Gender-based household compositional changes and implications for poverty in South Africa

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1. Introduction

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, the consensus remains that far too many South Africans remain poor. Available evidence also indicates a substantial gender gradient to the prevalence of poverty in South Africa. For instance, female-headed households experience poverty more than their male-headed counterparts. Though viewed in some quarters as a somewhat blunt measure, the gender of the household head is regarded as an indicator of gendered power structures, especially as poverty is often conceptualized as a household, rather than individual phenomenon.

Though some studies have examined the association between the gender of the household head and poverty, the evidence regarding the relationship between temporal changes in the household head's gender and poverty is scanty. In particular, little is known about the interactions between gender and falling into poverty from a previous non-poor state. We therefore 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. While previous studies have examined poverty in female-headed households few have explored notions of transitioning into and out of poverty. While existing studies have generally ustilised crosssectional and repeated cross-sectional studies in discussing poverty in female-headed households, few in the South African context have deployed panel data to not only compare male-and female-headed households' poverty levels but also to explore the transitions into poverty. In this paper, we deploy the "longitudinal" approach in analysing and explicating transitions into poverty through a gendered lens. To measure poverty, we use three nationally determined poverty lines: the food, lower bound, and upper bound poverty lines determined by Statistics South Africa. Data came from the four waves of the nationally representative longitudinal National Income Dynamics Study.

Preliminary results suggest 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 (across all poverty lines). However, this poverty transition does not happen immediately; it seems to kick in over time as the transition into female-headed households persists. Moreover, the household head's education dominates own education in poverty determination. The results also indicate that of all the controls, excluding the number of employed household members and the household head's employment status had the biggest impact on overestimating the coefficient of changes in the head's gender.

To strengthen the assertion that the effect of the gender of the household head on poverty is real, we conduct an experiment on pre-transition poverty. We find that among individuals in

households that were initially male-headed, there was no significant difference in poverty between those who subsequently became members of female-headed households and those that remained in male-headed households for the poverty measures based on the two lowest poverty lines. This result strengthens the assertion that it was most likely the change in the head's gender that brought about the subsequent differences in poverty, a finding that is hardly possible in the absence of longitudinal data.

1.1 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, into non-European and European. 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, race and class discrimination..." (Women's Charter, 1954). The feminisation of poverty has existed as long as the South African economy has existed. While the Women's Charter included African women among the poor the same Charter recognised the fact that African women bore the brunt of poverty as they, in the absence of the men folk were expected to support families on their meagre wages earned largely through domestic work. Although the times have changed and women are found in every sector of the economy the face of poverty remains predominantly African and female.

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. 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" (SIDA, 2001). The conceptualisation of poverty by SIDA underscores view that poverty is gendered and women disproportionately represented among the poor. Analysts such as Chant (2006) concur with SIDA'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 indicates identifies female-headed households as vulnerable and proceeds to argue that their poverty persists over a longer period and can then become inter-generational, "female household headship transmits poverty to children (intergenerational transmission of poverty" (Chant, 2006:167). The analyst further notes that femaleheaded 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 many 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 and with a view of advancing gender equality have been formulated (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 in liberal feminism which postulates that women's oppression derives from patriarchal dominance both in the public and private sphere (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 of the individual and freedom 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 as shown in Table 1 are strongly underpinned by the liberal feminist thought. In essence, the post-apartheid constitution and policies on gender have sought to remove the obstacles that constrain women's empowerment and which relegate the majority to poverty.

[Table 1]

Despite an abundance of gender-sensitive policies and programmes targeting women and the poorest, the face of poverty in South Africa remains female and African. Gendered analyses indicate that using the lower bound poverty level, South African women are consistently poorer than males. Recent analyses using data from four periods (2006, 2009, 2011, and 2015) show that in all the different years, poverty levels among females (2006=23.4%; 2009= 21.9%; 2011= 15.0%; 2015= 17.5%) are higher than those among males (2006=20.8%; 2009= 20.1%; 2011= 13.5%; 2015= 15.7%) (Statistics South Africa, [StatsSA] (2017). Statistics South Africa in its analysis of poverty measures by sex between 2009 to 2015 reported that "Severity of poverty was high for females across all the years as compared to males. Between 2006 and 2011, the severity had decreased but in 2015 it increased for both females and (17.8 and 16.1) respectively" (StatsSA, 2017). The same report indicates that in 2015, about 52.7% of poor in South Africa were female and the proportion of poor males in the same period was 47.3% (StatsSA, 2017).

Previous studies have consistently showed that women constitute the poorest among the poor not only in South Africa but also globally, while most South African studies used cross-sectional data (Chant, 2006). This paper however, analysed longitudinal data to not only draw out the proportion of households that are female-headed and poor but also to explore and

explicate the transitions into poverty and whether this in anyway has gendered patterns. The section that follows describes the analysis and presents the results of the analysis.

2. Materials and methods

2.1 Data and key variables

We sourced the data from the nationally representative and longitudinal National Income Dynamics Study (NIDS). NIDS currently has four waves of data, while that 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 share food from a common source with other household members when they are together, and (c) They contribute to, or share 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 arrangements¹. 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 poverty and gender. We defined poverty as a dummy variable which equals 1 if a respondent's household earns 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 obtain given number of calories. Being FPL poor implies that the individual's household is not able 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 different kinds of transitions in household poverty status and household head's gender are to be analysed, the change in a household's poverty status will denote the following transitions: rp (non-poor to poor between wave 1 and wave 2) -relative to being non-poor in both waves; rpp (non-poor in wave 1, poor in waves 2 and 3) -relative to being non-poor across the three waves; and rppp (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: mf (transitioned from a male- to a female-headed household

¹ 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.

between waves 1 and 2) -relative to remaining in a male-headed household across both waves; *mff* (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 *mfff* (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.

2.2 Models

This paper will use descriptive and regression analyses to identify the relationship between household head's gender transitions and poverty transitions. We will estimate various poverty models in order to answer the different research questions as well as establish the robustness of the estimates.

We specify the following regression model:

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

Where *povchange* denotes a transition from a poor to non-poor household; *genchange* denotes a transition from a female-headed to a male-headed household; X_i is a vector of individual-level covariates (education and gender); X_h is a vector of household-level covariates (household head's education, race, 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.

To utilize the full range of data at our disposal, we will estimate three models for each poverty line (more on this later). The first set of models will estimate the effect of mf on rp (using wave 2 controls). The second set of models will analyse the effect of mff on rpp (using wave 3 control variables). Finally, the last set of models will estimate the effect of mfff on rppp, while using wave 4 controls. All models will follow the linear probability model (LPM) specification, while all results (regression and descriptive) will be 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.

3. Results

3.1 Descriptive analysis

Poverty lines were computed by Statistics South Africa. The choice of these poverty lines over internationally-determined lines was necessitated by the fact that the former were calculated based on local conditions, and therefore are more likely to accurately measure welfare (Nwosu & Ndinda, forthcoming). Table 2 below shows the various poverty lines used in this paper across the various years.

[Table 2]

Table 3 depicts the distribution of the various poverty- and gender-related transitions in the various estimation samples. Recall that the benchmark category for each transition is the part of the sample who did not experience any transition, 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 3*]

Based on the FPL poverty measure, Table 3 indicates that 14.5% of the sample transitioned from non-poor to poor households between wave 1 and wave 2, while 33% of those transitioned from male- to female-headed households within the same period. 6.6% experienced the rpp transition, while 28.5% of this sample recorded the mff transition. For the more sustained rppp transition, only 2.2% transitioned from non-poor households in wave 1 to consistently poor households in the subsequent three waves, while 20% moved from male-headed households in wave 1 and remained in female-headed households throughout the remaining three waves.

For the LBPL measure, while 18.6% of the estimation sample experienced the rp transition, 30.3% experienced the mf transition. For rpp and mff, the sample proportions are 10.4% and 24.7% respectively, while the rppp and mfff were 6.5% and 17% respectively. Finally, for the UBPL indicator, 25.8% and 26.6% of the sample recorded the rp and mf transitions respectively. Moreover, the rpp and mff transitions constituted 18.6% and 19.5% of the sample respectively, while the rppp and mfff transitions constituted 15.5% and 13% respectively. These figures indicate nontrivial transitions into poverty (within the estimation samples) in a period largely characterized by overall reductions in poverty.

Table 4 depicts the distribution of the control variables for the regressions².

[*Table 4*]

3.2 Regression results

Table 5 – Table 7 depict the relationship between transitions in the gender of the household head and poverty transitions using the three poverty lines. 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. This result held true for the three poverty lines but indicated that the effect was not apparent in the short term, but over more persistent transitions. Also, the regression controls generally conformed to a priori expectations with respect to coefficient signs.

[*Table 5*]

[*Table 6*]

[Table 7]

² Unlike Table 3, these figures are not restricted to the various estimation samples as they vary per regression, and will be quite unwieldy to be represented in nine separate tables. The values in Table 4 are per the entire NIDS dataset.

4. Discussion

For now, we focus on the columns marked 4-6 in Table 5 – Table 7. One clear finding 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 persistence of such a transition increased. Across all poverty lines, 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 and remaining in a female-headed household for at least two subsequent waves, there was consistently a statistically significant increase in the probability of dropping into poverty across all poverty lines.

For the FPL regressions (see columns 4-6 in Table 5), moving from a male-headed household in wave 1 to a female-headed household in wave 2 and remaining there in wave 3 (mff) resulted in a 5.6 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 (rpp). Engaging in the mfff-type transition was associated with a 2.6 percentage point increase in the probability of moving from a non-poor household in wave 1 and remaining in a poor household in subsequent waves (rppp). For the LBPL regressions, column 5 of Table 6 indicates that engaging in the mff-type transition was associated with a 6.5 percentage point increase in the probability of moving from a non-poor household in wave 1 to a poor household in waves 2 and 3. Engaging in the mfff-type transition was associated with a 7.8 percentage point increase in the probability of moving from a poor household in wave 1 and consistently into a poor household in each of the subsequent waves. With regard to the UBPL regressions (Table 7), the mff- and mfff-type transitions were respectively associated with a 7.5 and 16.3 percentage point increase in the probability of making the rpp and rppp poverty transitions.

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 non-poor household. Similarly, every respondent started out from a male-headed household. Therefore, the most obvious change 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 in wave 2. 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 in non-poor sample. 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 effect on 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.

These results 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. This result is more worrying given that it persists even after controlling for the household head's employment status and the number of employed people in the household (important channels underlying household poverty).

Tables 5-7 suggest that the number of employed household members and the household head's employment status may be some of the most important variables mediating the relationship between household head's gender transitions and poverty transitions. Each of the tables indicates a significant decline in the coefficient of the head's gender when both variables are controlled for relative to when they are not included in the regressions. Columns 1-3 depict the results with the exclusion of the employment variables, while columns 4-6 depict a scenario where it was included. For the FPL regressions, the coefficients for the consistently significant mf transitions fell by 16-32%. Similarly, the LBPL and UBPL coefficients decreased by 37-43% and 22-51% respectively. In other regressions not shown but available on request, we included the employment variables but excluded the number of children and the household head's marital status (variables that have been demonstrated to be correlated with household poverty. The results remained similar to the results in columns 4-6 in each table, indicating that among the household dependency profile, head's marital status, the number of employed household members, and the household head's employment status, the latter two appear to be the most important factors mediating the effect of household head's gender transitions and transitions into poverty. This notwithstanding, we note the inconclusive sign and statistical significance of the household head's employment status on poverty transitions. In general though, we feel that the preferred models are the ones including the employment variables in the regressions (columns 4-6 in each of Tables 5-7).

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 and compare the poverty status of households that remained male-headed over time and those that later transitioned into female-headed households before such transitions (when both groups were still male-headed). 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 explain the observed poverty differentials found in the results. If however, individuals in households that eventually experienced the gender-based transitions were still poorer in the initial period than their counterparts who would still remain in male-headed households in subsequent periods, we will be convinced that it was not the gender-based transitions that resulted in the subsequent poverty differentials. 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 8 below depicts the relationship between the household head's gender in wave 1 and poverty in wave 1. Each outcome is a dummy variable which equals one if the individual

belongs to a poor household according to a particular poverty line (hence the three equations), 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 femaleheaded 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 both kinds of households changed the head's gender in the future, they were all male-headed in wave 1. This exercise is aimed at determining whether these two types of households significantly differed in their poverty profiles even before the head's gender transitions were made. If there was an initial statistically significant difference in poverty between them, it is evidence that the aforementioned poverty transitions may not be attributed to the changes in the household head's gender. Conversely, if there was no significantly different poverty profile pre-transition, it strengthens our argument that at least part of the observed gender-related differences in poverty can be interpreted as causal. The results indicate that conditional on the controls, there was no statistically significant relationship between extreme poverty (FPL) and the LBPL and belonging to any of these two types of households in wave 1. Therefore, for these two poverty lines, we feel that at least part of the coefficients of the gender-based transitions can be interpreted as causal. For the UBPL specification however, poverty differentials existed even prior to the transitions.

[Table 8]

Who became the new female household heads?

It is important to ascertain who became the new female household heads. 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 head, 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 marriage/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 both the number of employed household members, household head's employment status and 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.

5. 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. Consequently, 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 falling 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 come of this association with poverty may be causal for both extreme poverty (FPL) and LBPL given that there was no significant association between poverty and belonging to households that later transitioned to female headship prior to the transition for the poverty measures derived from these two poverty lines.

The foregoing results are quite striking given the significant reduction in poverty in South Africa post-apartheid. As we showed, though employment of more family members substantially reduced the association between household gender transitions and poverty transitions (by more than half in some cases), it did not eliminate the relationship. This opens new areas of research into identifying other factors which will help to eliminate the persistent relationship between female household headship and poverty in South Africa.

The above results provide a different perspective on the most vulnerable groups in South Africa. Households permanently headed by women as well as those with many children, poorly educated heads, widowed and unmarried/divorced heads have a higher risk of falling into poverty from a previous non-poor state in South Africa and should prominently feature in the government's poverty alleviation efforts.

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Table 1: Summary of policies poverty and gender equality

Year	Policy
1997	Basic Conditions of Employment Act 75 of 1997
1998	Employment Equity Act 55 of 1998- promotes equal opportunity through affirmative action
1998	Maintenance Act 99 of 1998 – Ensures the protection of all children regardless of birth (born in or out of wedlock)
1998	Domestic Violence Act 116 of 1998- protects women against domestic violence regardless of their marital status
1998	Recognition of Customary Marriages Act 120 of 1998
2000	Preferential procurement Policy Framework Act 5 of 2000
2000	The Promotion of Equality and Prevention of Unfair Discrimination Act 4 of 2000. This Act ensures the implementation of equality clauses in section 9 of the constitution. The Act seeks to entrench gender equality in the broadest sense.
2011	The Protection from Harassment Act 17 of 2011. This Act seeks to protect individuals from all forms of harassment whether in the private of public sphere.

Table 2: 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 3: Distribution of poverty and gender transitions (estimation samples)

	Variable	N	Mean	Std. Dev.	Variable	N	Mean	Std. Dev.
FPL	rp	7780	0.145	0.352	mf	7780	0.331	0.471
	rpp	3712	0.066	0.248	mff	3712	0.285	0.452
	rppp	2096	0.022	0.145	mfff	2096	0.201	0.401
LBPL	rp	5997	0.186	0.389	mf	5997	0.303	0.459
	rpp	2683	0.104	0.305	mff	2683	0.247	0.431
	rppp	1518	0.065	0.246	mfff	1518	0.170	0.376
UBPL	rp	4257	0.258	0.437	mf	4257	0.266	0.442
	rpp	1975	0.186	0.389	mff	1975	0.195	0.396
	rppp	1110	0.155	0.362	mfff	1110	0.130	0.336

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

Table 4: Descriptive statistics of regression controls

Variable		Wave 2			Wave 3			Wave 4	
	N	Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.
school years completed	21078	6.913	4.505	22162	7.148	4.499	22539	7.598	4.407
household head's school years	19580	6.933	4.490	19441	7.781	4.383	18671	8.033	4.267
race	21144			22229			22694		
african	19074	0.902	0.297	20059	0.902	0.297	20597	0.908	0.290
coloured	2070	0.098	0.297	2170	0.098	0.297	2097	0.092	0.290
male	21114	0.479	0.500	22183	0.479	0.500	22683	0.482	0.500
household average age	21144	27.106	10.443	22228	27.703	11.445	22692	28.066	12.364
location	20981			22183			22683		
rural formal	1378	0.066	0.248	1346	0.061	0.239	1469	0.065	0.246
traditional authority	7938	0.378	0.485	8303	0.374	0.484	8307	0.366	0.482
urban formal	9190	0.438	0.496	9855	0.444	0.497	10475	0.462	0.499
urban informal	2474	0.118	0.323	2679	0.121	0.326	2431	0.107	0.309
household size	21144	5.765	3.459	22183	5.468	3.325	22683	5.330	3.355
no. of under-14 children in household	21144	1.832	1.726	22228	1.623	1.622	22692	1.521	1.643
household head is married	19590	0.512	0.500	19456	0.477	0.499	18688	0.440	0.496
no. of employed household members	21004	0.867	0.977	22212	0.926	0.957	22678	1.004	0.996
Household head is employed	18749	0.398	0.489	19328	0.413	0.492	18599	0.495	0.500

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

Table 5: Effect of transitions in household head's gender on poverty transitions: FPL

	(1)	(2)	(3)	(4)	(5)	(6)
	N	o employme	nt	W	ith employm	ent
	W2	W3	W4	W2	W3	W4
VARIABLES	fplrp	fplrpp	fplrppp	fplrp	fplrpp	fplrppp
genchange	0.051***	0.067***	0.038***	-0.012	0.056***	0.026**
	(0.012)	(0.016)	(0.014)	(0.012)	(0.016)	(0.013)
school years	-0.002	-0.001	-0.002	-0.001	-0.000	-0.002
-	(0.001)	(0.002)	(0.002)	(0.001)	(0.002)	(0.002)
head's sch yrs	-0.008***	-0.003*	-0.003**	-0.005***	-0.003*	-0.002*
	(0.001)	(0.002)	(0.001)	(0.001)	(0.002)	(0.001)
coloured	-0.047***	0.049**	0.032	-0.026*	0.061***	0.041*
	(0.013)	(0.022)	(0.022)	(0.014)	(0.023)	(0.021)
male	-0.010	0.012	0.012	-0.013	0.010	0.009
	(0.011)	(0.014)	(0.012)	(0.011)	(0.014)	(0.012)
av.age hh	-0.006***	-0.001**	-0.001***	-0.008***	-0.002***	-0.002***
-	(0.000)	(0.001)	(0.000)	(0.001)	(0.000)	(0.001)
rural formal	-0.027	-0.039***	0.017	0.016	-0.034**	0.042***
	(0.018)	(0.015)	(0.016)	(0.017)	(0.015)	(0.016)
urban formal	-0.100***	-0.027**	-0.002	-0.047***	-0.014	0.024**
	(0.012)	(0.013)	(0.010)	(0.012)	(0.012)	(0.012)
urban informal	-0.065***	-0.013	-0.023***	0.008	-0.001	0.005
	(0.023)	(0.027)	(0.009)	(0.023)	(0.026)	(0.010)
hh size	0.001	-0.007***	-0.002	0.013***	0.003	0.005**
	(0.003)	(0.003)	(0.002)	(0.003)	(0.003)	(0.002)
num. u-14 in	0.013**	0.053***	0.014**	-0.002	0.043***	0.014**
hh						
	(0.006)	(0.008)	(0.006)	(0.006)	(0.008)	(0.006)
head's marital	0.000	-0.065***	0.003	0.008	-0.063***	-0.005
status						
	(0.011)	(0.012)	(0.006)	(0.010)	(0.012)	(0.006)
no. employed				-0.089***	-0.051***	-0.051***
hh members						
				(0.006)	(0.007)	(0.009)
hh head is				-0.072***	0.021*	-0.006
employed						
				(0.013)	(0.012)	(0.008)
constant	0.435***	0.136***	0.098***	0.520***	0.161***	0.130***
	(0.031)	(0.036)	(0.031)	(0.034)	(0.035)	(0.037)
Observations	8,269	3,732	2,109	7,780	3,712	2,096
R-squared	0.118	0.134	0.075	0.205	0.158	0.150
Authors' computation						

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

Table 6: Effect of transitions in household head's gender on poverty transitions: LBPL

No employment With employment VARIABLES lbrp lbrpp lbrppp lbrpp lbrpp lbrpp lbrpp lbrpp lbrpp lbrppp lbrpp lbrpp </th <th></th> <th>(1)</th> <th>(2)</th> <th>(3)</th> <th>(4)</th> <th>(5)</th> <th>(6)</th>		(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES lbrp lbrpp lbrppp lbrpp lbrpp lbrpp lbrpp genchange 0.078*** 0.114*** 0.124*** -0.009 0.065*** 0.078*** school years -0.003 -0.001 -0.003 -0.000 0.000 -0.000 head's sch yrs -0.012*** -0.009*** -0.007** -0.009*** -0.008*** -0.009*** coloured -0.035** 0.045* 0.102*** -0.013 0.074*** 0.123*** coloured -0.016 (0.025) (0.033) (0.018) (0.027) (0.031) male -0.008 0.021 0.040* -0.015 0.004 0.029 av.age hh -0.005***		N	lo employme	nt	W	ith employm	ent
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		W2	W3	W4	W2	W3	W4
school years (0.015) (0.022) (0.028) (0.015) (0.021) (0.024) school years -0.003 -0.001 -0.003 -0.000 0.000 -0.000 (0.002) (0.002) (0.003) (0.002) (0.002) (0.003) head's sch yrs -0.012*** -0.009*** -0.007** -0.009*** -0.008*** -0.009*** coloured -0.035** 0.045* 0.102*** -0.013 0.074*** 0.123*** coloured -0.035** 0.021 0.040* -0.015 0.004 0.123*** male -0.008 0.021 0.040* -0.015 0.004 0.029 av.age hh -0.005*** -0.000* -0.02*** <td>VARIABLES</td> <td>lbrp</td> <td>lbrpp</td> <td>lbrppp</td> <td>lbrp</td> <td>lbrpp</td> <td>lbrppp</td>	VARIABLES	lbrp	lbrpp	lbrppp	lbrp	lbrpp	lbrppp
$\begin{array}{c} \text{school years} \\ \text{coloured} \\ col$	genchange	0.078***	0.114***	0.124***	-0.009	0.065***	0.078***
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		(0.015)	(0.022)	(0.028)	(0.015)	(0.021)	(0.024)
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	school years	-0.003	-0.001	-0.003	-0.000	0.000	-0.000
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	-	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)	(0.003)
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	head's sch yrs	-0.012***	-0.009***	-0.007**	-0.009***	-0.008***	-0.009***
$\begin{array}{llllllllllllllllllllllllllllllllllll$		(0.002)	(0.002)	(0.003)	(0.002)	(0.002)	
$\begin{array}{llllllllllllllllllllllllllllllllllll$	coloured	-0.035**	0.045*	0.102***	-0.013	0.074***	0.123***
av.age hh $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		(0.016)	(0.025)	(0.033)	(0.018)	(0.027)	(0.031)
av.age hh -0.005^{***} -0.000 -0.002^{***} -0.006^{***} -0.001^{**} -0.003^{***} (0.001) (0.001) (0.001) (0.001) (0.001) (0.001) rural formal -0.109^{***} -0.077^{***} -0.093^{***} -0.031 -0.063^{***} -0.072^{***} (0.020) (0.022) (0.025) (0.019) (0.022) (0.024) urban formal -0.132^{***} -0.082^{***} -0.125^{***} -0.062^{***} -0.055^{***} -0.087^{***} (0.017) (0.018) (0.020) (0.016) (0.018) (0.020) urban informal -0.058^{**} -0.057^{*} -0.109^{***} 0.052^{*} -0.036 -0.064^{***}	male	-0.008	0.021	0.040*	-0.015	0.004	0.029
rural formal (0.001) (0.001) (0.001) (0.001) (0.001) (0.001) rural formal (0.001) (0.001) (0.001) (0.001) (0.001) rural formal (0.020) (0.022) (0.025) (0.019) (0.022) (0.024) (0.017) (0.018) (0.020) (0.016) (0.018)		(0.014)	(0.018)	(0.021)	(0.013)	(0.018)	(0.020)
rural formal $-0.109***$ $-0.077***$ $-0.093***$ -0.031 $-0.063***$ $-0.072***$ (0.020) (0.022) (0.025) (0.019) (0.022) (0.024) urban formal $-0.132***$ $-0.082***$ $-0.125***$ $-0.062***$ $-0.055***$ $-0.087***$ (0.017) (0.018) (0.020) (0.016) (0.018) (0.020) urban informal $-0.058**$ $-0.057*$ $-0.109***$ $0.052*$ -0.036 $-0.064***$	av.age hh	-0.005***	-0.000	-0.002***	-0.006***	-0.001**	-0.003***
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
urban formal -0.132*** -0.082*** -0.125*** -0.062*** -0.055*** -0.087*** (0.017) (0.018) (0.020) (0.016) (0.018) (0.020) urban informal -0.058** -0.057* -0.109*** 0.052* -0.036 -0.064***	rural formal	-0.109***	-0.077***	-0.093***	-0.031	-0.063***	-0.072***
(0.017) (0.018) (0.020) (0.016) (0.018) (0.020) urban informal -0.058** -0.057* -0.109*** 0.052* -0.036 -0.064***		(0.020)	(0.022)	(0.025)	(0.019)	(0.022)	(0.024)
urban informal -0.058** -0.057* -0.109*** 0.052* -0.036 -0.064***	urban formal	-0.132***	-0.082***	-0.125***	-0.062***	-0.055***	-0.087***
		(0.017)	(0.018)	(0.020)	(0.016)	(0.018)	(0.020)
(0.029) (0.034) (0.025) (0.027) (0.031) (0.024)	urban informal	-0.058**	-0.057*	-0.109***	0.052*	-0.036	-0.064***
(0.027) (0.034) (0.023) (0.021) (0.024)		(0.029)	(0.034)	(0.025)	(0.027)	(0.031)	(0.024)
hh size 0.003 -0.001 -0.001 0.028*** 0.024*** 0.018***	hh size	0.003	-0.001	-0.001	0.028***	0.024***	0.018***
(0.003) (0.004) (0.004) (0.004) (0.004) (0.005)		(0.003)	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)
num. u-14 in 0.028*** 0.095*** 0.056*** 0.017** 0.075*** 0.057***		0.028***	0.095***	0.056***	0.017**	0.075***	0.057***
hh	hh	(0.000)	(0.040)	(0.042)	(0.000)	(0.000)	(0.010)
(0.008) (0.010) (0.013) (0.008) (0.009) (0.013)		` ,	` ,	` ,	` /	` '	` /
head's marital 0.027* -0.064*** 0.011 0.006 -0.070*** -0.004 status		0.027*	-0.064***	0.011	0.006	-0.070***	-0.004
(0.014) (0.016) (0.013) (0.012) (0.015) (0.014)		(0.014)	(0.016)	(0.013)	(0.012)	(0.015)	(0.014)
no. employed -0.134*** -0.122*** -0.101***	no. employed	(===)	(====,	(` ,	` /	` /
hh members						**	
$(0.007) \qquad (0.010) \qquad (0.015)$	 				(0.007)	(0.010)	(0.015)
hh head is -0.035** 0.074*** 0.036*	hh head is				` ,	` /	, ,
employed					31322		0.000
$(0.017) \qquad (0.019) \qquad (0.021)$	r J				(0.017)	(0.019)	(0.021)
constant 0.447*** 0.164*** 0.241*** 0.507*** 0.205*** 0.291***	constant	0.447***	0.164***	0.241***	` /	` '	` /
(0.039) (0.049) (0.059) (0.042) (0.049) (0.062)							
(0.002)		(=====)	()	(3.30)	(3.3)	()	(3.30-)
Observations 6,413 2,697 1,521 5,997 2,683 1,518	Observations	6,413	2,697	1,521	5,997	2,683	1,518
R-squared 0.133 0.272 0.251 0.261 0.335 0.324							

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

Table 7: Effect of transitions in household head's gender on poverty transitions: UBPL

	(1)	(2)	(3)	(4)	(5)	(6)
	N	lo employme	nt	\mathbf{W}_{1}	ith employm	ent
	W2	W3	W4	W2	W3	W4
VARIABLES	ubrp	ubrpp	ubrppp	ubrp	ubrpp	ubrppp
genchange	0.091***	0.153***	0.210***	0.007	0.075***	0.163***
	(0.022)	(0.031)	(0.046)	(0.020)	(0.028)	(0.044)
school years	-0.007***	-0.004	-0.002	-0.003*	-0.002	-0.001
	(0.002)	(0.003)	(0.005)	(0.002)	(0.003)	(0.005)
head's sch yrs	-0.026***	-0.022***	-0.019***	-0.021***	-0.019***	-0.020***
	(0.003)	(0.003)	(0.004)	(0.003)	(0.003)	(0.004)
coloured	-0.086***	-0.097***	-0.129***	-0.053**	-0.050***	-0.120***
	(0.021)	(0.017)	(0.023)	(0.021)	(0.019)	(0.027)
male	-0.043**	-0.009	0.024	-0.031*	-0.035	0.010
	(0.019)	(0.024)	(0.038)	(0.017)	(0.022)	(0.040)
av.age hh	-0.008***	-0.001	-0.002	-0.008***	-0.003***	-0.003**
_	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
rural formal	-0.008	-0.037	-0.081*	0.050*	-0.009	-0.068
	(0.031)	(0.041)	(0.042)	(0.029)	(0.041)	(0.041)
urban formal	-0.112***	-0.097***	-0.070**	-0.058***	-0.064**	-0.047*
	(0.023)	(0.029)	(0.029)	(0.021)	(0.027)	(0.027)
urban informal	-0.003	0.110**	0.115*	0.003	0.075*	0.123*
	(0.045)	(0.053)	(0.066)	(0.035)	(0.044)	(0.066)
hh size	0.022***	0.040***	0.041***	0.055***	0.061***	0.046***
	(0.005)	(0.006)	(0.007)	(0.004)	(0.006)	(0.007)
num. u-14 in	-0.027**	0.039**	0.063***	-0.027**	0.019	0.063***
hh	(0.012)	(0.017)	(0.024)	(0.011)	(0.015)	(0.024)
1 12 4 1	(0.012)	(0.017)	(0.024)	(0.011)	(0.015)	(0.024)
head's marital status	-0.038*	-0.104***	-0.031	-0.062***	-0.083***	-0.028
	(0.021)	(0.022)	(0.025)	(0.017)	(0.021)	(0.022)
no. employed	,	, ,	, , ,	-0.178***	-0.177***	-0.049**
hh members						
				(0.009)	(0.013)	(0.023)
hh head is				-0.053**	0.040	-0.018
employed						
				(0.023)	(0.027)	(0.034)
constant	0.855***	0.373***	0.263***	0.867***	0.529***	0.370***
	(0.063)	(0.072)	(0.085)	(0.058)	(0.074)	(0.097)
Observations	4,556	1,992	1,113	4,257	1,975	1,110
R-squared	0.173	0.326	0.401	0.336	0.430	0.410
N-squareu	0.173	0.540	0.701	0.550	0.430	0.710

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

Table 8: To see if respondents who would transit into female-headed households were initially poorer than those who consistently remained in male-headed households: dependent variable=poor (=1 if individual belongs to a poor household; =0 otherwise)

	(1)	(2)	(3)
VARIABLES	FPL	LBPL	UBPL
later transitioned to female-headed household	0.001	0.005	0.037***
	(0.010)	(0.014)	(0.014)
highest schooling years	0.000	-0.002	-0.004***
	(0.001)	(0.001)	(0.002)
household head's highest schooling years	-0.007***	-0.014***	-0.028***
	(0.001)	(0.002)	(0.002)
coloured	0.012	-0.043**	-0.060***
	(0.016)	(0.017)	(0.018)
male	0.000	0.008	0.023*
	(0.009)	(0.012)	(0.013)
average age of household members	-0.004***	-0.008***	-0.012***
	(0.001)	(0.001)	(0.001)
rural formal	-0.109***	-0.119***	-0.100***
	(0.014)	(0.019)	(0.020)
urban formal	-0.085***	-0.161***	-0.185***
	(0.011)	(0.015)	(0.016)
urban informal	-0.060***	-0.065**	-0.058*
	(0.019)	(0.030)	(0.030)
household size	-0.003	0.011**	0.034***
	(0.004)	(0.005)	(0.004)
number of u-14 children in household	0.035***	0.036***	-0.006
	(0.007)	(0.009)	(0.008)
household head's marital status	-0.028**	0.001	0.007
	(0.013)	(0.017)	(0.018)
number of employed household members	-0.070***	-0.106***	-0.136***
	(0.005)	(0.007)	(0.007)
household head is employed	-0.069***	-0.099***	-0.065***
- •	(0.013)	(0.018)	(0.018)
constant	0.448***	0.791***	1.130***
	(0.035)	(0.039)	(0.040)
number of observations	7,891	7,891	7,891
R-squared	0.192	0.335	0.423

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