AN ANALYSIS OF THE DETERMINANTS OF CHILD POVERTY IN SOUTH AFRICA

Jabulile Lindiwe Makhalima
North-West University
Email: Jabulile.makhalima@nwu.ac.za
Orcid ID: 0000-0002-3064-8487

—Abstract —
Child poverty has become an increasingly global socio-economic issue and should consequently be given the attention it deserves. Research shows that a child’s wellbeing depends mostly on the circumstances around them. Head of household characteristics therefore have an important bearing on a child’s wellbeing in a household. This paper analyses the determinants of child poverty in South Africa using the 2018 General Household Survey data with a sample of 10 902 households. The sample comprises only households with children. Child poverty was measured based on the head of household characteristics. The household size was also included as another possible determinant. The regression results revealed that children living in large households, households headed by males, and where the head of household is married or widowed have a higher probability of being poor. Children living in households where the head was divorced were found to be less likely to be poor. It can therefore be deduced that a child’s wellbeing is largely dependent on the head of household’s characteristics as per theory. Therefore, the head of household choices and behaviour, be it social or financial, have an impact on a child’s outcomes.

Keywords: child, children, poor, poverty, determinants, household

JEL classification: I32

1. INTRODUCTION

Poverty as a phenomenon is personified as being young, female and living in rural areas (World Resource Institute, 2005). This essentially implies that the poor or those most vulnerable to poverty are young people, women and those living in rural areas. There have been studies that have shown that a child growing up in a

poor household has a higher probability of being poor compared to their richer counterparts (Krishnan, Jensen & Rochford, 2002). In measuring child poverty, children found in poor households are categorised as poor; however, there can be instances where a child may grow up in a household that is poor and may not be necessarily poor themselves due to intra-household distribution of resources (Bird, 2007). This implies that a household may be categorised as poor, but within the same household, resources maybe designated towards the wellbeing of a child to such an extent that they are buffered from the effects of poverty (Stack & Meredith, 2018). Such instances are few and far between, as some poor households do not possess the means to prioritise a child’s needs.

Children born into poverty are susceptible to non-financial social ills such as depression, self-esteem issues and the inability to maintain relationships with peers (Kaiser & Delaney, 1996). More so, children who grew up poor and deprived often have negative outcomes later in life with some resorting to criminal activities to sustain themselves (Griggs & Walker, 2008). The financial and non-financial wellbeing of a child will have an impact on their social and psychological wellbeing in that a child who has all the basic necessities will most likely be happier and healthier compared to a child who is deprived (Barnes, 2009; Brooks-Gunn & Duncan, 1997). It is noteworthy that there are some cases of such a child who beats the odds and ends up very successful, but these are exceptional cases.

Head of household characteristics do in fact play a major role in the sustainability of a household (Majeed & Malik, 2014). The aim of this study is therefore to analyse the household characteristics in order to determine the extent to which a child is deprived in a household such as the racial grouping of the head of household. The marital status is also a useful barometer towards this study as it is often assumed that children are at a disadvantage if they are raised in households where the head is single, widowed or divorced. The age and gender are also important to explore as possible determinants, in that female-headed households are often vulnerable compared to their male counterparts as well as households with younger heads are more at risk of being poor compared to their older counterparts. Income and employment status are also important determinants of child poverty since participation in the economy allows a household to sustain itself and therefore income remains a pivotal variable and barometer in the measure of the economic wellbeing of a household.
The subsequent section presents the literature review pertaining to the study in section 2. The methodology detailing the data description, model specification and the calculation of the poverty status is in section 3, and the empirical results and conclusion are discussed in sections 4 and 5, respectively.

2. EMPIRICAL LITERATURE

Poverty as a phenomenon has been viewed to be self-imposed by certain scholars and viewed involuntary by others. The classical school of thought views poverty as self-imposed, where the individual is responsible for his/her own poverty induced by the decisions he/she made, for example, the choice of raising a child in a lone parent household. This can also be associated with an individual’s behaviour. The neoclassical school of thought is cognisant of the fact that individuals cannot be entirely responsible for their own poverty and that there are systemic or external factors that affect them directly such as unemployment, lack of assets, poor healthcare and the like (Davis & Sanchez-Martinez, 2014; Davis, & Sanchez-Martinez, 2015). This paper takes into account both views as the head of household may have made poor life decisions to the detriment of the child in their care, for example, raising a child in a lone parent family by choice or being unemployed by choice. In the same vein, poverty may also have been structural or systemic in that the head of household may have been deprived of economic opportunities such as secured employment or lack of assets.

Child poverty is often triggered by household factors, particularly the circumstances of the caregiver responsible for the child (Chen & Corak, 2008). Resources are often shared in a household and consequently household heads play a vital role in the distribution of resources in the household. Children being dependents in a household often have no say in the allocation of resources and therefore are vulnerable to deprivation (Donni & Ponthieux, 2011; Khadan, Strobl, & Tuffour, 2020). The assumption that children have fewer needs has been a contributing cause to child poverty and deprivation (Gordon, Nandy, Pantazis, Pemberton & Townsend, 2003). For instance, the caloric intake/needs of a child differ from that of an adult. Equivalence scales assist in the measurement of such differences in order to determine a child’s share in the household consumption (World Bank, 2018: 127).

Resource allocation within a household is to a certain extent reliant on the size of the household. The larger the household, the fewer the resources available, which can also be a contributing factor to child poverty (Khadan, Strobl & Tuffour,
A study done by STATS SA (2015) found that at least 50.1 per cent of children living in households consisting of at least seven members were poor based on the food poverty line and up to 85.9 percent based on the upper bound poverty line. In some instances, the larger household sizes are prompted by adopting children of deceased relatives or bearing more children to get access to social grants (STATS SA, 2015).

There are hosts of factors that may affect a child’s outcomes such as the socioeconomic status and demographics of the parents or caregivers of a child. The age and gender of the head of household have an impact on the wellbeing of a household (Sekhampu & Muzindutsi, 2014). Younger parents or caregivers are more likely to experience financial difficulties in raising a child as there may be higher economic uncertainty in the early years of building a family, particularly when children are involved (Lunn & Kornrich, 2018; La Placa & Corlyon, 2016).

Female-headed households tend to face more challenges compared to their male counterparts due to the historically patriarchal differences that continue to exist in society (Nwosu & Ndinda, 2018; Sun, Li & Li, 2020). Females often earn less than men, which means reduced income to raise a family. The differences in gender therefore have a vital bearing on the financial wellbeing of a child, which will, in turn, have an impact on their future prospects (Heuveline & Weinshenker, 2008; Snyder, Mclaughlin & Findeis, 2006). Buvinic and Gupta (1997) argue that one of the major causes of hardships in female-headed households is that they often have a high dependency burden, whereby such households comprise more non-workers than workers. However, such situations may be counteracted by social security from the state or maintenance by the absent fathers.

The marital status of the head of household is an important factor regarding the socioeconomic wellbeing of a child. A child growing up in a household with parents who are married should naturally have their needs provided for financially and otherwise; however, the child costs and how parents contribute to these differ from one household to another (Deaton & Muellbauer, 1986; Gray & Stanton, 2010). Children’s needs also differ based on age, health and other factors that may also have an impact on the different allocations within a family or a household (O’Brien, 1995). Nevertheless, children born to heads of households who are married can benefit from the wealth accumulation that may be realised if the head of household is married (Anyanwu, Kayizzi-Mugerwa & John, 2013).
Employment status may be considered as one of the most important determinants of a household’s wellbeing. Studies by Sekhampu (2013), as well as Zizzamia and Schotte (2019) found that households where the head of household was employed were less likely to be poor. Another study by Maloma (2016) found that poor households are often characterised by heads of households who are unemployed. Lichter and Eggebeen (1994) argue that employment does not necessarily guarantee economic welfare in a household. Households where the head is unemployed are still vulnerable to poverty.

3. METHODOLOGY

This section presents the data description, the model description and the calculation of the poverty lines. The paper is focused on measuring the determinants of child poverty based on household characteristics such as the race, gender, marital status, income, employment status and household size to determine whether a child is poor or not. The child poverty status will be the dependent variable, while all the other variables will form part of the independent variables component. The dependent variable is defined as 1 if the child is poor and 0 if the child is non-poor.

3.1 Data description

The data used is from the General Household Survey of 2018 (GHS 2018) by STATS SA, a reliable and credible source of national data available in the public domain. The total sample for the survey was 20 908 households. The sample for this study was derived from the total households in the GHS. However, only heads of households who had indicated to have children under the age of 18 in the household formed part of the sample. Therefore, only households with children formed part of the sample. A child in South Africa is an individual below the age of 18 years (South African Human Rights Commission & United Nations Childrens’ Fund, 2014). The total sample for this study was therefore reduced to 10 902 households.

3.2 Model description

This subsection presents the model description. For the purpose of the study, a binary logistic regression model was used to measure the determinants of child poverty. The dependent variable is the child poverty status that will be represented
by the three poverty statuses explained in section 3.3. In order to determine whether a child is poor or not, a dichotomous variable is defined as follows:

\[
\frac{p}{1-p} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \epsilon_i
\]  

(1)

Where \(\frac{p}{1-p}\) is the child poverty status where 1 was for poor and 0 for non-poor.

Where \(X_1 \ldots X_6\) represents the determinants of child poverty.

\(\beta_0, \beta_1\) represent the coefficients.

The racial group variable had two categories, namely the African and ‘others’ variables. These variables were represented by \(X_1\). The ‘others’ variable comprised racial groups such as white, Indian/Asian and coloured. The reason for this grouping is the small composition of these racial groups, which validated the grouping. The gender variable was represented by \(X_2\) where 0 was for male and 1 was for female. The marital status variable represented by \(X_3\) had four categories, namely the married, divorced, widowed and single. The employment status represented by \(X_4\) also had four categories, namely the employed, unemployed, not economically active, not applicable. Income and household size, which were the only two continuous variables, were represented by \(X_5\) and \(X_6\).

### 3.3 Calculation of the child poverty status

The child poverty status was derived from the poverty lines that were developed by STATS SA (2019), which make use of three poverty lines in measuring poverty, namely the food poverty line (FPL), the lower bound poverty line (LPBL) and the upper bound poverty line (UBPL). The table below shows the different poverty lines for 2018 and 2019. This study will make use of the 2018 poverty lines as the data used was for 2018.
Table 1: The South African poverty lines

<table>
<thead>
<tr>
<th>Poverty line</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food poverty line (FPL)</td>
<td>R547</td>
<td>R561</td>
</tr>
<tr>
<td>Lower bound poverty line (LBPL)</td>
<td>R785</td>
<td>R810</td>
</tr>
<tr>
<td>Upper bound poverty line (UBPL)</td>
<td>R1183</td>
<td>R1227</td>
</tr>
</tbody>
</table>

Source: STATS SA, 2019

The child poverty status was assigned based on the household poverty status. Three poverty statuses, namely the food poverty status (FPS), the lower bound poverty status (LBPS) and the upper bound poverty status (UBPS) were calculated for the households based on the poverty lines in the table, together with the household size and the household income. “The FPL refers to the amount of money required to afford the minimum required daily energy intake” (STATS SA 2019). The FPL was set at R547 per person per month in 2018. The poverty status was 1 if household size*R547> household total income and 0 if household size*R547≤ total household income; where 1 was for a poor household and 0 was for a non-poor household.

The LBPL was set at R785 per person per month in 2018. “This refers to the FPL plus the average amount derived from non-food items of households whose total expenditure is equal to the food poverty line” (STATS SA 2019). The child poverty status was assigned in a similar manner as the FPL only that for the LBPL the poverty status was 1 if the household size*R785>household total income and 0 if the household size*R785≤ total household income; where 1 was for a poor household and 0 was for a non-poor household.

The UBPL was set at R1 183 per person per month in 2018 according to STATS SA (2019). “This refers to the FPL plus the average amount derived from non-food items of households whose food expenditure is equal to the food poverty line” (STATS SA, 2019). The child poverty status was assigned in a similar manner as the LBPL only that for the UBPL, the poverty status was 1 if the household size*R1 183>household total income and 0 if the household size*R1 183≤ total household income; where 1 was for a poor household and 0 was for a non-poor household.
The poverty statuses calculated (FPS, LBPS, UBPS) will take the place of the child poverty status in the regression model to calculate the probability of a child being poor based on the determinants.

4. EMPIRICAL RESULTS

Table 2 illustrates the descriptive statistics of the categorical variables that are employed in the study. The results for the first variable, being the racial group variable, show that at least 86 percent of the household heads were African, while the ‘others’ made up only 13.7 percent of the sample. The second variable is gender, where males made up 47.7 percent of the sample, while females made up 52.3 percent of the sample. These results are similar to those found by STATS SA (2015) where the majority of the sample were females (51.9 percent) and males accounted for 48.1 percent of the sample. With regard to the marital status variable, those who are married made up more than half of the sample (52.1 percent) with the divorced being the lowest at 4.2 percent. The last categorical variable, being employment status, revealed that 53.4 percent of the heads of households in the sample were employed, 7.9 percent unemployed and 38.7 percent were not economically active.

Table 2 Descriptive analysis of categorical variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Categories</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Racial group</td>
<td>African</td>
<td>9405</td>
<td>86.3</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>1497</td>
<td>13.7</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>5204</td>
<td>47.7</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>5698</td>
<td>52.3</td>
</tr>
<tr>
<td>Marital status</td>
<td>Married</td>
<td>5676</td>
<td>52.1</td>
</tr>
<tr>
<td></td>
<td>Divorced</td>
<td>463</td>
<td>4.2</td>
</tr>
<tr>
<td></td>
<td>Widowed</td>
<td>1985</td>
<td>18.2</td>
</tr>
<tr>
<td></td>
<td>Single</td>
<td>2778</td>
<td>25.5</td>
</tr>
<tr>
<td>Employment status</td>
<td>Employed</td>
<td>5823</td>
<td>53.4</td>
</tr>
<tr>
<td></td>
<td>Unemployed</td>
<td>861</td>
<td>7.9</td>
</tr>
<tr>
<td></td>
<td>Not Economically</td>
<td>4218</td>
<td>38.7</td>
</tr>
</tbody>
</table>

Source: Calculations from survey data
Table 3: Descriptive analysis for continuous variables

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Std. deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household size</td>
<td>10902</td>
<td>1</td>
<td>22</td>
<td>4.88</td>
<td>2.146</td>
</tr>
<tr>
<td>Total monthly Income</td>
<td>10902</td>
<td>0</td>
<td>40000</td>
<td>9373.93</td>
<td>10897.708</td>
</tr>
</tbody>
</table>

Source: Calculations from survey data

Table 4 presents the results of the binary logistic regression based on the independent variables presented. The binary logistic regression model was deemed suitable due to the categorical nature of the variables. The three regression models conducted were based on the three poverty statuses being the food poverty status (FPS), lower bound poverty status (LBPS) and upper bound poverty status (UBPS), as explained in section 3.3.

Racial group

Racial group is the first independent variable. The ‘others’ variable took the place of the constant in the regression. The results for the FPS regression depict that the African category has a negative coefficient (p= -.476) and an insignificant p-value (p= .167). This means that African children in the sample are non-poor although the result is not statistically significant. These results were unexpected as African children are often assumed to be the most vulnerable compared to other racial groups. It may be that these children live in households where the income is above the FPL, which essentially means that the household is not food deprived.

For the LBPS, the regression results show that there was a positive coefficient (.008), depicting that African children were poor based on LBPS although there is no statistically significant relationship (.976) between the former and the African racial group. With regard to the UBPS, the results reveal that racial group has a negative coefficient (-0.85), which means that African children are non-poor based on the aforementioned poverty status. These results therefore illustrate that
children in such households do not lack any non-food items and their race does not necessarily mean that they will be poor.

Table 4: Results of the binary logistic regression for the determinants of child poverty

<table>
<thead>
<tr>
<th></th>
<th>Regression 1: FPS</th>
<th>Regression 2: LBPS</th>
<th>Regression 3: UBPS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beta</td>
<td>Sig</td>
<td>Exp (B)</td>
</tr>
<tr>
<td>Racial group: African</td>
<td>-.476</td>
<td>.167</td>
<td>.621</td>
</tr>
<tr>
<td>Gender: Male</td>
<td>-.120</td>
<td>.615</td>
<td>.887</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td>.809</td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>.152</td>
<td>.565</td>
<td>1.165</td>
</tr>
<tr>
<td>Divorced</td>
<td>.136</td>
<td>.725</td>
<td>1.146</td>
</tr>
<tr>
<td>Widowed</td>
<td>.205</td>
<td>.332</td>
<td>1.227</td>
</tr>
<tr>
<td>Log of income</td>
<td>-</td>
<td>42.630</td>
<td>.000</td>
</tr>
<tr>
<td>Employment status</td>
<td></td>
<td>.198</td>
<td>.000</td>
</tr>
<tr>
<td>Employed</td>
<td>-.321</td>
<td>.082</td>
<td>.726</td>
</tr>
<tr>
<td>Unemployed</td>
<td>.059</td>
<td>.882</td>
<td>1.061</td>
</tr>
<tr>
<td>Household size</td>
<td>3.601</td>
<td>.000</td>
<td>36.619</td>
</tr>
</tbody>
</table>

Source: Calculations from survey data

**Gender**

The second independent variable was gender. The female category took the place of the constant. The results for the FPS model show that there is a negative coefficient for males (-.120), which was expected because children in male-headed households are considered to be in a better off position financially compared to children living in female-headed households. The results further
show an insignificant p-value at .615. The results for the LBPS show that there is a positive coefficient for the male variable (.207), which means that children living in male-headed households are more likely to be poor based on this poverty status and there is no significant relationship between the male-headed households and child poverty (.280). The regression for the UBPS model reveals that the male variable has a negative coefficient (-.160), which means that there is a lower probability of child poverty as there is a male household head. The expectation was for a child to be non-poor across all three poverty lines due to the patriarchal notion that children are more financially secure in male-headed households; however, that was not the case in the LBPS regression model. The results under the FPS and UBPS are collaborated with the findings by Rahman (2013), as well as Biyase and Zwane (2017), who found that households headed by males are less likely to be poor.

**Marital status**

Marital status was the third independent variable, with the ‘single’ categorical variable taking the place of the constant. The regression results across the three regressions reveal that the marital status categorical variables have positive coefficients except the divorced variable under the LBPS model. These results were unexpected particularly for households where the head is married and can be assumed less likely to be poor. Sun, Li and Li (2020) arrived at similar findings, where married heads of households were found to be poor. The same, however, cannot be said for children living in widowed households due to the economic hardships that may be faced by such households. Children living in households where the heads are divorced were found less likely to be poor based on the LBPS model with a coefficient of -.226. This result was unanticipated as children in divorced households are susceptible to poverty due to the likelihood of a reduced income of one of the spouses. The results further reveal that the married variable is a significant determinant (p=0.001) of child poverty based on the UPBS regression model. Similar results were found for the widowed variable, where there was a significant p-value (p=0.001) asserting the vulnerability to poverty based on the UPBS regression model. The results for the UBPS model were similar to the findings by Biyase and Zwane (2017), where a household headed by a widow was found to be more likely to be poor.
Income

Income has always been a measure of economic well-being and, as such, fits perfectly in such an analysis. The results show negative coefficients across the three regressions for the log of income variable (FPS: -42.630) (LBPS: -30.866) (UBPS: -32.705). These results were expected, which essentially means, the higher the income of the household, the less likely a child is to be poor. Income was found to be a significant determinant of child poverty with a p-value of 0.00 across all three regression models. These results are in line with the findings by Teka, Woldu and Fre (2019), who also found that the higher the household income, the lower the probability of being poor.

Employment status

The employment status of the head of household has an important bearing on the economic status of a household, particularly a child; and worth testing as a possible determinant of child poverty. The ‘not economically active’ variable took the place of the constant in the regression. The results show that the employed variable has a negative coefficient for the FPS (-.321) and the UBPS (-.009) regression models, which means that the probability of a child being poor is low if the head of household is employed, which was expected. The results further reveal that there is a significant relationship between the employed variable and the child poverty status based on the FPS regression at 10 percent level of significance (p-value .082). These results are similar to the findings by Zizzamia and Schotte (2019). However, the p-value for the UBPS depicts an insignificant relationship between the poverty status and the employed variable (.991). The results also revealed that the unemployed variable has a positive coefficient for the FPS regression (0.59) with a p-value of 0.882, which means that children in households where the head is unemployed are more likely to be poor. The results for the LBPS and the FPS models were similar in that the unemployed variable had positive coefficients (FPS .059, LBPS .064) and the variable was not found to be a significant determinant of child poverty. The results for the UBPS regression model revealed that the unemployed variable has a negative coefficient (-.114), which means that children in households where the head is unemployed are less likely to be poor and this was not found to be a significant determinant of child poverty (p-value .774). The result of regression 3 for UBPS was unexpected due to the consequences that are often experienced by the unemployed. It may be that the households are living on social grants to sustain themselves.
Household size

Lastly, household size as a determinant of child poverty bodes well as the former has been linked to poverty. The results reveal that household size has positive coefficients across the three regression models (FPS 3.601, LBPS 3.099, UBPS 3.011), and these results were expected because the larger a household, the more likely a child is to be poor. These results are in line with the findings by Khadan, Strobl and Tuffour (2020), who found that the larger the household, the fewer the resources available to a child in the household. The p-value further asserts that household size is a significant determinant with a p-value of 0.00 across the three regression models.

5. CONCLUSION

It can be concluded that the majority of the household characteristics, particularly for the household size, employment status and the marital status categorical variables except the divorced category, were found to be significant determinants of child poverty. It can therefore be deduced that a child’s wellbeing is largely dependent on the head of household’s characteristics. The needs of a child should be prioritised as they are unable to sustain themselves financially and otherwise. The choices of the head of household, be it social or financial, will inevitably have an impact on the child in the household and it is therefore vital that such choices be made with the wellbeing of the child in mind. The issue of unemployment remains a problem that affects the country at large and more acutely households with children. In such situations, heads of households may have to consider self-employment to sustain their households. The limitations to this study is that variables such as the dependency ratio, education level and location could have been included. Future research may look at these variables being included.

6. REFERENCES


