Realising a demographic dividend?

A panel analysis to assess the outcomes of post-CSG beneficiaries

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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 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 our 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 better 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 the improved social care of children (Patel, Knijn, & Wel, 2015) and reduced sexual risk behaviour amongst 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 as to the longer-term outcomes of CSG beneficiaries. How post-CSG beneficiaries fare once they "graduate" from the CSG has, to date, not been assessed; nor do we understand much about what factors in the life course of children from poor households shape their outcomes.

Prior to turning 18 years, 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 years they are no longer eligible for most of these services with 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, what the longer term effects of having been a

CSG beneficiary are. 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 demonstrated 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 the 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 panel analysis of the NIDS data is intended to assess the extent to which these and other factors shape the outcomes for young people – both those who received and 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 propose 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 in the wave 1 dataset, and for whom data in the prior four waves of the data (in either the child or adult datasets) are available. It assesses what demographic factors as well as factors in their life course (i.e. over the previous four waves of data) explain their health, education, employment and income outcomes at wave 5, including whether or not receipt of 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 self-reported health status as reported at wave 5 is used. 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 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 that the individual received the grant), mother[1]'s level of education, father's level of education, mother's employment

[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.

status, father's employment status, number of people in the household employed, whether or not a mother or father lost a job, and death of a household member.

2.3. Sample

The sample was restricted to young 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 used a balanced panel where data was available for individuals at all five waves. A total sample of 1100 individuals was included in the dataset.

We consider someone as having been a CSG beneficiary if they were receiving the CSG at any wave whilst 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 sample 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 outcomes variables of interest between those who received the CSG and those who were eligible but did not receive the grant.

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 mostly have similar results (Ferrer-i-Carbonell and Frijters, 2004) in a cross section and it 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 below summarises the demographics of the balanced sample. It shows that, as might be expected given the parameters set for the sample, the majority of the sample is Africa followed by Coloured. Most were based in rural areas in wave 1. The sample is relatively 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 for at least one wave during their childhood as is shown in Table 2 below.

Table 2: Percentage of sample who received a CSG for 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 were more likely to have grown up in rural areas (70.5%) than those who had not received a 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 prior report (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 below.

Table 3: Self-reported health status at wave 5 by whether individual received a CSG or not

	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 very 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 ($p<0.5$).

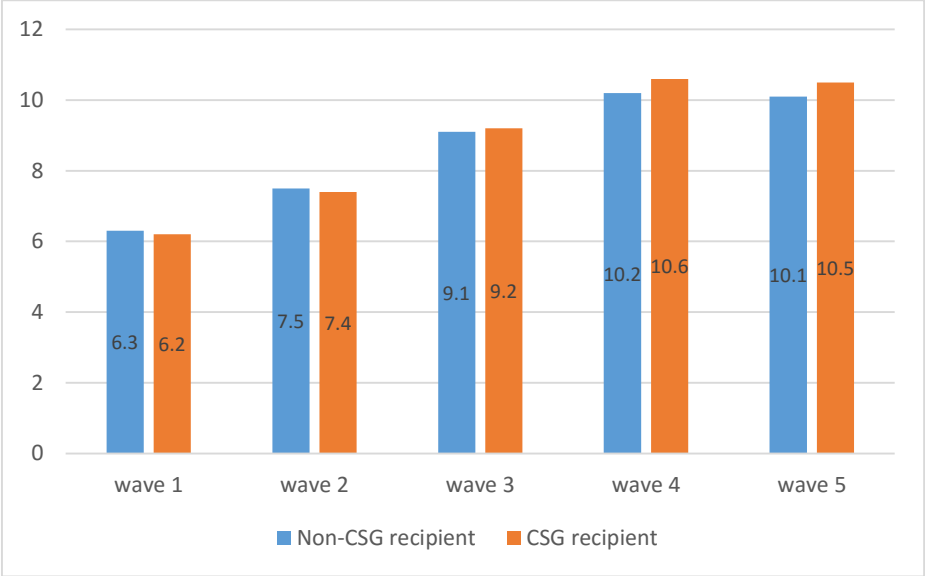

Figure 1: mean years of education over time by whether or not a respondent was a CSG beneficiary

An analysis of the mean years of education taken over the full five waves (Table 4 below) 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 those who were or were not CSG 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 differences 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 for CSG recipients. This is depicted in Figure 2 below.

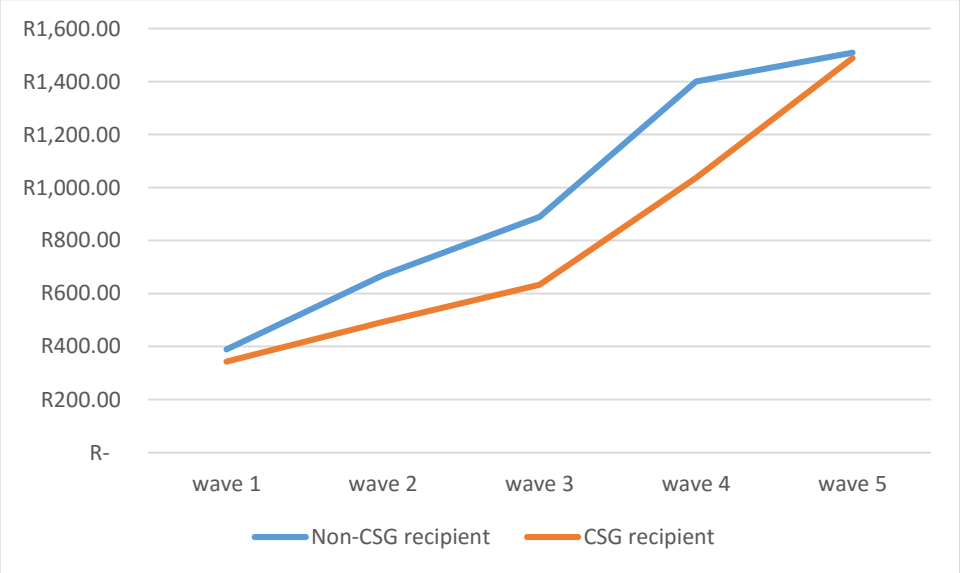

Figure 2: average per capital household income over time by receipt of CSG as a child

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 those who never received a CSG 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 (see

Table 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; $p<0.01$).

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

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 mother's level of education has a negative effect on self-reported health status for the sample; that is, for every year of additional education the mother has, the 21-22 year old child's self-reported health 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 his/her mother's level of education in explaining health status. However, it is unclear why

mother's level of education would have a negative effect on an individual's health status. Another surprising finding is that the more people in the household that are employed, the poorer the individual's health status (-0.0394; $p<0.05$). Here the figures are also interesting as in the most households (54%) nobody works. In a further 30.3% of households only one person was working. Moving to another area also has a negative effect on self-reported health status (-0.142; $p<0.01$).

3.4. Education

For 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 the achievement of more 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 were no more or less 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 were 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 were receiving and not receiving 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 less years of schooling than their African counterparts, this is likely explained by the very small numbers of White youth in the sample. Males 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 has achieved. 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 expect for school quintile 5 (which improves 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 experienced 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 showed 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 was discussed above, CSG beneficiaries are no more or less likely to be employed than their non-CSG counterparts. This is confirmed in the fixed effects logit model, shown in Table 9, which shows that having received a CSG and the length of time that one received 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, 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 do 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 in the previous section death of a household member has negative effects on years of education and this may then in turn affect 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 above, CSG beneficiaries were 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 11 below. 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; $p<0.01$), likely due to the higher likeliness of males being employed as reported above. Although being Indian/Asian emerges as having a significant positive effect on income (0.528; $p<0.01$), the numbers in the sample of Indian/Asian individuals in the sample is 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 one at 14% income advantage ($p<0.01$) over those who attended a quintile 1 school; and having attended a quintile 5 school gives one an advantage of 11% higher income than for 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 income eligible and 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. So, as more people in the household become employed 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 as 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 ($p<0.01$) most likely because people move to find work. As mentioned above, migration to urban areas has a positive effect on employment chances (Ranchhod & Mlatsheni 2017). As might be expected, 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 individual who passed away.

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 has shown 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. In fact on education, it has a negative effect. 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 they were CSG beneficiaries or not. The descriptive statistics presented show for instance that very few young people in the sample had 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) to 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 set 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 education.

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 young people are worst affected by (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 human capital development of our young population, which seriously 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 a few factors that, over a young person's life course, shape their outcomes. These are discussed alongside recommendations 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 household homes. It 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 employment.

Education

The discussion above pertaining to quality of education is confirmed when considering 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 emerged 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 were 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. The fact that CSG beneficiaries are identified in two systems across two departments (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) 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 CSG beneficiaries who are progressing through school could automatically be linked to the National Student Financial Aid Scheme without 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 educational outcomes. This is a finding that was also observed in the prior report (Graham et al. forthcoming). Qualitative evidence from that report shows how death of a household member negatively affected the 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 health support services at the time of experiencing the trauma. Early intervention by local social workers to provide support at times of trauma such as death of a household member, track the implications of the death for the children,

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

and ensuring that children and family members have access to local mental health services emerge as critical welfare services that can mitigate some of the negative effects of death in the household. Where children are CSG beneficiaries there could be data systems, drawing on the SOCPEN database, that effectively allow children at risk to be quickly identified (particularly where the caregiver receiving the CSG on behalf of the child dies) and appropriately supported with services.

Employment

As might be expected death of a household member negatively affects employment status. The reasons for this may be that the pathway operates through education (the same relationship exists for educational outcomes). Thus, if an individual experiences the loss of a household member during childhood it may negatively affect educational outcomes, which in turn negatively affects employment. The importance of welfare services and accessible mental health support again emerges as an important intervention. Alternatively an individual could experience this loss later in life (as an adult), and in this case the loss may mean that an employed person in the household passes away, limiting the social capital that the individual 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 lived in households where nobody was employed. The importance of these close networks of employed people is therefore critical. Social networks stand in for a lack of information about and connection to the labour market. If we are to better facilitate access to the labour market for young people with limited social networks then access to information about the labour market is critical. South Africa currently invests very little in employment support (Bhorat, 2012), and where there is employment support this is often not tailored to the needs of first time work seekers.

There is some evidence to show that work place intermediaries or organisations offering employment support can “stand in” for a lack of such social capital provided they are easily accessible (Dieltiens, 2015; Graham et al., 2016). Employment support is a relatively low cost intervention that can leverage existing infrastructure to roll out, and which can ensure young people who do not have access to household networks of employment connections can still better navigate their way into the labour market.

Income

Income is closely associated with employment. Thus, in the same way that having more people in the household employed positively impacts on employment, so too does it positively affect income. This may seem obvious since more wages coming into household would increase income in the household but it does reiterate that cash transfers alone are not sufficient to lift households out of poverty. Wages remain the most significant contributor to alleviating poverty and thus the importance of ensuring greater employment is critical. Income is also positively affected by moving from one area to another. Although the nature of that movement was 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 work meaningful work regardless of whether they migrate or not.

5. Conclusion

Previous research has 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 and these point to the need for investments in support services that could complement cash transfers. Three examples emerged from the findings. The first is investments in early identification of children experiencing death in the household (particularly where that death is of the caregiver) and intervening early to ensure that they are appropriately supported through school and in accessing mental health services. The second is investment in employment support, which would overcome the challenge of limited social networks

that so many young people face when trying to secure work. The third is ensuring that CSG beneficiaries are identified when at risk of failing or repeating grades and appropriately supported to stay in school; and that they are 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 of education that most poor youth are exposed to significantly undermines 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 point to the need for significant investments of political will in ensuring that human capital development is prioritised for youth (through the education system) and that cash transfers are complemented by other services that can provide the additional support that poor youth need to more positively transition into adulthood.

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