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Realising a demographic dividend
A panel analysis to assess the outcomes of post-CSG beneficiaries

Lauren Graham, Talita Greyling and Natalia Kopylova

N.i.D.S.
NATIONAL INCOME DYNAMICS STUDY

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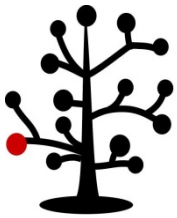

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1. Introduction

As a young person approaches their 18th birthday they should be faced with the excitement of completing their schooling and making decisions about their future educational and career paths. However, for the majority of young people in South Africa, turning 18 also comes rather with the realisation that they face a precarious future, with little support to enable them to effectively transition to further education or work. While the state invests heavily in the lives of children, there is far less support for young people. This has implications for how effectively young people can transition to autonomous adulthood and South Africa's ability to realise the demographic dividend that should come as a result of a large youth population that is healthy and well-educated (Lin, 2012; Oosthuizen, 2013; Ssewamala, 2015).

1.1. Rationale

The role of the Child Support Grant (CSG) in the lives of children has been well researched with results showing that it has a positive effect on nutritional and educational outcomes (particularly enrolment and attendance) for children (Aguero, Carter, & Woolard, 2006; Baird, Ferreira, Ozler, & Woolcock, 2013; Case, Hosegood, & Lund, 2005; Coetzee, 2014; Delany, Ismail, Graham, & Ramkissoon, 2008; DSD, SASSA, & UNICEF, 2012). Other studies demonstrate the CSG's link with improved social care of children (Patel, Knijn, & Wel, 2015) and reduced sexual risk behaviour among young girls who are beneficiaries of the grant (Cluver, et al., 2013). Taken together, these findings demonstrate that the CSG plays a positive poverty alleviation role, protecting children from the worst effects of childhood poverty, and that it has a range of other positive spin-offs. However, a critical question remains

converning the longer-term outcomes of CSG beneficiaries. How post-CSG beneficiaries fare once they graduate from the CSG has, to date, not been assessed. We also do not understand much about what factors in the life course of children from poor households shape their outcomes.

Prior to turning 18, children are supported through a comprehensive package of services, which include free basic services, healthcare, education, a daily meal through the National School Nutrition Programme, and receipt of the CSG to promote the meeting of their basic needs within their household. However, once they turn 18 they are no longer eligible for most of these services because of the expectation that they will be able to support themselves. However, given the challenges that so many young people face in South Africa, including vulnerability to unemployment (Statistics South Africa, 2018), difficulties with accessing post-secondary education (Branson, Hofmeyr, Needham & Papier, 2015), and sustained multidimensional poverty (Frame, De Lannoy, Koka, & Leibbrandt, 2016); it is increasingly clear that this expectation is not realistic. It is therefore critical to understand how to better support young people. A starting point for policy interventions in this regard is understanding how current policy instruments benefit young people, that is, the longer term effects of having been a CSG beneficiary. With the majority of eligible children currently receiving the CSG, the grant is an important mechanism to promote positive outcomes beyond childhood. But it is essential to understand how CSG beneficiaries fare once they graduate from the grant and what can be done in their childhood to ensure better post-CSG outcomes.

1.2. Aims and objectives

The paper builds on a previous study in which the outcomes of post-CSG beneficiaries were compared with those of eligible and ineligible non-CSG counterparts (Graham, Makiwane, Stuart & Williams, forthcoming). The study demonstrates that young people who received the CSG as children do better than those who did not, on self-reported health status. They also do better than eligible non-CSG counterparts on years of education in their immediate post-CSG years (19-20 years). However, they are no more likely to complete matric or be employed. For this reason, it is argued that the CSG does not, on its own, contribute to realising South Africa's potential demographic dividend. Rather, a suite of services is necessary to better support young people as they transition through the last years of education and beyond. This paper is intended to update and expand the aforementioned study.

The aim of this paper is therefore to a) assess how young people aged 21-22 years, who were recipients of the CSG, fare in comparison to their eligible non-CSG beneficiary counterparts over time and b) to understand what factors over their life course account for differences in outcomes. Four outcomes are assessed, namely education, employment, health, and income. In the prior study a qualitative component points to some of the factors shaping outcomes, including changes in

schooling, loss of caregivers, and family dynamics. This paper is a panel analysis of the NIDS data and is intended to assess the extent to which these and other factors shape the outcomes for young people – both those who received and those who did not receive the CSG as children.

The objectives of the paper are:

- To assess differences in education, employment, health and income outcomes between young people aged 21-22 years who were CSG beneficiaries and those who were eligible but did not receive the grant as children;
- To assess what demographic factors shape differences in outcomes;
- To understand what changes in the life course of individuals shape differences in outcomes;
- To understand the extent to which having been a CSG beneficiary shapes outcomes; and
- Based on the findings, to give policy and/or programmatic recommendations regarding support for youth.

1.3. Structure of the paper

The paper proceeds by outlining the approach to the analysis. It then provides a demographic overview of the sample and comments on the comparability of the two groups. The findings in terms of health, education, employment and income are then reported. Finally, a summary and proposed policy and programmatic recommendations are provided.

2. Data and method

2.1. Research design

The paper employs a longitudinal analysis, identifying a sample of young people aged 21-22 years in the 2017 wave 5 National Income Dynamics Study (NIDS) data, who would have been eligible to receive the CSG when they were enumerated in the wave 1 survey (2008), and for whom data is available in the prior four waves of NIDS (in either the child or adult datasets). It assesses what demographic factors as well as factors in their life course (i.e. over the period of the previous four waves of data) explain their health, education, employment and income outcomes at wave 5, including whether receipt of the CSG as a child and length of receipt of the grant play a role in explaining the outcomes.

2.2. Variables

The four outcome variables of interest are health, education, employment status, and income. To assess health outcomes we use self-reported health status as reported at wave 5. Education is assessed by using years of education by wave 5. Years of education allowed for more robust

multivariate analysis, as the numbers of young people in the sample who had completed matric and/or pursued further education by wave 5 was too limited. Employment status was operationalised as a dummy variable in which "employed" included all those who indicated having worked for a wage in the reference period (including those who were self-employed) and unemployed included those who had not worked for a wage in the reference period and those who were not economically active. Income as the outcome variable was assessed by using real household income per capita at wave 5.

Demographic variables that are used in the analysis include race and sex. Socio-economic factors that were used to explain outcomes include type of education (operationalised as the quintile of the last school attended), geographic location, whether the individual had moved at any point in their lives, age, time, length of time receiving the grant (operationalised as number of waves in which the individual was reported to receive the grant), mother[1]'s level of education, father's level of education, mother's employment status, father's employment status, number of employed people in the household, whether a mother or father lost a job, and death of a household member.

2.3. Sample

The sample was restricted to people aged 21-22 years at wave 5, who lived in a household earning less than R1000 per capita at 2008 rates in wave 1. We use this income cut-off as a proxy to ascertain which individuals would have been eligible to receive the CSG on the basis of per capita household income. We use a balanced panel where data was available for individuals at all five waves. A total sample of 1100 individuals was included in the dataset used for our study.

We consider someone as having been a CSG beneficiary if they were receiving the CSG at any wave while they were under the age of 18 years, regardless of how long they received the grant. Length of grant receipt is accounted for in the multivariate analysis.

2.4. Methods of analysis

Bivariate analysis was conducted to identify any significant differences between the samples of those who did and did not receive the grant. Differences in per capita household income, gender, and geographic location were assessed, in order to understand whether any of these variables account for the differences observed in the outcome variables.

Bivariate analysis was then conducted to ascertain differences in the outcome variables of interest between those who received the CSG and those who were eligible but did not receive the grant.

[1] It should be noted that while we acknowledge the variety of household types and caregiving relationships in a child's life, we use mother and father as proxies for caregivers.

In order to assess what factors shape the four outcomes assessed, a base model was run, which did not account for fixed effects to determine which variables were significant. Following this, a Fixed Effects (FE) with robust standard errors was run for each of the outcome variables, as described below.

For health the base model was run using Pooled OLS (POLS). Furthermore, a FE model was estimated to consider unobserved heterogeneity. An ordered logit estimation technique for panel data would have been more appropriate, given the nature of the self-reported health status variable, though ordered probit panel estimations are limited to random effects only. However, it has been shown that ordered probits and OLS usually have similar results (Ferrer-i-Carbonell and Frijters, 2004) in a cross section and this has the benefit of being directly interpretable. For Employment, a logit regression for panel data was used for the base model. This was followed by a Fixed Effects binary logit with robust standard errors. The factors affecting income and education outcomes were assessed using POLS for the base model and then an FE model with robust standard errors to account for individual fixed effects.

3. Results

3.1. Demographic profile of the sample

Table 1 summarises the demographic characteristics of the balanced sample. It shows that, as might be expected given the parameters set for the sample, the majority of the sample is African followed by Coloureds. Most are based in rural areas in wave 1. The sample is balanced between male and female respondents.

Table 1: Demographic characteristics of the balanced sample at wave 1

Gender (%)	
Male	48.2
Female	51.8
Race (%)	
African	89.1
Coloured	10.4
Asian/Indian	0.4
White	0.1
Geographic location (%)	
Urban	35.8
Rural	64.2

Within the eligible sample just over two thirds had received the CSG in at least one wave during their childhood, as is shown in Table 2.

Table 2: Percentage of sample who received a CSG in at least one wave during childhood

	%
Non CSG recipient	33.73
CSG recipient	66.27
Total (n)	**1100**

There are no significant differences in terms of sex between those that were receiving the grant and those that were not. Youth who were CSG recipients are more likely to have grown up in rural areas (70.5%) than those who did not received the CSG (65.7%; p<0.005)

3.2. How beneficiaries and non-beneficiaries fare on outcomes of interest

In this section of the paper we consider how CSG and non-CSG beneficiaries fare on health, education, employment, and income outcomes. In the study mentioned earlier (Graham, et al., forthcoming), the CSG was seen to have a positive effect on self-reported health status at wave 4 when a comparative analysis between post-CSG and eligible non-CSG counterparts was conducted. The analysis for this paper shows that CSG beneficiaries were no more or less likely to report better health at wave 5 than their eligible non-CSG counterparts, as is shown in Table 3.

Table 3: Self-reported health status at wave 5 by whether individual received a CSG

	Non-CSG recipient (%)	CSG recipient (%)
Poor	1.2	0.6
Fair	1.9	3.7
Good	23.0	20.4
Very Good	28.4	32.5
Excellent	45.6	42.9
Total	261	658

PEARSON CHI2(4) = 4.4626 PR = 0.347

When considering differences in education over time, we see that CSG recipients and non-CSG recipients perform similarly in years of education until they reach 18 years. Thereafter CSG recipients perform slightly better than non-CSG recipients at both wave 4 (p<0.5) and wave 5 (p<0.5).

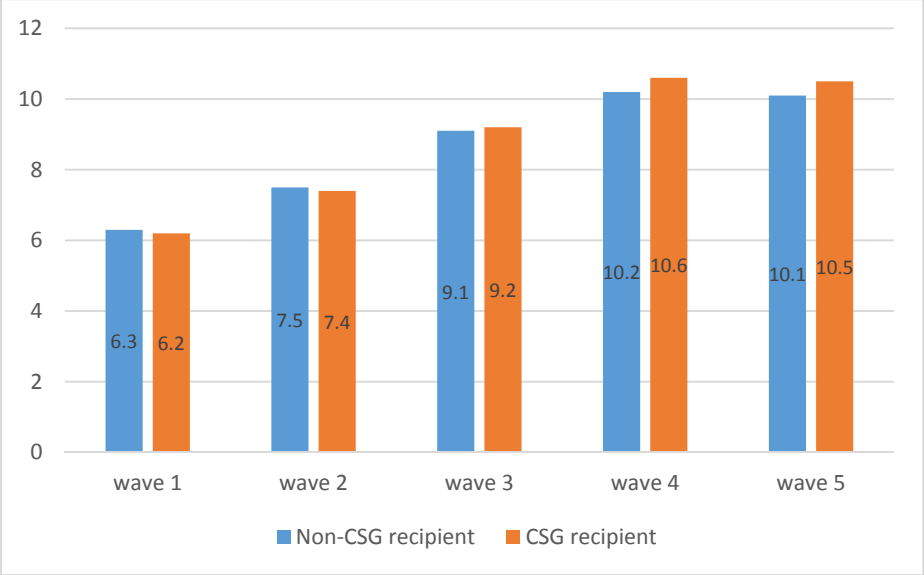

Figure 1: mean years of education over time by whether a respondent was a CSG beneficiary

An analysis of the mean years of education taken over the full five waves (Table 4) shows that CSG beneficiaries do attain marginally more years of education ($p<0.005$).

Table 4: Mean years of education over all five waves by receipt of CSG as a child

	Mean	SD	n
Non CSG recipient	8.46	3.35	1751
CSG recipient	8.87	3.16	3749
TOTAL	8.74	3.22	5500

BARTLETT'S TEST FOR EQUAL VARIANCES: CHI2(1) = 8.7813 PROB>CHI2 = 0.003

While the attainment of more years of education for CSG beneficiaries is encouraging, this does not translate into matric attainment. Across the sample, matric attainment was low (11%) and there were no significant differences in attainment between CSG beneficiaries and non-beneficiaries.

Similarly, there were no statistically significant differences in employment status by wave 5. The majority of the sample was not economically active. Table 5 below shows that CSG recipients were slightly more likely to be unemployed than non-CSG beneficiaries but this was not statistically significant.

Table 5: Employment status at wave 5 by receipt of CSG as a child

	Non-CSG recipient (%)	CSG recipient (%)	TOTAL
Not economically active	50.38	50.76	50.66
Unemployed	22.69	25	24.34
Employed	26.92	24.24	25
n	260	656	916

PEARSON CHI2(2) = 0.9496 PR = 0.622

Further analysis shows that just over 40% of the eligible sample were not in employment, education or training but that there were no significant difference between CSG and non-CSG recipients in this regard.

With regard to income, over the five waves, non-CSG recipients typically live in households where the average monthly per capita income is higher than in household of CSG recipients. This is depicted in Figure 2.

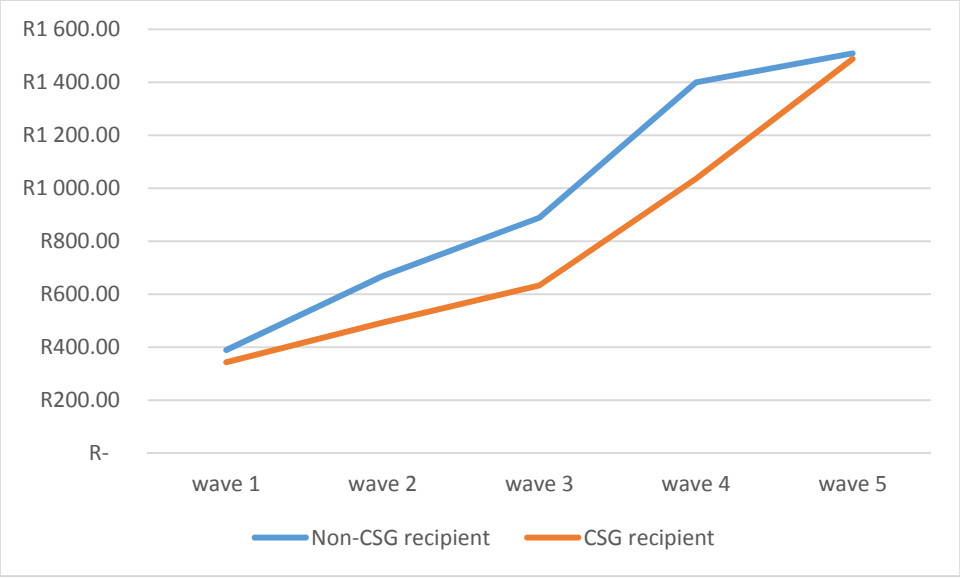

Figure 2: average per capital household income over time by receipt of CSG as a child

What is encouraging is that the gap closes somewhat by wave 5, which is the only wave in which the difference in per capita household income between CSG beneficiaries and non-CSG beneficiaries is not statistically significant.

The above analysis reveals that CSG beneficiaries do slightly better than non-CSG recipients in years of education, and that the income gap between CSG beneficiaries and non-CSG beneficiaries gradually closes over time. However, CSG beneficiaries do no better than their non-CSG counterparts on school

completion, employment, and self-reported health status, suggesting that the CSG alone is insufficient to shift outcomes of interest.

Having considered the differences in outcomes between beneficiaries and non-beneficiaries of the CSG, we now turn to consider what factors in the life course of the individuals explain the outcomes.

3.3. Health

The POLS and FE models (seeTable 6) show that having received a CSG and the length of time that an individual receives a CSG has no effect on self-reported health status later in life.

Certain demographic factors clearly shape self-reported health status, as shown in the POLS model. Males are better off than females (0.0655; $p<0.05$) and Coloured youth report better health than African youth (0.147; $p<0.01$).

When individual fixed effects are controlled for, an increase in the years of education continues to have a positive effect on self-reported health (0.0255; $p<0.1$). Surprisingly the mother's level of education has a negative effect on self-reported health status for the sample. That is, every year of additional education of the mother the self-reported health status of the 21-22 year old declines by 0.0155 ($p<0.01$). This effect might be explained by the increasing importance of an individual's own level of education relative to their mother's level of education in explaining health status. However, it is unclear why the mother's level of education would have a negative effect on an individual's health status. Another surprising finding is that the greater number of employed people in the household, the poorer the individual's health status (-0.0394; $p<0.05$). Here the figures are also interesting as in most households (54%) nobody works. In a further 30.3% of households only one person is working. Moving to another area also has a negative effect on self-reported health status (-0.142; $p<0.01$).

Table 6: Factors affecting self-reported health status over time

	POLS		Fixed Effects	
	Coefficient	**SE**	**Coefficient**	**SE**
Receipt of CSG	-0.0106	(0.03)	-0.0227	(0.03)
Number of waves in receipt of the CSG	0.0115	(0.01)	0	(.)
Reference: wave 1	0	(.)	0	(.)
wave 2	0.138*	(0.07)	0.150	(0.11)
wave 3	-0.225**	(0.10)	-0.198	(0.18)
wave 4	-0.206	(0.14)	-0.134	(0.27)
wave 5	-0.194	(0.18)	-0.136	(0.37)
Age in years	-0.0345	(0.10)	0.0447	(0.11)
Age squared	0.000418	(0.00)	-0.00130	(0.00)
Reference: Female	0	(.)	0	(.)
Male	0.0655**	(0.03)	0	(.)
Reference: African	0	(.)	0	(.)
Coloured	0.147***	(0.05)	0	(.)
Asian/ind	0.0452	(0.19)	0	(.)
White	-0.0299	(0.62)	0	(.)
Years of education	0.0682***	(0.01)	0.0255*	(0.01)
Real per capital household income	0.0000159	(0.00)	0.00000921	(0.00)
Mother's level of education	-0.00553	(0.00)	-0.0155***	(0.00)
Father's level of education	0.00417	(0.00)	0.000419	(0.00)
Mother's employment status	-0.00433	(0.04)	-0.0185	(0.05)
Father's employment status	-0.041	(0.03)	0.0123	(0.04)
Loss of a job - mother	0.0144	(0.03)	0	(.)
Loss of a job - father	-0.0567**	(0.03)	0	(.)
Number of people employed in the hh	-0.0228*	(0.01)	-0.0394**	(0.02)
Death of a hh member	0.00962	(0.04)	0.00145	(0.04)
Reference: Living in traditional area	0	(.)	0	(.)
Living in urban area	-0.0229	(0.03)	0.0791	(0.06)
Living in farming area	0.0515	(0.05)	-0.0394	(0.12)
Moving to another area	-0.0253	(0.03)	-0.142***	(0.05)
_cons	4.075***	(0.81)	3.715***	(0.90)
N	4944		4944	
adj. R-sq	0.031		-0.254	

* p<0.10, ** p<0.05, *** p<0.01, STANDARD ERRORS IN PARENTHESIS

3.4. Education

We consider what factors affect the achievement of more years of education over time. The analysis (see Table 7) shows that having been a CSG beneficiary has a negative effect on years of education (-0.260; p<0.01) and that this effect remains (although it is slightly diminished) even when fixed effects are accounted for (-0.183; p<0.01). Further, the length of time an individual has received the CSG does

not affect education outcomes. This finding aligns with the bivariate analysis presented above showing that CSG beneficiaries are no more likely than non-CSG beneficiaries to have completed matric by the age of 21-22. It also confirms findings of the earlier study (Graham, et al., forthcoming) which shows that by wave 4, CSG beneficiaries were in fact less likely than their eligible non-CSG counterparts to have achieved matric, which was partly explained by the higher concentration of CSG beneficiaries living in rural areas, where matric completion was substantially lower than for those living in urban areas. In this analysis the same may hold true, since CSG beneficiaries are more likely to grow up in rural areas. However, there were no significant differences in the type of school attended (measured as quintile of last school attended) between those who received and those who did not receive the CSG.

Demographic factors that play a role in the achievement of more years of education are race and sex. Coloured youth have fewer years of education than their African counterparts (-0.257; $p<0.01$). Although the POLS model also shows White children as having fewer years of schooling than their African counterparts, this is likely explained by the very small number of White youth in the sample. Males in the sample have approximately half a year of education less than their female counterparts ($p<0.01$).

If a mother loses their job, this also has a negative effect on the number of years of education that a young person achieves. Those whose mother lost a job had fewer years of education than those whose mother had not lost a job (-0.21; $p<0.1$). As might be expected, school quintile plays a significant role in achievement of more years of education. Higher quintiles progressively offer positive effects on educational outcomes. However, when fixed effects are accounted for the influence of school quintile is no longer significant except for school quintile 5 (which increases years of education by 0.284; $p<0.05$).

When fixed effects are accounted for, as might be expected, time and age have positive effects on the achievement of more years of education. Death of a household member has a negative effect on years of education. If an individual experiences death of a household member in any of the waves they are likely to have 0.0825 fewer years of education ($p<0.01$). This corroborates qualitative findings of the earlier study, which show that those who had experienced trauma such as death of a family member struggled with their schooling.

Table 7: Factors affecting years of education over time

	POLS		Fixed Effects	
	Coeff	**SE**	**Coeff**	**SE**
Receiving a CSG as a child	-0.260***	(0.07)	-0.183***	(0.04)
Number of waves receiving CSG	-0.00441	(0.03)	0	(.)
Wave 1 (2008)	0	(.)	0	(.)
Wave 2 (2010)	0.126	(0.17)	0.762***	(0.17)
Wave 3 (2012)	0.603***	(0.21)	1.763***	(0.26)
Wave 4 (2014)	0.997***	(0.28)	3.104***	(0.38)
Wave 5 (2017)	0.909**	(0.36)	3.792***	(0.49)
Age in years	1.507***	(0.20)	1.474***	(0.17)
Age squared	-0.0310***	(0.01)	-0.0388***	(0.00)
Reference: Female	0	(.)	0	(.)
Male	-0.592***	(0.05)	0	(.)
Reference: African	0	(.)	0	(.)
Coloured	-0.257***	(0.10)	0	(.)
Asian/Indian	0.467	(0.38)	0	(.)
White	-3.224**	(1.48)	0	(.)
Reference: School quintile 1	0	(.)	0	(.)
School quintile 2	0.061	(0.06)	0.0342	(0.08)
School quintile 3	0.197***	(0.06)	0.0354	(0.09)
School quintile 4	0.447***	(0.09)	0.115	(0.10)
School quintile 5	0.625***	(0.12)	0.284**	(0.14)
Self-reported health status	0.0958***	(0.03)	0.00793	(0.02)
Reference: Living in traditional area	0	(.)	0	(.)
Living in urban area	-0.00528	(0.06)	-0.0583	(0.09)
Living in farm area	-0.187*	(0.10)	0.188	(0.20)
Real household income per capita	0.000116***	(0.00)	0.0000197	(0.00)
Mother's level of education	0.0162**	(0.01)	-0.00710	(0.01)
Father's level of education	0.0262***	(0.01)	0.00183	(0.00)
Mother's employment status	-0.0284	(0.08)	0.0461	(0.06)
Father's employment status	-0.191***	(0.06)	-0.0741	(0.05)
Loss of job - mother	-0.121*	(0.06)	0	(.)
Loss of job - father	0.0638	(0.05)	0	(.)
Death of a hh member	-0.147**	(0.07)	-0.0825*	(0.05)
Migration	0.0409	(0.06)	0.00900	(0.07)
Number of people in hh employed	0.0257	(0.03)	-0.00932	(0.02)
_cons	-7.748***	(1.58)	-5.887***	(1.44)
N	3857		3857	
adj. R-sq	0.67		0.868	

* p<0.10, ** p<0.05, *** p<0.01, STANDARD ERRORS IN PARENTHESIS

3.5. Employment

As stated, CSG beneficiaries are no more likely to be employed than their non-CSG receiving counterparts. The fixed effects logit model in Table 8 shows that having received a CSG and the length of time if receipt of a CSG has no effect on being employed.

As might be expected, demographic variables continue to have a strong role to play in explaining employment outcomes. Males are 1.18% more likely to be employed that females ($p<0.01$). Coloured youth are 0.8% more likely to be employed than African youth (0.810; $p<0.01$).

A range of other variables have an effect on employment outcomes, but lose this influence when individual fixed effects are accounted for. Mother's employment status has a negative effect on the young person's employment status. That is, if the mother is employed, the chances of the young person being employed are reduced (-1.684; $p<0.05$). This may be because young people at the age of 21-22 may still be living at home and being provided for by income from a mother while they seek work or study further. As might be expected, the number of people in the household who are employed has a strong positive effect on employment outcomes (3.357; $p<0.01$). That is, as the number of people in the household who are employed increases over time, so the chances of the individual young person being employed improve. This finding is likely the result of the strong reliance on social networks in the labour market in South Africa (Magruder, 2007; Mhlatseni & Rosbape, 2009; Schöer & Leibbrandt, 2006). Those who are living in an urban area are more likely than those living in traditional rural areas to be employed (2.282; $p<0.1$) as might be expected. This supports other research which shows that moving to an urban area improves the chances of employment for young people (Ranchhod & Mlatsheni 2017). Experiencing the death of a household member at any point in the life course of the individual has a strong negative effect on employment chances (-2.2; $p<0.01$). This is likely mediated through education. As shown, the death of a household member has a negative effect on years of education and this may then in turn affect the employment chances of individuals.

Table 8: Factors affecting employment status over time

	Logit		Fixed Effects Logit	
	Coefficient	**SE**	**Coefficient**	**SE**
Receiving a CSG	0.484**	(0.23)	-0.0169	(0.59)
Number of years receiving a CSG	0.0474	(0.07)	0	(.)
Wave 1	0	(.)	0	(.)
Wave 2	-0.959	(1.06)	16.39	(1631.76)
Wave 3	-0.631	(0.61)	16.77	(1631.76)
Wave 4	-0.397	(0.31)	17.91	(1631.76)
Wave 5	0	(.)	18.47	(1631.76)
Age in years	2.744**	(1.29)	1.919	(2.66)
Age squared	-0.0586*	(0.03)	-0.0353	(0.07)
Male	1.183***	(0.16)	0	(.)
African	0	(.)	0	(.)
Coloured	0.810***	(0.21)	0	(.)
Indian/Asian	0.903	(0.85)	0	(.)
White	0	(.)	0	(.)
Years of education	-0.0972***	(0.03)	-0.259	(0.16)
Self-reported health status	-0.0859	(0.07)	-0.438**	(0.21)
Real household income per capita	0.000159***	(0.00)	0.000215	(0.00)
Mother's level of education	-0.0000713	(0.02)	0.0402	(0.07)
Father's level of education	-0.0203	(0.02)	-0.0420	(0.06)
Mother's employment status	0.0469	(0.23)	-1.684**	(0.75)
Father's employment status	0.368**	(0.17)	0.490	(0.50)
Loss of a job – mother	0.254	(0.19)	0	(.)
Loss of a job – father	0.0814	(0.15)	0	(.)
Number of people in the hh employed	1.138***	(0.07)	3.357***	(0.42)
Death of a hh member	-0.403*	(0.24)	-2.200***	(0.74)
Living in a traditional area	0	(.)	0	(.)
Living in an urban area	0.634***	(0.16)	2.282*	(1.29)
Living in a farm area	0.822***	(0.27)	-0.355	(1.50)
Migration	0.827***	(0.16)	0.418	(0.68)
_cons	-34.65***	(12.82)		
N	3680		1481	
adj. R-sq				

* p<0.10, ** p<0.05, *** p<0.01, STANDARD ERRORS IN PARENTHESIS

The above analysis therefore shows that while having been a CSG recipient seems to play a role in better employment outcomes, this is likely explained by fixed effects such as race and gender. When fixed effects are accounted for the effect of the CSG on employment is no longer significant. Rather, factors such as access to social networks (number of people in the household employed), and living in an urban area have a more prominent role to play in positively influencing employment outcomes.

3.6. Income

Income is assessed by real per capita household income over time. As mentioned, CSG beneficiaries are more likely to have lived in slightly lower income households than non-CSG beneficiaries. This is confirmed in the negative coefficients for CSG in the POLS and fixed effects model shown in Table 9. However, these effects are not significant, suggesting that other factors play a role in explaining the poorer household income outcome for CSG beneficiaries.

In the POLS model it emerges that sex and school quintile have a significant effect on income. As might be expected, males have almost 8% more income than females (0.0787; $p<0.01$), probably due to the higher likelihood of males being employed. Although being Indian/Asian emerges as having a significant positive effect on income (0.528; $p<0.01$), the numbers of Indian/Asian individuals in the sample are so small that the result is not robust. Having attended a school that is quintile 4 or 5 also has a positive effect on income. Having attended a quintile 4 school places the young person at a 14% income advantage ($p<0.01$) over those who attended a quintile 1 school, and having attended a quintile 5 school gives an advantage of 11% higher income than the incomes of those who attended a quintile 1 school ($p<0.5$). However, these differences do not hold once fixed effects are accounted for. If an individual's father loses a job this has a negative effect on income (-0.0757; $p<0.01$) but, strangely, a mother losing a job has a positive effect on income (0.0904; $p<0.01$). The latter may be because mothers are more likely to claim the CSG if they are income eligible and they may become income eligible after losing a job. If there are younger siblings in the household, this may explain the positive effect.

Once fixed effects are accounted for, the analysis reveals that the number of people in the household who are employed has a positive effect on income. That is, as more people in the household become employed, household income increases by 20% ($p<0.01$). This is to be expected, since wages are the largest contributor to household income. Living in an urban area means that the individual is likely to earn approximately 75% more ($p<0.01$), and in a farm area 51% ($p<0.01$) more than those living in traditional areas. This is likely due to the availability of job opportunities in urban areas and farm areas compared to traditional areas. Moving from one area to another also has a positive effect on income, with those who migrated earning 18.5% more than those who did not ($p<0.01$). This is most likely because people move to find work. As mentioned, migration to urban areas has a positive effect on employment chances (Ranchhod & Mlatsheni 2017). As might be expected, the death of a household member has a negative effect, decreasing per capita household income by 6.5% ($p<0.5$). This is most likely due to loss of income of the now deceased household member.

Table 9: Factors affecting income over time

	POLS		Fixed Effects	
	Coefficient	**SE**	**Coefficient**	**SE**
CSG recipient	-0.0169	(0.03)	-0.00329	(0.03)
Number of waves receiving CSG	-0.0296**	(0.01)	0	(.)
Wave 1	0	(.)	0	(.)
Wave 2	0.111	(0.08)	0.0688	(0.10)
Wave 3	0.288***	(0.10)	0.175	(0.16)
Wave 4	0.494***	(0.13)	0.302	(0.24)
Wave 5	0.721***	(0.17)	0.388	(0.31)
Age in years	0.0187	(0.09)	0.0937	(0.09)
Age squared	-0.00165	(0.00)	-0.00230	(0.00)
Male	0.0787***	(0.02)	0	(.)
African	0	(.)	0	(.)
Coloured	0.0365	(0.05)	0	(.)
Asian/Indian	0.528***	(0.18)	0	(.)
White	0.443	(0.70)	0	(.)
Years of education	0.0496***	(0.01)	0.0124	(0.01)
School quintile 1	0	(.)	0	(.)
School quintile 2	0.0308	(0.03)	-0.0416	(0.05)
School quintile 3	0.0540*	(0.03)	-0.0409	(0.05)
School quintile 4	0.145***	(0.04)	0.0498	(0.07)
School quintile 5	0.110*	(0.06)	0.0684	(0.09)
Self-reported health status	0.0230*	(0.01)	0.00825	(0.01)
Mother's level of education	0.0133***	(0.00)	0.00344	(0.00)
Father's level of education	0.0106***	(0.00)	0.00249	(0.00)
Mother's employment status	0.0753**	(0.04)	0.0275	(0.04)
Father's employment status	-0.00764	(0.03)	-0.00643	(0.03)
Loss of job - mother	0.0904***	(0.03)	0	(.)
Loss of job - father	-0.0757***	(0.03)	0	(.)
No of people in the hh employed	0.173***	(0.01)	0.200***	(0.02)
Death of hh member	-0.135***	(0.03)	-0.0658*	(0.03)
Living in traditional area		(.)	0	(.)
Living in urban area	0.385***	(0.03)	0.752***	(0.07)
Living in farm area	0.103**	(0.05)	0.510***	(0.12)
Migration	0.190***	(0.03)	0.185***	(0.05)
_cons	5.352***	(0.75)	4.746***	(0.79)
N	3857		3857	
Adj R sq	0.295		0.317	

* p<0.10, ** p<0.05, *** p<0.01, STANDARD ERRORS IN PARENTHESIS

4. Discussion

The above analysis shows that, while CSG beneficiaries have slightly more years of education than their non-CSG counterparts, they perform no better than their non-CSG counterparts on all other outcomes of interest. Further, having received the CSG does not place beneficiaries at an advantage once they are no longer age eligible to receive the grant, on the contrary, this has a negative effect on education. How do we understand these disappointing outcomes for CSG beneficiaries and what does this mean for how we need to shift policy thinking?

4.1. Continued demographic inequalities

What is clear is that demographic variables such as race and gender continue to play a substantial role in explaining the outcomes. The POLS analysis for each outcome shows that African youth fare worse on employment, income and health outcomes and only marginally better on education outcomes than Coloured youth. Female youth are still more vulnerable to lower income and unemployment, although they do better than males on the education outcome. Young people living in rural areas fare worse on all of the outcomes assessed except for self-reported health. These findings demonstrate that inequalities on the basis of race, gender, and geographic location remain very stubborn. The CSG as a policy instrument cannot address such inequalities. Rather, interventions that specifically address these inequalities need to be considered.

4.2. Structural factors that limit the realisation of the demographic dividend

Aside from the demographic variables that shape outcomes, there are also structural features of the economy and the education system that negatively impact on young people's outcomes regardless of whether or not they were CSG beneficiaries. The descriptive statistics presented show, for instance, that very few young people in the sample completed matric. Similarly, the numbers of those who were employed were very low, and over 40% of the sample were not in employment, education, or training. These findings point to: a) the failures of our education system, which leave those from the poorest backgrounds with little human capital in the form of basic education outcomes (numeracy and literacy); and b) the structural nature of unemployment, which affects young people in particular (De Lannoy, Graham, Leibbrandt & Patel, 2018). While investments in the CSG play a critical role in alleviating the effects of childhood poverty such as poor nutrition, it cannot address challenges in the education system. The failures of the education system seriously undermine the gains of the CSG during childhood. Realising the demographic dividend in South Africa relies on investments in alleviating the effects of childhood poverty but also, critically, in the development of human capital through quality education. As Spaull (2015) argues, currently the education system perpetuates inequality in that it creates a poverty trap for those in the lower quintile schools (where most CSG

beneficiaries are educated), ensuring that they exit with low levels of numeracy and literacy, which sets them up for unemployment or low wage work. A critical intervention if we are to shift outcomes for poor youth, including those who are CSG beneficiaries, is to address the poor quality of the education system.

The high numbers of poor youth who remain unemployed or not in education, employment and training is also cause for serious concern. These numbers are driven in part by the structural nature of unemployment, which affects young people more (De Lannoy, Graham, Leibbrandt & Patel, 2018) as well as the limited access to post-secondary education and training pathways for young people once they leave the schooling system, whether prior to or after completing matric (Perold, et al., 2012; Branson, et al., 2015). These are critical failures to invest in the development of our human capital in the form of our young population. This undermines our ability to realise a demographic dividend, despite poverty-alleviating interventions such as the CSG.

In addition to the role of demographic inequalities and structural features of the education system and labour market, there are other factors that, over a young person's life course, shape their outcomes. These are discussed in the following sections.

4.3. Factors over the life course affecting outcomes

The fixed effects models point to a few factors that over the life course do shift outcomes. These are important to consider when developing policy or programmatic interventions that can better support young people to achieve positive outcomes.

Health

Self-reported health status is positively affected by the individual's years of education, such that as an individual achieves more years of education their self-reported health status improves. This relationship may arise from the fact that schooling is a protective factor for engagement in risk behaviours, particularly for young girls (Pettifor, Levandowski, MacPhail, Padlan, Cohen & Rees, 2008). This effect may be sustained over time.

Factors that negatively affect self-reported health status include mother's level of education, the number of people in the household who are employed, and moving from one area to another. Moving may negatively affect health in that moving to a new area may be an economic shock in the initial time period following the move, particularly for young people moving out of their childhood homes. The negative effects of moving could also be associated with the time it takes to access new health services. It is unclear why an increase in the number of people in the household who are employed would have a negative effect on health, except that it is possible that if the individual is unemployed,

having more people in the household who are employed may affect their mental health (this was not specifically assessed) leading to a poorer self-reported health status. The implications of this are returned to under the section on employment.

Education

The discussion above related to quality of education is confirmed by the fixed effects model on education, which shows that having attended a quintile five school is positively associated with achieving more years of education. Quintile five schools are typically considered to afford children better quality education. This finding shows that when children from poor backgrounds attend a higher quintile school they are at an educational advantage, which demonstrates that investment in ensuring that all children receive quality education is critical to realising the demographic dividend.

Two factors emerge as negatively affecting education. First, having been a CSG recipient surprisingly negatively affects education outcomes. It is not clear why this is the case, except that rural location may play a role (CSG beneficiaries are more likely than non-CSG beneficiaries to live in rural areas). This finding requires further investigation but it does point to the potential for additional services to be targeted at CSG beneficiaries. CSG beneficiaries are identified in two systems across two departments, that is the Social Pensions System (SOCPEN) for the Department of Social Development and the Learner Unit Record Information and Tracking System for the Department of Education. This places them at a potential advantage, provided such systems are linked in ways that can "flag" children who are at risk of failing, repeating grades, or dropping out of school and link them to welfare and education services to support them to stay in school. Partnerships between the Department of Social Development and the Department of Basic Education, as well as between schools and local welfare and support services, are critical to ensuring holistic support to youth who are struggling at school. In addition, linking government data systems could ensure that information on CSG beneficiaries who are progressing through school could automatically be linked to the National Student Financial Aid Scheme without these children having to be assessed on the basis of means before qualifying for the financial support to continue their studies[2].

Death of a household member also negatively impacts on children's educational outcomes. This is a finding that was also observed in the prior study (Graham, et al. forthcoming). Qualitative evidence from that research shows how the death of a household member negatively affected an individual's ability to perform well in examinations, and led to disruptions in care arrangements and movements between schools. All of the respondents in that study indicated that they had not accessed mental

[2] DSD recently announced that it has begun to cooperate in this manner with the Department of Higher Education and Training and the National Student Financial Aid Scheme.

health support services at the time of experiencing the trauma. Early intervention by local social workers to provide support as after the death of a household member, track the implications of the death for the children, and ensure that children and other family members have access to local mental health services emerge as critical welfare services that can mitigate some of the negative effects of a death in the household. Where children are CSG beneficiaries, data systems could be introduced that draw on the SOCPEN database to quickly identify children at risk and provide them with appropriate support services.

Employment

As might be expected, the death of a household member negatively affects youth employment status. The pathway for this may operate through education (the same relationship exists for educational outcomes). Thus, if an individual experiences the loss of a household member during childhood this may negatively affect educational outcomes, which in turn negatively affects employment. Welfare services and accessible mental health support again emerge an important interventions. Alternatively, the death could be that of an employed person in the household and this might limit the social capital that the youth has access to in order to find work.

The latter point is borne out by the finding that employment outcomes are positively affected by the number of people in the household who are employed, that is, as more people in the household become employed, the probability of the individual finding work increases. This is most likely because of the important role that social networks play in finding work in South Africa (Magruder, 2007; Mhlatseni & Rosbape, 2002; Schöer & Leibbrandt, 2006). Young people who live in households where nobody is employed are far more likely to be unemployed themselves (Statistics South Africa, 2015). Over one half of the eligible sample in this study live in households where nobody is employed. These close networks of employed people are therefore critical for employment. Social networks stand in for a lack of information about and connection to the labour market. Access to information about the labour market is critical for young people looking for work. However, in South Africa the government currently invests very little in employment support (Bhorat, 2012), or provides support that is not tailored to the needs of first-time work seekers.

There is some evidence that workplace intermediaries or organisations offering employment support can substitute for a lack of such social capital, provided they are easily accessible (Dieltiens, 2015; Graham, et al., 2016). Employment support is a low cost intervention that can use existing infrastructure to assist young people who do not have employment connections to navigate the labour market.

Income

Income is closely associated with employment, for example, having more employed people in the household positively impacts on both employment and income. This may seem obvious since more wages coming into the household would increase income in the household. However, it does confirm that cash transfers alone are not sufficient to lift households out of poverty. Wages and therefore employment remain the most significant contributors to alleviating poverty. Our study shows that income is also positively affected by moving from one area to another. Although the nature of that movement is not explored in this study, it is likely that people are moving for employment, which explains the positive income outcomes. This is supported by research that shows that when young people migrate to urban areas they are more likely to find work (Ranchhod & Mlatsheni, 2017). This finding points to the need to invest in rural livelihoods and rural development strategies to ensure that young people can find meaningful work without needing to migrate.

5. Conclusion

Other studies have shown the myriad ways that the CSG contributes to alleviating the effects of childhood poverty. In this paper we sought to understand whether these positive effects translate into longer-term outcomes by asking the questions:

- What effect does the CSG have on education, health, employment, and income outcomes later in life?
- What factors in the life course of an individual shape these outcomes?

The findings show that while the CSG has positive effects during childhood these do not translate into positive effects later in life. For health, employment, and income, having been a CSG beneficiary plays no role; and having been a CSG beneficiary impacts negatively on education outcomes. Structural features of the education system and labour market continue to undermine the potential for young people from poor backgrounds to achieve positive outcomes, and long-standing inequalities on the basis of race, gender and geographic location continue to play out. Other factors over the life course of individuals also play a role in shaping the outcomes of interest. These point to the need for investments in support services that could complement cash transfers. Three examples emerged from the findings. The first intervention is early identification of children experiencing death in the household (particularly where that death is of the caregiver) and appropriately and timely support through school and with accessing mental health services. The second intervention is investment in employment support, to overcome the challenge of limited social networks that so many young people face when trying to secure work. The third intervention is ensuring that CSG beneficiaries are

identified when at risk of failing or repeating grades and that they are appropriately supported to stay in school, and linked to the National Student Financial Aid Scheme automatically upon completing matric.

In sum, the lack of additional welfare, educational, and employment support services, alongside the poor quality education available to most poor youth significantly undermine the gains that the CSG affords to children during childhood, and means that these gains are not sustained in the longer term. The CSG alone does not have the potential to enable young people to graduate from poverty. The recommendations arising from this research are the prioritisation of human capital development for youth (through the education system) and the complementing of cash transfers with other services that can provide the additional support that poor youth need to transition into adulthood.

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SALDRU

Southern Africa Labour and Development Research Unit

The Southern Africa Labour and Development Research Unit (SALDRU) conducts research directed at improving the well-being of South Africa's poor. It was established in 1975. Over the next two decades the unit's research played a central role in documenting the human costs of apartheid. Key projects from this period included the Farm Labour Conference (1976), the Economics of Health Care Conference (1978), and the Second Carnegie Enquiry into Poverty and Development in South Africa (1983-86). At the urging of the African National Congress, from 1992-1994 SALDRU and the World Bank coordinated the Project for Statistics on Living Standards and Development (PSLSD). This project provide baseline data for the implementation of post-apartheid socio-economic policies through South Africa's first non-racial national sample survey.

In the post-apartheid period, SALDRU has continued to gather data and conduct research directed at informing and assessing anti-poverty policy. In line with its historical contribution, SALDRU's researchers continue to conduct research detailing changing patterns of well-being in South Africa and assessing the impact of government policy on the poor. Current research work falls into the following research themes: post-apartheid poverty; employment and migration dynamics; family support structures in an era of rapid social change; public works and public infrastructure programmes, financial strategies of the poor; common property resources and the poor. Key survey projects include the Langeberg Integrated Family Survey (1999), the Khayelitsha/Mitchell's Plain Survey (2000), the ongoing Cape Area Panel Study (2001-) and the Financial Diaries Project.

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