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A simple analysis of the effect of the child support grant on school enrolment in South Africa

Abstract

This paper studies the impact of the child support grant on school enrolment in South Africa. It is based on the National Income Dynamics Study (NIDS) data set for South Africa for the year 2008. Using the probit model, the author find some encouraging evidence to suggest that indeed the child support grant helps in the way of improving school enrolment in South Africa. More specifically, the author found that the child support grant increases school enrolment by about 10 percentage points.

Keywords: National Income Dynamics Study, child support grant, school enrolment, probit.

JEL Classification: I38, I21, O15.

Introduction

Although the transition to democracy raised hopes for many South African people and created conducive conditions for economic growth, South Africa still faces many development challenges (Natrass, 2013). A recent report entitled “Hidden hunger in South Africa” concluded that “... despite some progress since the birth of democracy in the country in 1994, one of four people currently suffers from hunger on a regular basis, and more than half of the population live in such precarious circumstances that they are at risk of going hungry” (Oxfam, 2012). The incidence of hunger is not the only problem faced by South Africa – it runs parallel sides with what is commonly known as South Africa’s ‘triple challenge’ of poverty, inequality and unemployment. For example, research shows that unemployment is very high by international standards, with approximately 25% of the economically active population being jobless. It also shows that South Africa remains one of the most unequal societies in the world, with a Gini coefficient ranging from about 0.66 to 0.69. These challenges are likely to have a knock on effect on other socioeconomic indicators, such as school enrolment or school attendance. If children grow up in poverty, there are disturbing long-run implications for them and their society. Such children are much more likely to be inadequately educated, to become parents before being ready for the responsibilities. It is against this background of poverty incidence with its long-range severe individual and social implications that the child support grant was introduced in South Africa as a poverty alleviation strategy targeted at children.

This article will attempt to critically review the existing evidence on the impact of cash transfers in general, as reflected in welfare indicators and will pay particular attention to the effect of child support

grant on welfare indicators in the light of recent South African data.

The rest of the paper is organized as follows: section 1 reviews the literature on the effect of cash transfer on socio-economic indicators. Section 2 describes the data and variables used in the statistical analysis. Section 3 describes the method used. The final section, present the results and provide some concluding remarks, respectively.

1. Literature review

Several empirical studies have been provided regarding the relationship between child support grant/conditional cash transfer and several dimensions of socioeconomic well-being such as school enrolment. These studies include the works of Dubois et al. (2011) on Mexico, Kondratjeva (2010) on Mozambique, Williams (2007) on South Africa, de Brauw et al. (2008) on Mexico, Cardoso (2004) on Brazil, Chaudhury et al. (2010) on Punjab (Pakistan), Samson et al. (2008) on South Africa, Skoufias and Parker (2001) on Mexico, Muralidharan et al. (2013) on India, Eyal and Woolard (2013) on South Africa, Kaziaga and de Walque (2013) on Burkina Faso, Bundlender and Woolard (2006) on South Africa, Heinrich et al. (2012) on South Africa, Behrman and Parker (2010) on Latin America, Samson et al. (2004) on South Africa, Schady and Arajo (2006) on Ecuador, and Maluccio and Flores (2005) on Nicaragua.

Samson and Heinrich (2009) applied the propensity score matching method to examine the impact of child support grant in South Africa. After adjusting for the differences between the treatment and the control groups, the authors concluded that the impact on the beneficiaries of the child support grant on reducing hunger was 2 to 3 times higher than the unmatched differences of 0.024. In addition, Samson and Heinrich (2009) noted that the beneficiaries of child support grant had a positive and statistically significant impact on school enrolment.

Kondratjeva (2010) used panel data and a difference-in-differences method, regression analysis and propensity score re-weighting method to investigate the impact of unconditional cash transfer on school enrolment in Mozambique. They found evidence to suggest a positive change in school enrolment among school age children.

De Brauwat et al. (2008) used data from the evaluation survey conducted in May and June of 1999 to examine the impact of conditioning transfers on school enrolment in Mexico. Employing the most recent econometric approaches, including nearest neighbor matching and household fixed effects regressions, they find that children whose attendance was monitored had higher enrolment rates compared to children whose attendance could not be monitored, even after control for observable household characteristics.

In their paper, Chaudhury et al. (2008) examined the impact of the female school stipend program on public school enrolments in Punjab, Pakistan. Using data from the provincial school censuses 2003 and 2005 and various econometric methods, including difference-in-differences (DD), triple differencing (DDD) and regression-discontinuity design (RDD), they found a modest, but statistically significant impact of the intervention.

Using data from a large representative household survey and triple differencing approach (using boys and the neighboring state of Jharkhand as comparison groups), Muralidharan et al. (2013) investigated the impact of conditional cash transfer on school enrolment in India. Their results suggest that girls that were exposed to the program experienced a significant increase in enrollment in secondary school by 30%.

Nicaragua Maluccio and Flores (2005) found that the *Red de la Proteccion Social* induced a 17.7 percentage point increase in school enrolment and school attendance (20 percent) for the targeted group. Moreover, the program also induced an average net increase of 7.3 percentage points for the students in grade 1 to 4. For Honduras, Glewwe and Olinto (2004) found that the *Programa de Asignacion Familiar (PRAF)* was responsible for a 1 to 2 percentage point increase in school enrolment, and a 2 to 3 percentage point reduction in school dropout rate. Schady and Araujo (2006), in Ecuador, using a randomized experiment, showed that the CCT had a bigger impact of approximately 10 percentage point increase in school enrolment.

2. Data and variables used

This study uses the National Income Dynamics Study (NIDS) collected in South Africa by the Southern African Labor and Development Research

Unit (SALDRU). The NIDS is an ongoing longitudinal panel survey with representative data for the South African population. During the first wave, 7683 households were interviewed, generating a sample of over 28,000 persons. NIDS has been conducted since 2008, and covers many topics such as household's positive or negative shocks (a death in the family or an unemployed relative obtaining a job).

2.1. Variables used. Our dependent variable is school enrolment and was constructed as a 0-1 binary variable based on the answer to the question asked in the the National Income Dynamics Study data: "Is this child currently enrolled in school?" Those who answered "Yes" were coded as 1, otherwise, those who answered "No" coded as 0. The relevant regressors were drawn from the existing empirical literature in this field: child support grant (our variable of interest), mother's education, father's education, household size, categorical variables gender (1 = male, 0 = female). We also included a dummy-coded variable for the Provinces where the children resides (Western Cape as reference category, household in Eastern Cape (1/0), household in Northern Cape (1/0), household in Free State (1/0), household in KwaZulu-Natal (1/0), household in North West (1/0), household in Gauteng (1/0), household in Mpumalanga (1/0), household in Limpopo (1/0)), etc.

3. Methodology

Given the dichotomous nature of the dependent variable in our study, a probit model is used to estimate the effect of child support grant on school enrolment. This model has been frequently used in many studies in this field. One of the reasons for the frequent use of this model is, probably, the ease of usage. The probit model we estimate is of the following form:

$$E_i^* = x_i\beta + \varepsilon_i, \varepsilon_i \sim N(0, \sigma^2), \quad (1)$$

where:

$$\begin{aligned} E_i &= 1 \text{ if } E_i^* > 0 \\ E_i &= 0 \text{ if } E_i^* \leq 0, \end{aligned} \quad (2)$$

where: E is the current school enrolment status, x is a vector of explanatory variables (e.g., mother's education, father's education, household size, categorical variables, etc.); β is coefficient to be estimated and ε_i is a stochastic error term. The coefficients obtained in the probit estimation serve only to provide a sense of the direction of the effects of the covariates on the dependent variable, and cannot be used for magnitude impact analysis. To examine the magnitude of impact, the marginal impact of the explanatory variables on the probability of current school enrolment is provided.

Results

Table 1 presents the results of the impact of child support grants and school enrolment in South Africa.

Consistent with previous studies in South Africa (Case, Hosegood and Lund, 2005; and Samson et al., 2004), we find that the child support grant increases the likelihood of school enrolment. In particular, we found that receiving the child support grant leads to 10 percentage point increase in the probability of school enrolment. This finding is to be expected because the child support grant is likely to improve other socio-economic indicators such as children's health and nutrition, which, in turn, positively contribute to their school readiness (Case, Hosegood and Lund, 2005).

Table 1. Probit estimates of child support grant effects of on enrolment

Variable	Coefficient	t-stats
CSG	0.100025	2.97
urban	0.0534464	1.63
rural	0.1606167	3.82
coulard	0.0638491	1.19
indians	0.0617028	0.32
whites	-0.0565375	-0.84
Eastern Cape	-0.0407139	-0.65
Northern Cape	0.0692133	1.11
Free State	-0.0113936	-0.17
KwaZulu-Natal	0.0248991	0.45
North West	0.0419325	0.64
Gauteng	0.0563763	1.05
Mpumalanga	-0.0506183	-0.81
Limpopo	-0.350425	-5.45
Hhsize	0.0105498	1.25
HhunepI	0.0831369	2.56
Hhmarried	0.1328465	3.12
Mothers ED	0.0008021	1.24
Fathers ED	0.0012864	2.25

As regards the coefficients on the control variables we found that an additional year of education of the mother leads to 0.08 point increase in the probability of school enrolment, whilst an additional year of education of the father leads to 0.12 percentage point increase in the probability of school enrolment. Perhaps surprisingly, but only one of the location variables (Limpopo Province) seems to influence the probability of school enrolment. Compared to households located in Western Cape Province (the reference group), households in Limpopo reduce the probability of school enrolment.

Conclusion

In this paper, we used the National Income Dynamics Study and a probit model to estimate the impact of the child support grant on school enrolment. Consistent with previous studies in South Africa (Case, Hosegood and Lund, 2005; Samson et al., 2004), we find that the child support grant increases the likelihood of school enrolment. In particular, we found that receiving the child support grant leads to 10 percentage point increase in the probability of school enrolment. This finding is to be expected, because the child support grant is likely to improve other socio-economic indicators such as children's health and nutrition, which, in turn, positively contribute to their school-readiness (Case, Hosegood and Lund, 2005). The preliminary evidence presented in this paper lend support to the current approach that the government is following in this area and providemotivation for the expansion of the child support grant programs to include the teenagers aged 19 to 23 years.

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