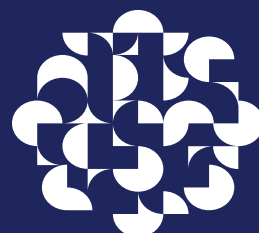# COVID-19, SOCIAL PROTECTION, AND THE LABOUR MARKET IN SOUTH AFRICA:
Are social grants being targeted at the most vulnerable?

By Tim Köhler and Haroon Bhorat
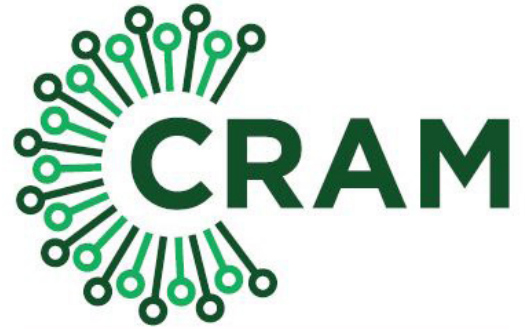
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COVID-19, SOCIAL PROTECTION, AND THE

LABOUR MARKET IN SOUTH AFRICA:

Are social grants being targeted at the most vulnerable?

DEVELOPMENT POLICY RESEARCH UNIT

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Abstract

In light of the South African government's pandemic-induced expansion of the country's social protection system to provide relief to vulnerable individuals and households, this paper aims to use newly available, nationally representative survey data – Wave 1 of the NIDS-CRAM – to provide a quantitative, descriptive evaluation of whether social grants are being successfully targeted at the most vulnerable in the context of the national lockdown and COVID-19 crisis. In particular, we highlight heterogeneity in labour market outcomes before and during the national lockdown to show that social grants are an important source of income relief for individuals in low-income households. We show that these individuals have been disproportionately burdened by adverse labour market effects induced by the lockdown with respect to employment loss, the likelihood of having a paid job to return to, and reductions in working hours and earnings. We show that grants substantially increase the incomes of poor households in relative terms and, through fiscal incidence analysis, we show that the pandemic-induced additional government spending on grants have been pro-poor, especially that on the Child Support Grant. Considering the observed heterogeneity in labour market outcomes before and during lockdown across the household income distribution and that grants are relatively well-targeted; we conclude with a set of policy recommendations for South Africa's social protection system going forward.

Acknowledgements

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Recommended citation

Disclaimer

Executive Summary

In response to the COVID-19 crisis and regulations which restrict social mobility and interaction, most governments around the world have expanded their social protection systems as a means of providing relief to vulnerable individuals and households. In this light, South Africa's government expanded its non-contributory social assistance system (unconditional cash transfers or social grants) on both the intensive (an increase in the amounts of all existing transfers) and extensive (the introduction of a special COVID-19 Social Relief of Distress grant) margins for six months from May to October 2020. This paper aims to use newly available, nationally representative survey data – Wave 1 of the NIDS-CRAM – to provide a quantitative, descriptive evaluation of whether social grants are being successfully targeted at the most vulnerable in the context of South Africa's national lockdown and the COVID-19 crisis. In particular, we highlight heterogeneity in labour market outcomes before and during the national lockdown to show that the expansion of social grants is an important source of income relief for individuals in low-income households. Based on this data, we find that individuals in lower-income households have been disproportionately affected by the adverse labour market effects of the lockdown with respect to employment, working hours, earnings, and job security. Considering this and that grants are relatively well-targeted, we emphasise their role as an important source of relief for individuals in low-income households.

Grants are relatively well-targeted to lower-income households in South Africa, and the distribution of household income during lockdown makes it clear why they serve as an important source of relief. About R270 per month is available for the average individual who lives in the poorest half of households. This is in stark contrast to those who live in the richest 10% of households who receive about 30 times that amount, or R8 367 per person per month. Grant receipt substantially increases the incomes of poor households in relative terms. CSG receipt increases per capita household income by about 63% for those in the poorest 30% of households, in contrast to the less than 3% increase for those in the richest 30% of households. Nearly half of all individuals who live in the poorest 50% of households report grants as a source of household income, in sharp contrast to 6% of individuals in the richest 20%. Overall, our estimates suggest that grants are relatively well-targeted to low-income households in South Africa.

The adverse labour market effects of the pandemic and lockdown have been disproportionately borne by individuals in lower-income households. Although we estimate that overall employment decreased from February to April decreased by about 2.8 million, employment loss for individuals who live in the poorest 20% of households accounts for more than a third (35%) of total employment loss (or over 970 000 less people employed). The percentage of individuals employed in the poorest 10% of households was 55% lower in April relative to February – the largest relative change across the distribution. Just 17% of individuals report having a paid job to return to, however this is the case for just 7.6% for individuals in the poorest 10% of households. Individuals in the richest 10% of households are nearly seven times more likely to have a paid job to return to. Changes in working hours and earnings reflect similar patterns. Overall, mean weekly working hours decreased by just over 7.6 hours (or about 20%), but 31% for individuals in the poorest 20% of households. More than half (50.6%) of all individuals who live in the poorest 20% of households experienced any reduction in weekly working hours, as opposed to just a third (33.3%) who live in the richest 20% of households. These disproportionate changes in outcomes emphasise the importance of the expansion of social grants as a source of relief for individuals in lower-income households.

The pandemic-induced additional government spending on grants have benefited the poor; however additional spending on the CSG has been particularly pro-poor in the beginning of lockdown. Through fiscal incidence analysis, we show that 64% of additional spending on the CSG accrued to the poorest half of all households, as opposed to just 5.6% for the richest 20%. Three in every four individuals (76%) who co-reside with a CSG recipient live in the poorest 70% of 2 | COVID-19, Social Protection, and the Labour Market in South Africa: Are social grants being targeted at the most vulnerable? households. The OPG is slightly less but still pro-poor, with 50% of additional spending accruing to the poorest half of households and 13% to the richest 20%. This has important implications for the grant system in benefiting the informally employed. Nearly two thirds (63%) of employed individuals who live in the poorest half of households are informally employed, and nearly four in every five (78%) of the employed who live in the poorest 10% of households which receive the CSG are informally employed.

What policy instruments are available to help provide these individuals and households with protection? First, the inefficiencies associated with the relatively slow-rollout of the COVID-19 SRD grant, attributable to limited administrative capacity or possible confusion surrounding the correct eligibility criteria, ought to be addressed and drastically improved. Regarding social insurance, the efficiency of the UIF's administrative system ought to be addressed to ensure that those eligible receive timeous income protection. Next, to provide greater targeted relief, government ought to consider amending the CSG top-up policy from June onwards from a "per caregiver" increase to a "per grant" increase. Finally, if the adverse labour market effects observed in this paper persist, government ought to consider extending the expansion of the grant system for at least the remainder of the year.

1. Introduction and Background

The COVID-19 pandemic has led many governments across the world to introduce and impose restrictions on social mobility and interaction with the primary aim of curbing the spread of the virus. Economic lockdowns (or 'stay-at-home' or 'shelter-in-place' orders) require individuals to remain home for all but essential activities such as food and medicine procurement or travelling for employment deemed essential. South Africa's response in this regard was relatively rapid and stringent relative to global and Sub-Saharan African average indices (Gustaffson, 2020). Following the declaration of a National State of Disaster on 15 March 2020, South Africa's number of confirmed COVID-19 cases passed 100 just three days later and a complete national lockdown was imposed for five weeks from 27 March until 1 May 2020 when a risk-adjusted, phased re-opening of the economy was introduced. Such a lockdown policy, however, is expected to lead to substantial losses in livelihoods with respect to employment, working hours, and earnings. Using pre-crisis data, Francis et al. (2020) estimate that just two in every five (40%) workers in South Africa are permitted to work under the government's most stringent lockdown regulations.[1]

Such adverse economic effects are expected to be disproportionately greater in developing countries owing to insufficient resources and capacity (Loayza, 2020). Sub-Saharan Africa is set to be the worst-hit region. Valensisi (2020) estimates an increase in the 2020 poverty headcount ratio of 2.7 percentage points for the region, or an additional 31 million people living in extreme poverty[2] - equivalent to the 2011 regional poverty level. Using 10 years of Demographic and Health Survey (DHS) data for 54 countries, Brown et al. (2020) estimate that just 4% of households in sub-Saharan Africa are equipped to fully comply with non-pharmaceutical recommendations for protection from the virus, with virtually zero in the poorest 40% being able to fully comply. Furthermore, a large proportion of the labour force in developing countries cannot feasibly work from home. In South Africa, Kerr and Thornton (2020) estimate that only 13.8% of workers (just over 2 million people) could work from home under a complete national lockdown, and the vast majority of workers (63% or 10.5 million people) are neither essential nor could work from home. Furthermore, the authors show that this latter group of workers are concentrated amongst the poorest earners in the South African labour market: only 28% of workers in the poorest half of the income distribution are either essential or could work from home, in contrast to 61% of workers in the top 10%.

Most governments around the world have used cash transfers as a means of resource distribution to lower-income households in light of the COVID-19 pandemic. As of 22 May 2020, a total 190 countries had planned, introduced, or adapted social protection measures in place, representing a more-than-eightfold increase in measures from 103 measures in 43 countries in just two months (Gentilini et al., 2020). 60% of these programs are non-contributory social assistance programs, and cash transfers account for approximately half of these programs. Such an expansion of social assistance was included in the South African government's package of relief measures, a stimulus amounting to over ZAR500 billion (or approximately 10% of Gross Domestic Product) of which ZAR50 billion was allocated to social assistance (National Treasury, 2020). However, this amount was later reduced to ZAR40 billion as per the Minister of Finance's special Supplementary Budget presented towards the end of June 2020. This expansion of social assistance came in the form of (i) an increase in the amount of every existing unconditional cash transfer (hereafter referred to as social grants) and (ii) the introduction of a special COVID-19 Social Relief of Distress (SRD) grant, both for six months. These changes are expected to

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[1] Although a useful benchmark until more recent data becomes available, these estimates assume that the lockdown results in no (temporary or permanent) job losses, and do not take account of workers who can work from home.
[2] Measured as individuals living on less than $1.90 per day (2011 PPP).

benefit nearly 18 million existing grant recipients and a potential 12 million additional recipients (Bhorat et al., 2020). As of 30 June 2020, 3.2 million individuals had been approved and 2.5 million paid.[3]

This study is amongst the first to use newly available, nationally representative survey data – the National Income Dynamics Study-Coronavirus Rapid Mobile Survey (NIDS-CRAM), described in more detail in Section 3.1 – to provide a quantitative, descriptive evaluation of whether social grants are being successfully targeted at the most vulnerable in South Africa in the context of the COVID-19 crisis. With respect to vulnerability, we focus on heterogeneity in severe changes in labour market outcomes across the household income distribution motivated by the relationship between adverse shocks, employment, and poverty. Adverse shocks can easily generate poverty traps. In South Africa, Schotte (2019) finds that nearly 70% of the non-poor who experience downward mobility fall into *structural* (non-transitory) poverty, and employment transitions are among the main events associated with poverty transitions. In this light, the COVID-19 pandemic may not only be a temporary shock but may have long-lasting implications on welfare partially through its effects on the labour market. Considering this, we specifically focus on the distribution of social grants across several labour market outcomes such as employment, monthly earnings, and weekly hours worked and seek to highlight heterogeneity across the household income distribution both before and during the national lockdown.

The remainder of this paper proceeds as follows. Section 2 provides a brief overview of the South African social protection system. Section 3 describes the data and our methodology, while Section 4 presents several descriptive statistics. Finally, Section 5 concludes.

2. The South African Social Protection System
### 2.1. Contemporary social protection in South Africa

In present-day South Africa, race no longer acts as an eligibility requirement or targeting device for social protection as it did in the apartheid era. Rather, means testing, the fact that poorer households have more children and the fact that the private health care system is used in preference to the public system for those who can afford it means that social spending is now extremely well-targeted towards the poor (Van der Berg, 2014). Since democratization, social assistance in particular has expanded significantly with nearly 18 million recipients (or nearly one in every three South Africans) as of 2019/20 at a cost of 3.4% of GDP (South African Social Assistance Agency, 2020). However, little progress has been made with respect to social insurance (Woolard, 2011). The basic structure of the current social protection system is outlined in Figure 1. It is useful to distinguish between social assistance (which protects the poor using cash or in-kind transfers) and social insurance (which protects individuals against adverse events). Primarily, the system consists of tax-financed, unconditional, and means-tested (except for the Foster Care Grant) cash transfers, which primarily empower vulnerable children, the elderly, and the disabled (Moore and Seekings, 2019).

Despite South Africa's relatively comprehensive social safety net, there are still large holes in the net with little provision for the working-aged unemployed (Moore and Seekings, 2019). This is rooted in the fact that, as in Latin America and elsewhere, the structure of South Africa's social protection system relies on the assumption that only 'dependent' categories (such as the elderly, disabled, and children) are in need of support, and that prime-aged, able-bodied individuals are presumed to be able to support themselves through the labour market and are therefore excluded from receiving social assistance (Ferguson, 2015). However, such a view clearly neglects the widespread, structural unemployment which plagues South Africa (Bassier et al., 2020). As of the first quarter of 2020, nearly

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[3] See South African Social Security Agency's (SASSA) Media Release dated 30 June 2020:
https://www.sassa.gov.za/newsroom/Documents/SASSA%20Sends%20Lifeline%20to%20Rejected%20COVID-19%20Grant%20Applicants.pdf.

three in every four (71.7% or approximately 5 million people) of the work-seeking unemployed have been so for more than one year.[4]

Figure 1: The basic structure of the South African social protection system
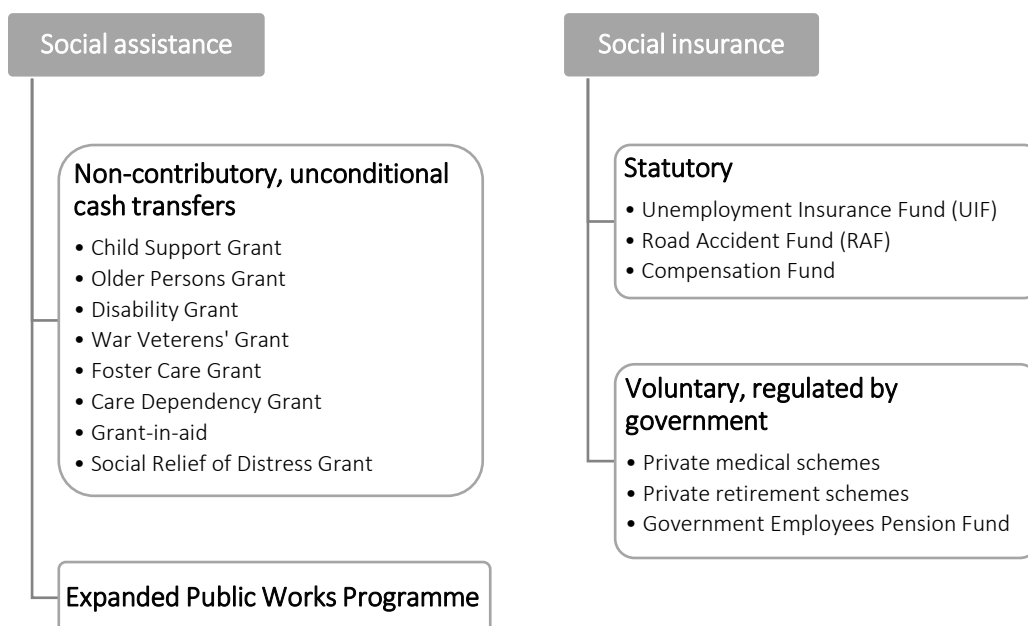
Authors' own arrangement. Source: National Treasury (2020).

The CSG constitutes the largest grant in the system in terms of number of beneficiaries, accounting for 71% (or nearly 13 million individuals) of total grant recipients in 2019/20 as per Table 1. The grant's large take-up is largely attributable to gradual increases in the age eligibility threshold and a less stringent means test. The means test is set to 10 times the grant amount and from 2010, all (income-eligible) children born after 1996 who are younger than 18 years are eligible. The Older Persons Grant (formerly the Old Age Pension) and Disability Grant (the only grant intended for working-age adults) are the second and third largest grants collectively accounting for more than one in every four recipients. More than one in every two South Africans live in a household which receives income from either the CSG or Older Persons Grant (Bassier et al., 2020). Both the Older Persons Grant and Disability Grant are means tested and benefits are more than four times larger than the CSG. Social assistance also consists of the Expanded Public Works Program (EPWP) which is in essence employment-based basic income security for the working-age. Introduced in 2004, the EPWP is a government supply-side programme which aims to create employment, aid skills development, and provide income relief for the unemployed by providing temporary work. However, the programme's scale is determined by the government's capacity of creating employment opportunities and therefore, it cannot provide jobs to all of the work-seeking unemployed (Peres, 2019).

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[4] Own calculations using Statistics South Africa's 2020 Quarter 1 Quarterly Labour Force Survey microdata.

Table 1: Number of grants distributed by grant type, 2009/10 versus 2019/20

	2009/10			2019/20			Growth in recipients (2009/10 - 2019/20) (%)
	Monthly amount (nominal Rands)	Thousands	% of total	Monthly amount (nominal Rands)	Thousands	% of total	
Child Support Grant	240	9 381	68.08	440	12 777	71.00	36.20
Older Persons Grant*	1 010	2 491	18.08	1 860	3 655	20.31	46.73
Disability Grant	1 010	1 299	9.43	1 860	1 058	5.88	-18.55
Foster Care Grant	680	489	3.55	1 040	350	1.94	-28.43
Care Dependency Grant	1 010	119	0.86	1 860	155	0.86	30.25
Total		13 779	100.00		17 996	100.00	30.60

Authors' own calculations. Source: National Treasury (2011, 2020).
*Notes: [1] * Includes War Veterans' Grant recipients whose grant amounts to R1 880 in 2019/20 and R1 030 in 2009/2010, for the 2019/20 financial year the monthly amount here refers to that for individuals between 60 and 75 years of age, and the Older Persons Grant is R1 880 for individuals over 75 years of age. [2] Recipients per grant may not sum to total recipients due to rounding. [3] Grant-in-Aid and Social Relief of Distress grant recipients are excluded here.*

Social insurance in South Africa's social protection system is primarily used to protect those in formal sector employment, and therefore many remain outside this part of the system (Van der Berg, 1997; Woolard, 2011). Seekings and Matisonn (2012) describe it as a semi-social insurance system owing to the fact that only former contributors are eligible for benefits in the short-term and therefore few chronically poor individuals are covered. There are three primary social insurance measures: the UIF, the Road Accident Fund (RAF), and the Compensation Fund. With the amended Unemployment Insurance Act of 2001, the latest version of the UIF came into effect in 2002 and seeks to provide short-term protection against unemployment, illness, maternity, the adoption of a child, and death - conditional on prior formal employment. The RAF was introduced in 1996 and seeks to provide compensation for the loss of earnings, general damages, injuries, or death and funeral costs arising from accidents involving motor vehicles on South African roads. Given its mandatory nature, the Fund operates like a universal social insurance scheme (Moore and Seekings, 2019). Finally, the Compensation Fund was introduced in 1993 with the promulgation of the Compensation for Occupation Injuries and Diseases Act, replacing the former racially orientated WCA of 1941. South Africa's social insurance system also includes a regulated, voluntary component, consisting of private medical and retirement schemes for those who can afford it, as well as the Government Employees Pension Fund – a defined benefit pension fund established in 1996 and mandatory to all government employees.

2.2. COVID-19-induced changes to South African social assistance

In the early days of the onset of the COVID-19 crisis, initial economic relief measures by the South African government primarily focused on tax-registered individuals and firms in the formal sector. However, there were also several vocal calls for the expansion of social assistance to support low-income households (Bhorat et al., 2020). Specifically, these calls largely advocated for supplementing the CSG on the intensive margin (i.e. increasing the amount of an existing cash transfer). Analysis using pre-crisis survey data showed that in the absence of such targeted interventions, the extreme poverty rate amongst vulnerable households may almost triple.[5] To support these households, on 21 April 2020 President Ramaphosa announced an expansion of social assistance on both the intensive and extensive

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[5] https://theconversation.com/south-africa-can-and-should-top-up-child-support-grants-to-avoid-a-humanitarian-crisis-135222.

margins: all existing social grants will be increased for six months and a special COVID-19 Social Relief of Distress (SRD) grant will be introduced for the same period for individuals who are unemployed and neither receiving any income nor any other social grant or support from the UIF. Citizens, permanent residents, and refugees are all eligible for this latter transfer which was later expanded to include asylum-seekers and special permit holders.[6] As of 30 June 2020, 3.2 million individuals had been approved and 2.5 million paid.[7]

These adaptions to the grant system were, however, heterogenous by grant type. As indicated in Table 2, every existing grant with the exception of the CSG was increased on the intensive margin by R250 per month (equivalent to a relative increase of 13% - 24%) from May to October 2020. On the other hand, the CSG was increased by R300 *per grant* for May (a nearly 70% increase attributable to a relatively low pre-COVID-19 level of R440) but R500 *per caregiver* (regardless of their number of eligible children) from June onwards. A simple analysis provided in Figure 2 shows that the benefit of this chosen policy varies by a primary caregiver's number of eligible children. Although caregivers with one child will benefit relatively more from June relative to May, those with two or more children benefit relatively more in May relative to June onwards. Compared to following initial calls to increase only the CSG, this decision by the Department of Social Development was presumably taken partly because it was accompanied by the introduction of the new COVID-19 SRD grant as well as increases to all other existing grants. By simulation, Bhorat et al. (2020) find that although the chosen social assistance policy appears to cost more and is slightly less progressive relative to only increasing the CSG by R500, it brings many previously unreached households into the system partly through the introduction of the COVID-19 SRD grant and ultimately leads to the largest reduction in poverty over six months. Bassier et al. (2020) find that the expansion of the CSG is complimentary to the introduction of the COVID-19 SRD grant, and that "this combined policy intervention performs best out of the options considered".

Table 2: Changes to South Africa's social grants, May to October 2020.

| Grant	Pre-COVID-19 amount (Rands per grant per month)	Absolute (Rands per grant per month, unless indicated otherwise) and relative (%) increase		COVID-19 amount (Rands per grant per month, unless indicated otherwise)	
		May 2020	June-October 2020	May 2020	June-October 2020
Older Persons Grant*	1 860	250 (13.44%)	250 (13.44%)	2 110	2 110
War Veterans' Grant	1 880	250 (13.30%)	250 (13.30%)	2 130	2 130
Disability Grant	1 860	250 (13.44%)	250 (13.44%)	2 110	2 110
Care Dependency Grant	1 860	250 (13.44%)	250 (13.44%)	2 110	2 110
Foster Child Grant	1 040	250 (24.04%)	250 (24.04%)	1 290	1 290
Child Support Grant	440	300 (68.18%)	500 per caregiver	740	440 per grant + 500 per caregiver
COVID-19 SRD Grant	NA	NA	NA	350	350

Authors' own compilation based on Government Gazette No. 43300 dated 9 May 2020.
*Notes: [1] * The grant amount of R1 860 is for individuals aged 60 to 75 years, which increases to R1 880 for individuals older than 75 years of age.*

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[6] https://www.iol.co.za/sundayindependent/news/sassa-to-spend-r700m-providing-refugees-with-the-r350-covid-19-relief-grant-49703342.

[7] See South African Social Security Agency's (SASSA) Media Release dated 30 June 2020: https://www.sassa.gov.za/newsroom/Documents/SASSA%20Sends%20Lifeline%20to%20Rejected%20COVID-19%20Grant%20Applicants.pdf.

Figure 2: Variation in total monthly amount of the Child Support Grant received by number of eligible children, May to October 2020.
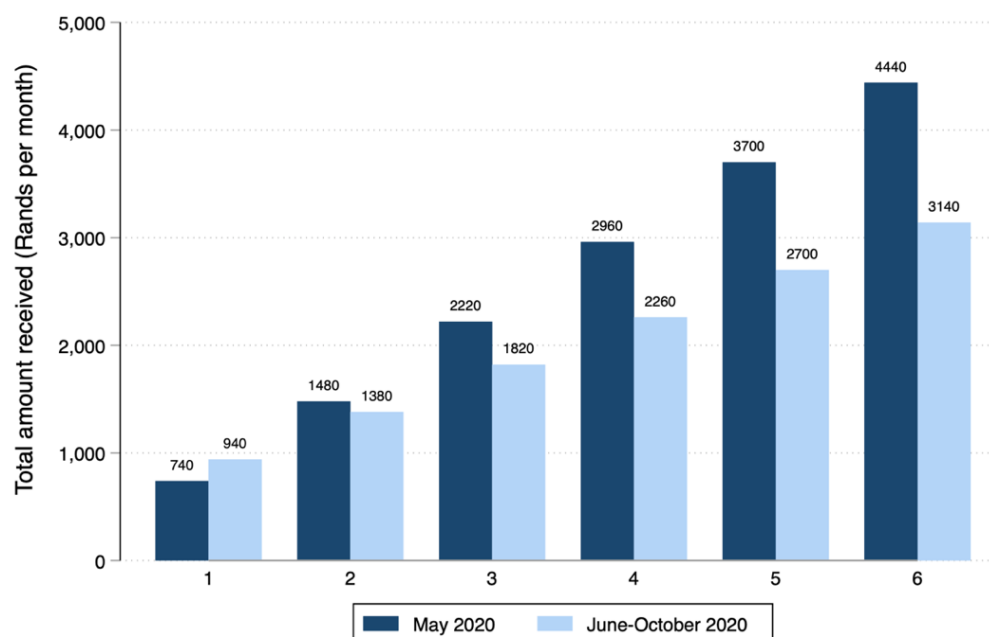
Authors' own calculations based on Government Gazette No. 43300 dated 9 May 2020.

3. Data and methodology

3.1. The National Income Dynamics Study: Coronavirus Rapid Mobile Survey

The National Income Dynamics Study: Coronavirus Rapid Mobile Survey (NIDS-CRAM) is a nationally representative individual-level panel survey of approximately 7 000 South African adults, intended to be conducted telephonically through six monthly waves from May 2020 to October 2020. Conducted as a collaborative research project by several South African universities, the aim of the survey is to provide monthly, nationally representative data on key socioeconomic outcomes in South Africa during the COVID-19 pandemic and national lockdown. The survey forms part of a broader study, which this paper forms part of, which aims to inform policymaking using rapid, reliable research in the context of the COVID-19 pandemic. The survey instrument includes a wide array of questions on income and employment, household welfare, and COVID-19-related knowledge and behaviour. Each participant of the NIDS-CRAM receives a ZAR20 airtime voucher per wave for participating. In order to be nationally representative while simultaneously adhering to social distancing regulations, the mobile phone numbers of existing sample participants needed to be obtained. In this light, the NIDS-CRAM sample consists of a subsample of individuals from households captured in the fifth wave of the National Income Dynamics Study (NIDS) conducted in 2017. The NIDS is a nationally representative, longitudinal, face-to-face household survey conducted approximately every two years from 2008 to 2017 and has followed the same 28 000 South African individuals over five waves.

This study utilises data from the first wave of the NIDS-CRAM which was conducted from 7 May to 27 June 2020 in the preferred South African official language of the respondent.[8] The sample frame of the NIDS-CRAM consists of NIDS Wave 5 individuals resident in South Africa aged 18 years or older at the

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[8] With the exception of Ndebele, the questionnaire was translated into 10 of South Africa's 11 official languages.

time of fieldwork in April 2020.[9] The sample was drawn using a stratified sampling design, but with "batch sampling" and was stratified by age, income decile, geographic area, race, and sex (totalling 99 strata). The "batch sampling" approach simply means that sampled individuals were sent to the fieldwork team in batches, and was designed to allow for flexibility in adjusting the sampling rate for each stratum as more information about stratum response rates was obtained as fieldwork progressed. Interested readers are referred to Ingle et al. (2020) for more details regarding the survey's sampling design. Although NIDS-CRAM is a follow-up survey of NIDS respondents, there are several distinct differences between the two surveys. NIDS-CRAM uses a much shorter questionnaire (and is thus less detailed) which takes on average 20 minutes to administer, and is conducted via a computer assisted telephonic interview (CATI) survey due to the infeasibility of face-to-face surveys under lockdown regulations. NIDS is an individual-level, household-based survey whereas the NIDS-CRAM is an individual-based survey, which presents complications for deriving household-level variables from individual-level variables. In the sampling method, no restriction was made to selecting just one individual per NIDS Wave 5 household. Furthermore, it is important to note that because the NIDS-CRAM sample is drawn from a representative sample of individuals in NIDS Wave 5 (conducted in 2017), the weighted estimates are not necessarily representative of the South African adult population in 2020. Rather, it is representative of the outcomes in 2020 of those aged 15 years and older in 2017 who were followed up 3 years later. Unless indicated otherwise, all estimates for all periods are weighted using the relevant sampling design weights and account for the NIDS-CRAM complex survey design to address non-response and ensure representivity.

3.2. Constructing variables for employment, household income, earnings, and grant receipt

In the NIDS-CRAM Wave 1 questionnaire, several items are included to gauge a sampled individual's labour market status in both February and April 2020. In particular, for both reference months individuals were asked (i) "Did you have any kind of job?", (ii) "Did you work for any profit or pay, even if just for an hour or a small amount?", and (iii) "Did you do any kind of business such as selling things - big or small - even if only for one hour?". How researchers choose to use the responses to these items to categorise individuals as either employed, strictly unemployed, discouraged, and economically inactive may have implications for their findings. For instance, although most of the above items require a response of either "Yes" or "No", item (i) also provides the option "No, I'm retired" for February and item (iii) the option of "No, I'm employed" for both February and April. The latter is of particular concern as it may have at least three interpretations. First, these individuals may simply be regarded as employed. Second, this group could be treated as employed but conditional on reporting non-zero/missing working hours or earnings. Third, given that many individuals who responded with this option also report zero weekly working hours, the response may be interpreted as measurement error (i.e. people meant to say 'no I am *not* employed') and are therefore regarded as not employed. We adopt the first approach to categorise an individual's employment status for both February and April, as described in Ingle et al. (2020). Our code for generating employment status is equivalent to that in the NIDS-CRAM patch code (V1.0.1). In future work on the NIDS-CRAM data, researchers ought to be explicit on their chosen approach given the differences in employment estimates that may arise. For instance, researchers may choose to account for individuals who report being employed in a given month but working zero hours and/or receiving zero earnings. In the context of the national lockdown, this is an important group to consider.

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[9] Sample members in the NIDS could be Continuing Sample Members (CSMs) or Temporary Sample Members (TSMs). CSMs were interviewed in every wave of the NIDS, whereas TSMs were interviewed in a given wave only if they were a co-resident of a CSM.

In this study, we also adjusted the raw, post-tax, monthly household income and earnings data to account for bracket responses and correct for outliers. As in most survey datasets, such raw income data ought not to be used in analysis for several reasons. First, several individuals only reported bracket or category responses (for example, earning between R20 000 and R25 000 per month). Second, some individuals reported earning zero income, while others did not report any income information at all. Third, the earnings data is contaminated by outliers. Using such data before addressing these issues will result in biased estimates, given that there may be selection into responding with bracket information or refusing to provide any income information. We adopt several statistical techniques to address these issues. First, individuals who responded with brackets are assigned the mean earnings value reported within the bracket for those who gave a numerical answer. Second, outlier values for household income and earnings are identified and coded as missing by using the "extreme studentised regression residuals" approach as advised by Wittenberg (2017).[10] We further trim the lower and upper-ends of the relevant distributions by coding values less than the first percentile and in excess of the 99th percentile as missing. All figures are converted to a monthly frequency. These adjustments resulted in 47 (74) values being coded as missing or 1.1% (1.1%) of the sample with non-missing April household income (February earnings) values. Similarly, just 64 April earnings values (or 1.0%) were coded as missing. If the April earnings exceeded household income or if household income values were missing, we replaced April household income values with non-zero and non-missing April individual earnings values. Furthermore, if an individual had missing or zero household income data but reported individual or household grant receipt, we replaced household income with grant income in addition to April earnings if any.[11] Given that we are adjusting household income in April, we use the pre-expansion social grant amounts as in Table 2. Because of this, we do not include receipt of the COVID-19 SRD Grant in this adjustment given that it was only distributed from May.[12] Individuals were only asked about their household income in April and not February. All income and earnings data were deflated to February 2020 Rands. Lastly, two things should be noted. First, the extent to which earnings estimates between February and April are comparable is questionable given the differences in the way the questions were asked. Second, there may be an endogeneity issue given that we only have household income data for April. For instance, employment loss may lead to an individual being categorised in a lower household income decile, rather than those in lower household income deciles are more likely to experiences employment loss. Due to data unavailability, we are unable to address this issue but emphasise the reader to keep this in mind throughout the paper.

Wave 1 of the NIDS-CRAM contains relatively detailed information regarding personal grant receipt compared to household-level grant receipt. Regarding the former, respondents were asked "Do you receive any kind of government grant?" and if they responded affirmatively, they indicated which specific one(s). Using this item, we could easily identify personal grant receipt for any grant, the CSG, the OPG, the COVID-19 SRD Grant, and several other grants as indicated in Figure 1. However, conditional on reporting receipt, there is no item which allows one to quantify *how many* grants an individual personally receives. This is of particular concern for the CSG where primary caregivers receive one or several grants on behalf of their child(ren). This has important implications for any researcher interested in estimating the total number of grants distributed in the country. On the other hand, at the household-level respondents were asked "Does anyone in the household receive a child support

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[10] This is done by estimating a Mincerian-style regression of the logarithm of either household income or earnings on a vector of observable covariates and identifying outliers as those observations with absolute residuals in excess of 4. We choose not to impute values for existing missing household income and earnings values and leave this for future analysis.

[11] Given that household-level grant receipt questions only related to the CSG and OPG, we could only adjust for these grants on the household-level.

[12] Unfortunately, although we can adjust household income for each type of grant receipt, we cannot tell if an individual received more than grant of a given type (for instance, a caregiver may receive more than one CSG on behalf of eligible children). After these adjustments, about 28% of the sample have missing household income data. Future research ought to consider the implications of missing income and earnings data on their analysis. One alternative would be to impute missing values based on a vector of observable characteristics.

grant?" and "How many child support grants does this household receive?", and similarly for the OPG. Unfortunately, these questions were only asked with respect to the CSG and OPG presumably owing to the time constraints of a telephonic survey. As such, in our analysis we focus on personal receipt of either (i) any grant, (ii) the CSG, (iii) the OPG, and (iv) the COVID-19 SRD Grant, and household receipt of (i) the CSG and (ii) the OPG. It should however be noted that grant receipt in the NIDS-CRAM Wave 1 data appears to be significantly underestimated relative to other information sources. For instance, we estimate that there are about 2 million individuals (not individual grants or beneficiaries) who report personally receiving the CSG in the data; however, administrative data from the South African Social Security Agency (SASSA) suggests this number is closer to 7 million recipients who receive the grant on behalf of more than 13 million beneficiaries. On the other hand, OPG receipt seems about correct at an estimated 3 million recipients in the data. This should be noted throughout any analysis of the Wave 1 data.

3.3. A note on representativity

Despite the adjustments we make to address missing household income values and minimise any possible selection bias, we believe that our estimates come with important caveats due to unavoidable imprecision which render them still approximations. This implies that our results may either over- or under-estimate the true realised impact of the pandemic and lockdown across the income distribution. First, we reiterate that the weighted NIDS-CRAM estimates are not representative of the South African adult population in 2020 because the sample was drawn from a representative sample of individuals in NIDS Wave 5 conducted in 2017, who were themselves followed up since 2008. Although post-stratification weights make the NIDS Wave 5 sample broadly representative of the South African population in 2017, the weighted NIDS-CRAM estimates should be interpreted as being representative of the 2020 outcomes of those aged 15 years and older in 2017 who were followed up 3 years later. Moreover, it is not unusual to observe disparities between estimates of the NIDS and other household surveys such as the QLFS. This is because NIDS was always designed to be a panel survey representative of the population in 2008, and as such, factors such as selective migration from the sample over time are not accounted for. Since the NIDS-CRAM sample is drawn from the NIDS Wave 5 sample, this characteristic will continue into NIDS-CRAM. For instance, the much larger QLFS sample of more than 60 000 individuals is periodically re-drawn to ensure that it remains nationally representative and therefore, it is probably a more reliable source of information for the South African labour market. As such, researchers need to be cautious about generalizing findings from the NIDS-CRAM to the country at large.

Regarding household income, NIDS-CRAM did not survey all individuals who are co-resident with the original sample member as in previous waves of the NIDS, we have to rely on a one-shot household income question as opposed to deriving household income from aggregating individual item responses. Jain et al. (2020) show that in the NIDS Wave 5 data, the distribution of one-shot household income is lower than the distribution of derived household income. Moreover, as discussed in Section 3.2, household income in the NIDS-CRAM was only asked for April once lockdown had commenced, and not February. Given that NID-CRAM is an individual-based survey, the household income question was also asked of every NIDS-CRAM respondent as opposed to the eldest woman or household member most knowledgeable about household affairs as in the NIDS. Finally, a significant proportion of respondents do not report household income information (28% after our adjustments), which could lead to our estimates being either upwardly or downwardly biased. We make adjustments to household income as described in Section 3.2 to address some of these concerns; however, we emphasise that the reader keeps these concerns in mind throughout the paper.

There remain, however, important advantages of the NIDS-CRAM data that make it incredibly valuable for understanding the current context in South Africa. First, because the survey is designed as a panel,

it can provide a substantial amount of information about the dynamics of sampled individuals as the pandemic and lockdown unfolds. At the time of writing there is no comparable existing dataset which can be used to analyse these dynamics. Second, despite unavoidable comparability issues with the NIDS-CRAM and other surveys, internal validity and comparisons over time for the sample are not issues of concern. Many of the operational challenges experienced by the NIDS-CRAM survey will almost certainly be experienced by other surveys being conducted during this period. Third, unlike many other rapid mobile surveys conducted to analyse the impacts of COVID-19, the panel nature of the NIDS-CRAM means that researchers can check under- or over-reporting of key variables by linking respondents back to their records in earlier NIDS waves.

4. Descriptive statistics

As a starting point, it is useful to analyse variation in mean real per capita household income across the income distribution. Figure 3 presents the relevant distribution for household per capita income in April 2020 – the only reference period for which household income is available in the NIDS-CRAM Wave 1 data.[13] The distribution makes it clear why social grants are needed as an important source of income relief amongst low-income households. Assuming an equal distribution of household income amongst household members,[14] just under R270 per person per month is available for the average individual who lives in the poorest half of households, in stark contrast to those who live in the richest 10% of households who receive about 30 times that amount, or R8 367 per person per month. It should be noted that even individuals who live in high decile households exhibit relatively low per capita household income levels in South Africa. For instance, household income is just over R1 300 per person per month in households in decile 8 – well below the national minimum wage. The figure then emphasises the importance of social grants as an income source for individuals in lower-income households.

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[13] Relative to household income data from other sources prior to the pandemic-induced lockdown, the distribution here appears relatively skewed to the bottom-end. This is possibly attributable to (1) under-sampling of individuals who live in relatively rich households, (2) endogeneity of household income in April to the COVID-19 and national lockdown shock to incomes, and/or (3) the fact that about 28% of individuals do not report household income values in the NIDS-CRAM Wave 1 data.

[14] The data prohibits us from exploring intra-household distributions of household income, so an average is assumed.

Figure 3: Distribution of real per capita household income by real household per capita income decile, April 2020
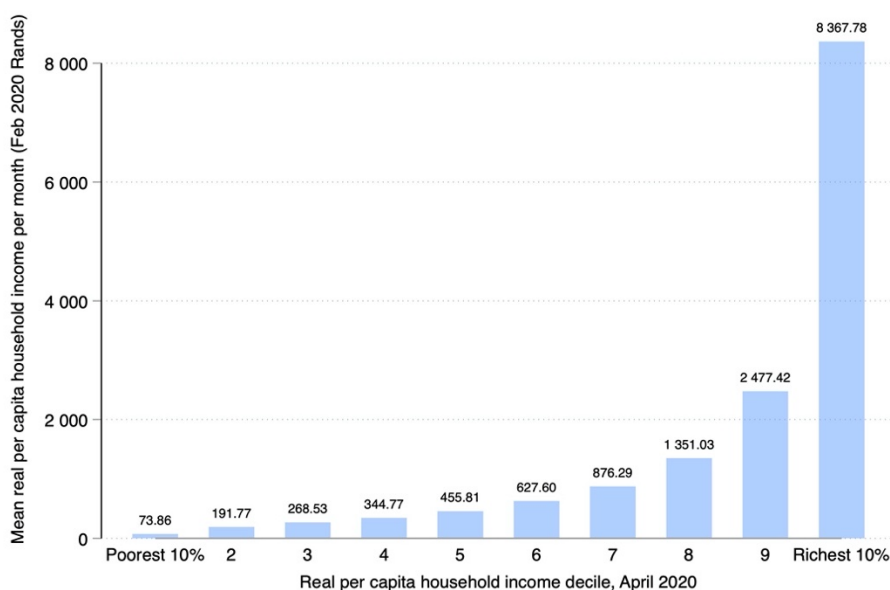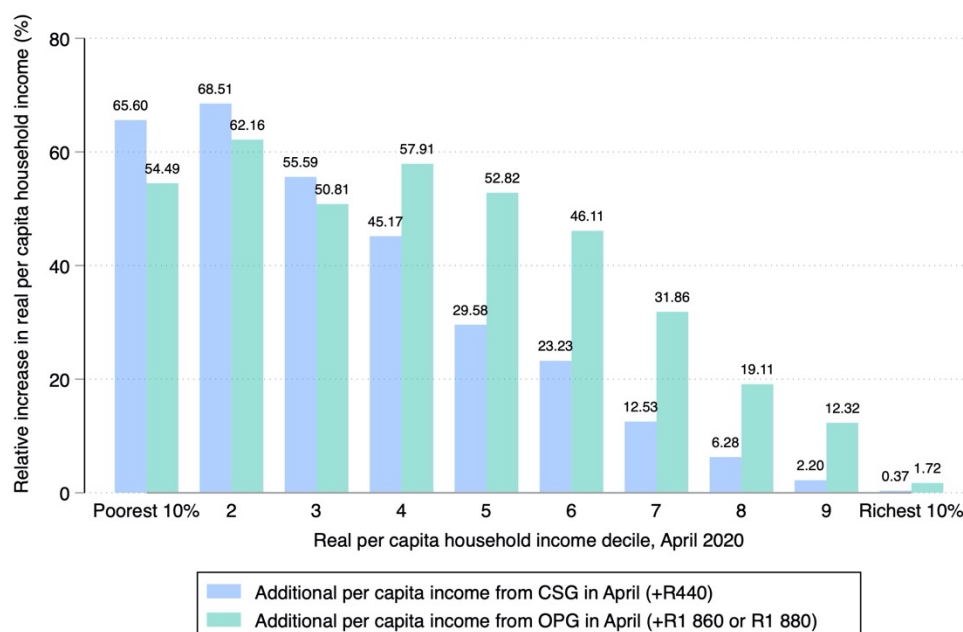

Authors' own calculations. Source: NIDS-CRAM Wave 1.
Notes: [1] All estimates weighted using relevant survey sampling weights. [2] Per capita household income calculated by dividing total household income by the total number of household members. [3] Real household income is measured monthly after taking tax and deductions into account and is deflated to February 2020 Rands.

The distribution in Figure 3, however, includes income attributable to social grants. It is worth investigating to what extent social grants themselves increase household incomes and how this varies for households in different parts of the household income distribution. Our analysis of such a simulation is presented in Figure 4 which shows variation in how much household income per capita changes when income from social grants are excluded and included from income in April. Due to data availability in the NIDS-CRAM Wave 1 as discussed in Section 3.2, we are only able to conduct such a simulation at the household-level for two grants: the CSG and the OPG. The figure shows that receipt of the CSG or OPG is relatively pro-poor: relative increases in per capita household income are substantially higher for lower-income households in comparison to higher-income households. Receiving R440 per CSG increases household income per person by about 63% for those in the poorest 30% of households, in contrast to the less than 3% increase for those in the richest 30% of households. OPG receipt appears slightly less pro-poor than the CSG, however this is likely attributable to the fact that the amount received per OPG is more than four times greater that of the CSG which pushes households up the distribution: R1 860 or R1 880 depending on recipient age. Regardless, receipt still increases the incomes of lower-income households substantially more than higher-income households in a relative sense. The per capita household incomes of the poorest half of household increases by more than 55%, whereas that of the richest 30% increases by just over 11%.

Figure 4: Relative increase in per capita household income attributable to Child Support Grant or Older Persons Grant receipt, by real per capita household income decile
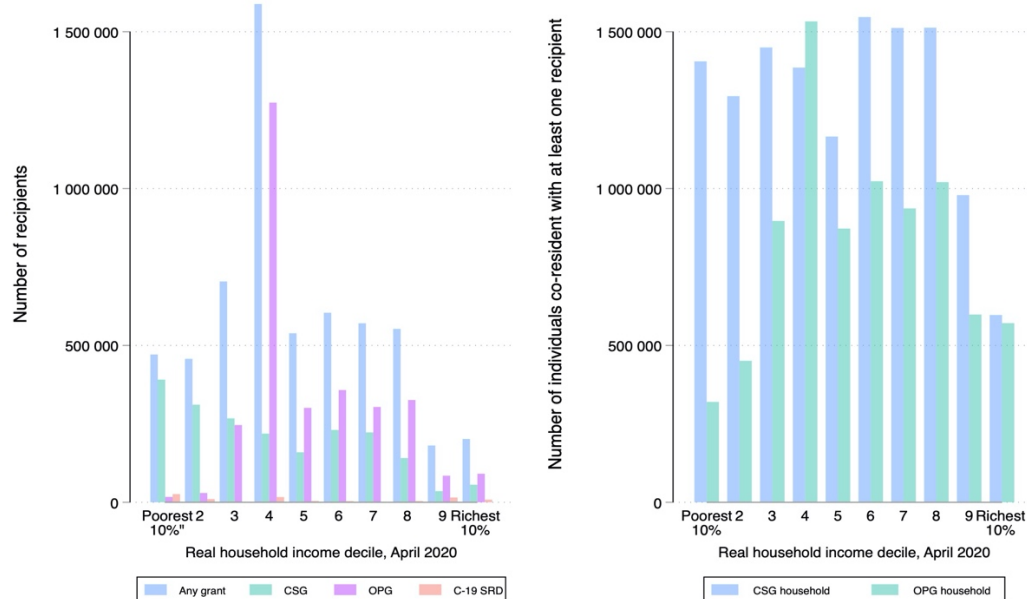

Authors' own calculations. Source: NIDS-CRAM Wave 1.
Notes: [1] All estimates weighted using relevant survey sampling weights. [2] Per capita household income calculated by dividing total household income by the total number of household members. [3] Real household income is measured monthly after taking tax and deductions into account and is deflated to February 2020 Rands. [4] Relative increase in per capita household income calculated as the percentage difference between real per capita household income with and without income from the total number of CSG's or OPG's received by the household. [5] April grant amounts used, i.e. a CSG amount of R440 and an OPG amount of R1 860 or R1 880 depending on the reporting individual's age.

Figure 5 presents the distributions of grants received personally and on the household level (i.e. individuals who co-reside with at least one grant recipient) across the household income distribution. We estimate that about nearly 5.5 million individuals (or 93% of grant recipients in the sample) who personally receive any grant live in the poorest 80% of households. Again, the CSG appears relatively pro-poor with about two thirds (66.28%) of recipients living in the poorest half of all households. The distribution of the OPG is also progressive but not as much as the CSG, with over three in every five (61.63% or nearly 1.9 million individuals) OPG recipients living in the poorest half of households. The highest absolute number of OPG recipients live in decile 4 households, but again this is likely not the result of poor targeting but rather than the high value of the grant pushes individuals up the household income distribution. Finally, we estimate that just over 91 000 individuals report personally receiving the COVID-19 SRD Grant. However, we are cautious of this estimate given that it is estimated from a sample of just 44 observations. The estimate also does not align with official statements from SASSA, who report 2.5 million paid recipients as of 30 June 2020.

Figure 5: Distribution of social grants by personal verses household receipt and grant type across the household income distribution
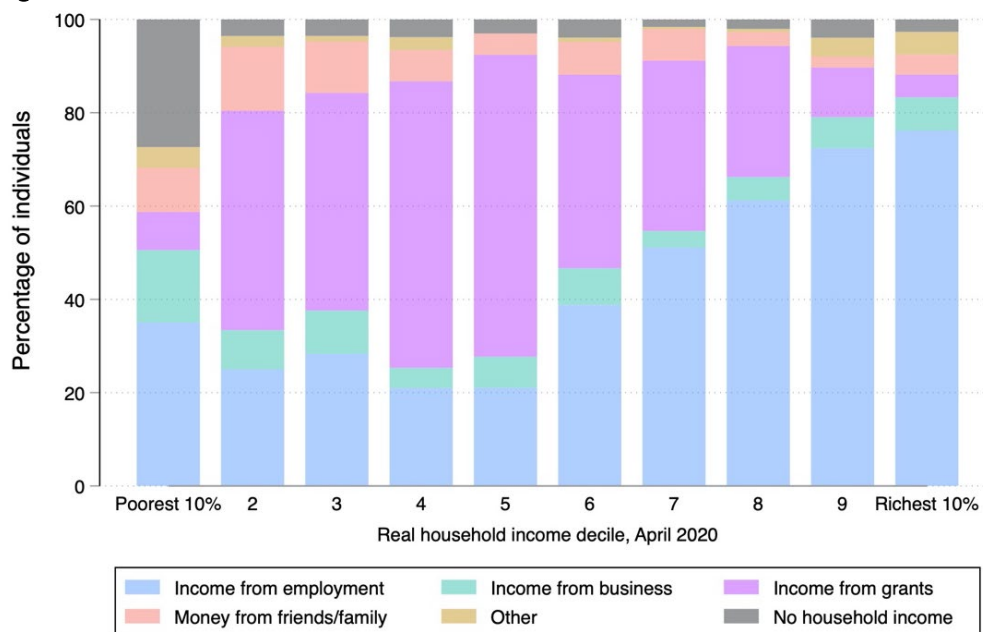

Authors' own calculations. Source: NIDS-CRAM Wave 1.
Notes: [1] All estimates weighted using relevant survey sampling weights. [2] Real household income is measured monthly after taking tax and deductions into account and is deflated to February 2020 Rands.

On the other hand, our estimates for household-level receipt are substantially higher. About 20 million individuals live in a household where at least one member receives the CSG or OPG (13 million and 8 million respectively). Three in every four individuals (75.92%) who co-reside with a CSG recipient live in the poorest 70% of households, as opposed to just 5% of individuals in the richest 10% of households. Household-level OPG receipt yields similar estimates, although the distribution is more centred. Nearly 65% (or more than 5 million) of individuals who co-reside with an OPG recipient live in households that are between deciles 3 and 7.

The sources of these households' incomes vary significantly across the distribution. Figure 6 presents a stacked bar graph highlighting how the composition of household income varied across the household income distribution prior to the commencement of South Africa's national lockdown in February. In the survey, individuals could report up to three different sources of household income. For brevity, the first reported source is used here and is assumed the main source, although the distribution looks similar when others are used. The figure broadly suggests that prior to lockdown, in line with the literature discussed earlier, social grants were relatively well-targeted to poor households in South Africa. Expectedly, labour market income (that from employment and business) as a percentage of total household income generally increases with household income. Just 32% of individuals who live in the poorest 50% of households report income from employment or business as a source of their household's total income. This is in contrast to 61% of individuals who live in decile 7 and 8 households, and the majority (83%) of those who live in the richest 20% of households. On the other hand, social grants contribute much more to total household income for poorer households relative to richer households. Nearly half (47%) of individuals who live in the poorest 50% of households report social grants as a source of household income, in sharp contrast to 6% of individuals in the richest 20% of households. Collectively, income from social grants and the labour market account for the majority of household income across the distribution with remaining income sourcing from money from friends or family or alternative sources.

Figure 6: Pre-lockdown sources of household income across the real household income distribution
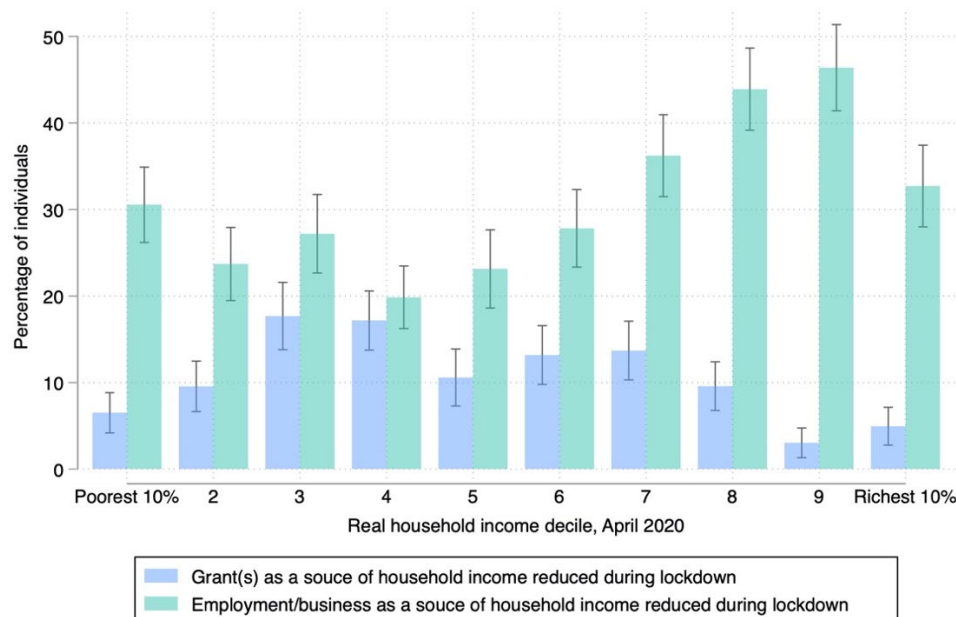

Authors' own calculations. Source: NIDS-CRAM Wave 1.
Notes: [1] All estimates weighted using relevant survey sampling weights. [2] Based on survey question "If you think of the time in February, which of these were sources of income for this household?". [3] Individuals could report up to three different sources of income. The first reported source is used here. [4] Real household income is measured monthly after taking tax and deductions into account and is deflated to February 2020 Rands.

The composition of household income across the income distribution – particularly the contribution of income from the labour market - certainly wasn't expected to persist once South Africa's national lockdown commenced at the end of March 2020. More specifically, we observe significant variation in the percentage of individuals who report reductions in income from labour market income and social grants as sources of household income in April 2020 across the income distribution. Overall, nearly a third (31.2%) of individuals reported experiencing a reduction in labour market income as a source of their household's income, whereas just 8.3% reported an equivalent reduction with respect to social grants. Although this latter reduction is possibly attributable to inter-household migration prior to the commencement of the national lockdown, these changes in household income were not homogenous across the distribution. Figure 7 presents estimates of the percentage of individuals reporting reductions in labour market and social grant income as sources of household income across the household income distribution. Two in every five (39.8%) individuals in the richest 40% of households reported a reduction in labour market income as a source of household income. Similarly, one in every four (24.9%) individuals in the poorest half of households report such a reduction – a smaller albeit still significant magnitude. Considering social grants, it is concerning that 15% of individuals in the middle 50% of households (deciles 3 to 7) report reductions in social grant income as a household income source.

Figure 7: Reduction in grants and employment as sources of household income during lockdown across the household income distribution

Authors' own calculations. Source: NIDS-CRAM Wave 1.
Notes: [1] All estimates weighted using relevant survey sampling weights. [2] 95% confidence intervals presented by range plots with capped spikes. [3] Based on the survey question "Have any of these sources of income for this household decreased since the lockdown started on 27th March? If yes, which ones?". [4] Real household income is measured monthly after taking tax and deductions into account and is deflated to February 2020 Rands.

Table 3 provides a comprehensive source of information pertaining variation in grant receipt and labour market status before and during the national lockdown across the household income distribution. As opposed to considering social grants as a pre-lockdown source of household income as in Figure 6, our estimates contained in the table consider social grant receipt during lockdown. Our estimates suggest that grants have been relatively well-targeted to poor individuals and households during the national lockdown, at least when considering variation by monthly household income and labour market earnings. 20% to 48% of individuals in the poorest 80% of households report personally receiving any social grant at the time of the interview, as opposed to 6% of individuals in the richest 20% of households. Receipt up to household income quintile 4 ought not to be of concern, given that the mean real household income for quintile 4 households is just under R4 500 per month, in contrast to that of quintile 5 households of over R16 000 per month (an income about four times larger than the average household in the poorest 80%). Patterns of personal receipt for the CSG and OPG exhibit similar patterns, ranging from 1.5% to 15% of individuals for the former and 1% to 32% for the latter. Again, such a significant jump for personal receipt of the OPG from quintile 1 households (1%) to quintile 2 households (32%) is likely attributable to the relatively large amount of the transfer – R2 110 per grant in May 2020, nearly three times the amount of the CSG in the same month (R740). Considering the special COVID-19 SRD Grant, receipt is relatively low across the distribution ranging from 0.1% - 0.8%. This is likely attributable to the slow rollout of the grant exacerbated by limited administrative capacity during the early stages of the lockdown, as well as possible confusion surrounding the correct eligibility criteria. Again, we are not confident in this estimate given the small sample size. As previously observed, substantially higher rates of grant receipt are observed on the household-level. 58% to 74% (17% to 52%) of individuals who live in the poorest 80% of households report co-residing with at least one individual who receives the CSG (OPG). This is in contrast to 25% (19%) of individuals who live in the richest 20% of households.

Table 3: Grant, labour market, and demographic characteristics by real household income quintile in April 2020

	Real household income quintile					
	1	2	3	4	5	All
Mean real monthly household income	714.87	1 778.94	2 682.13	4 493.32	16 061.60	5 934.70
Mean real monthly earnings (Feb 2020)	912.2	561.91	949.81	2 591.48	9 541.35	2 770.11
Mean real monthly earnings (April 2020)	114.66	313.83	761.2	2 422.49	11 014.90	2 795.40
Grant receipt (%)						
Any grant	19.78	48.37	31.07	21.44	6.08	17.95
CSG	14.95	10.26	10.58	6.94	1.45	5.82
OPG	0.99	32.08	17.90	12.02	2.79	8.67
COVID-19 SRD Grant	0.77	0.39	0.22	0.10	0.37	0.61
Lives in CSG household	58.11	60.41	73.89	57.90	25.23	52.06
Lives in OPG household	16.60	51.48	51.22	37.57	18.58	32.28
Labour market status in Feb 2020 (%)						
Not employed (i.e. unemployed, discouraged, or NEA)	59.51	64.39	58.26	30.61	19.68	47.46
Employed	39.64	34.91	41.28	68.95	80.04	51.87
Mean weekly hours worked (Feb 2020)	30.60	31.86	37.66	39.73	42.57	37.45
Labour market status in April 2020 (%)						
NEA	18.08	40.12	30.53	17.86	9.34	22.45
Discouraged	39.50	22.25	20.07	13.93	6.71	20.56
Unemployed (strict)	23.12	12.68	14.00	6.74	2.75	12.42
Employed	19.30	24.95	35.40	61.48	81.20	44.57
Mean weekly hours worked (April 2020)	21.17	24.29	30.95	33.29	34.29	29.86
Received TERS in April 2020 (%)	0.97	2.33	5.18	10.07	7.20	4.83
Received UIF reduced work time benefit in April 2020 (%)	2.66	0.85	1.06	3.18	0.99	1.63
Demographics						
Age (years)	37.46	47.32	42.35	40.32	41.82	40.42
African/Black (%)	89.89	81.18	86.84	77.95	61.61	78.32
Male (%)	38.57	38.80	37.65	45.38	56.86	46.82
Tertiary (%)	18.87	12.56	13.66	20.31	51.29	25.77
Household size	4.37	5.19	5.89	5.37	3.99	5.01
Number of children (<18) in household	1.57	2.01	2.43	2.14	1.48	1.89
Dwelling type: formal structure (%)	71.53	69.83	77.70	77.41	88.50	79.48
Observations with non-missing household income data						
Raw observations	1 023	1 059	963	1 045	976	5 066
Weighted observations	4 693 277	4 744 536	3 705 968	5 245 497	6 303 022	24 692 300

Authors' own calculations. Source: NIDS-CRAM Wave 1.
Notes: [1] All estimates weighted using relevant survey sampling weights. [2] CSG = Child Support Grant, OPG = Older Persons Grant, SRD = Social Relief of Distress. [3] Real household income and earnings are measured monthly after taking tax and deductions into account and are deflated to February 2020 Rands.

Differences in changes in labour market status from February to April 2020 across the income distribution emphasise the importance of the expansion of social grants as a source of relief for lower-income households. Before elaborating on this, it is important to first note that due to differences in the way questions pertaining to labour market status in February versus April were asked, we avoid comparing estimates of the unemployed or economically inactive in February versus their equivalent in April. Instead, we focus on those regarded as employed, as defined in Section 3.2. Employment decreased from February to April across the household income distribution. In February, we estimate that just over half (52%) of individuals were employed, reducing to 44.5% for April.[15] This translates to a more than 14% reduction in employment, or approximately 2.8 million jobs for a broadly representative sample of South African adults from 2017 who were re-interviewed in 2020 for NIDS-CRAM.[16]

However, employment losses disproportionately burdened individuals in lower-income households. Just under two in every five (39.6%) of individuals who live in the poorest 20% of households were

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[15] These are not estimates of the employment rate given that the sample here is not restricted by age.
[16] It should be emphasized that these changes in absolute employment numbers are not necessarily comparable to estimates from the QLFS due to important differences in sampling design. Additionally, estimates in changes in employment from February to April 2020 using just the NIDS-CRAM Wave 1 data will certainly vary by how researchers choose to code employment.

employed in February before the national lockdown commenced, as opposed to more than four in every five (80.6%) of those who live in the richest 20% of households. Two months later during the national lockdown, our estimate for this former group in April is reduced to 19.3%, representing a reduction of more than 20 percentage points (or over 970 000 less people employed). Job losses for individuals in the poorest 20% of households accounts for more than a third (35%) of total employment loss. This is in sharp contrast to individuals in the richest 20% of households who experienced a 1.2 percentage point increase in employment (or about 67 000 more people employed). The disproportionate burden of employment loss on individuals in lower-income households in presented in Figure 8 where we show relative employment changes by household income decile. The percentage of individuals employed in the poorest 10% of households was 55% lower in April relative to February – the largest relative change across the distribution. Collectively, the percentage of individuals who live in the poorest half of households who were employed in April was nearly a third (31%) lower than the equivalent percentage in February. If we consider several demographics, individuals in poorer households are more likely to be younger and self-declared African/Black, and less likely to live in a formal dwelling structure and have a tertiary qualification relative to those in richer households.

Figure 8: Mean relative reduction in employment across the real household income distribution
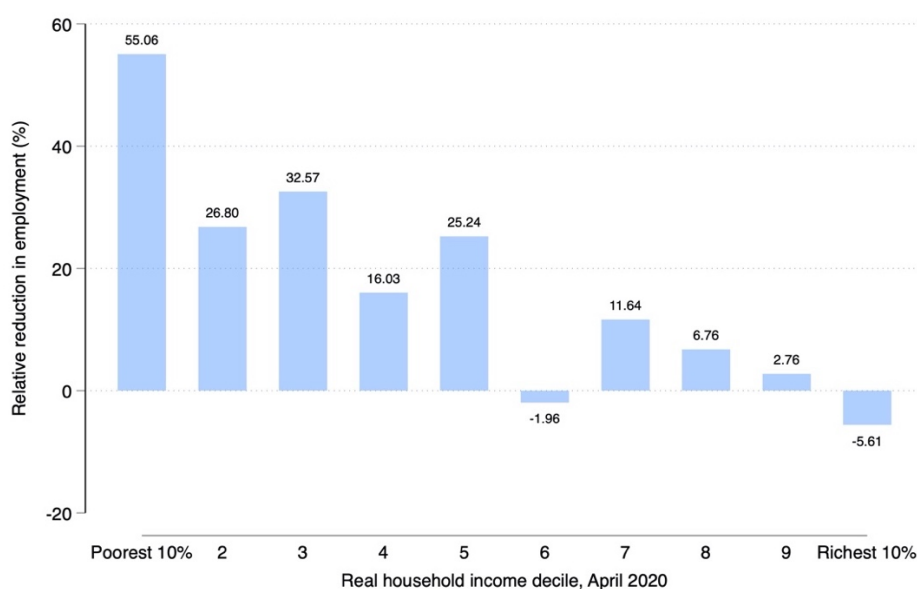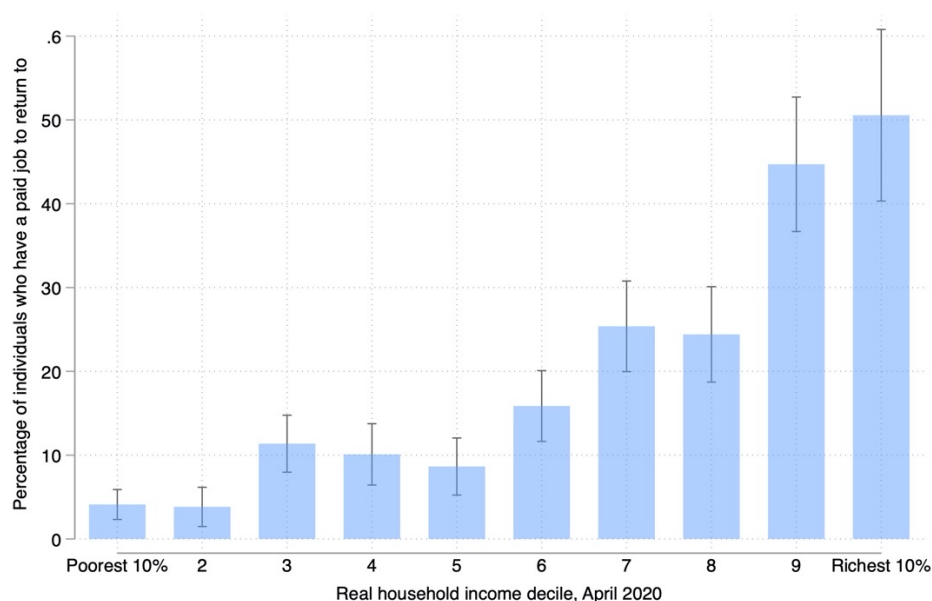

Authors' own calculations. Source: NIDS-CRAM Wave 1.
Notes: [1] All estimates weighted using relevant survey sampling weights. [2] Real household income is measured monthly after taking tax and deductions into account and is deflated to February 2020 Rands.

Although these observed employment losses are substantially higher amongst individuals who live in lower-income households, what proportion of these losses are *permanent* versus *temporary*, and how does this vary by household income? One question in the NIDS-CRAM Wave 1 data can help in this regard. Our estimates suggest that the burden of permanent employment loss is also disproportionate on individuals in lower-income households. Figure 9 presents the distribution of individuals who, at the time of the interview, report having a paid job to return to in the next four weeks. This question was asked of all individuals, regardless of employment status in either February or April. Although overall just 17% of individuals report having a paid job to return to (or just over 3 million people), this is the case for just 7.6% of those who live in the poorest half of households. This is in sharp contrast to the case of individuals who live in the richest 10% of households, where more than half (50.5%) have a paid job to return to. In other words, individuals in this latter group were nearly seven times more likely to have a paid job to return to, relative to the former group.

Figure 9: Distribution of individuals who have a paid job to return to in next four weeks across the real household income distribution
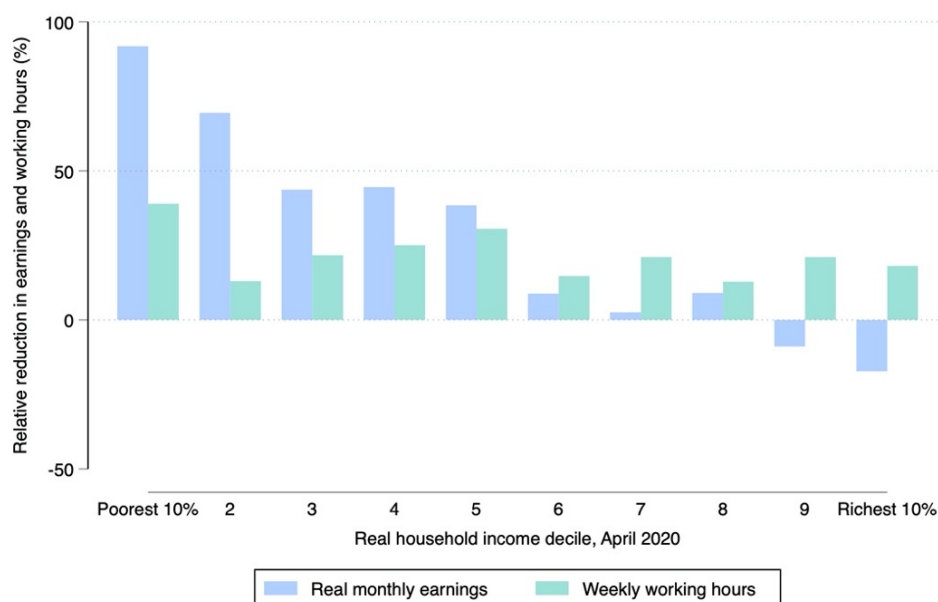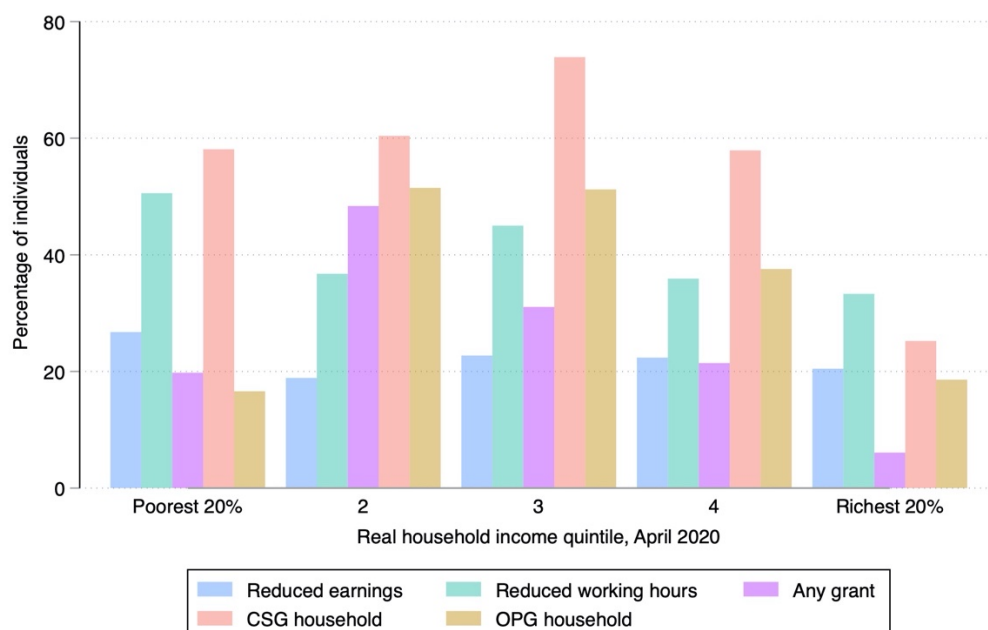

Authors' own calculations. Source: NIDS-CRAM Wave 1.
Notes: [1] All estimates weighted using relevant survey sampling weights. [2] 95% confidence intervals presented by range plots with capped spikes. [3] Real household income and earnings are measured monthly after taking tax and deductions into account and are deflated to February 2020 Rands. [4] Based on the question "Do you have any paid activity or job that you will return to in the next 4 weeks?".

Reductions in monthly earnings and mean weekly working hours were also disproportionately experienced by individuals who live in lower-income households, as presented in Figure 10. Overall, mean weekly working hours decreased by just over 7.6 hours (or about 20%) on average across the distribution from February to April. However, for individuals who live in the poorest 20% of households, mean weekly working hours decreased from 30.6 hours in February to 21.2 hours in April, translating to a nearly 31% reduction, in contrast to a 19.5% reduction for individuals in the richest 20% of households. A similar pattern appears to exist for monthly earnings; however, we avoid explicitly analysing changes in monthly earnings given our aforementioned concerns regarding differences in the way the relevant questions were asked for February and April.

Figure 10: Mean relative change in monthly earnings and weekly working hours across the real household income distribution

In addition to experiencing a larger *relative* reduction in weekly working hours, there seems to be a significantly larger proportion of individuals who live in lower-income households who experienced *any* reduction in weekly working hours. In Figure 11, we present the distribution of individuals who reported any reduction in weekly working hours and monthly earnings in April, accompanied by the distributions of personal and household grant receipt. More than half (50.6%) of all individuals who live in the poorest 20% of households experienced a reduction in weekly working hours, as opposed to just a third (33.3%) who live in the richest 20% of households. Not as much variation exists across the distribution for individuals who reported any reduction in earnings; however in a relative sense, more individuals in the poorest 20% of households (27%) reported any reduction in earnings compared to those in the richest 20% of households (20%). These findings, accompanied by the significant differences in (i) rates of employment loss, (ii) probabilities of having a paid job to return to, and (iii) the actual magnitudes of average reductions in both working hours and earnings as previously discussed, highlights the important role that social grants have in providing a source of relief for low-income households.

Figure 11: Distribution of reduced earnings and working hours and grant receipt across the real household income distribution in April 2020

One of the original policy imperatives for the pandemic-induced expansion of South Africa's social assistance system was to reach workers who would not have access to formal sector support; namely, those who are employed in the informal sector and those who are informally employed in either the formal or informal sector. Considering this, we include an analysis on individual and household-level grant receipt during the lockdown amongst these individuals across the household income distribution. We are limited by what is available in the NIDS-CRAM Wave 1 data to distinguish the informally employed from the formally employed. In trying to align as closely as possible with International Conference of Labour Statisticians (ICLS) guidelines, we define the *informally employed* as individuals who report not having a written contract with their employer, regardless of if they are self-employed, a casual worker, or have a regular job.[17] It should be noted that due to data unavailability, we are unable to distinguish the formal from the informal *sector*. According to our estimates, in February about 27% of employed individuals between the ages of 18 and 64 were informally employed. Despite differences in sampling design, the magnitude of this estimate is similar to that of the 2020Q1 QLFS. In April, this increases to nearly a third (32%) of the employed. Employed individuals in lower-income households are more likely to be informally employed relative to their richer counterparts. Nearly two thirds (63%) of employed individuals who live in the poorest half of households are informally employed, in contrast to just 19% of employed individuals in the richest 10% of households.

Considering the aforementioned motivation for expanding South African social assistance to reach informal sector workers, Figure 12 presents the distribution of the informally employed who co-reside with at least one CSG or OPG recipient by real household income decile. As previously noted, it is clear that higher proportions of the employed in lower-income households are informally employed. This finding holds if we restrict the sample of the employed to those in either CSG or OPG households. Nearly

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[17] The question does not explicitly include a reference period (for instance, February or April), so it is unclear whether respondents are referring to their work before lockdown, during lockdown, or at the time of the interview. Respondents were also asked "Is your business registered for income tax and/or VAT?" which can also be used to distinguish the formal from the informally employed. However, over 94% of values for this variable are missing.

four in every five (78%) of employed individuals who live in the poorest 10% of households which receive the CSG are informally employed. Similarly, 90% of the employed who live in the poorest 10% of households which receive the OPG are informally employed. Moreover, even amongst the richest CSG or OPF-receiving households, the percentage of the employed who are informally employed is at least 23%. This suggests that the co-residence of CSG or OPG grant recipients with informally employed workers provides some income relief to the latter group through the grant system, particularly those who live in the poorest grant-receiving households.

Figure 12: Distribution of the informally employed within Child Support Grant and Older Persons Grant households across the household income distribution
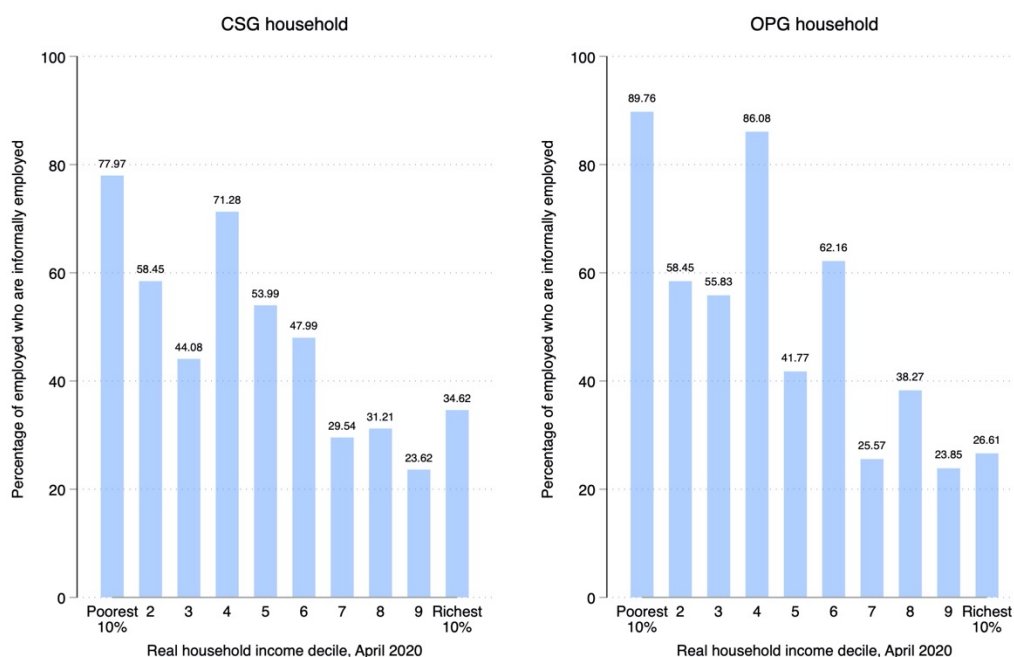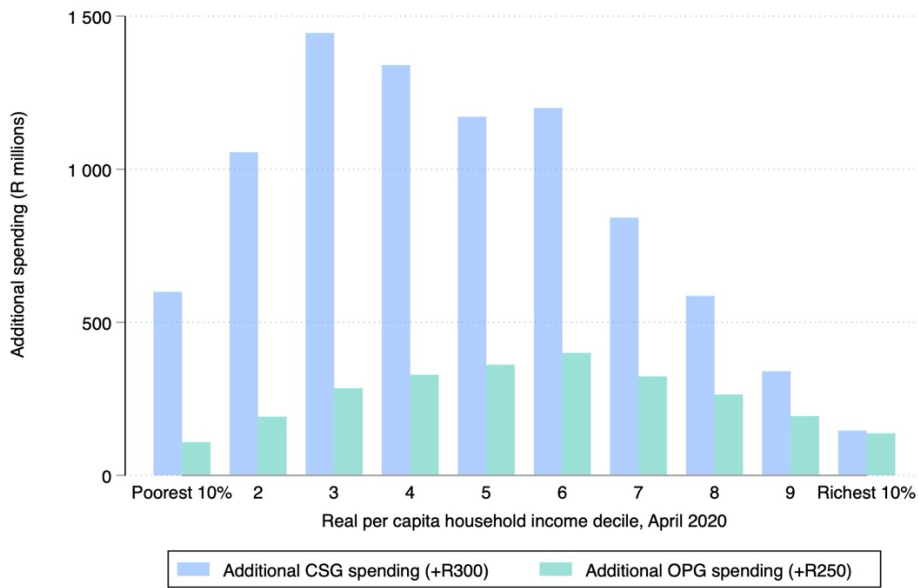

Authors' own calculations. Source: NIDS-CRAM Wave 1.
Notes: [1] All estimates weighted using relevant survey sampling weights. [2] Real household income and earnings are measured monthly after taking tax and deductions into account and are deflated to February 2020 Rands.

In Table 2, we showed that the pandemic-induced, additional government spending on social grants varied by grant type and time period. In this light, we conduct a fiscal incidence analysis which seeks to show how much of the additional government spending on social grants benefitted households across the income distribution. In order to conduct such an analysis, we needed information on type of grants received as well as the number of grants received by individuals or households. Given the data limitations in the NIDS-CRAM Wave 1 data as discussed in Section 3.2, we are limited to conducting this analysis on additional spending on the CSG and OPG on the household-level. Figure 13 presents the results of this analysis for the month of May – the first month of the expansion of the grant system. As per official legislation, we assume additional spending of R300 per CSG and R250 per OPG. Spending on the CSG is more pro-poor relative to the OPG. Considering the CSG, R5.6 billion in additional spending (or more than 64% of total additional spending) accrues to the poorest 50% of households, as opposed to R490 million (just 5.6% of total additional spending) for the richest 20% of households. Considering the OPG, R1.27 billion (about 50% of total additional spending) accrues to the poorest 50% of households, as opposed to R330 million (or 13% of total additional spending) for the richest 20% of households. The benefits of the additional spending on the OPG are concentrated in the middle of the distribution. Nearly two thirds (65.5%) of additional spending is on households in the middle 50%, i.e. from deciles 3 to 7.

Figure 13: Fiscal incidence analysis of additional spending on the Child Support Grant and Older Persons Grant on the household level in May 2020
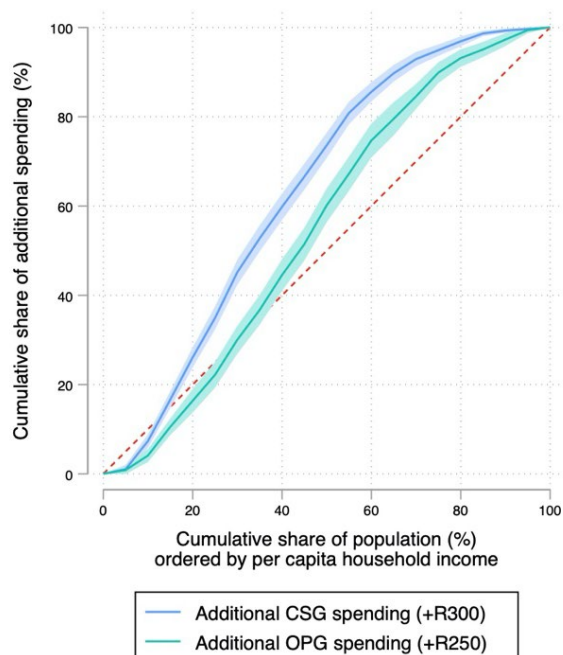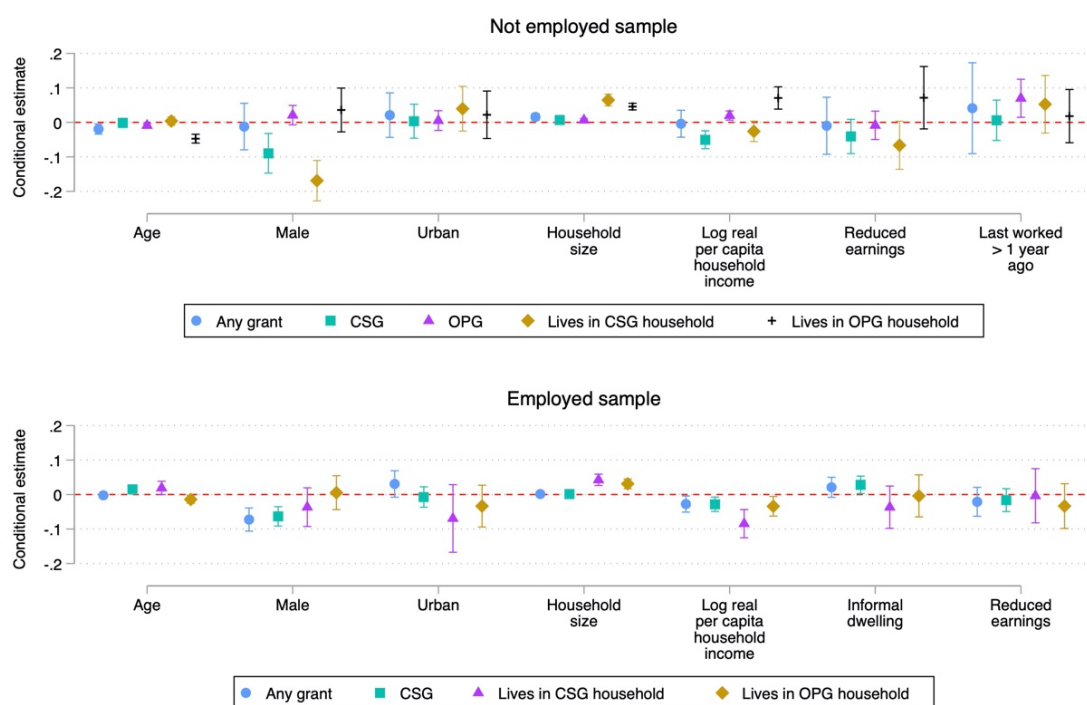

Authors' own calculations. Source: NIDS-CRAM Wave 1.
Notes: [1] All estimates weighted using relevant survey sampling weights. [2] Per capita household income calculated by dividing total household income by the total number of household members. [3] Real household income is measured monthly after taking tax and deductions into account and is deflated to February 2020 Rands. [4] Analysis assumes additional R300 per CSG transfer and R250 per OPG transfer. [5] Based on the questions "How many people in your household receive a child support grant?" and "How many people in your household receive an old age pension grant?".

Figure 14 presents concentration curves which more clearly illustrate the pro-poor nature of additional CSG spending relative to additional OPG spending. Using the same data that was used for Figure 13, Figure 14 plots the cumulative share of additional spending for each grant against the cumulative share of the population, ordered from the poorest to the richest with respect to per capita household income. About 60% of additional spending on the CSG accrues to the poorest 40% of households. On the other hand, the poorest 40% of households receive just 44.5% of additional spending on the OPG. Overall, the cumulative distribution of additional spending on the CSG stochastically dominates that of the OPG. In other words, at all points along the cumulative distribution of the population, additional spending on the CSG exceeds that of the OPG.

Figure 14: Concentration curves for additional spending on the Child Support Grant and Older Persons Grant on the household level in May 2020

Finally, we are interested in investigating variation in the probability of grant receipt by several observable individual characteristics. By doing so, we can analyse who was more likely to be successfully reached through the grant system during the beginning of the national lockdown. We estimate a probit model using Maximum Likelihood Estimation (MLE) to estimate the probability of personal grant receipt (either any grant, the CSG, or the OPG) and the probability of living in a CSG or OPG household on several individual characteristics such as age, sex, race, household income, and household size to name a few.[18] We estimate the models by two sub-samples: those who were employed in April and those who were not. Figure 15 presents the results of models by means of a plot of the estimated average marginal effects on the characteristics of interest. For those not employed in April, men are about 10% less likely to personally receive the CSG and nearly 20% less likely to live in a CSG household on average. The former finding is likely due to the fact that the vast majority of primary caregivers who receive the CSG in South Africa are women. Larger household sizes are associated with a higher probability of an individual who is not employed to live in either a CSG or OPG household, but not with any other type of grant receipt. Individuals in lower-income households are more likely to personally receive the CSG, but less likely to live in an OPG household. This is likely attributable to the large size of the OPG transfer. We do not observe significant differences amongst those not employed who experienced a reduction in earnings or live in urban areas relative to those who do not. Finally, we find no evidence that an individual's unemployment period is significantly associated with the likelihood of grant receipt.

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[18] We cannot estimate a model on the likelihood of personal OPG receipt for the employed sample given that there are too few observations in the data who are employed and report personally receiving the OPG.

Figure 15: Average marginal effects from probit models of several covariates on the probability of grant receipt, by grant type and level of receipt

Authors' own calculations. Source: NIDS-CRAM Wave 1.
Notes: [1] All estimates weighted using relevant survey sampling weights. [2] Probit model estimated for the probability of grant-specific personal or household receipt on a vector of observable covariates; only those of interest are presented here. [3] Complex survey design of the NID-CRAM accounted for. [4] Average marginal effects, as opposed to marginal effects at the mean, presented.

Few differences stand out for characteristics that predict grant receipt amongst the employed relative to those not employed. Similar to the not employed sample, employed men are about 8% less likely to receive the CSG, and we observe no significant differences in probabilities of grant receipt for those who experienced reduced earnings, live in urban areas, or live in an informal dwelling. Household size is significantly and positively associated with the probability of an employed individual living in either a CSG or OPG household. Finally, employed individuals who live in lower-income households are more likely to personally receive any grant or live in either a CSG or OPG household.

5. Conclusion

Governments all around the world have introduced regulations which restrict social mobility and interaction with the primary aim of curbing the spread of COVID-19. South Africa's response in this light has been regarded as relatively rapid and stringent. However, such policy is expected to lead to substantial losses in livelihoods through its effects on the labour market, particularly for lower- income individuals and households. In response most governments, including South Africa's, have made use of social protection systems – predominantly non-contributory social assistance - to target resources to such individuals and households. This study was amongst the first to use newly available, nationally representative survey data on a sample of adults in South Africa to provide a quantitative, descriptive evaluation of whether social grants are being successfully targeted at the most vulnerable in the context of the national lockdown and COVID-19 crisis. Our findings highlight that despite the progressive targeting of existing social grants, the labour market impacts of the pandemic by individuals in lower-income households.

The distribution of per capita household income in the beginning of the lockdown makes it clear that social grants are needed as an important source of income relief amongst low-income households. Grants contribute much more to total household income for poorer households relative to their richer counterparts, and receipt substantially increases their incomes in relative terms. In addition to being a significant component of total household income for the poorest households, the importance of grants as a form of relief for individuals in lower-income households during the lockdown is highlighted by our finding that they have been disproportionately burdened by adverse labour market effects, with respect to employment loss, the likelihood of having a paid job to return to, and reductions in working hours and earnings. Through fiscal incidence analysis, we show that the pandemic-induced additional government spending on both the CSG and OPG have benefitted individuals in the poorest households in May; however, spending on the former is relatively more pro-poor where 64% of additional spending has accrued to the poorest half of households.

Considering that individuals in lower-income households have been disproportionately burdened by the adverse labour market effects of the pandemic and lockdown, what policy instruments are available to help provide these individuals and households with protection? The expansion of South Africa's social assistance system was a critical action by government; however, this paper's findings highlight that more can be done to ensure that the most vulnerable individuals and households receive relief. First, the inefficiencies associated with the relatively slow-rollout of the COVID-19 SRD grant, attributable to limited administrative capacity or possible confusion surrounding the correct eligibility criteria, ought to be addressed and drastically improved. Efficient administration of the roll-out of this grant is critical if we are to target resources to vulnerable groups who cannot access the rest of the social grant system or forms of relief available to those in the formal sector. In a similar light but pertaining to social insurance, the efficiency of the UIF's administrative system ought to be addressed to ensure that those eligible receive timeous income protection. Next, to provide greater targeted relief, government ought to consider amending the CSG top-up policy from June onwards from a "per caregiver" increase to a "per grant" increase. Finally, if the adverse labour market effects observed in this paper persist, government ought to consider extending the expansion of the grant system for at least the remainder of the year.

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