Female household headship and poverty in South Africa: an employment-based analysis

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Abstract

Female household headship is generally associated with higher poverty incidence relative to male headship. Female headship has generally been on the increase in South Africa. And while generally declining over the post-apartheid period, poverty has increased in the recent past. South Africa also has high unemployment rates. However, there is scant evidence on the role of employment in mediating the relationship between female headship and poverty in South Africa. Using South Africa's National Income Dynamics Study dataset, we find that female headship is positively associated with complete household non-employment, while the latter is positively associated with poverty. However, female-headed households (FHHs) are heterogeneous in nature, and the importance of employment in eradicating the poverty differential between FHHs and male-headed households (MHHs) depends on employment-related household structure. While employment generally eradicates the poverty differential between FHHs and MHHs, FHHs where only women are employed are very vulnerable to poverty.

Keywords: Female-headed households; Employment; Poverty
JEL classification: I3; J71

1 INTRODUCTION

Female-headed households (FHHs) are generally more likely to be poor relative to male-headed households (MHHs) (Goldberg and Kremen, 1990; Barros et al., 1997). Buvinic and Gupta (1997) have identified a number of factors responsible for this higher poverty incidence in FHHs. One, FHHs generally have a higher dependency ratio than MHHs. Secondly, a woman is likely to be the main earner in a FHH compared to a MHH, while women generally earn significantly less and

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have less access to economic opportunities than men. Third, a number of factors resulting from the foregoing also predispose FHHs to poverty. These include the fact that female heads usually have less time for market work (given their significant engagement in home production, thereby "choosing" more leisure or lower paying jobs that allow them more time to carry out household chores). Moreover, female heads are more likely to face discrimination in accessing jobs or social welfare. And given that one of the causes of female headship is teen pregnancy, female heads may have a history of early parenthood and family instability, factors which are usually positively correlated with poverty.

The prevalence of FHHs has been on the increase in many parts of the globe. This is especially true for sub-Saharan Africa (SSA) (Milazzo and van de Walle, 2017). Some of the reasons for this trend include labour migration by male heads, resulting in "left-behind" female heads (mostly spouses of male labour migrants), and female labour migration which results in (even if transitory) female household headship. Other reasons, especially in SSA, include wars and conflicts, which disproportionately kill males. Moreover, socio-cultural changes that erode the extended family structure and make single parenthood more permissible have become more pronounced with time (see Buvinic and Gupta, 1997). If female headship is positively correlated with poverty, this increase in the prevalence of female headship suggests that poverty will remain a big challenge if the link between female headship and poverty is not addressed.

Poverty is largely an earnings problem. If the earnings of poor households significantly increase, they are more likely to exit poverty. And if FHHs are more likely than MHHs to be poor, increasing the earning of (vulnerable) FHHs will likely contribute to poverty eradication.

Given that employment is one of the most important sources of earning and a key driver of escape from poverty, ascertaining the prevailing employment patterns in FHHs relative to MHHs is likely to offer very helpful insights into narrowing any potential poverty gap between both household types.

In reality however, FHHs are not a homogenous group. FHHs can be disparate, say, in terms of the cause of female headship (as noted above) and their degree of vulnerability (Buvinic and Gupta, 1997). Relatedly, the reason for female headship may have welfare implications. For instance, households headed by widows are more likely to be poor relative to other FHHs (Dreze and Srinivasan, 1997). Even among FHHs where female headship is due to the male head's migration, poverty differentials are likely to exist between those receiving remittances and those who do not. Importantly, FHHs may systematically differ from MHHs and from each other by the gender of employed household members (more on this later). Thus, a meaningful analysis of welfare in FHHs should at the very least highlight the heterogeneity among FHHs.

In this paper, we contribute to the literature on poverty by ascertaining the relationship between female headship, household gendered employment patterns and poverty in South Africa. Like many other SSA countries, the prevalence of female headship has been generally increasing in South Africa. Moreover,

though poverty rates have largely been falling in the post-apartheid era[1] there has been an upward trend in poverty rates in the country in the recent past (Statistics South Africa, 2017). In addition, South Africa has very high unemployment rates, with the official unemployment rate about 27% (Statistics South Africa, 2018).

Specifically, we first establish that poverty is positively correlated with complete household non-employment, a situation where nobody in the household is employed. Trivial as this may be, it forms the basis for our next hypothesis: that complete household non-employment is positively correlated with female headship. Given the foregoing, we ascertain whether merely having at least a household member employed will eliminate the poverty differential between FHHs and MHHs. We find that it depends on the factors controlled for. Failure to control for the characteristics of household employment like the number of employed household members, the intensity of household members' employment, and the quality of the employment still results in significant poverty differentials. However, controlling for these job characteristics eliminates the poverty differential between both types of households. This result is important given that previous studies in South Africa did not control for most of them (like employment intensity and job quality: see e.g. Posel and Rogan (2012); Rogan (2013)). In addition, we find ample evidence of gendered employment heterogeneity among FHHs, where some are better off than others; even some FHHs are not worse off than comparable MHHs. We show that a key determinant of poverty in FHHs where someone is employed is the gender of the employed household member(s), and not necessarily the gender of the household head.

We note that belonging to a FHH may not be exogenous. For instance, some instances of female headship may be the result of household poverty (due to, say, divorce resulting from the inability of a male spouse to adequately provide for the family). To the extent that such endogeneity exists, our results should be largely interpreted as correlations. However, our regressions contain a variety of controls which try to account for different aspects of household structure.

2 LITERATURE REVIEW

Many studies have analyzed the relationship between female headship and poverty (see e.g. Buvinic and Gupta, 1997; Milazzo and van de Walle, 2017). However, only few studies (especially in developing countries) have analyzed the role of the array of household employment characteristics included in this paper in mediating the relationship between the household head's gender and poverty. Many studies that have analyzed the relationship largely focus on understanding why the prevalence of female headship has been on the increase, as well as the consequences of female headship for children's welfare (Wood, 1989; Barros et al., 1997). Most of the studies that examined the employment nexus simply included own employment, the household head's employment status, and/or the

[1] Apartheid was a system of government that systematically discriminated against non-white South Africans. It officially ended with the dawn of democracy in 1994.

number of employed household members as covariates in a poverty or income regression (Rogan, 2013; Bilenkisi et al., 2015). Many of these studies did not pay much attention to the quality of the jobs held by household members or the aggregate market hours supplied by the household members (i.e. the intensity of household members' labour market participation).

Buvinic and Gupta (1997) provide one of the most comprehensive reviews of the literature on poverty differentials between FHHs and MHHs. Out of the sixty-one studies they reviewed on the household head's gender and poverty, thirty-eight conclude that FHHs are over-represented among the poor. Fifteen find that the relationship depends on the kind of female headship and poverty measure used, while only eight studies find no relationship. While they use these results to caution against a sweeping assumption that FHHs are poorer than MHHs, it is clear that most of the studies point in this direction. However, their finding that about a quarter of the studies conclude that the relationship depends in part on the kind of FHH analyzed informs our stance on treating FHHs as a heterogeneous group.

Barros et al. (1997) analyze the relationship between female headship, poverty and child welfare in Brazil. Their study supports the thesis of heterogeneity of FHHs, as they find that not all FHHs in Brazil are vulnerable. The heterogeneity they uncover is however in geographical and fertility terms. They find that FHHs in northeast Brazil (Recife) are poorer than MHHs there, while there is virtually no gap in the south (Porto Alegre). Moreover, FHHs with children are poorer than those without children, especially in single mother households. For them, the key determinant of FHHs' relative poverty is the lower income of the household head. However, given that their unit of analysis is the household, the lack of household-level variables indicating the intensity of household labour market participation and household members' job quality is an area that our study intends to improve upon.

Milazzo and van de Walle (2017) analyze the prevalence and welfare dynamics of FHHs in Africa in the face of the decline in poverty rates on the continent. They find that on the average, though lower prevalence of female headship is associated with a higher gross domestic product, FHHs experienced a faster reduction in poverty than MHHs. One shortcoming of their study is that they disaggregate FHHs by the presence or absence of an adult male rather by the employment status or earning power of such male household members. It is not clear if simply having more males will confer a welfare advantage on a household. Rather, it is the job- or earning-related advantages that accrue to males relative to females, that are more important for welfare differentials between households.

A number of studies have analyzed female headship and poverty in South Africa. Previous studies in South Africa mainly analyzed the trend in female headship (Posel and Rogan, 2012), the role of weather and climate-related disasters in further impoverishing FHHs (Flato et al., 2017), and the welfare of children in FHHs (Chant, 2007). Other South African studies used descriptive analysis to characterize poverty and employment patterns between FHHs and MHHs (Posel and Rogan, 2009; 2012). South African-based studies that an-

alyzed the relationship between the household head's gender and poverty in a regression framework did not control for key job quality or employment intensity variables. As we will show subsequently, accounting for these factors may alter the conclusion regarding the association between female headship and poverty (see e.g. Rogan, 2013). Also, to our best knowledge, South African studies did not account for gender differences in household employment patterns (such as exclusive female employment) as a determinant of poverty in FHHs. This forms a key objective of this study.

3 THE SOUTH AFRICAN CONTEXT

South Africa is a good example with which to analyze the relationship between poverty, female headship and employment. As has been widely documented, the incidence of poverty in South Africa is high for an upper middle-income country (World Bank, 2018). Table 1 shows the poverty headcounts in South Africa between 2006 and 2015 using three nationally determined poverty lines: the food poverty line (FPL), the lower bound poverty line (LBPL) and the upper bound poverty line (UBPL)[2].We show these poverty lines in Table 2.

Apart from very high poverty headcounts, Table 1 also indicates that though poverty headcounts decreased for most of the period, South Africa experienced an increase in poverty between 2011 and 2015.

South Africa also has very high unemployment rates. The official unemployment rate as at the fourth quarter of 2017 was 26.7%, with the rate among women higher (Statistics South Africa, 2018). Moreover, the prevalence of FHHs has generally been on the rise, with earlier studies indicating that FHHs have higher poverty prevalence than MHHs (Posel and Rogan, 2012).

South Africa consists of four officially recognized racial groups: black Africans (largely indigenous blacks); coloureds (mainly of mixed ancestry); Asians (mainly of Indian ancestry); and whites (generally Caucasian). Per the latest population census figures, the respective population shares by racial groups are: black Africans (79.6%); coloureds (9%); Asians (2.5%); and whites (8.9%) (Statistics South Africa, 2011).

Poverty is more prevalent among the black African (henceforth African) and coloured racial groups. Given the small population proportions of the Asian/Indian and white racial groups and even smaller proportions classified as poor[3], we will only restrict the analysis to the African and coloured racial

[2] Each poverty line is an estimation of the amount of money per capita required to purchase a pre-determined number of calories. Falling below the FPL implies that the individual's household is not able to purchase enough food to provide a sufficient diet. This represents extreme poverty. Those on the LBPL are able to purchase some non-food commodities, but will need to sacrifice food in order do so. Individuals who fall on the UBPL are able to purchase food and non-food goods and services (Statistics South Africa, 2014). The UBPL provides an unambiguous threshold of relative deprivation below which individuals cannot afford the minimum desired lifestyle in their society (Maluleke, 2014: unpublished).

[3] Statistics indicate that the poverty headcounts of the different population groups according to the upper bound poverty line in 2015 were: African (64.2%); coloured (37.1%); Asian/Indian (5.9%); and white (1.0%) (Statistics South Africa, 2017).

groups. Nevertheless, in analyses not reported here, most of the results for the entire racial groups are similar to those reported in this paper (results available on request).

The number of FHHs has generally been on the increase. Figure 1 shows the prevalence of female headship (relative to male headship) between 2008 and 2014.

From Figure 1, FHHs constituted 39.3% of African and coloured households in 2008. This increased to 44.6% and 46% in 2010 and 2012 respectively. However, it declined to 37.7% in 2014.

Table 3 indicates that African and coloured FHHs were consistently more likely to be food (i.e. extremely) poor compared to their male-headed counterparts.

The picture of generally rising prevalence of female headship and significantly higher poverty among FHHs indicates that extreme poverty remains a very challenging feature of the South African economy. Given that gainful employment is one of the surest means of escaping poverty, we suspect that low levels of household employment likely contributed to the very high levels of extreme poverty found in Table 3 as well as the poverty differentials between both household types. Table 4 shows the distribution of the number of employed household members across MHHs and FHHs.

The proportion of households made up of FHHs (as shown in Table 4) – 42.6% - is virtually identical to the figure of 43% for Southern Africa found by Milazzo and van de Walle (2017). From Table 4, it seems that one of the reasons for the aforementioned high prevalence of extreme poverty is the high rate of complete household non-employment in both kinds of households. Moreover, FHHs had a six-percentage point higher likelihood of experiencing complete household non-employment (which is perhaps, the main driver of poverty in these households) than MHHs. This is a likely source of the observed poverty differential between both household types.

Not only is higher complete household non-employment likely to contribute to the observed higher poverty prevalence in FHHs depicted in Table 3, the gendered composition of household employment may matter too. One possible reason is the well-known fact that women are generally paid less than men. Table 5 depicts gender-based employment patterns across both FHHs and MHHs.

Table 5 indicates that FHHs were about four times more likely to have only female members employed relative to MHHs. However, MHHs were almost five times more likely to have only males employed relative to FHHs. This table not only provides suggestive evidence of the higher prevalence of poverty in FHHs but is also indicative of the heterogeneity among FHHs. Thus, it is possible that FHHs with employed males will not have a higher poverty likelihood than their male-headed counterparts. Moreover, such FHHs may be significantly less poor than FHHs where either no household member is employed, or only females are employed. We investigate some of these hypotheses below.

4 ANALYTICAL METHODS

We use regression analysis to test the above hypotheses suggested by the foregoing descriptive analysis. Given that our overarching aim is to analyze poverty differentials between FHHs and MHHs from an employment lens, we first analyse the relationship between poverty and complete household non-employment. The objective is to test the hypothesis that a positive relationship exists between both variables. We therefore specify the following equation:

$$pov_{h,t} = \alpha nonemp_{h,t} + X_{i,t}^{/}\gamma + X_{h,t}^{/}\beta + X_{p,t}^{/}\delta + X_{t}^{/}\pi + \varepsilon_{i,h,t} \qquad (1)$$

where *pov* is a dummy variable which equals one if the individual belongs to a poor household, and zero otherwise. *nonemp* equals one if no household member is employed, and zero if at least one individual in the household is employed. X_i is a vector of individual-level covariates (e.g. own gender and education). X_h is a vector of household-level covariates (e.g. race, average age of household members, location, household size, number of children in the household, and the household head's characteristics like gender, education and marital status). X_p denotes the provincial unemployment rate, while X_t denotes time dummies. ε denotes the error term; α, γ, β, δ, and π denote parameters to be estimated; while i, h, p, and t denote individual, household, provincial and time identifiers respectively.

Next, we ascertain whether FHHs are more likely than MHHs to experience complete household non-employment.

$$nonemp_{h,t} = \alpha femhead_{h,t} + X_{i,t}^{/}\gamma + X_{h,t}^{/}\beta + X_{p,t}^{/}\delta + X_{t}^{/}\pi + \varepsilon_{i,h,t} \qquad (2)$$

where *femhead* denotes whether the household is headed by a female (relative to a male). X_i, X_h, X_p, and X_t are as defined earlier (but X_h now includes whether the household receives any government grant[4]). Other terms are as defined in equation [1].

If complete household non-employment is positively associated with poverty, and FHHs are more likely to experience complete household non-employment, perhaps job provision in FHHs will eliminate the observed poverty differential between FHHs and MHHs. To test this hypothesis, we limit the sample to households with at least one employed member (equation [3] below).

$$pov_{h,t} = \alpha femhead_{h,t} + X_{i,t}^{/}\gamma + X_{h,t}^{/}\beta + X_{p,t}^{/}\delta + X_{t}^{/}\pi + \varepsilon_{i,h,t} \qquad (3)$$

where X_i, X_h, X_p, and X_t are as defined in equation [1]. But our innovation is that we run separate specifications of equation 3, where we initially do not control for household employment-related characteristics (like the quality of employed household members' jobs, total number of market hours supplied by household members, and the number of employed household members), and

[4] We do not include household grant receipt in any of the poverty regressions, as it is likely to be endogenous given that grant receipt in South Africa is largely dependent on being income poor.

later control for these variables. The aim is to ascertain if, by failing to control for these household employment-related variables, we uncover a spurious poverty differential between FHHs and MHHs.

Recall that Table 5 indicates that FHHs are far more likely to have only women employed than MHHs are. Similarly, MHHs are far more likely to have only males employed than FHHs. Indeed, the bulk of FHHs with someone employed have only women employed (i.e. about two-thirds). We therefore proceed to ascertain if there is a significant poverty differential between FHHs where only women are employed relative to MHHs where only males are employed. This is depicted in equation [4] below:

$$pov_{h,t} = \alpha onlyfem_{h,t} + X_{i,t}^{/}\gamma + X_{h,t}^{/}\beta + X_{p,t}^{/}\delta + X_{t}^{/}\pi + \varepsilon_{i,h,t} \qquad (4)$$

where *onlyfem* is a dummy variable which equals one if only females are employed in a FHH, and zero if only males are employed in a MHH. Other covariates are as defined in equation [1].

Table 5 also reveals heterogeneity among FHHs based on gendered employment patterns. We therefore ascertain whether there are poverty differentials between FHHs where only females are employed and FHHs where at least one male is employed (see equation [5] below):

$$pov_{h,t} = \alpha onlyfemfhh_{h,t} + X_{i,t}^{/}\gamma + X_{h,t}^{/}\beta + X_{p,t}^{/}\delta + X_{t}^{/}\pi + \varepsilon_{i,h,t} \qquad (5)$$

where *onlyfemfhh* is a dummy variable which equals one if only females are employed in a FHH, and zero if at least a male is employed in a FHH. Other covariates are as defined in equation [1].

For each regression analysis, our estimation method is the pooled ordinary least squares method. All poverty regressions are estimated for two poverty measures derived from the FPL and LBPL poverty lines.

5 DATA

We sourced data from the National Income Dynamics Study (NIDS) dataset, currently a four-wave nationally representative panel dataset of individuals in South Africa. It has been collected biennially since 2008. The sampling design is two-stage stratified cluster sampling. In the first stage, 400 primary sampling units (PSUs) in 53 district council strata were selected from the 2003 master sample of Statistics South Africa's 3000 PSUs. Subsequently, households were randomly selected within each of the sampled PSUs, and all individuals from selected households were interviewed (a fuller description of the dataset is available at www.nids.uct.ac.za). 28226 resident continuing sample household members[5] belonging to 7296 households were sampled in wave 1. Out of these, 26776 respondents were successfully interviewed. Subsequently, in waves

[5] Continuing sample members (CSMs) are wave 1 resident household members and the children of female CSMs who join the sample in subsequent waves. An individual qualifies for residence in a household if she satisfies the following three conditions: (i) Has lived in

2, 3, and 4, 22966, 24329 and 25269 individuals were successfully interviewed respectively.

Key variables

We use Statistics South Africa's poverty lines (Table 2). The choice of these poverty lines over internationally determined ones (e.g. the $1.25 line) is necessitated by the fact that the former were calculated based on the amount of money necessary to buy various local baskets of goods, and therefore are more likely to accurately reflect welfare in South Africa. We restrict the analysis to the FPL and LBPL lines, as these reflect deprivation more acutely relative to the UBPL measure. But in analyses not reported here, the results generally hold when the UBPL is used (results available on request).

We classify an individual as poor if they belong to a household with a real monthly per capita income below a given poverty line[6]. Though there are arguments on (especially gender-related) intra-household bargaining which suggest that household resources may not be equally shared (Iversen, 2003), we adopt the simplifying assumption that individual welfare is a function of aggregate household income, a convention not unusual in the literature (see e.g. Klasen et al., 2015).

An individual is classified as belonging to a FHH if the survey recognized the head of the household as female. The questionnaire from which the household head was identified (the Household Questionnaire) was administered to the oldest woman in the household and/or any other adult who was knowledgeable about the household's living arrangements and spending patterns.

It is important to note that there is no single definition of household female headship in the literature. Usually, household surveys define household headship as a means of ascertaining people's relationships within the household. A typical question asks the designated respondent to identify Person X's relationship with the household head. To get around this so-called "ad-hoc" definition, some authors associate household headship with the individual who is mostly responsible for the family upkeep economically (see e.g. Lloyd and Gage-Brandon, 1993; Buvinic and Gupta, 1997). Moreover, among households with an absent adult male, some studies distinguish between the so-called de facto and de jure female household headship. The former refers to female heads with non co-resident husbands/partners who likely play an important role in family support, say, through remittances (usually associated with polygamy or labour migration). The latter, on the other hand, implies the absence of a "live-in male partner or economic support from one" (Milazzo and van der Walle, 2017: 1123).

But as aptly observed by a number of authors, being economically responsible for a household's welfare does not necessarily confer family headship on

the homestead at least fifteen days in the last twelve months or arrived there within the last fifteen days and the homestead was now their usual residence; and (ii) Shares food from a common source with other household members when they are together; and (iii) Contributes to, or shares in a common resource pool" (Nwosu, 2017: 6).

[6] Real monthly income in NIDS is obtained by deflating nominal income by 2012 prices (using August 2012 as the base month).

someone and vice versa (Handa, 1994; Posel 2001). This is especially true in an African setting where a number of factors like age and local traditions/practices may be very important in determining family headship. Indeed, there are at least anecdotal accounts of households in which the female spouse is the sole earner but where the husband has significant, if not absolute control over her earnings (sometimes against her will). Designating the highest earner as the head of such households appears erroneous to say the least. And as noted elsewhere, researcher-determined household headship is riddled with assumptions in a manner not supported by the typical survey (Milazzo and van der Walle, 2017).

Given the foregoing, we adopt the survey-designated household headship in this paper. Indeed, if we are to believe the household-level responses given by the designated household respondent on other issues like income and expenditure, there is hardly any justification not to believe her response with respect to household headship. (Recall that household-level questions in the survey were asked of the oldest woman in the household and/or any other adult with sufficient knowledge of the household's living and spending arrangements). Moreover, some authors who tried using economic criteria to determine female headship found evidence of little "misclassification" of female headship and had to resort to the survey-determined definition of headship (Barros et al., 1997). Also, previous evidence notes that South Africa is characterized by low levels of co-residency between men and women (Posel et al., 2016). In addition, we controlled for the marital status of the household head, a key variable that may distinguish different forms of female headship.

We refer to an individual as "employed" if she is an employee, self-employed, in casual employment or has helped in some job for monetary reward over the past month. Thus, the key criterion for employment is that the individual engaged in some productive activity for financial reward. The regression controls are defined in Table A1 in the Appendix.

6 RESULTS

Descriptive statistics

Table 6 depicts the descriptive statistics for FHHs and MHHs

Table 6 compares different variables of interest across household type[7]. Not only are FHHs more likely to be poor, they have lower average years of own and household head's schooling. Also, female headship is more prevalent among Africans, while FHHs are more likely to have young and old dependents. Moreover, the average number of semi-skilled and skilled household members are higher in MHHs, while the average number of unskilled household members is (albeit slightly) higher in FHHs. Also, the average aggregate number of market hours supplied by household members in MHHs exceeds that of FHHs. These findings generally conform to our expectations. However, unlike some

[7] The sample sizes are not uniform, as the different regressions estimated in this paper largely deal with different sub-samples.

studies elsewhere (e.g. Barros et al., 1997), the average number of household residents in FHHs exceeds that of MHHs. This concurs with an earlier South African study (Rogan, 2013). These findings likely underpin the higher observed poverty prevalence in FHHs in South Africa and we intend to control for them in the subsequent regressions in order to isolate the correlation between female headship and poverty.

Regression results

Table A2 in the Appendix depicts the relationship between poverty and complete household non-employment. The table indicates that given the above controls, complete household non-employment is associated with a 26 (30) percentage point increase in the probability of being poor according to the FPL (LBPL) measure. Though this result appears unsurprising, it forms the basis for the next result in Table 7. Recall that from Table 4 and Table 5, we found that FHHs had a higher prevalence of complete household non-employment. Table 7 ascertains whether the relationship remains after controlling for other relevant covariates.

Table 7 indicates that individuals who belong to a FHH have a 9.5 percentage point higher probability of belonging to a household where nobody is employed relative to their male-headed counterparts.

Given the higher prevalence of poverty in households with complete non-employment, and the higher likelihood of FHHs to experience complete household non-employment, Table 8 ascertains whether having someone employed in FHHs will eliminate the poverty differential between them and similar MHHs. This regression is restricted to households where at least one household member is employed. The key covariate is a dummy variable which equals one if a FHH has at least one employed member, and zero if a MHH has at least one employed member.

Table 8 reveals some important facts about the poverty differentials between FHHs and MHHs in South Africa. When only FHHs and MHHs with at least one employed household member are compared, FHHs still appear to be more likely to be poor when household employment characteristics are not controlled for (columns 1 and 2 of Table 8). Indeed, the covariates in these columns are similar to those included in earlier studies in South Africa (e.g. Rogan, 2013). However, when the household's job characteristics like total market hours supplied, number of employed household members, and the number of household members in different skill categories (i.e. job quality) are controlled for, the correlation vanishes. These results show a spurious poverty-female headship relationship if one does not control for the intensity of family labour supply, the number of employed household members, and the quality of household members' employment. Thus, the prevalence of poverty is not higher in FHHs than in MHHs with similar employment characteristics.

The foregoing also reveals an important aspect of poverty in FHHs: FHHs are heterogeneous in nature. Thus, while there seems to be clear evidence regarding higher poverty prevalence in FHHs than MHHs (Table 3), FHHs and MHHs with similar employment characteristics do not have significantly different poverty prevalence. Thus, using female headship as a poverty targeting parameter is

not likely to result in an efficient allocation of scarce resources in South Africa. This view concurs with findings elsewhere (Buvinic and Gupta, 1997).

Table 8 is however, too general to permit meaningful conclusions about gendered poverty. It is well known that women face discrimination in the labour market relative to men (Jarrell, and Stanley, 2004). Thus, though Table 8 indicates that FHHs are not less likely to be poor relative to MHHs with similar job characteristics, a potential source of higher poverty prevalence in FHHs is the gender of employed household members. Table 5 above indicates that among households with someone employed, FHHs have a disproportionately higher likelihood of having only females employed, while MHHs have a far higher likelihood of having only males employed. Since women generally face higher labour market/wage discrimination, FHHs with only females employed may be more likely to be poor relative to MHHs where only males are employed.

Table 9 depicts the relationship between poverty and household headship according to the gender of employed household members. The key covariate is a dummy variable, which equals one if only females are employed in a FHH, and zero if only males are employed in a MHH.

Table 9 indicates that FHHs with exclusive female employment are significantly more likely to be poor relative to MHHs with exclusive male employment irrespective of whether or not employment characteristics are controlled for. This correlation is not due to supply-related lower earnings in FHHs, given that we controlled for the number of market hours supplied. Thus, it is not just enough to have members of FHHs employed. The fact that only females are employed in majority of FHHs with someone employed predisposes them to poverty even when one takes into account the intensity of their market labour supply, skill level and number of employed household members. Thus, merely concluding that no poverty differential exists between FHHs and MHHs with someone employed (Table 8) masks the underlying poverty in many FHHs due to the labour market disadvantages women face. Thus, among FHHs where someone is employed, households with exclusive female employment may represent "pockets of poverty", using the words of Fuwa (2000: 1515).

Recall that Milazzo and van de Walle (2017) highlighted the absence of a male household member as a reason for higher poverty among FHHs in SSA. We noted that it may not necessarily be the lack of male household members per se, but the lack of *employed* male members that is likely to have a significant effect on poverty in FHHs. The above regressions partly support our thesis. Many of our regressions indicate either a statistically insignificant gender variable or a numerically small coefficient (we concede that the gender variable also includes non-adults). In contrast, the gender-related employment variables are generally nontrivial numerically, as well as strongly statistically significant. Thus, the fact that only about 18% of FHHs have some male employed (vis-à-vis 53% for MHHs) – see Table 5 - is a main source of FHH poverty in South Africa.

To further interrogate the heterogeneity among FHHs, we compare FHHs with exclusive female employment and FHHs with at least a male employed (irrespective of the number of women employed) – see Table 10. FHHs with exclusive female employment have a 2.7- 5.8 percentage point higher probability

of being poor relative to their counterparts with at least an employed male.

The foregoing analysis points to two labour market-related sources of poverty in FHHs. One, FHHs are more likely to experience complete household non-employment than MHHs. Second, even among households with someone employed, FHHs are far more likely than MHHs to experience exclusive female employment. Such exclusive female employment confers welfare disadvantages to FHHs irrespective of the number of people employed in such households, the intensity of their market labour supply and the quality of their labour supply. Therefore, we suspect that the resulting welfare differential is due to the cumulative disadvantages women face in the labour market – most likely wage discrimination. Furthermore, FHHs are heterogeneous. FHHs with at least one employed male member are significantly less likely to be poor relative to those with exclusive female employment, even after controlling for the number of employed household members, job quality and total hours supplied. Even in other analyses not reported (but available on request), FHHs with at least an employed male are not more likely to be poor relative to similar MHHs, while FHHs with exclusive male employment are significantly less likely to be poor relative to similar MHHs. These results indicate that not all FHHs are more economically vulnerable than similar MHHs, suggesting that using female headship as a poverty-targeting tool per se represents an inefficient use of resources.

7 CONCLUSIONS

In this paper, we analyzed the relationship between female household headship and poverty in South Africa. In particular, we explored how household employment characteristics and employment-related heterogeneity among FHHs affect conclusions about the perceived poverty of FHHs. At least, three points are apparent.

First, given that FHHs are more likely to experience complete household non-employment, and that complete household non-employment is positively correlated with poverty, FHHs are generally vulnerable.

Second, among households with someone employed, failure to control for employment intensity, the number of employed household members, and household job quality leads to an erroneous conclusion about a positive association between female headship and poverty in South Africa.

Third, FHHs are heterogeneous especially with respect to household gendered employment patterns. Among households with someone employed, those who have at least one employed male are not likely to be poor relative to similar MHHs. However, those who have only female members employed are significantly more likely to be poor. So, it is the gender composition of employed household members, rather than the gender of the household head, that is more important in determining poverty among households whose members are employed. And given that FHHs are far more likely to experience exclusive female employment relative to MHHs, many of them remain economically vulnerable.

Therefore, female headship per se, is not an efficient poverty targeting mea-

sure. Given that majority of FHHs with someone employed experienced exclusive female employment, the source of their poverty lies in the cumulative disadvantages women face in the labour market. It is likely that the labour market disadvantages uncovered here are not due to women supplying less market hours (given that we controlled for hours supplied), or being less qualified than men (given our control of job quality and education). It is (at least partly) likely due to discrimination – women being paid less than men for similar work. Addressing these disadvantages and understanding the underlying causes of higher rates of complete household non-employment in FHHs will help alleviate poverty among FHHs.

References

[1] Barros, R., Fox, L., & Mendonca, R. (1997). Female-headed households, poverty, and the welfare of children in urban Brazil. *Economic Development and Cultural Change*, *45*(2), 231-257.

[2] Bilenkisi, F., Gungor, M. S., & Tapsin, G. (2015). The Impact of Household Heads' Education Levels on the Poverty Risk: The Evidence from Turkey. *Educational Sciences: Theory and Practice*, *15*(2), 337-348.

[3] Buvinić, M., & Gupta, G. R. (1997). Female-headed households and female-maintained families: are they worth targeting to reduce poverty in developing countries?. *Economic Development and Cultural Change*, *45*(2), 259-280.

[4] Chant, S. (2007). *Poverty begins at home? Questioning some (mis) conceptions about children, poverty and privation in female-headed households* (No. id: 817).

[5] Dreze, J., & Srinivasan, P. V. (1997). Widowhood and poverty in rural India: Some inferences from household survey data. *Journal of Development Economics*, *54*(2), 217-234.\

[6] Flatø, M., Muttarak, R., & Pelser, A. (2017). Women, weather, and woes: The triangular dynamics of female-headed households, economic vulnerability, and climate variability in South Africa. *World Development*, *90*, 41-62.

[7] Fuwa, N. (2000). The poverty and heterogeneity among female-headed households revisited: the case of Panama. *World Development*, *28*(8), 1515-1542.

[8] Goldberg, G. S., & Kremen, E. (1987). *The Feminization of Poverty: Only in America?* New York: Praeger.

[9] Handa, S. (1994). Gender, headship and intrahousehold resource allocation. *World Development*, *22*(10), 1535-1547.

[10] Iversen, V. (2003). Intra-household inequality: a challenge for the capability approach?. *Feminist Economics*, *9*(2-3), 93-115.

[11] Jarrell, S. B., & Stanley, T. D. (2004). Declining bias and gender wage discrimination? A meta-regression analysis. *Journal of Human Resources*, *39*(3), 828-838.

[12] Klasen, S., Lechtenfeld, T., & Povel, F. (2015). A feminization of vulnerability? Female headship, poverty, and vulnerability in Thailand and Vietnam. *World Development*, *71*, 36-53.

[13] Lloyd, C. B., & Gage-Brandon, A. J. (1993). Women's role in maintaining households: family welfare and sexual inequality in Ghana. *Population Studies*, *47*(1), 115-131.

[14] Maluleke, R. (2014). Poverty in South Africa. Unpublished.

[15] Milazzo, A., & van de Walle, D. (2017). Women Left Behind? Poverty and Headship in Africa. *Demography*, *54*(3), 1119-1145.

[16] Nwosu, C. O. (2017). The relationship between employment and mental and physical health in South Africa. *Development Southern Africa*, *DOI: 10.1080/0376835X.2017.1392847*.

[17] Posel, D. R. (2001). Who are the heads of household, what do they do, and is the concept of headship useful? An analysis of headship in South Africa. *Development Southern Africa*, *18*(5), 651-670.

[18] Posel, D., & Rogan, M. (2009). Women, income and poverty: Gendered access to resources in post-apartheid South Africa. *Agenda*, *23*(81), 25-34.

[19] Posel, D., & Rogan, M. (2012). Gendered trends in poverty in the post-apartheid period, 1997–2006. *Development Southern Africa*, *29*(1), 97-113.

[20] Posel, D., Casale, D., & Grapsa, E. (2016). Re-estimating gender differences in income in South Africa: The implications of equivalence scales. *Development Southern Africa*, *33*(4), 425-441.

[21] Rogan, M. (2013). Poverty and headship in post-apartheid South Africa, 1997–2006. *Social Indicators Research*, *113*(1), 491-511.

[22] Statistics, South Africa. (2011). Census 2011 methodology and highlights of key results. Pretoria: Statistics South Africa.

[23] Statistics South Africa. (2014). *Poverty Trends in South Africa: An examination of absolute poverty between 2006 and 2011*.Pretoria: Statistics South Africa.

[24] Statistics South Africa. (2017). *Poverty Trends in South Africa: An examination of absolute poverty between 2006 and 2015*. Pretoria: Statistics South Africa.

Table 1: Poverty headcounts in South Africa (2006-2015)

Poverty headcounts	2006	2009	2011	2015
Percentage of population that is UBPL poor	66.6	62.1	53.2	55.5
Percentage of population that is LBPL poor	51.0	47.6	36.4	40.0
Percentage of population that is FPL poor	28.4	33.5	21.4	25.2

Source: Statistics South Africa (2017)

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: Percentage of female-headed and male-headed households in extreme poverty (i.e. FPL)

Year	MHHs (%)	FHHs (%)	p-value
2008	12.17	17.88	0.00
2010	15.09	25.78	0.00
2012	14.46	20.97	0.00
2014	13.38	18.19	0.00

Source: Author computations based on the National Income Dynamics Study dataset

Table 4: Distribution of household employment sizes by gender of household head

	MHHs		FHHs	
Number of employed household members	**N**	**%**	**N**	**%**
0	5642	38.1	4846	44.1
1	7150	48.3	4603	41.9
2	1641	11.1	1174	10.7
3	297	2.0	306	2.8
4	50	0.3	39	0.4
5	15	0.1	20	0.2
6	0	0.0	5	0.0
Total number of households	**14795**	**100.0**	**10992**	**100.0**

Source: Author computations based on the National Income Dynamics Study dataset; pooled sample (2008-2014); estimates weighted by panel weights to correct for sampling design and non-random attrition

Table 5: Distribution of households by employment patterns

	MHHs		FHHs	
Household Type	No. of households	%	No. of households	%
Only females employed	1288	8.7	4113	37.3
Only males employed	6308	42.5	996	9.0
Females and males employed	1553	10.5	1034	9.4
Nobody employed	5699	38.4	4880	44.3
Total	**14849**	**100.0**	**11023**	**100.0**

Source: Author computations based on the National Income Dynamics Study dataset; pooled sample (2008-2014); estimates weighted by panel weights to correct for sampling design and non-random attrition

Table 6: Descriptive statistics

MHHs				FHHs			
Variable	N	Mean	Std. Dev.	Variable	N	Mean	Std. Dev.
poor (based on fpl)	38158	0.160	0.366	poor (based on fpl)	46497	0.267	0.442
poor (based on lbpl)	38158	0.294	0.455	poor (based on lbpl)	46497	0.449	0.497
years of schooling	37992	7.101	4.533	years of schooling	46276	6.558	4.586
head's years of schooling	28480	7.709	4.294	head's years of schooling	46399	6.987	4.461
african	33975	0.890	0.312	african	42967	0.924	0.265
coloured	4183	0.110	0.312	coloured	3530	0.076	0.265
male	38158	0.590	0.492	male	46498	0.380	0.485
rural formal	2752	0.072	0.259	rural formal	2458	0.053	0.224
traditional authority	12862	0.338	0.473	traditional authority	19473	0.419	0.493
urban formal	17944	0.471	0.499	urban formal	18775	0.404	0.491
urban informal	4539	0.119	0.324	urban informal	5733	0.123	0.329
num. of u-14 children in hh	38163	1.551	1.659	num. of u-14 children in hh	46506	2.135	1.820
num. over-60 years in hh	38163	0.251	0.576	num. over-60 years in hh	46506	0.310	0.526
belongs to grant-receiving hh	38135	0.555	0.497	belongs to grant-receiving hh	46495	0.731	0.444
household size	38158	5.219	3.272	household size	46497	6.021	3.389
hh head is married/cohabiting	28541	0.756	0.430	hh head is married/cohabiting	46427	0.308	0.462
tot. market hours supplied by hh members	37863	34.996	41.051	tot. market hours supplied by hh members	46397	29.391	41.213
num. of employed hh members	38028	0.998	0.987	num. of employed hh members	46374	0.864	0.954
num. of unskilled hh members	35810	0.254	0.513	num. of unskilled hh members	44119	0.289	0.555
num. of semi-skilled hh members	35946	0.527	0.736	num. of semi-skilled hh members	44189	0.392	0.648
num. of skilled hh members	35615	0.128	0.377	num. of skilled hh members	43866	0.097	0.324
real hh income per capita	38158	1796.87	3498.82	real hh income per capita	46497	1060.69	1696.06

Source: Author computations; pooled sample (wave 1 – wave 4); estimates weighted by panel weights to correct for sampling design and non-random attrition; hh=household; u-14=under-14; tot=total; num.=number

Table 7: The relationship between female headship and complete household non-employment

Dep variable: individual is from a "complete non-employment" hh	
covariates	
belongs to a female-headed household	0.095***
	(0.006)
years of schooling	-0.006***
	(0.001)
household head's years of schooling	-0.010***
	(0.001)
coloured	-0.031***
	(0.009)
male	-0.022***
	(0.006)
household average age	-0.002***
	(0.000)
rural formal	-0.193***
	(0.010)
urban formal	-0.179***
	(0.007)
urban informal	-0.152***
	(0.012)
household size	-0.039***
	(0.001)
number of under-14 children in household	0.023***
	(0.003)
number of household members above 60 years	0.112***
	(0.006)
household head is married/cohabiting	-0.032***
	(0.006)
household received grant	0.090***
	(0.006)
provincial unemployment rate	0.001**
	(0.001)
wave 2	0.063***
	(0.006)
wave 3	0.003
	(0.006)
wave 4	-0.038***
	(0.006)
constant	0.653***
	(0.025)
number of observations	74,304
R-squared	0.144

Authors' computations; samples weighted by panel weights to correct for sampling design and non-random attrition; Robust standard errors, clustered on the individual, in parentheses; *** p<0.01, ** p<0.05, * p<0.1; hh=household

Table 8: Relationship between poverty and gender-based household employment

Dep variable: individual is from a poor household	(1)	(2)	(3)	(4)
	No employment controls		+ employment controls	
covariates	**FPL**	**LBPL**	**FPL**	**LBPL**
fhh has employed member(s)	0.014***	0.024***	0.003	0.005
	(0.004)	(0.006)	(0.004)	(0.006)
years of schooling	-0.001**	-0.003***	-0.000	-0.002**
	(0.001)	(0.001)	(0.001)	(0.001)
household head's years of schooling	-0.011***	-0.022***	-0.010***	-0.018***
	(0.001)	(0.001)	(0.001)	(0.001)
coloured	-0.015**	-0.046***	0.000	-0.023***
	(0.006)	(0.009)	(0.006)	(0.008)
male	-0.005	-0.001	-0.004	0.000
	(0.004)	(0.006)	(0.004)	(0.006)
household average age	-0.001***	-0.004***	-0.001***	-0.003***
	(0.000)	(0.000)	(0.000)	(0.000)
rural formal	-0.064***	-0.111***	-0.043***	-0.083***
	(0.007)	(0.009)	(0.007)	(0.009)
urban formal	-0.071***	-0.124***	-0.053***	-0.095***
	(0.006)	(0.008)	(0.006)	(0.007)
urban informal	-0.078***	-0.095***	-0.067***	-0.079***
	(0.008)	(0.012)	(0.008)	(0.011)
number of under-14 children in household	0.032***	0.049***	0.022***	0.031***
	(0.003)	(0.003)	(0.002)	(0.003)
number of household members above 60 years	-0.082***	-0.099***	-0.095***	-0.114***
	(0.004)	(0.006)	(0.004)	(0.006)
household size	0.004***	0.010***	0.017***	0.031***
	(0.001)	(0.002)	(0.001)	(0.002)
household head is married/cohabiting	-0.026***	-0.037***	-0.023***	-0.030***
	(0.004)	(0.006)	(0.004)	(0.006)
provincial unemployment rate	0.000	0.001	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)
total weekly hours worked by household members			-0.001***	-0.001***
			(0.000)	(0.000)
number of employed household members			-0.031***	-0.068***
			(0.005)	(0.006)
number of household members in unskilled occupations			-0.021***	-0.012*
			(0.005)	(0.007)
number of household members in semi-skilled occupations			-0.036***	-0.062***
			(0.005)	(0.006)
number of household members in skilled occupations			-0.045***	-0.079***
			(0.006)	(0.008)
wave 2	0.049***	0.019**	0.046***	0.014*
	(0.006)	(0.008)	(0.006)	(0.007)
wave 3	0.039***	0.031***	0.036***	0.024***
	(0.006)	(0.007)	(0.005)	(0.007)
wave 4	0.048***	0.059***	0.055***	0.069***
	(0.005)	(0.007)	(0.005)	(0.007)
constant	0.195***	0.466***	0.236***	0.534***
	(0.018)	(0.025)	(0.018)	(0.024)
number of observations	41,112	41,112	41,112	41,112
R-squared	0.131	0.241	0.171	0.300

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

Table 9: Relationship between poverty and gender-based household employment when household employment systematically varies by gender

Dep variable: individual is from a poor household	**(1)**	**(2)**	**(3)**	**(4)**
	No employment controls		+ employment controls	
Covariates	FPL	LBPL	FPL	LBPL
only females empl in fhh (vs only males employed in mhh)	0.029***	0.036***	0.024***	0.026***
	(0.007)	(0.009)	(0.007)	(0.009)
years of schooling	0.000	-0.002	0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)
household head's years of schooling	-0.015***	-0.026***	-0.013***	-0.022***
	(0.001)	(0.001)	(0.001)	(0.001)
coloured	0.002	-0.028**	0.011	-0.019
	(0.010)	(0.012)	(0.010)	(0.012)
male	0.005	0.013	0.005	0.013
	(0.007)	(0.008)	(0.007)	(0.008)
household average age	-0.001***	-0.004***	-0.001***	-0.004***
	(0.000)	(0.000)	(0.000)	(0.000)
rural formal	-0.075***	-0.127***	-0.060***	-0.111***
	(0.009)	(0.013)	(0.009)	(0.013)
urban formal	-0.061***	-0.116***	-0.054***	-0.106***
	(0.008)	(0.009)	(0.007)	(0.009)
urban informal	-0.051***	-0.100***	-0.042***	-0.089***
	(0.013)	(0.015)	(0.013)	(0.015)
number of under-14 children in household	0.029***	0.034***	0.022***	0.026***
	(0.004)	(0.005)	(0.004)	(0.005)
number of household members above 60 years	-0.109***	-0.133***	-0.112***	-0.136***
	(0.007)	(0.009)	(0.007)	(0.009)
household size	0.009***	0.028***	0.016***	0.037***
	(0.002)	(0.002)	(0.002)	(0.002)
household head is married/cohabiting	-0.016**	-0.025***	-0.024***	-0.032***
	(0.006)	(0.008)	(0.006)	(0.008)
provincial unemployment rate	-0.001	-0.001	-0.001*	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)
total weekly hours worked by household members			-0.001***	-0.001***
			(0.000)	(0.000)
number of employed household members			-0.043***	-0.035***
			(0.010)	(0.012)
number of household members in unskilled occupations			-0.004	-0.010
			(0.010)	(0.013)
number of household members in semi-skilled occupations			-0.027**	-0.084***
			(0.010)	(0.012)
number of household members in skilled occupations			-0.060***	-0.137***
			(0.011)	(0.013)
wave 2	0.048***	0.057***	0.042***	0.052***
	(0.009)	(0.010)	(0.008)	(0.010)
wave 3	0.051***	0.066***	0.048***	0.063***
	(0.008)	(0.009)	(0.008)	(0.009)
wave 4	0.064***	0.093***	0.066***	0.098***
	(0.008)	(0.010)	(0.008)	(0.010)
constant	0.222***	0.476***	0.289***	0.551***
	(0.025)	(0.032)	(0.026)	(0.033)
number of observations	22,502	22,502	22,502	22,502
R-squared	0.145	0.300	0.168	0.326

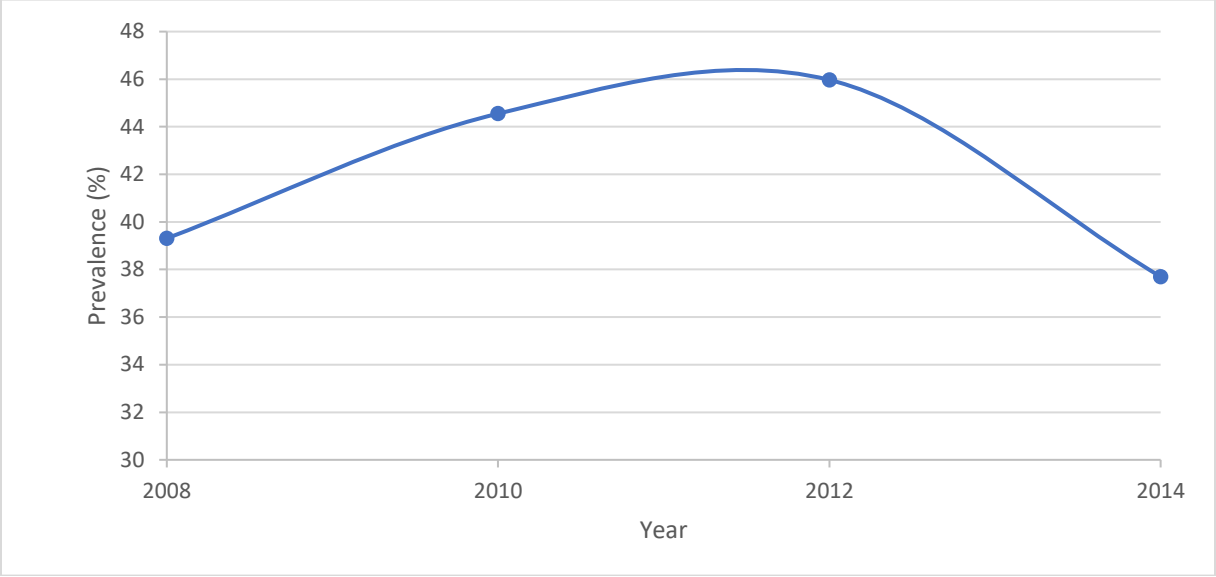
Authors' computations; samples weighted by panel weights to correct for sampling design and non-random attrition; Robust standard errors, clustered on the individual, in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 10: Relationship between poverty and female headship by the gender of the employed household member(s)

Dep variable: individual is from a poor household	**(1)**	**(2)**	**(3)**	**(4)**
	No employment controls		+ employment controls	
VARIABLES	FPL	LBPL	FPL	LBPL
only females empl in fhh (vs at least a male empl in fhh)	0.078***	0.138***	0.027***	0.058***
	(0.007)	(0.008)	(0.008)	(0.009)
years of schooling	-0.002**	-0.004***	-0.001	-0.003***
	(0.001)	(0.001)	(0.001)	(0.001)
household head's years of schooling	-0.014***	-0.025***	-0.011***	-0.021***
	(0.001)	(0.001)	(0.001)	(0.001)
coloured	-0.047***	-0.062***	-0.040***	-0.054***
	(0.009)	(0.013)	(0.008)	(0.013)
male	0.002	0.015*	0.001	0.013
	(0.007)	(0.009)	(0.007)	(0.008)
household average age	-0.001***	-0.004***	-0.001*	-0.004***
	(0.000)	(0.001)	(0.000)	(0.001)
rural formal	-0.040***	-0.080***	-0.023**	-0.060***
	(0.010)	(0.014)	(0.010)	(0.013)
urban formal	-0.060***	-0.104***	-0.045***	-0.085***
	(0.008)	(0.010)	(0.008)	(0.010)
urban informal	-0.076***	-0.093***	-0.063***	-0.082***
	(0.012)	(0.016)	(0.012)	(0.015)
number of under-14 children in household	0.020***	0.032***	0.013***	0.020***
	(0.004)	(0.004)	(0.004)	(0.004)
number of household members above 60 years	-0.107***	-0.140***	-0.121***	-0.158***
	(0.007)	(0.009)	(0.007)	(0.009)
household size	0.012***	0.020***	0.023***	0.035***
	(0.002)	(0.002)	(0.002)	(0.002)
household head is married/cohabiting	-0.013**	-0.029***	-0.023***	-0.040***
	(0.007)	(0.009)	(0.006)	(0.008)
provincial unemployment rate	0.002*	0.001	0.001	0.000
	(0.001)	(0.001)	(0.001)	(0.001)
total weekly hours worked by household members			-0.001***	-0.000***
			(0.000)	(0.000)
number of employed household members			-0.023***	-0.061***
			(0.007)	(0.010)
number of household members in unskilled occupations			-0.032***	-0.036***
			(0.008)	(0.010)
number of household members in semi-skilled occupations			-0.048***	-0.070***
			(0.008)	(0.010)
number of household members in skilled occupations			-0.055***	-0.115***
			(0.008)	(0.012)
wave 2	0.066***	0.038***	0.064***	0.029**
	(0.010)	(0.012)	(0.010)	(0.011)
wave 3	0.043***	0.041***	0.038***	0.028***
	(0.008)	(0.010)	(0.008)	(0.010)
wave 4	0.045***	0.054***	0.055***	0.065***
	(0.008)	(0.011)	(0.008)	(0.011)
constant	0.125***	0.403***	0.212***	0.541***
	(0.028)	(0.034)	(0.028)	(0.034)
number of observations	22,782	22,782	22,782	22,782
R-squared	0.134	0.240	0.171	0.284

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

Figure 1: Prevalence of female-headed households in South Africa (2008-2014)



Source: Author computations based on the National Income Dynamics Study dataset[8]; estimates weighted by post-stratification and panel weights to account for national representativeness and non-random attrition

[8] A description of the dataset is provided in the Data section.

APPENDIX

Table A1: Definition of regression controls

Variable	Description
Years of schooling	Highest number of own years of schooling
Household head's years of schooling	Household head's highest number of years of schooling
Race	=1 if coloured; =0 if African
Male	=1 if male; =0 if female
Household average age	The average age of household members (in years)
Location	=1 if traditional authority;=2 if rural formal;=3 if urban formal;=4 if urban informal
Household size	The number of residents in a household
Under-14	The number of children aged 14 years or younger in a household
Over-60	The number of household members aged above 60 years
Household head's marital status	=1 if household head is married/cohabiting;=0 if never married, widowed, divorced/separated
Grant	=1 if individual belongs to a grant-receiving household;=0 otherwise
Provincial unemployment rate	The unemployment rate in the respondent's province
Waves	=1 if wave 1;=2 if wave 2; =3 if wave 3;=4 if wave 4
Total weekly hours	Total number of hours worked by employed household members per week
Number of employed household members	Total number of employed household members
Number in unskilled occupations	Number of household members employed in unskilled occupations
Number in semi-skilled occupations	Number of household members employed in semi-skilled occupations
Number in skilled occupations	Number of household members employed in skilled occupations

Table A2: The relationship between poverty and complete household non-employment

Dep variable: individual comes from a poor household	(1)	(2)
covariates	**FPL**	**LBPL**
complete household non-employment	0.262***	0.303***
	(0.005)	(0.005)
female-headed household	0.010**	0.019***
	(0.004)	(0.005)
male	0.000	-0.003
	(0.004)	(0.005)
years of schooling	-0.001	-0.003***
	(0.001)	(0.001)
household head's years of schooling	-0.011***	-0.019***
	(0.001)	(0.001)
coloured	-0.026***	-0.050***
	(0.006)	(0.008)
household average age	-0.003***	-0.007***
	(0.000)	(0.000)
rural formal	-0.068***	-0.102***
	(0.007)	(0.008)
urban formal	-0.086***	-0.127***
	(0.005)	(0.006)
urban informal	-0.071***	-0.096***
	(0.008)	(0.010)
household size	0.012***	0.018***
	(0.001)	(0.001)
number of under-14 children in household	0.028***	0.033***
	(0.002)	(0.003)
number of household members above 60 years	-0.132***	-0.093***
	(0.004)	(0.005)
household head is married/cohabiting	-0.037***	-0.041***
	(0.004)	(0.005)
provincial unemployment rate	0.002***	0.002***
	(0.000)	(0.001)
wave 2	0.076***	0.033***
	(0.005)	(0.006)
wave 3	0.066***	0.051***
	(0.005)	(0.005)
wave 4	0.062***	0.058***
	(0.005)	(0.006)
constant	0.179***	0.477***
	(0.017)	(0.020)
number of observations	74,321	74,321
R-squared	0.256	0.339

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

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