Employment and poverty in South Africa: a gendered analysis

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1. Introduction

South Africa faces significant challenges from very high levels of unemployment and poverty. Also, the gender dimensions of poverty and unemployment in South Africa have been well documented. The consensus is that unemployment, economic inactivity and poverty are disproportionately borne by women and female-headed households. This notwithstanding, there is scant evidence on how certain aspects of household structure interact with gender to produce the observed gendered patterns in employment and poverty in the country.

We therefore exploit the currently available four waves of the National Income Dynamics Study, a nationally representative panel dataset, to enrich the debate on gendered aspects of employment and poverty in South Africa. Given the well-known positive effect of non-employment on poverty, we establish that having no employed household member (a situation of complete household non-employment) is positively associated with poverty. Given the afore-mentioned evidence that female-headed households are poorer than their male-headed counterparts in South Africa, we investigate the relationship between household female headship and the probability of complete household non-employment. The results indicate that female-headed households are more likely to experience complete household non-employment relative to their male-headed counterparts. Indeed, between 2008 and 2014, about 40% of households in the sample were characterized by complete household non-employment, with the problem more prevalent among female-headed households (43% relative to 37% for male-headed households). However, it is not immediately clear whether merely providing employment opportunities or high quality jobs to female-headed households will eliminate the poverty gap between them and their male-headed counterparts. To test this, we estimate whether there is any significant poverty differential between female-headed households where only women are employed and male-headed households where only men are employed, while controlling for the number of employed household members and the occupational category of employed household members (an indicator of job quality). The results still indicate a statistically significant poverty differential, with the female-headed households still poorer than their male-headed counterparts. The same result carried over to comparing households where only women were employed to their counterparts where only men were employed in general.

These results are very important in the debate about gender and poverty in South Africa. Not only are female-headed households more likely to have nobody in the household employed, thus being predisposed to be poor, even being employed does not eliminate the poverty differential between both household types even after controlling for the number of employed household members and the quality of jobs held by employed household members. This is very worrying given that gainful employment is an important avenue for escaping poverty.

These results suggest a number of policy options that the government may pursue in its poverty alleviation efforts. First, effort should be geared toward encouraging those in female-headed households to be gainfully employed. In addition, the government should get to the root causes of the poverty differentials between households where only women are employed relative to

those where only men are employed. It is worrying that this poverty differential exists even after controlling for poverty-reducing factors like the number of employed household members, job quality, location, the local unemployment rate, the number of children in the household, and key characteristics of the household head like gender, marital status and educational attainment.

2. Materials and methods

2.1 Data and key variables

Data was sourced from the National Income Dynamics Study, currently a four-wave nationally representative panel dataset of individuals in South Africa. Collected biennially since 2008, the sampling design was a two-stage stratified cluster design. A more detailed description of the dataset has been provided elsewhere (Nwosu & Woolard, 2017).

The key variables in this paper are poverty, employment and gender. Poverty is a dummy variable which equals 1 if an individual belongs to a poor household (i.e. if the household earned below a given poverty line), and 0 otherwise. We used three poverty lines determined by Statistics South Africa. These are the food poverty line (FPL), lower bound poverty line (LBPL) and upper bound poverty line (UBPL). Each poverty line is an estimation of the amount of money per capita required to purchase a pre-determined number of calories. Being adjudged poor according to the FPL measure implies that the individual's household is not able to purchase enough food to provide a sufficient diet. Though able to purchase some non-food commodities, those adjudged poor according to the LBPL measure will need to sacrifice food in order to afford such non-food items. On the other hand, individuals at the UBPL are able to purchase food and non-food goods and services (Statistics South Africa, 2014).

We use three employment-related measures in this paper. The first measure (*nonemp*) equals 1 if no household member was employed, and 0 if at least one individual was employed in the household. Two variables are used to describe having only female household members employed (compared to having only men employed). The first (*onlyfem1*) equals one if only female members in a female-headed household are employed (relative to only male members in a male-headed household are employed). The other (*onlyfem2*) is a dummy variable which equals 1 if only women were employed in a particular household, and zero if only men were employed, irrespective of the gender of the household head. As will be seen, each of these employment measures is meant to answer a different research question. Gender is a dummy variable equal to 1 if the individual was male, and 0 if female.

2.2 Models

This paper will utilize descriptive and regression analyses in evaluating the gendered relationships between employment and poverty in South Africa. These analyses will include tests of statistical differences between gender groups with respect to variables of interest. For the regression analysis, we will conduct three kinds of analysis. First, we analyse the relationship between having no household member employed and poverty. The objective is to test the hypothesis that a positive relationship exists between both variables. We therefore specify the following equation:

$$pov_{i,t} = \alpha nonemp_{i,t} + X^{/}_{i,t}\gamma + X^{/}_{h,t}\beta + X^{/}_{p,t}\delta + \varepsilon_{i,h,t} \qquad [1]$$

where *pov* is a dummy variable which equals one is a dummy variable which equals one if the individual belongs to poor household, and zero otherwise (we will estimate the regressions using the three measures of poverty: FPL, LBPL and UBPL); *nonemp* is as earlier defined; X_i is a vector of individual-level covariates (gender and own education); X_h is a vector of household-level covariates (household head's characteristics: gender, education and marital status; race, average age of household members, location, household size, and number of children in the household); X_p denotes the provincial unemployment rate; ε denotes the error term; α, γ, β and δ denote parameters to be estimated; while i, h, p, and t denote individual, household, provincial and time identifiers respectively. Equation [1] will be estimated for three poverty measures derived from the three poverty lines.

To ascertain the relationship between female headship and complete household non-employment, we specify equation [2] as follows:

$$nonemp_{h,t} = \alpha femhead_{h,t} + X^{/}_{i,t}\gamma + X^{/}_{h,t}\beta + X^{/}_{p,t}\delta + \varepsilon_{i,h,t} \qquad [2]$$

where *nonemp* is as earlier defined; *femhead* denotes whether the household is headed by a female (relative to a male). X_i is identical to its counterparts in equations [1]; while X_h is identical to its counterpart in equation [1] (without femhead) and whether the household receives government grant. Other terms are as defined in equation [1].

Finally, given that equation [2] ascertains whether female-headed households are more likely to have complete non-employment than their male-headed counterparts, equation [3] below determines whether poverty differentials exist between female-headed households where only women are employed and male-headed households where only males are employed. We therefore specify equation [3] as follows:

$$pov_{h,t} = \alpha onlyfem1_{h,t} + X^{/}_{i,t}\gamma + X^{/}_{h,t}\beta + X^{/}_{p,t}\delta + \varepsilon_{i,h,t} \qquad [3]$$

where both *pov* and *onlyfem1* are as earlier define; X_h is identical to its counterpart in equation [2]; while all the other terms are as defined in equation [1].

We also re-estimate equation [3] for the entire sample, where we evaluate the relationship between having only women employed (relative to only men) and poverty without restricting either based on the gender of the household head as follows:

$$pov_{h,t} = \alpha onlyfem2_{h,t} + X^{/}_{i,t}\gamma + X^{/}_{h,t}\beta + X^{/}_{p,t}\delta + \varepsilon_{i,h,t} \qquad [4]$$

where onlyfem2 is as earlier defined; while the other terms are as defined in equation [1]. All equations will be estimated using the linear probability model, while all results (regression and descriptive) will be corrected for sampling design and non-random attrition using panel weights.

3. Results

3.1 Descriptive analysis

As earlier indicated, we selected the poverty lines 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. Table 1 below shows the various poverty lines used in this paper across the various years.

[Table 1]

Table 2 depicts the distribution of households by their employment patterns from the pooled sample (wave 1 – wave 4).

[Table 2]

Table 2 indicates that the most common household type was one where nobody was employed. About 40% of households did not have anybody employed, followed by 28% of households where only males were employed. Households in which only females were employed constituted about 21% of the sample, while only 12% of households had both males and females employed. Looking at Table 2, one is not surprised that poverty remains one of the triple socio-economic problems facing South Africa given that employment is a major source of escape from poverty.

Table 3 indicates the distribution of the number of employed people per household by the gender of the household head.

[Table 3]

Table 3 indicates that the proportion of female-headed households with no employed household member exceeded that of male-headed households. Nobody was employed in 43% of female-headed households, while the corresponding figure for male-headed households was 37%. These very high figures for both kinds of households are very worrying. The higher prevalence of total household unemployment among female-headed households tentatively indicates a likely higher prevalence of poverty among female-headed households given the well-known link between unemployment and poverty.

3.2 Regression results

Table 4 depicts the relationship between household total non-employment and poverty. From the table, complete non-employment in a household was associated with 24-28 percentage point increase in the probability of a household being classified poor across all poverty lines. Moreover, coming from a female-headed household was also associated with 1.7-3.6 percentage point increase in the probability of being poor. Moreover, household head's education dominated own education in determining poverty: one additional year of education completed by the household head was associated with 0.7-1.9 percentage point decline in the probability of being poor. All racial groups had lower probabilities of being classified poor than Africans, while older households were also less likely to be poor than their younger counterparts. In addition, living in every other location was associated with lower probability of poverty relative to living under a traditional authority, while more children in a household and higher provincial unemployment rate were associate with a higher likelihood of poverty than fewer children and lower provincial unemployment respectively. Finally, having a married/cohabiting household head was associated with a decline in the probability of being poor. These variables conformed to a priori expectations in terms of coefficient sign.

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[Table 4]

Given that Table 4 has demonstrated a positive relationship between complete non-employment in the household and poverty, Table 5 depicts the relationship between household female headship and household non-employment. The results indicate that being female-headed is associated with complete household non-employment. Moreover, the regression controls also conformed to a priori expectations.

[Table 5]

Finally, Table 6 establishes the relationship between having only female household members employed (relative to having only male household members employed) and poverty across all poverty lines. In the first three columns of results, employed female household members from female-headed households are compared with employed male household members from male-headed households. This is because, given the earlier result in Table 5 that female-headed households are more likely than their male-headed counterparts to experience complete household non-employment, and given that household non-employment was found to be positively associated with poverty (Table 4), it becomes necessary to ascertain if merely providing employment to these female-headed households will eliminate the poverty differentials between both female- and male-headed households. The results indicate that coming from a female-headed household where only women were employed was associated with higher poverty probability than coming from a male-headed household where only men were employed, even after controlling for the number of employed household members. The result also held true when we compared households where only women were employed relative to where only men were employed without considering the gender of the household heads (columns 4-6).

4. Discussion

As shown in table 2, the proportion of South African households with no single household member employed was a substantial 40%, the most common household type in terms of employment. And as shown in Table 3, this outcome was more prevalent among female-headed households. These figures are somewhat higher than estimates from the South African General Household Survey on a similar statistic, the percentage of children who live in households where no household member was employed. The report indicates that on the average, about 34% of South African children lived in households with no employed household member between 2008 and 2014[1] (corresponding to our period of analysis). Also according to Table 3, households where no more than one member only was employed accounted for the majority of households across both female-and male-headed households: 85% in each case.

Regarding the regression results, Table 4 confirms an expected outcome: households with complete non-employment are more likely than those who have at least one employed member to be poor. Employment surely contributes to a household's escape from poverty: for instance, Woolard & Klasen (2005) observed that employment was one of the important contributors to income mobility in South Africa. That said, the positive gradient between belonging to a female-headed household and experiencing complete household non-employment is very

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[1] https://www.childrencount.org.za/indicator.php?id=2&indicator=52

worrying. This no doubt predisposes female-headed households to greater levels of poverty relative to their male-headed counterparts, a finding that has been amply demonstrated in in the South African context (see e.g. Rogan, 2013).

Given that female-headed households are more likely to experience complete household non-employment than their male-headed counterparts, and that complete household non-employment is a strong predictor of poverty, one may think that a possible solution to gendered poverty patterns in South Africa may be the provision of job opportunities to women and/or female-headed households. However as shown in Table 6, female-headed households where only women were employed were still more likely to be poor relative to male-headed households with only males employed even after controlling for the number of employed household members. Indeed, these poverty differentials still existed even after controlling for whether a household had a member employed in the managerial/professional job category, an indicator of job quality. These results imply that though the greater prevalence of joblessness among females and female-headed households contributes to observed higher poverty among these female/female-dominant groups, mere employment provision may not be a panacea to gendered poverty differentials in South Africa. Perhaps, more worrying is the fact that the poverty differentials remained even after controlling for the quality of jobs held by the employed household members as well as education, household head's education, race and location.

One may argue that controlling for the fairly generous social security system in South Africa may eliminate the afore-mentioned gender-poverty relationships conditional on the regression controls in Table 6. This is plausible given that households where only women were employed, women and female-headed households were more likely to receive at least one kind of government grant in South Africa relative to households were only men were employed, men and male-headed households respectively. For instance, across the four waves, while only 29% of households where only men were employed had at least a grant recipient, it was 52% for those where only women were employed. Similarly, while 56% of males lived in a household with a grant recipient, 66% of women lived in such households. Moreover, while 39% of male-headed households had a grant recipient, it was 62% for female-headed households.

However, including grant receipt in a poverty regression is problematic due to endogeneity concerns as the receipt of government grants especially in South Africa is largely predicated on being poor. To overcome this potential endogeneity, we disaggregated the sample into a grant-receiving sample and a sample where no household member received any grant. To test the hypothesis that controlling for grant receipt may eliminate the significant relationship between households where only women were employed (relative to only men) and poverty, we disaggregated the sample in columns 4-6 of Table 6 by grant-receiving status. The results (available on request) indicate that the significant relationship still persisted for both grant-receiving and non-grant-receiving households. It is therefore apparent that the conditions that predispose women and female-headed households to poverty involve entrenched socio-cultural (if not economic) structures that predispose them to greater poverty which we have not been able to identify.

5. Conclusion

This paper has made some important findings. First, we found a very high prevalence of complete household non-employment; a situation where no individual in the household is employed. Furthermore, we ascertained that the prevalence of complete household non-employment was higher in female-headed households relative to male-headed households, while both only about 15% of both male- and female-headed households had at least two employed members. However, men were more likely to be employed than women. In line with expectations, we found that complete household non-employment was positively associated with poverty. Moreover, female-headed households were more likely to experience complete household non-employment relative to male-headed households. This is a likely significant contributor to the well-known positive association between household female headship and poverty in South Africa. Given the higher prevalence of complete non-employment in female-headed households and the afore-mentioned positive association between female headship and complete household non-employment, we further ascertained if merely providing (quality) jobs to women and female-dominated households would eliminate the poverty differentials between them and male-dominant households. Worryingly, even controlling for the quality of jobs, number of employed household members and education, female-headed households where only women were employed are still more likely to be poorer than male-headed households where only men are employed. This result carried over to comparing households with only female employed members relative to only male employed members irrespective of the gender of the household head.

These results not only show an alarming level of complete household unemployment in South Africa, but also a worrying vulnerability of women and households highly dependent on women to poverty. Moreover, it is very concerning that providing job opportunities to women and having women having high quality jobs are not likely to eliminate the gendered nature of poverty in South Africa given that a significant positive association still exists between having only women employed in a household relative to having only men employed, even after controlling for the number of employed household members, job quality and key confounding factors. This therefore opens up an avenue for further research (especially including qualitative studies) into unravelling the source(s) of this residual gendered poverty in South Africa.

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

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

Source: Statistics South Africa (2017)

Table 2: Distribution of households by employment patterns

Household Type	Number of households	Proportion
Only females employed	5569	20.63
Only males employed	7616	28.21
Both females and males employed	3124	11.57
Nobody employed	10687	39.59
Total	26997	100

Source: Author computations; pooled sample (wave 1-wave 4); estimates weighted by panel weights to correct for sampling design and non-random attrition

Table 3: Distribution of household employment sizes by gender of household head

Number of employed household members	Male-headed		Female-headed	
	N	%	N	%
0	5705	36.7	4869	43.0
1	7432	47. 8	4771	42.1
2	1957	12.6	1289	11.4
3	374	2.4	340	3.0
4	65	0.4	43	0.4
5	21	0.1	18	0.2
6	0	0.0	4	0.04
Total number of households	15554	100	11336	100

Source: Author computations; pooled sample (wave 1-wave 4); estimates weighted by panel weights to correct for sampling design and non-random attrition

Table 4: The relationship between complete household non-employment and poverty

VARIABLES	(1) fpl	(2) lb	(3) ub
complete household non-employment	0.240***	0.284***	0.272***
	(0.005)	(0.005)	(0.005)
female head	0.017***	0.025***	0.036***
	(0.004)	(0.005)	(0.006)
male	0.003	-0.001	-0.008
	(0.004)	(0.005)	(0.005)
years of schooling	-0.000	-0.002***	-0.006***
	(0.000)	(0.001)	(0.001)
household head's years of schooling	-0.007***	-0.015***	-0.019***
	(0.001)	(0.001)	(0.001)
coloured	-0.032***	-0.057***	-0.076***
	(0.006)	(0.008)	(0.009)
indian	-0.040***	-0.097***	-0.217***
	(0.010)	(0.016)	(0.022)
white	0.031***	-0.004	-0.118***
	(0.007)	(0.009)	(0.010)
household average age	-0.006***	-0.007***	-0.008***
	(0.000)	(0.000)	(0.000)
rural formal	-0.060***	-0.095***	-0.070***
	(0.007)	(0.008)	(0.009)
urban formal	-0.087***	-0.132***	-0.147***
	(0.005)	(0.006)	(0.007)
urban informal	-0.067***	-0.095***	-0.046***
	(0.008)	(0.010)	(0.009)
household size	0.009***	0.015***	0.021***
	(0.001)	(0.001)	(0.001)
number of under-14 children in household	0.019***	0.030***	0.017***
	(0.002)	(0.002)	(0.002)
household head is married/cohabiting	-0.035***	-0.041***	-0.039***
	(0.004)	(0.005)	(0.006)
provincial unemployment rate	0.004***	0.003***	0.003***
	(0.000)	(0.001)	(0.001)
constant	0.212***	0.457***	0.706***
	(0.016)	(0.018)	(0.019)
N	77,183	77,183	77,183
R-squared	0.239	0.351	0.404

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 5: The relationship between female headship and complete household non-employment: dependent variable (=1 if complete household non-employment; =0 otherwise)

covariates	
female head	0.096***
	(0.006)
years of schooling	-0.006***
	(0.001)
household head's years of schooling	-0.012***
	(0.001)
coloured	-0.033***
	(0.009)
indian	-0.035*
	(0.021)
white	0.016
	(0.016)
male	-0.027***
	(0.006)
household average age	0.003***
	(0.000)
rural formal	-0.221***
	(0.010)
urban formal	-0.185***
	(0.007)
urban informal	-0.155***
	(0.012)
household size	-0.037***
	(0.001)
number of under-14 children in household	0.039***
	(0.003)
household head is married/cohabiting	-0.031***
	(0.006)
household received grant	0.104***
	(0.006)
provincial unemployment rate	0.001
	(0.001)
constant	0.525***
	(0.025)
Observations	77,166
R-squared	0.137

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: The relationship between only female household members employed (relative to only male household members) and poverty

	(1)	(2)	(3)	(4)	(5)	(6)
		Restricted			Unrestricted	
VARIABLES	fpl	lb	ub	fpl	lb	ub
only women are employed	0.033***	0.046***	0.088***	0.024***	0.042***	0.059***
	(0.007)	(0.008)	(0.009)	(0.005)	(0.007)	(0.007)
female-headed household				0.003	0.001	0.021***
				(0.005)	(0.007)	(0.008)
years of schooling	0.000	-0.001	-0.005***	-0.000	-0.002**	-0.005***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
household head's years of schooling	-0.009***	-0.017***	-0.022***	-0.007***	-0.015***	-0.019***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
coloured	-0.000	-0.026**	-0.019	-0.016**	-0.035***	-0.036***
	(0.009)	(0.011)	(0.013)	(0.007)	(0.009)	(0.011)
indian	-0.051***	-0.084***	-0.116***	-0.056***	-0.087***	-0.153***
	(0.013)	(0.027)	(0.041)	(0.010)	(0.020)	(0.029)
white	0.018***	0.016	-0.048***	0.011**	0.000	-0.074***
	(0.006)	(0.010)	(0.013)	(0.005)	(0.009)	(0.012)
male	0.005	0.011	0.006	-0.001	0.003	-0.002
	(0.006)	(0.007)	(0.008)	(0.005)	(0.006)	(0.007)
av. age hh head	-0.002***	-0.004***	-0.008***	-0.002***	-0.004***	-0.007***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
rural formal	-0.064***	-0.118***	-0.111***	-0.044***	-0.071***	-0.071***
	(0.008)	(0.011)	(0.013)	(0.008)	(0.010)	(0.011)
urban formal	-0.059***	-0.121***	-0.155***	-0.064***	-0.108***	-0.143***
	(0.006)	(0.008)	(0.009)	(0.006)	(0.007)	(0.008)
urban informal	-0.039***	-0.091***	-0.072***	-0.060***	-0.071***	-0.061***
	(0.011)	(0.014)	(0.013)	(0.009)	(0.012)	(0.012)
num. u-14 children in hh	0.021***	0.028***	0.005	0.015***	0.028***	0.005
	(0.003)	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)
household size	0.010***	0.028***	0.039***	0.015***	0.030***	0.041***
	(0.002)	(0.002)	(0.002)	(0.001)	(0.002)	(0.002)
hh head is married/cohabiting	-0.016***	-0.026***	0.008	-0.022***	-0.030***	-0.012*
	(0.006)	(0.007)	(0.008)	(0.005)	(0.006)	(0.007)
num. hh members empl	-0.079***	-0.096***	-0.094***	-0.089***	-0.102***	-0.107***
	(0.005)	(0.007)	(0.008)	(0.004)	(0.006)	(0.007)
hh has someone in managerial/professional job	-0.045***	-0.103***	-0.173***	-0.059***	-0.122***	-0.191***
	(0.005)	(0.007)	(0.009)	(0.004)	(0.006)	(0.008)
prov. unempl rate	0.001	0.002**	0.003***	0.002***	0.002***	0.002**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
constant	0.271***	0.493***	0.778***	0.233***	0.459***	0.778***
	(0.022)	(0.029)	(0.031)	(0.020)	(0.025)	(0.028)
N	25,323	25,323	25,323	34,152	34,152	34,152
R-squared	0.139	0.300	0.391	0.145	0.296	0.383

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