severe than that of men; that there is a trend to greater poverty among women particularly associated with rising female-headed households" (Institute of Development Studies [IDS], 2001:1). Analysts such as Chant (2006) concur with the Swedish International Development Cooperation Agency's conceptualisation of poverty and underscore that the feminisation of poverty suggests that "women are likely to suffer extreme poverty than men... women are prone to suffer more persistent/longer-term poverty than men" (Chant, 2006: 167). Chant's conceptualisation of poverty not only identifies female-headed households as vulnerable, but proceeds to argue that their poverty persists over a longer period and can then become inter-generational. According to her, "Female household headship transmits poverty to children (inter-generational transmission of poverty)" (Chant, 2006:167)). She further notes that female-headed households constitute the poorest among the poor and the South African context is not different.

To address the inequalities of the apartheid regime, the post-apartheid constitution specifically included a clause on gender equality to ensure that in the democratic dispensation, women would not be treated as lesser beings or extensions of their male folk but as citizens recognised as equal. The South African Constitution (1996) specifically stipulates in section 9 (2), "The State may not unfairly discriminate directly or indirectly against anyone on one or more grounds including race, gender, sex..."

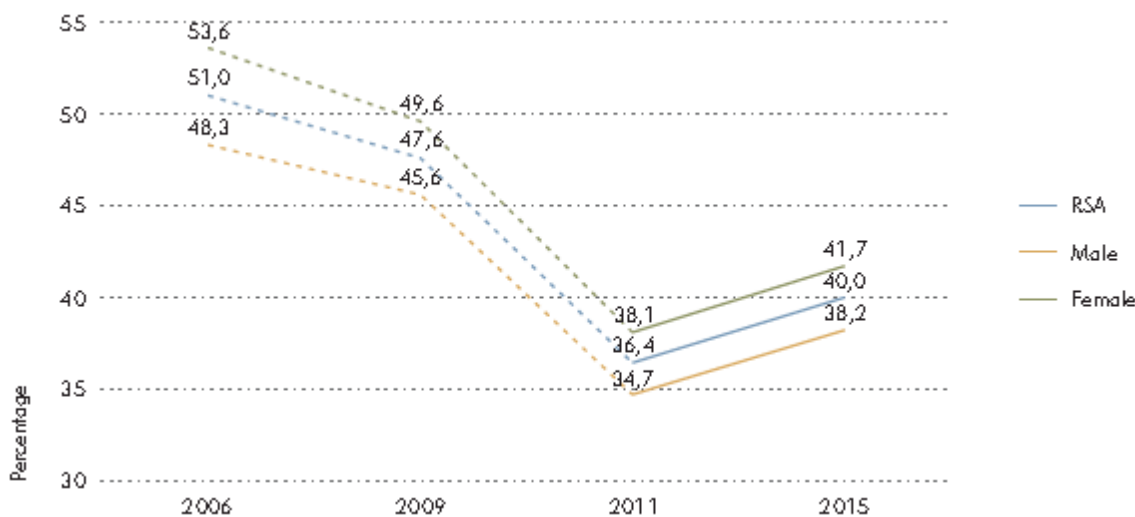
The gender equality clause was bolstered by legislations to redress the decades of colonial and apartheid oppression and poverty. Since 1994, more than twenty (20) legislations targeting gender oppression have been formulated with a view to advancing gender equality (Department of Women [DOW], 2015). The policies directly target poverty and inequality and seek to ensure that discrimination based on gender is outlawed and that men and women regardless of race, colour or creed have equal opportunity to participate in the economy and society in general, unfettered by societal prejudices, class or culture.

The policies on the promotion of gender equality are anchored on liberal feminism which postulates that women's oppression derives from patriarchal dominance both in the public and private spheres (Tong, 1989). Because women are considered less capable than men, they are denied opportunities based on false notions of their incapability. The liberal feminist solution to women's oppression focuses on providing equal opportunities to women just as men. The

opportunities include equal access to education, employment, and income among others. The rights and freedom of the individual are central to liberal feminist approach to tackling gender inequality and oppression. Policies to support the constitutional provision on gender equality and rights of women are strongly underpinned by the liberal feminist thought (Ndinda & Uzodike, 2012; Ndinda, 2009). In essence, the post-apartheid constitution and policies on gender have sought to remove the obstacles that constrain women's empowerment and which relegate many women to poverty.

Despite an abundance of gender-sensitive policies and programmes targeting women and the poorest, the face of poverty in South Africa has consistently remained female as shown in Figure 1 below. The figure indicates that using the lower bound poverty line, South African women were consistently poorer than males.

Figure 1: Proportion of the population living below the lower bound poverty line by sex (2006-2015)



Source: Statistics South Africa (2017)

Materials and methods

Data and variables

We sourced data from the nationally representative and longitudinal National Income Dynamics Study (NIDS). NIDS currently has four waves of data, and the unit of observation is the individual. It has been collected every two years since 2008, and the sampling design is a two-stage stratified cluster design. Nwosu & Woolard (2017) have provided a detailed description of the dataset. One was adjudged a household member if: (a) They had lived under a particular roof or within the same compound/homestead/stand at least 15 days during the past 12 months or arrived there in the past 15 days and that place was now their usual residence, and (b) They shared food from a common source with other household members when they were together, and (c) They contributed to, or shared in a common resource pool. The household head was then derived from a question in the household questionnaire regarding the relationship of each household member with an identified head. This household questionnaire was asked of the oldest woman in the household and/or another member of the household who was knowledgeable about the household's

spending pattern and living arrangements³. This respondent was asked to identify the household head and each household member's relationship to that head.

The key variables in this paper are household poverty transitions and the household head's gender transitions. We defined poverty as a dummy variable which equals 1 if a household's real monthly per capita income falls below a given poverty line (implying that they are poor), and 0 otherwise. We used the following three poverty lines determined by Statistics South Africa: the food poverty line (FPL), lower bound poverty line (LBPL) and upper bound poverty line (UBPL). Each poverty line estimates how much a household should spend per head to have a certain level of wellbeing. Being FPL-poor implies that the individual's household is unable to purchase enough food to provide a sufficient diet. Households considered poor according to the LBPL measure are able to purchase some non-food commodities, though they will have to forego some food in order to afford such non-food goods and services. Those who fall on the UBPL threshold can purchase food and non-food goods and services (Statistics South Africa, 2014).

Given that we intend to analyse different kinds of transitions in household poverty status and household head's gender, the change in a household's poverty status will denote the following transitions: *rp21* (non-poor to poor between wave 1 and wave 2) -relative to being non-poor in both waves; *rp31* (non-poor in wave 1, poor in waves 2 and 3) -relative to being non-poor across the three waves; and *rp41* (non-poor in wave 1, and poor in waves 2, 3 and 4) -relative to being non-poor across all four waves. Analogously, changes in the household head's gender will follow the following format: *mf21* (transitioned from a male- to a female-headed household between waves 1 and 2) -relative to remaining in a male-headed household across both waves; *mf31* (transitioned from a male-headed household in wave 1 to a female-headed household in waves 2 and 3) -relative to remaining in a male-headed household across the three waves; and *mf41* (moved from a male-headed household in wave 1 to a female-headed household in waves 2, 3 and 4) -relative to remaining in a male-headed household across the four waves.

Given the nature of the outcome variables and key covariates, the control variables are all in time differences (except for race and gender which are time-invariant). Thus, for each continuous variable, the differenced counterpart is the difference between its current value and its value in wave 1. For the discrete controls, the differences captured the various possible transitions, with the benchmark category being a condition of no change over time. Thus, with respect to the location transition variable, the benchmark category depicted a situation where the individual remained in a traditional authority over the relevant waves. For the marital status of the household head, the benchmark category was a condition where the household head was not married/cohabiting in both waves. Similarly for the head's employment status, the benchmark category represented a state where the household head was not employed in the relevant waves. Finally, for the individual's occupational class transition, the benchmark category was remaining in a non-managerial/professional position in the relevant two waves. These control variables are derived from existing literature on the socio-economic determinants of poverty (Posel & Rogan, 2009; Rogan, 2013).

³ Other questionnaires used in the NIDS survey included an adult questionnaire (for individuals aged at least 15 years), a proxy questionnaire (for adults who could not be interviewed personally), and a child questionnaire (for respondents below 15 years). The latter was administered to the child's mother/caregiver or any other adult who was knowledgeable about the child.

Models

This paper used descriptive and regression analyses to identify the relationship between the household head's gender transitions and poverty transitions. We estimated various poverty transition models (i.e. of different durations).

We specified the following regression model:

$$povchange_{h,t} = \alpha genchange_{h,t} + \Delta X'_{i,t} \gamma + \Delta X'_{h,t} \beta + \varepsilon_{i,h,t} \quad [1]$$

Where *povchange* denotes the poverty transitions, i.e. *rp21*, *rp31* and *rp41*; *genchange* denotes the individual's transition based on the gender of the household head, i.e. *mf21*, *mf31* and *mf41*; ΔX_i is a vector of individual-level covariates over the relevant period (education, race and gender); ΔX_h is a vector of changes in household-level covariates over the period in question (household head's education, household's average age, location, household size, number of children in the household, the household head's marital status, and the number of employed household members); ε denotes the error term; α , γ and β are parameters; while *i*, *h* and *t* denote individual, household, and time identifiers respectively.

We estimated three poverty transition models. The first model estimated the effect of *mf21* on *rp21* (using wave 1-to-wave 2 transitions in the controls as control variables). The second model analysed the effect of *mf31* on *rp31* (using wave 1-to-wave 3 transitions in the controls as control variables). Finally, the last model estimated the effect of *mf41* on *rp41*, while using wave 1-to-wave 4 transitions in the controls as control variables. All models followed the linear probability model (LPM) specification, while all results (regression and descriptive) were corrected for sampling design and non-random attrition using panel weights. The two shortcomings of the LPM: heteroscedasticity and probability predictions outside the unit interval are hereby noted. Therefore, all estimates were corrected for heteroscedasticity.

Results

Descriptive analysis

Poverty lines were computed by Statistics South Africa. Table 1 below shows the various poverty lines used in this paper across the various years.

Table 1: South African poverty lines, 2008-2014 (amounts in Rand)

Year	Food Poverty Line	Lower Bound Poverty Line	Upper Bound Poverty Line
2008	274	447	682
2010	320	466	733
2012	366	541	834
2014	417	613	942

Source: Statistics South Africa (2017)

Table 2 depicts the distribution of the various poverty- and gender-related transitions in the various estimation samples. Recall that the benchmark category for each transition variable is the part of the sample that did not experience any change, i.e. those who remained non-poor (for the poverty transition measures) and those who remained in male-headed households (for the household head's gender transitions).

Table 2: Distribution of poverty and gender transitions (estimation samples)

	Variable	N	Mean	Std. Dev.	Variable	N	Mean	Std. Dev.
FPL	rp21	4849	0.125	0.331	mf21	4849	0.279	0.448
	rp31	2325	0.044	0.204	mf31	2325	0.227	0.419
	rp41	1615	0.012	0.109	mf41	1615	0.159	0.365
LBPL	rp21	3888	0.159	0.366	mf21	3888	0.260	0.439
	rp31	1785	0.078	0.268	mf31	1785	0.207	0.405
	rp41	1180	0.031	0.174	mf41	1180	0.138	0.345
UBPL	rp21	2799	0.247	0.431	mf21	2799	0.243	0.429
	rp31	1347	0.187	0.390	mf31	1347	0.167	0.373
	rp41	874	0.137	0.344	mf41	874	0.115	0.319

Source: Authors' computations; samples weighted by panel weights to correct for sampling design and non-random attrition

Based on the FPL poverty measure, Table 2 indicates that 12.5% of the sample transitioned from non-poor to poor households between wave 1 and wave 2, while 28% transitioned from male- to female-headed households within the same period. 4.4% experienced the more persistent *rp31* transition, while 22.7% recorded the *mf31* transition. For the more sustained *rp41* transition, only 1.2% transitioned from non-poor households in wave 1 to consistently poor households in the subsequent three waves, while 16% moved from male-headed households in wave 1 and remained in female-headed households throughout the remaining three waves.

For the LBPL measure, while 16% of the estimation sample experienced the *rp21* transition, 26% experienced the *mf21* transition. For *rp31* and *mf31*, the sample proportions were 7.8% and 20.7% respectively, while the *rp41* and *mf41* transitions were 3.1% and 13.8% respectively. Finally, for the UBPL indicator, 24.7% and 24.3% of the sample recorded the *rp21* and *mf21* transitions respectively. Moreover, the *rp31* and *mf31* transitions constituted 18.7% and 16.7% of the sample respectively, while the *rp41* and *mf41* transitions constituted 13.7% and 11.5% respectively. These figures, especially the one-period poverty transitions, indicate nontrivial transitions into poverty (within the estimation samples) in a period largely characterized by overall reductions in the prevalence of poverty.

Regression results

Table 3 depicts the relationship between transitions in the gender of the household head and poverty transitions using the FPL measure. Results based on the LBPL and UBPL poverty lines are similar to these especially in terms of signs and patterns of statistical significance and therefore available on request. The results indicate that transitioning into a female-headed household was associated with an increase in the probability of transitioning into poverty from a previous non-poor state. However, the effect was not significant in the short term (i.e. for the one-period transitions), but over more persistent transitions.

The regression controls also largely conformed to a priori expectations with respect to coefficient signs. For instance, higher education for the household head, being male, a higher number of employed household members, occupational class transitions other than consistently remaining in non-managerial/professional positions, and location-related transitions other than consistently remaining in the largely impoverished traditional authority locations were generally associated with a decline in the probability of transitioning from a non-poor to poor household.

Table 3: Effect of transitions in household head's gender on poverty transitions: FPL

	(1)	(2)	(3)
Covariates: between-wave changes	W1→W2	W1→W3	W1→W4
male-to-female transitions in household head's gender	0.002 (0.017)	0.070*** (0.020)	0.043** (0.021)
change in years of schooling	-0.003 (0.009)	-0.001 (0.009)	0.003 (0.002)
change in household head's years of schooling	-0.004 (0.002)	-0.007*** (0.002)	-0.003*** (0.001)
Coloured	-0.080*** (0.012)	-0.008 (0.015)	-0.007 (0.005)
male	-0.025** (0.013)	0.005 (0.015)	-0.005 (0.012)
change in average age of household members	-0.007*** (0.001)	-0.002*** (0.001)	-0.001 (0.001)
Location transitions			
Benchmark: traditional authority in both waves			
non-traditional authority to traditional authority	0.098 (0.109)	-0.027 (0.022)	-0.018 (0.013)
traditional authority to non-traditional authority	0.046 (0.069)	-0.046*** (0.016)	-0.010 (0.009)
non-traditional authority in both periods	-0.034** (0.014)	0.005 (0.013)	-0.001 (0.009)
change in household size	0.021*** (0.004)	0.004 (0.002)	0.001 (0.002)
change in number of under-14 children in household	-0.026*** (0.008)	-0.007 (0.005)	0.000 (0.003)
change in number of over-60-year-old in household	-0.016 (0.016)	0.020* (0.012)	-0.005 (0.004)
Head's marital status transitions			
Benchmark: non-married/cohabiting in both waves			
Married/cohabiting head to non-married/cohabiting head	0.046** (0.022)	0.110*** (0.028)	0.009 (0.014)
non-married/cohabiting head to married/cohabiting head	0.030 (0.020)	-0.001 (0.011)	-0.006 (0.009)
Married/cohabiting head in both periods	0.054*** (0.014)	-0.003 (0.010)	-0.005 (0.009)
change in number of employed household members	-0.046*** (0.006)	-0.022*** (0.006)	-0.015*** (0.005)
Head's employment status transitions			
Benchmark: not employed in both waves			
employed hh head to non-employed hh head	-0.013 (0.024)	-0.054** (0.025)	0.030 (0.019)
non-employed hh head to employed hh head	-0.072*** (0.022)	-0.004 (0.024)	0.025** (0.011)
employed household head in both periods	-0.149*** (0.015)	-0.038* (0.020)	0.003 (0.007)
household occupational class transitions			
Benchmark: household has nobody in managerial/professional job category in any of both waves			
managerial/professional to non-managerial/professional	-0.019 (0.031)	-0.112*** (0.019)	-0.044*** (0.014)

non-managerial/professional to managerial/professional	-0.068*** (0.010)	-0.049*** (0.010)	-0.001 (0.004)
managerial/professional occupation in household in both periods	-0.041*** (0.013)	-0.030*** (0.011)	-0.011** (0.005)
constant	0.208*** (0.019)	0.052** (0.023)	0.010 (0.022)
number of observations	5,700	2,693	1,615
R-squared	0.136	0.141	0.083

Source: Authors' computations; samples weighted by panel weights to correct for sampling design and non-random attrition; Robust standard errors in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Discussion

One clear finding from Table 3 is that for individuals in male-headed households who started out as non-poor (i.e. our analytical sample), transitioning into a female-headed household was associated with a significant increase in the probability of being subsequently classified as poor as the gender-related transition became persistent. The one-period transition from a male- to female-headed household was not associated with any significant change in the probability of transitioning into poverty from a non-poor state. However, for the more persistent transitions which involved moving from a male-headed household into, and remaining in a female-headed household for at least two waves, there was consistently a statistically significant increase in the probability of dropping into poverty across all poverty lines.

Moving from a male-headed household in wave 1 to a female-headed household in wave 2 and remaining in a female-headed household in wave 3 (i.e. *mf31*) was associated with a 7-percentage point increase in the probability of moving from a non-poor household in wave 1 into a poor household in wave 2 and wave 3 (i.e. *rp31*). Engaging in the *mf41*-type transition was associated with a 4.3 percentage point increase in the probability of moving from a non-poor household in wave 1 into, and remaining in a poor household in subsequent waves (i.e. *rp41*).

The significance of the above results becomes quite striking when one considers the nature of both the poverty and gender transitions. The outcome variables indicate that every member of the various samples started out in a male-headed and non-poor household. Therefore, the relevant outcome for each of these individuals between wave 1 and wave 2 was whether or not they remained in a non-poor and male-headed household in wave 2 or became residents of poor and female-headed households. Furthermore, those who transitioned into poor and female-headed households in wave 2 were further analysed to see if remaining in female-headed households in wave 3 was associated with more persistent poverty (relative to remaining in male-headed households over the three waves). As the foregoing results indicate, individuals who are now on the “persistent path of female-headship” are more likely to be on the “persistent path of poverty” than those who persistently remained in male-headed households, even though they all started out non-poor. The same is also true for the more persistent transition up to the fourth wave.

It is interesting to note that transitioning into a female-headed household from a male-headed one was not immediately associated with a change in poverty status. Rather, its significant association with poverty was only apparent if after transitioning, the individual remained in a female-headed household for an extended period of time (at least two waves). Possibly, this implies that it takes time for the conditions which predispose female-headed households to poverty to kick in for these people previously in male-headed households.

Though these results are not directly comparable with previous estimates given that our variables are in differences, they validate earlier findings of an association between membership

of a female-headed household and poverty in South Africa. For instance, using the 2006 General Household Survey, Rogan (2013) found that for various definitions of household female headship, belonging to a female-headed household was associated with an increased probability of being poor. However, as earlier noted, this paper has found that even among the subset of individuals initially from non-poor and male-headed households, simply transitioning into a female-headed household results in a positive association with dropping into poverty, albeit with the relationship kicking in with more persistent transitions. This result is more worrying given that it persists even after controlling for the household head's employment status, the number of employed people in the household, and the occupational sector of employed household members (a proxy for job quality) – important channels underlying household poverty.

As earlier noted, most of the control variables conformed to a priori expectations. For instance, an increase in the number of years of schooling of the household head was associated with a reduced probability of transitioning into poverty. Similarly, an increase in the number of employed household members was associated with a decline in the probability of transitioning into poverty. Similar results obtained for being coloured (relative to African) and male. But some of the results with relation to the controls need further explanation. The theoretical sign for the presence of dependents is ambiguous. Though an increase in the number of dependents (both young and old) is expected to increase a household's probability of falling into poverty, the socio-economic reality in South Africa may obviate such an outcome. This is because, many poor individuals in South Africa receive a number of government grants, including the Child Support Grant (for children born to poor parents) and the Older Persons Grant (given to poor individuals at least 60 years old). It is possible that the receipt of these extra income sources is a contributory factor to the negative association between an increase in the number of dependents and the likelihood of transitioning into poverty. Also, when interpreting, say, the negative coefficients associated with transitioning from managerial/professional to non-managerial/professional occupations, one should bear in mind that the benchmark category is the group where nobody in the household occupied a managerial/professional job in any of both waves.

There is a concern regarding the extent to which the coefficients of the gender transitions can be interpreted as causal. One way to make some assertion about causality (however tepid) is to go back in time prior to any transition (i.e. when all sample members were in male-headed households) and compare the poverty status of individuals who would eventually remain in male-headed households over time and those who would later transition into female-headed households. If there was no significant difference in poverty between both groups prior to the transitions, we may infer with some degree of confidence that it was the subsequent gender-based transitions that explained the observed poverty differentials found in the results. If however, individuals who later experienced gender-based transitions were initially significantly poorer than their counterparts who would not experience such transitions, it would be more difficult to give the coefficients of the gender-based transitions a causal interpretation. In such a case, we will be persuaded to suggest that perhaps, unobserved factors correlated with both poverty and household head's gender transitions might have been the cause of the observed subsequent poverty differentials.

Table 4 below depicts the relationship between the household head's gender in wave 1 and poverty in wave 1. The outcome is a dummy variable which equals one if the individual belongs to a poor household according to the food poverty line, and zero otherwise. The key covariate is a dummy variable which equals one if the individual belonged to a male-headed household in wave 1 and eventually became a member of a female-headed household in the future, and zero if they belonged to a male-headed household in wave 1 and remained in a male-headed household in the

future. Thus, though some individuals experienced a change in the gender of their household heads in the future, every sample member here was in a male-headed household in wave 1. This exercise is aimed at determining whether these two types of households significantly differed in their poverty profiles even before the heads' gender transitions were made. The results indicate that conditional on the controls, there was no statistically significant relationship between extreme poverty (FPL) and belonging to any of these two types of households in wave 1. Therefore, we feel that at least part of the coefficients of the gender-based transitions can be interpreted as causal.

Table 4: Were individuals who would eventually transition to female-headed households initially poorer than their counterparts who would remain in male-headed households? (FPL)

Covariates	Coefficients
later transitioned to female-headed household	0.007 (0.010)
highest schooling years	0.000 (0.001)
household head's highest schooling years	-0.008*** (0.001)
Coloured	0.017 (0.016)
male	-0.003 (0.009)
average age of household members	-0.000 (0.001)
rural formal	-0.124*** (0.015)
urban formal	-0.089*** (0.011)
urban informal	-0.070*** (0.019)
household size	0.003 (0.004)
number of u-14 children in household	0.042*** (0.007)
number of above-60-year old in household	-0.127*** (0.008)
household head is married/cohabiting	-0.026** (0.013)
number of employed household members	-0.070*** (0.006)
household head is employed	-0.096*** (0.014)
managerial/professional occupation in household	-0.043*** (0.008)
constant	0.366*** (0.034)
number of observations	7,876
R-squared	0.231

*Source: Authors' computations; samples weighted by post-stratification weights to correct for sampling design; Robust standard errors in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$*

Who became the new female household heads?

It is important to ascertain who became the new female household heads, among the households that experienced a change in the head's gender. This knowledge will be important in perhaps understanding some of the reasons why the households they headed dropped into poverty from a previously non-poor state. A look at the distribution of the "new" female household heads in both waves 1 and 2 indicates that the vast majority (75%) of females who became household heads in wave 2 were wives/partners in wave 1. Another 11% were initially the daughters of wave 1 household heads, indicating new household formations or parental death/exit. Among the 75% who were initially wives/partners of household heads in wave 1, 65% of these were married, 19% were cohabiting, 7% were widowed, while only 3% were divorced/separated in wave 2. These distributions indicate that it was not the loss of a married/cohabiting partner that drove the families where these women later became household heads into poverty, an assertion supported by the fact that the significant drop into poverty generally held true even after controlling for changes in the number of employed household members, changes in the household head's employment status and changes in the household size. For the 11% who were daughters of household heads in wave 1, only 13% became married in wave 2, while a majority (77%) still remained unmarried, suggesting either new young household formations or taking over from parents who became deceased or who exited the household.

Conclusion

This paper has made some valuable contributions to the literature on gender and poverty in South Africa. First, we have enriched the evidence with results based on longitudinal data that allowed us to follow the same individuals over time. We found that even among individuals who all belonged to male-headed and non-poor households initially, simply transitioning into a female-headed household was associated with transitioning into poverty. This transition though, did not happen within the first wave of transition; it only kicked in from the second transitional wave. This result holds for all poverty lines evaluated. We are persuaded that at least some of this association with poverty may be causal especially for extreme poverty (FPL) given that there was no significant association between poverty and belonging to households that later transitioned to female headship prior to the transition. The above results beam an insightful searchlight on vulnerability. They indicate that households headed by women for an extended period of time are exposed to significant vulnerabilities. As a follow-up, it will be useful to thoroughly investigate factors that are significantly associated with a higher probability of transitioning into a female-headed household. This will form a future research endeavour.

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