Predicted Poverty Impacts of Expanding the Community Work Programme in South Africa

An Analysis of Income Poverty and Inequality

November 2012

Prepared by

Benjamin Stanwix and Carlene Van Der Westhuizen

Development Policy Research Unit

University of Cape Town

The research was commissioned by the Trade and Industrial Policy Strategies and funded by the Employment Promotion Programme (EPP), which is funded by DFID-SA.

Content

1.	Introduction		3
2.	Overview of the CWP		4
3.	Objectives		6
4.	Method and Baseline Estimates		7
5.	Summary: Research Strategy and Key Results		9
6	Scenarios		
	6.1	Scenario 1	11
	6.2	Scenario 2	12
	6.3	Scenario 3	14
7.	Concluding Remarks		15
8.	References		16
9.	Appendix		17

Introduction

After 1994 the South African economy experienced a relatively long period of sustained, positive growth. This trajectory was interrupted by the global recession in 2008 but fortunately, after three quarters of negative GDP growth, the economy returned to a positive growth trend. Despite this extended period of economic growth the resulting welfare gains for the poor (particularly in terms of income and jobs) have been marginal. Income poverty levels remain high, income inequality has even increased slightly, and unemployment (those actively seeking work) remains at nearly 25%. Contrastingly, employed individuals at the top of the income distribution gained much from the post-apartheid growth dividend, driven largely by the fact that returns to skills and education are high. The limited increases in income that have been observed for those at the bottom of the distribution are largely a result of an expanding government grant system that targets economically vulnerable individuals – the elderly, the disabled, and children, with significant positive impact. However, a chief concern remains the fact that approximately one in four working age South Africans are unable to find work (when the narrow definition of unemployment is used) and the majority of the jobless have no access to any income support, apart from those with access to the Unemployment Insurance Fund for a limited period or some indirect spill over effects from social grants.[1] There is no meaningful safety net for the unemployed, which is a crucial social protection gap. This highlights the urgent need for interventions aimed at creating a safety net for the unemployed poor that provides both work and income.

One such intervention, implemented successfully elsewhere in the developing world, is an Employment Guarantee Scheme (EGS), which guarantees low-skilled work to poor, unemployed individuals and in the process contributes to the creation of productive community assets and services. It is the job creation and asset production aspects which differentiate an EGS from other safety net schemes (such as the previously proposed Basic Income Grant) and make it in various ways a promising possibility for South Africa. It may offer a solution, at least in part, to the problems of structural unemployment and the lack of (especially rural) community services and infrastructure, – with decreases in poverty and inequality as the inevitable consequences of job creation. In addition, the range of social and economic benefits that simply having an (albeit low-paid) income-earning job provides to individuals and their communities should not be underestimated. Although difficult to measure empirically the 'spill-over' effects of guaranteed employment have been key features for participants in similar employment schemes elsewhere.[2]

South Africa's own version of an EGS, the Community Work Programme (CWP), began in pilot form in 2007. It was partially modelled on India's National Rural Employment Guarantee Scheme (known as NREGA) and arose

[1] The Disability Grant, the Old Age Pension and the Child Support Grant target the most vulnerable and non-economically active members of the population but often also provide support to other family members.
[2] The 'dignity' in earning is often mentioned by participants of EGS's as one of the major positive impacts, among various other socio-economic benefits (See for example Exposure Dialogue, 2008; ILO, 2008).

out of a strategic process initiated by the Presidency, with funding from the Department for International Development (DFID). The CWP became a component of the Expanded Public Works Program (EPWP) in 2009 and in April 2010 was included as a fully-financed government programme situated within the Department of Cooperative Governance and Traditional Affairs (CoGTA). An expansion of the CWP to communities around the country has potential to make a significant difference to the lives of millions of poor South Africans and go some way to tackling the unemployment crisis at the heart of the country's problems. A basic estimation of the possible impacts that CWP expansion could have on income poverty and income inequality are analysed in this factsheet.

Overview of the CWP

Similar to the Indian model South Africa's CWP intends to offer unemployed adults up to 100 days of paid labour per year. However in the South African case CWP work is spread across the year, it is part-time (usually 2 days per week) with the aim of providing a regular, predictable income floor instead of one or two intensive periods of employment. The scheme is run at the local municipality level where particular projects are identified and participants are offered a wage of R66.34 per day (in 2012 prices). This is roughly equivalent to the current sectoral minimum wage for farmworkers. CWP work is identified and planned within particular communities by non-profit agencies that use participatory, local processes to identify key needs within each community together with the relevant stakeholders.

Concerning the choice of specific projects the official CWP guidelines stipulate that each project must create 'useful work' that contributes to the public good[3]. In addition all projects are required to have a 65:35 ratio of wage to non-wage costs and this rules out most large, infrastructure-related projects. Most of the work is unskilled but includes some training aspect depending on the project and, importantly, unlike NREGA the CWP's focus extends beyond the creation of basic infrastructure to include a range of community goods and services. Overall the programme's strongest foci are on social services and food security and it tries to create work opportunities on a sustained basis at the local level. Work includes the training of community carers, teaching assistants, the creation of food gardens, and the provision of health and hygiene education.

To some extent the pilot phase of the CWP served as a trial to gauge whether an EGS was viable as part of the solution to the problems of underdevelopment and unemployment in South Africa. By late 2011 total CWP participation reached over 99 000 people and CWP sites had been established in 431 local communities.

[3] Where 'public good' is broadly outlined in the government's policy document here: http://www.dplg.gov.za

Although work on the CWP should not be seen as a replacement for fulltime employment the results from the pilot phase have been overwhelmingly positive, with very high participation levels and key targets being achieved[4]. Beyond job creation the program has been reported to contribute to "lower crime rates, increased attendance at schools…, greater social cohesion, [restoration of] dignity to the unemployed, and unlocking hidden potential, especially in younger participants" (TIPS, 2009:18). More than this a host of key community needs are being met through the CWP services created. Encouraged by the initial success of the programme, subsequent expansion plans for the CWP are impressive. As part of CoGTA the current target is to establish one site per municipality in order to reach 237 000 participants by 2013/14. However, the Trade and Industrial Policy Strategy (TIPS), the independent research institution behind the design and introduction of the CWP, suggests that expansion could in fact be much greater than the stated government goal. In this factsheet we try to examine the quantifiable impact of various CWP expansion scenarios on participants' income, this offers the first, basic empirical supplement to existing evidence on the effects of the scheme.

'...a chief concern remains the fact that approximately one in four working-age South Africans remain unable to find work, and the majority of the jobless have no access to income support.'

[4] Detailed reports can be found here: http://www.cogta.gov.za/cwp/index.php/cwp-in-practice.html

Objectives

The main objective of this factsheet is to provide estimates of the potential poverty-reducing impact that rapidly expanding the CWP could have. It must be noted at the outset that this is just one of the many benefits that the CWP confers on participants, there are considerable non-monetary impacts to be considered when assessing such a program and these should not be underestimated[5]. However, we confine our interest here to the measurable impact that earning the CWP wage would have on household poverty and inequality. This is done using household survey data from the Community Survey (2007). In order to assess the potential impacts we simulate the effect of expanding the CWP to each of the 55 District Councils (DC) in the country. To do this we allocate a designated number of people in each DC the CWP wage, and analyse the effect on average per capita income. The number of jobs assigned to each DC is based on their share of national unemployment, i.e. areas with higher levels of unemployment receive a greater allocation of CWP jobs. The poverty impacts are examined at the national and provincial level. Data availability does act as a constraint on this estimation process in several ways but does not prevent the presentation of what we consider fair approximations. A discussion of the data is provided in the Appendix.

We begin by providing a basic overview of the South African labour market using data from the CS 2007, specifically examining employment levels, baseline poverty statistics, and the level of inequality. This provides an aggregate and introductory picture of the socio-economic situation the CWP is trying to address. Based on these estimates we then try to calculate the potential poverty and inequality-reducing impact of expanding the CWP. Here we introduce a number of scenarios in which the CWP expands to cover 1 million, 2 million, and 3.4 million participants, and offers either 100 or 150 days of work per year. Participants are selected randomly from the total pool of unemployed persons in each DC who earn an income that is below the upper poverty line. We then measure the impact of these different scenarios on household poverty using two annual poverty lines, an upper and a lower line of R3 052/year and R5 648/year (2007 per capita prices), respectively.

It is important to emphasise that in our simulations the CWP wage is shared equally within each participants' household. For example, in the first scenario we assume the programme targets 1 million poor and unemployed individuals, offering 100 days of work at the CWP wage – R4970.48 per year in 2007 prices (or R6634 in 2012)[6]. This wage is then added to the total household income of each participant and divided equally amongst *all* the members of their household. Poverty impacts are calculated using the resulting annual per capita income. Given that the wage is relatively low and that it is shared among all members within a household, the impact on poverty, as measured by two chosen poverty lines, is inevitably muted. Nonetheless, the number of

[5] A compelling motivation for the CWP and its impact has been written by Dr Kate Philip (Philip, 2010).
[6] As a comparison, in 2012 the Child Support Grant sums to R3360 per annum.

people the scheme could draw out of poverty according to these measures is still significant[7]. Perhaps even more compelling is the number of non-participants who are impacted by the presence of a CWP wage earner in their household – this will be highlighted shortly.

The impacts reported in each scenario are the result of a simulated situation where all other factors are held constant. This is of course simplistic and the outcomes can only offer an approximate indication of how the CWP wage would affect per capita incomes on aggregate, they should thus be interpreted with a measure of caution. The baseline poverty and inequality estimates are presented below.

Method and Baseline Estimates

Baseline poverty and inequality estimates are provided here. As noted above we assign CWP jobs randomly according to DC unemployment shares[8]. In other words, if we assume that there are 1 million CWP jobs available nationally and DC 'x' contains 10 percent of the total number of unemployed, then 'x' will be allocated 10 000 CWP jobs[9]. Participants are randomly selected from individuals who are both unemployed and have an annual per capita income below the upper poverty line (R5 648). The specific scenarios we simulate are as follows:

1. 1 million participants @ 100 and 150 days of work
2. 2 million participants @ 100 and 150 days of work
3. 3.4 million participants @ 100 days of work[10]

In addition, for each scenario we checked to see whether restricting participation to one unemployed person per household (as is the case in the Indian model) had a significantly different effect on poverty levels. The results are included in the Appendix.

To analyse poverty we use the Foster-Greer-Thorbecke (or P^{α}) poverty indices, where; P0 is the total number of people who fall below a given poverty line (the headcount ratio), P1 is the 'poverty gap ratio' which indicates the average distance below the poverty line or when multiplied by the poverty line indicates how much money needs to be transferred from every person in the economy to the poor in order for everyone to be above the poverty line, and finally, P2 is the 'squared poverty gap ratio' and gives more weight to the poorest of the poor.

[7] Indeed the results should not be seen as the CWP having little impact but rather they are indicative of the severity of poverty in South Africa.
[8] Small sample sizes at the Municipal level prevent any reliable analysis at a more disaggregated level.
[9] We also analysed the effect of allocating jobs at the provincial level and the national level (as opposed to DCs), but the basic results were not significantly different.
[10] This target is based on the National Planning Commissions goal of halving unemployment which currently stands at around 6.8 million people.

Baseline Poverty Estimates

	Estimate	Std. Error	[95% Conf. Interval]		No. of Poor
Lower Poverty Line (R3 052/year)					
P_0	0.314	0.001	0.317	0.319	15 080 430
P_1	0.169	0.000	0.169	0.170	
P_2	0.121	0.000	0.121	0.122	
Upper Poverty Line (R5 648/year)					
P_0	0.511	0.001	0.510	0.512	24 262 215
P_1	0.286	0.000	0.285	0.287	
P_2	0.202	0.000	0.201	0.203	

Source: Community Survey (2007), Own Calculations

The baseline estimates reveal that 31% of South Africans survive on an income that is below the lower poverty line and 51% live on less than R5 648 per year (in 2007 prices). When interpreting the impact of the CWP in the scenarios that follow it is worth noting that if *every* person who was unemployed, and poor (according to the upper line), was given a CWP job for 100 days, this would result in poverty falling to 22.6% and 46.8% on the lower and upper lines, respectively.

Table 2 reports the level of income inequality as measured by the Gini coefficient, where 0 represents perfect equality and 100 maximal inequality. Again, if all the unemployed poor were 'employed' on the CWP for 100 days the Gini index would fall from 0.764 to 0.743.

Baseline Inequality Measure

Gini Coeff.	Std. Error	[95% Conf. Interval]	
0.764	0.0009	0.7597	0.7662

Source: Community Survey (2007), Own Calculations

Summary: Research Strategy and Key Results

The Scenario analyses, presented below, are created as follows: We begin our analysis by selecting potential CWP participants from a pool of eligible individuals present in the Community Survey. To be eligible an individual must have a reported income below the upper poverty line (R5 648) and also be officially unemployed. This establishes a pool of 5.2 million eligible individuals, from which 1 million, 2 million and 3.4 million participants are randomly selected for Scenarios 1, 2 and 3, respectively. These individuals are then 'given' the CWP wage. This wage is added to their total household income and divided equally between all household members (including children). The resulting per capita income is analysed to assess changes in per capita income levels as a result of the CWP wage.

For example, consider a household of 5 people, with annual income of R20 000 (R4 000 per capita), including income from grants. Assume the household contains two adult members who are unemployed and manage to get a CWP job. These two members will each earn R4 970 for 100 days of work, and thus total household income rises to R29 940. Dividing this new total by 5 gives a new per capita income of R 5 988. As a result these 5 people would move from being 'poor' to 'not poor' according to the upper poverty line, and the 3 non-participants will have benefitted directly from being in a household with two CWP workers.

While our main poverty analysis relies on two chosen poverty lines, we also use Cumulative Distribution Functions to illustrate income changes for the bottom-end of the income distribution; this does not require the choice of a poverty line. In addition, we emphasise the total number of people (both adults and children) who benefit from the CWP wage as a result of being in the same household as a CWP participant, as well as the number of people who move from having zero income to positive income, in each Scenario.

Key Results

Scenario 1a: 1 million CWP jobs @ 100 days

- **929 327** people[11] move above the lower poverty line
- **432 159** people move above the upper poverty line
- In total, **4.6 million** people directly benefit from the CWP wage
- **523 676** people no longer receive zero income

Scenario 1b: 1 million CWP jobs @ 150 days

- **1 472 695** people move above the lower poverty line
- **432 159** people move above the upper poverty line
- In total, **4.6 million** people directly benefit from the CWP wage
- **523 676** people no longer receive zero income

Scenario 2: 2 million CWP jobs @ 100 days

- **1 957 239** people move above the lower poverty line
- **886 267** people move above the upper poverty line
- In total, **7.9 million** people directly benefit from the CWP wage
- **886 429** people no longer receive zero income

Scenario 3: 3.4 million CWP jobs @ 100 days

- **3 460 441** people move above the lower poverty line
- **2 301 827** people move above the upper poverty line
- In total, **10 million** people directly benefit from the CWP wage
- **1.2 million** people no longer receive zero income

[11] "People" refers to adults and children, who benefit from the income of a CWP job.

Scenarios: Scenario 1

Scenario 1 simulates the impact of expanding the CWP to reach 1 million participants, offering either 100, or 150, days of work per person per year. The results are tabled below.

1 million Jobs @ 100 days (Case 1)

Mean	Estimate	Std. Err.	% Δ*	Total Δǂ
Lower Poverty Line (R3 052)				
P0	0.298	0.001	-1.96%	-929 327
P1	0.149	0.000	-2.02%	
P2	0.102	0.000	-1.88%	
Upper Poverty Line (R5 648)				
P0	0.502	0.001	-0.91%	-432 159
P1	0.268	0.000	-1.77%	
P2	0.183	0.000	-1.90%	

Gini Coeff.	Std. Error	[95% Conf. Interval]	
0.757	0.0009	0.7550	0.7592

All estimates presented are statistically significant at the 1% level
* % Change in poverty rate from baseline estimates
ǂTotal change in number of poor from baseline estimate

In Case 1 P0 falls by two percent at the lower poverty line, and by around one percent at the upper line. Put differently, providing 100 days of CWP work to 1 million participants pulls over 939 000 people above the lower poverty line and over 430 000 people above the upper poverty line.

1 million Jobs @ 150 days (Case 2)

Mean	Estimate	Std. Err.	% Δ	Total Δ
Lower Poverty Line (R3 052)				
P_0	0.287	0.000	-3.10	-1 472 695
P_1	0.143	0.000	-2.63	
P_2	0.099	0.000	-2.25	
Upper Poverty Line (R5 648)				
P_0	0.502	0.001	-0.91	-432 159
P_1	0.268	0.000	-1.77	
P_2	0.183	0.000	-1.90	

Gini Coeff.	Std. Error	[95% Conf. Interval]	
0.754	0.0005	0.7533	0.7556

In Case 2 (150 days) P0 falls by over three percent at the lower poverty line, and by just under one percent at the upper line – this translates into 1.47 million and 432 000 people moving above each poverty line, respectively. In both cases and according to both poverty lines the poverty gap (P1) also falls, indicating that the depth of poverty has decreased.

Providing 1 million CWP jobs results in a total of 4.6 million individuals benefitting directly from the wage, after it has been shared within each participating household. Though not shown here the data also reveal that over 500 000 people who previously had zero income now have at least some income.

Inequality declines slightly with the Gini coefficient decreasing by 0.07 percent in Case 1 and 0.1 percent in Case 2. Total costs for each Case are provided in the Appendix.

'providing 1 million CWP jobs results in a total of 4.6 million individuals benefitting directly from the wage'

Scenario 2

In Scenario 2 we simulate the expansion of the CWP to reach 2 million participants. The results show that in the case of 100 days of work national poverty falls by over four percent if the lower poverty line is used as the benchmark and by 1.9 percent if the upper line is used. This translates into 1.95 million people rising above the lower poverty line and almost 900 thousand rising above the upper line. When work is provided for 150 days almost 3 million people are no longer poor according to the lower poverty line, and 1.6 million move above the upper line. In addition to the 2 million participants, 5.86 million people benefit directly from the CWP wage through living in a household with one or more CWP participants. Moreover, a total of nearly 900 000 people who previously had zero income now have access to income.

2 million Jobs for 100 days (Case 1)

Mean	Estimate	Std. Err.	% Δ	Total Δ
Lower Poverty Line (R3 052)				
P0	0.277	0.000	-4.12%	-1 957 239
P1	0.131	0.000	-3.85%	
P2	0.087	0.000	-3.42%	
Upper Poverty Line (R5 648)				
P0	0.493	0.001	-1.87%	-886 267
P1	0.251	0.000	-3.49%	
P2	0.166	0.000	-3.64%	
Gini Coeff.		Std. Error	[95% Conf. Interval]	
0.753		0.00112	0.75049	0.75556

The poverty gap ratio suggests that the depth of poverty is also significantly decreased in both cases, with P1 declining by over 3 percent in Case 1 and almost 5 percent in Case 2, according to both poverty lines. Inequality also clearly declined.

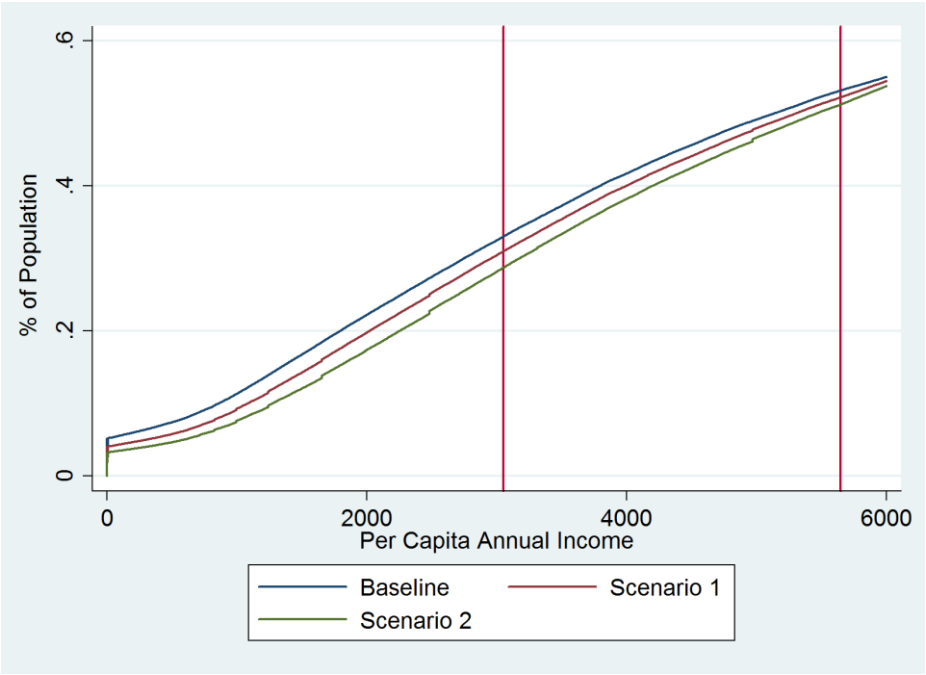
2 million Jobs for 150 days (Case 2)

Mean	Estimate	Std. Err.	% Δ	Total Δ
Lower Poverty Line (R3 052)				
P0	0.255	0.000	-6.30%	-2 992 057
P1	0.121	0.000	-4.83%	
P2	0.082	0.000	-3.96%	
Upper Poverty Line (R5 648)				
P0	0.476	0.001	-3.55%	-1 683 379
P1	0.237	0.000	-4.91%	
P2	0.155	0.000	-4.72%	

Gini Coeff.	Std. Error	[95% Conf. Interval]	
0.747	0.0008	0.7461	0.7497

Another way to see the impact of the CWP wage is to use a Cumulative Distribution Function (CDF), which provides an easily interpretable graph that visually illustrates changes in the per capita income distribution. A major benefit is that no particular poverty line is required; rather a CDF demonstrates how the income distribution shifts as a whole. The CDF for Scenarios 1 and 2 (in the case of 100 days of work) is displayed below. From the graph it is clear that the wage shifts the entire income distribution downwards in both scenarios as a result of millions of people benefitting from the CWP wage. At each of the vertical poverty lines one can see the decrease in the percentage of the population who are poor, which is what the FGT poverty measure is capturing. Finally, one can also see that the percentage of people earning zero income falls in both scenarios, relative to the baseline case.

Cumulative Distribution Function (CDF) of Per Capita Income



Note: The two vertical red lines represent the lower (R3 052) and upper (R5 648) poverty lines.

Scenario 3

In Scenario 3 we simulate the expansion of the CWP to cover half of all South Africa's unemployed (which according to the broad definition is 6.8 million individuals). This exercise models the effect of using the CWP to fulfil the National Planning Commission's goal of halving unemployment. As noted earlier the poverty impacts of the CWP, as measured by poverty lines, are muted by the fact that a relatively low CWP wage is distributed equally within the participants' household. Nevertheless, the poverty-reducing effect of this ambitious example is substantial. Over 3.4 million people are no longer poor under the lower line, and 2.3 million are pulled above the upper line. The poverty gap decreases by over five percent, and total income inequality falls by two percentage points as measured by the Gini index. In addition, 1.2 million people who previously had zero income now have some income – even though it doesn't push them over the chosen poverty line. In total CWP wages reach 10 million individuals (including the 3.4 million participants) in Scenario 3.

3.4 million Jobs for 100 days

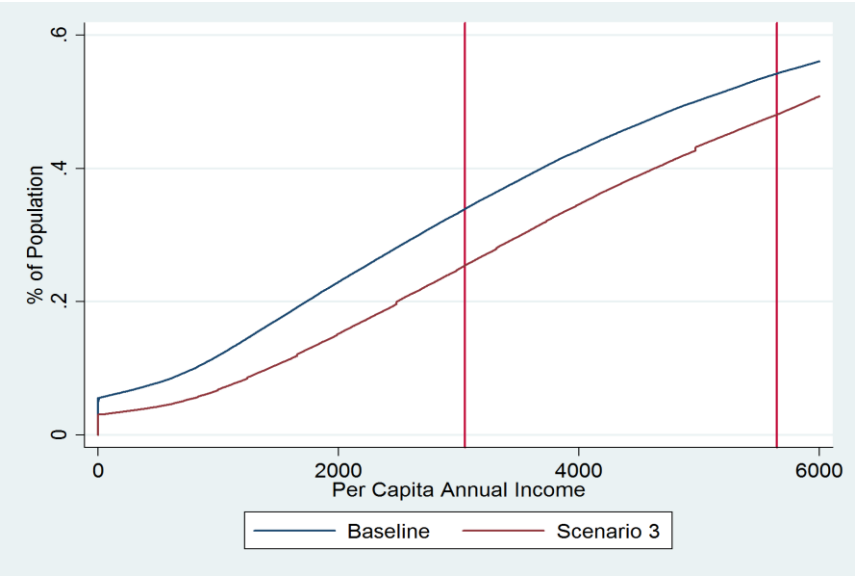
Mean	Estimate	Std. Err.	% Δ	Total Δ
Lower Poverty Line (R3 052)				
P0	0.2448	0.0005	-7.29%	-3 460 441
P1	0.1152	0.0003	-5.39%	
P2	0.0772	0.0002	-4.40%	
Upper Poverty Line (R5 648)				
P0	0.4627	0.0005	-4.85%	-2 301 827
P1	0.2278	0.0003	-5.84%	
P2	0.1481	0.0003	-5.40%	

Gini Coeff.	Std. Error	[95% Conf. Interval]	
0.743	0.0009	0.7411	0.7450

'...over 3.4 million people are no longer poor under the lower line and 2.3 million are pulled above the upper line.'

The CDFs (below) again provide a visual representation of the income shifts that would take place among individuals at the lower end of the income distribution (with the two vertical lines being the annual poverty lines). The CDFs show that there is a substantial impact on individual incomes. It is also clear that in the pre-CWP income distribution a non-trivial proportion of the population earns no income (shown by the vertical section of the blue line) while in the 'post-CWP' situation this falls by about half (1.2 million people). The overall downward shift of the distribution as a result of the CWP wage is obvious and at each of the poverty lines it is clear that a far smaller percentage of the population is poor.

Cumulative Distribution Function (CDF) of Per Capita Income



Concluding Remarks

This brief report provides a basic analysis of the impacts that a rapid expansion of the CWP could have on the income of a large number of poor and unemployed people in South Africa. Using two poverty lines and income CDFs we illustrate these impacts and show that while the relative effect of the CWP wage on national poverty levels according to two chosen poverty lines is fairly small (several percentage points in each case) the overall effects in terms of the number of people that the programme could reach is substantial. Providing one million jobs for 100 days results in 930 thousand people moving above the lower poverty line, and extending this to 2 million people pushes that number up to 1.95 million. More detailed provincial poverty impacts are presented in the Appendix. However, using these poverty lines can obscure the fact that the benefits of the CWP wage have an impact not only for the participant themselves but extend to the participant's entire household – among which the income is equally divided. While this dampens the overall poverty-reducing impact (by spreading the wage thinly) it is sure to have significant implications for individuals who previously had little or no income. In the case of expanding the CWP to include 1 million participants a total of 4.6 million individuals receive income benefits from the program, and in the case of 2 million participants this number rises to almost 8 million.

Moving away from the application of poverty lines the CDFs for each scenario provide an overview of the bottom-end of the income distribution and show how incomes shift as a result of the proposed scheme. The simulated CDFs reveal clear income benefits to all poor individuals along the distribution. Also, the CWP expansion is shown to have a marginal influence on income inequality as measured by the Gini index.

Overall this analysis shows, through a set of simple projected scenarios, that an expansion of the CWP could make a significant contribution to South Africa's development agenda by raising the incomes of poor households,

primarily addressing the deepest levels of poverty. The impacts that are more difficult to quantify are also perhaps more substantial, such as the effects that both employment and asset creation have for individuals, households, and their wider communities, as well as the impact of community participation and decision-making on social inclusion and 'agency' at the local level. These have been salient features of the CWP pilot projects and other EGS's internationally[12]. Nonetheless, the income effects presented here are extensive and important.

References

Bhorat, H & Van der Westhuizen, C (2008), 'Economic Growth, Poverty and Inequality in South Africa: The First Decade of Democracy', Commissioned for The Presidency, available at: http://dev.absol.co.za/Presidency/docs/reports/15year_review/social/economic_growth/pdf

Dreze, J & Oldiges, C (2007), 'Commendable Act', Frontline, July, Vol. 24, No. 14

- - (2009), 'Work in Progress', Frontline, February, Vol. 26, No. 4

Exposure & Dialogue Programme, Website, Available at: www.exposure-dialogue.de/english/ueber_uns/ueberuns.html

ILO (2008), Promotion of Rural Employment for Poverty Reduction, International labour Conference, Report IV, 97th Session, Geneva

Philip, K. (2009), 'The Community Work Programme in South Africa', available at: www.levyinstitute.org/pubs/conf_june09_files/presentations/Sessions5b_Philip

- - (2010), 'Towards a Right to Work: The Rationale for an Employment Guarantee in South Africa, available at: www.tips.org.za/node/1982

OECD (2009), 'Promoting Pro-Poor Growth, Public works programmes and social protection', available at: www.oecd.org/dac/povertyreduction/47466739.pdf

[12] See Philip (2009, 2010), Dreze and Oldiges (2007, 2009), Cornell-SEWA-WIEGO Dialogue (2008), OECD (2009).

Appendix

Data Description

There are several datasets which were candidates for the proposed simulation used here. The 2005/2006 Income and Expenditure Survey (IES) collected comprehensive information on individuals' income, but unfortunately did not collect labour market information and it is thus impossible to identify unemployed individuals in the IES - vital in allocating wages to potential CWP participants in our simulations. The Labour Force Survey (LFS) on the other hand has extensive labour market information and wage data, with September 2007 being the most recent survey containing wage data, however, the LFS does not include information on non-wage income such as social grants and remittances and this makes it an unsuitable dataset for the accurate estimation of poverty and inequality levels. We therefore chose to use the 2007 Community Survey (CS) given that it contains data on total income (wage and non-wage) as well as the necessary labour market information on unemployment.

In brief, the CS is a representative, large-scale household survey which was conducted from February to March 2007 and is available from StatsSA. It is designed to provide information on the trends and levels of demographic and socio-economic data. The dataset includes information on population size and distribution, the total income of households, access to facilities and services, and the levels of employment/unemployment at National, Provincial, District Council, and Municipal level. The sampling procedure for the CS 2007 was a two-stage stratified random sampling process and in total the survey sampled 246 618 households, this included 949 105 persons from all nine Provinces (StatsSA, 2007). The sample weights we use are provided by StatsSA and based on the 2001 Census. As a consistency check on the data we compare poverty estimates from the CS to those calculated using the IES, and we compare the labour market statistics from the CS to those from the LFS, below. Whilst not perfect the CS data does not appear vastly different on these two fronts.

Regarding income the CS contains self-reported income data which includes wage income as well as income received from grants, remittances and any other sources. The survey question asks the respondent to report their total gross annual income, "including all sources of income" (CS Metadata, 2007:25). This gives us some confidence in the poverty and inequality analysis although it is well-known that income at the lower end of the distribution is under-reported and this should be kept in mind when analysing our results. The annual income data is reported in brackets and we transform this into point estimates using the standard method of random allocation to a uniform distribution within each bracket to maintain variation (a new seed is set in STATA for each bracket). Income data is available for both the household and the individual; however, this information does not always overlap. In some cases there is no income data for the household while individuals in that household do report their income. We make use of the individual income data where possible and merge household income data if individual level incomes are missing. We then sum all income to create household level income and divide

by household size to identify annual per capita income. All poverty and inequality estimates presented are calculated in per capita terms.

To reemphasis a point made in the introduction, when analysing the effects of the CWP, the wage earned by each participant is distributed within the household before any impacts are calculated – we thus assume perfect sharing within the household, where individuals are considered to be household members according to the survey if they reside in the household for at least four nights a week and had done so for the past four weeks.

Regarding unemployment the CS data are based on the official unemployment definition: 'The person did not work during the seven days prior to the survey interview, and does not have any job attachment; the person wants to work and is available to start work within two weeks; and the person has taken active steps to look for work or to start their own business in the four weeks prior to the interview' (StatsSA, 2007). In the following section we provide an overview of the CS statistics and compare the employment data against LFS estimates as an accuracy check for the labour market statistics and with the IES as a comparison for the income statistics.

Labour Market Comparison (CS & LFS)

The labour market statistics calculated from the Community Survey and the Labour Force Survey are presented here. We calculate employment, unemployment and total labour force figures. Our objective is to establish baseline unemployment estimates to assist in targeting participants in the 'scaled-up' CWP. Overall there is a noticeable difference in the total size of the labour force and thus total employment and unemployment, however, the percentage shares per province for each of these categories compare quite well. With the exception of the Western Cape the CS appears to underestimate the total labour force relative to the LFS, and as a result employment and unemployment totals are also underestimated. Nonetheless the employment and unemployment percentage shares are relatively similar in both datasets and this is the most important consideration for the purposes of this factsheet.

Table 1: Labour Force Statistics by Province (CS 2007)

PROVINCE	Employed	% of Total Employed	Unemployed	% of Total Unemployed	Total LF
Western Cape	1 909 728	15%	543 351	9%	2 453 079
Eastern Cape	1 108 453	9%	724 904	12%	1 833 357
Northern Cape	268 987	2%	120 856	2%	389 843
Free State	710 958	6%	396 776	7%	1 107 735
KwaZulu-Natal	2 185 477	18%	1 312 728	22%	3 498 206
North West	783 597	6%	425 072	7%	1 208 669
Gauteng	3 691 721	30%	1 528 050	25%	5 219 771
Mpumalanga	886 502	7%	442 001	7%	1 328 503
Limpopo	818 816	7%	554 563	9%	1 373 378
Total	12 364 240	100%	6 048 301	100%	18 412 541

Source: Own Calculations, Community Survey 2007

Table 2: Labour Force Statistics by Province (LFS 2007)

PROVINCE	Employed	% of Total Employed	Unemployed	% of Total Unemployed	Total LF
Western Cape	1 835 104	14%	513 150	7%	2 348 254
Eastern Cape	1 337 811	10%	957 608	13%	2 295 419
Northern Cape	305 358	2%	172 219	2%	477 577
Free State	826 201	6%	477 153	6%	1 303 353
KwaZulu-Natal	2 253 642	17%	1 764 588	24%	4 018 230
North West	836 695	6%	585 181	8%	1 421 876
Gauteng	4 038 686	30%	1 420 803	19%	5 459 489
Mpumalanga	990 958	7%	506 624	7%	1 497 583
Limpopo	881 726	7%	950 379	13%	1 832 105
Total	13 306 182	100%	7 347 703	100%	20 653 885

Source: Own Calculations, Labour Force Survey 2007

Poverty Comparison (CS & IES)

Here we present poverty calculations from the CS (2007) and the IES (2005). The IES is generally considered a benchmark for reliable poverty estimates, which we calculate at the national and provincial level. Again the objective is to assess the reliability of the CS through comparison with the IES, and then to provide baseline poverty and inequality figures upon which we base the effects of the expanded CWP.

The tabled results show that poverty estimates from the CS compare favourably with those taken from the 2005 IES. Although the surveys are two years apart we adjust the relevant poverty lines (using the CPIX) and expect that while the nature of poverty and inequality in South Africa did change over these two years there is no evidence elsewhere to suggest that these changes were drastic. We present a breakdown of poverty by province using two well-established poverty lines, which are applied in our Scenario analyses[13].

[13] These poverty lines are taken from Bhorat & Van der Westhuizen (2006); we adjusted for inflation using the CPIX.

The overall headcount rate (total number of 'poor') is relatively similar in both datasets; although we see slightly higher rates of overall poverty reported in the CS, where there appears to be more underreporting of income for those at the bottom of the income distribution. CS estimates reveal that approximately 52% of the population fall below the upper poverty line and 31% are poor according to the lower poverty line. These statistics are comparable with estimates from the IES (2005) which are slightly lower in each case (51% and 28%, respectively). The provincial estimates are also similar, the only exception being Gauteng for which the two surveys do not match well.

Income inequality is high according to both surveys but the CS appears to overestimate income inequality. If social grants are not taken into account in the IES, the results are comparable.

Table 3: Poverty Estimates by Province

Income & Expenditure Survey 2005		
Category	**Headcount**	**Poverty Gap**
R322 a month poverty line		
Western Cape	25.51%	10.01%
Eastern Cape	64.46%	31.28%
Northern Cape	56.45%	26.26%
Free State	45.70%	20.06%
Kwazulu-Natal	60.34%	31.83%
North West	50.49%	25.21%
Gauteng	28.43%	12.56%
Mpumalanga	56.60%	27.23%
Limpopo	68.85%	33.77%
Total	**50.8%**	**24.2%**
R174 a month poverty line		
Western Cape	10.18%	3.65%
Eastern Cape	36.57%	13.52%
Northern Cape	29.60%	10.81%
Free State	20.70%	7.59%
Kwazulu-Natal	38.58%	15.57%
North West	29.99%	11.50%
Gauteng	13.21%	5.27%
Mpumalanga	30.64%	11.69%
Limpopo	39.57%	14.33%
Total	**27.7%**	**10.4%**

Inequality	With Grants	W/o Grants
Gini Coef.	0.716	0.765

Community Survey 2007		
Category	**Headcount**	**Poverty Gap**
R322 a month poverty line		
Western Cape	30.64%	15.66%
Eastern Cape	64.15%	36.61%
Northern Cape	49.75%	25.62%
Free State	51.74%	26.66%
Kwazulu-Natal	58.15%	33.04%
North West	53.57%	30.60%
Gauteng	36.49%	21.10%
Mpumalanga	57.45%	32.16%
Limpopo	65.05%	36.01%
Total	**51.9%**	**28.6%**
R174 a month poverty line		
Western Cape	16.32%	6.55%
Eastern Cape	41.18%	15.60%
Northern Cape	27.59%	9.81%
Free State	28.61%	10.45%
Kwazulu-Natal	37.47%	13.42%
North West	33.58%	13.91%
Gauteng	22.87%	10.42%
Mpumalanga	36.04%	13.21%
Limpopo	40.75%	13.75%
Total	**31.6%**	**11.9%**

	With Grants
Gini Coef.	0.76

Provincial Scenario Estimates

Here we provide provincial poverty estimates for Scenarios 1, 2 & 3 in order to assess the impact of the CWP wage at a provincial level[14].

1 million Jobs @ 100 days

Province	P0	P1	P2	% Δ	Total Δ
Lower Poverty Line (R3 052)					
WC	0.15	0.08	0.05	-1.25%	-64 434
EC	0.39	0.20	0.14	-1.89%	-120 788
NC	0.26	0.12	0.08	-1.95%	-19 983
FS	0.26	0.12	0.08	-2.42%	-65 875
KZN	0.35	0.17	0.11	-2.20%	-218 200
NW	0.31	0.16	0.12	-2.12%	-67 474
GTG	0.21	0.11	0.08	-1.87%	-192 149
MPM	0.34	0.17	0.11	-2.16%	-77 448
LMP	0.39	0.19	0.12	-1.99%	-102 898
Upper Poverty Line (R5 648)					
WC	0.30	0.14	0.10	-0.78%	-40 333
EC	0.63	0.35	0.24	-0.85%	-54 472
NC	0.49	0.24	0.16	-1.09%	-11 110
FS	0.50	0.25	0.16	-1.29%	-35 016
KZN	0.57	0.31	0.21	-0.85%	-84 851
NW	0.53	0.29	0.20	-0.95%	-30 360
GTG	0.36	0.19	0.14	-0.96%	-98 960
MPM	0.57	0.30	0.21	-0.94%	-33 866
LMP	0.64	0.34	0.23	-0.84%	-43 162

2 million Jobs @ 100 days

Province	P0	P1	P2	% Δ	Total Δ
Lower Poverty Line (R3 052)					
WC	0.13	0.06	0.04	-2.87%	-147 687
EC	0.37	0.18	0.12	-4.13%	-264 120
NC	0.24	0.11	0.07	-3.65%	-37 363
FS	0.23	0.11	0.07	-5.15%	-140 405
KZN	0.33	0.15	0.10	-4.63%	-460 522
NW	0.30	0.14	0.10	-4.07%	-129 447
GTG	0.19	0.09	0.07	-3.94%	-405 004
MPM	0.32	0.15	0.10	-4.29%	-153 847
LMP	0.37	0.17	0.11	-4.23%	-218 692
Upper Poverty Line (R5 648)					
WC	0.29	0.13	0.08	-1.54%	-79 588
EC	0.62	0.33	0.22	-1.71%	-109 705
NC	0.48	0.23	0.14	-2.09%	-21 403
FS	0.49	0.22	0.14	-2.82%	-76 724
KZN	0.56	0.29	0.19	-1.82%	-180 758
NW	0.52	0.27	0.18	-1.88%	-59 831
GTG	0.35	0.17	0.12	-1.97%	-202 085
MPM	0.56	0.29	0.19	-1.93%	-69 150
LMP	0.63	0.33	0.21	-1.68%	-86 956

3.4 million Jobs @ 100 days

Province	P0	P1	P2	% Δ	Total Δ
Lower Poverty Line (R3 052)					
WC	0.12	0.05	0.04	-4.63%	-238 723
EC	0.34	0.16	0.11	-7.14%	-456 668
NC	0.21	0.10	0.06	-6.33%	-64 682
FS	0.20	0.09	0.06	-8.55%	-232 843
KZN	0.29	0.13	0.09	-8.45%	-839 932
NW	0.26	0.13	0.09	-7.43%	-236 663
GTG	0.16	0.08	0.06	-6.92%	-711 067
MPM	0.28	0.13	0.09	-8.03%	-288 126
LMP	0.33	0.15	0.10	-7.63%	-394 553
Upper Poverty Line (R5 648)					
WC	0.27	0.12	0.07	-3.60%	-185 347
EC	0.59	0.31	0.21	-5.01%	-320 561
NC	0.45	0.20	0.13	-4.91%	-50 206
FS	0.45	0.20	0.12	-6.91%	-188 178
KZN	0.53	0.27	0.17	-4.90%	-486 802
NW	0.48	0.24	0.16	-5.39%	-171 707
GTG	0.32	0.15	0.10	-4.70%	-483 089
MPM	0.53	0.26	0.17	-4.86%	-174 513
LMP	0.60	0.30	0.20	-4.76%	-246 215

Western Cape (WC), Eastern Cape (EC), Northern Cape (NC), Free State (FS), Kwazulu Natal (KZN), North West (NW), Gauteng (GTG), Mpumalanga (MPM), Limpopo (LMP).

[14] DC level impacts are difficult to present in the above format but are available from the authors.

Poverty Estimates for 1 Job per Household

Here we present the results of allocating 100 days of work to both 1 million and 3.4 million participants, with the restriction that participation is limited to 1 job per household – as is the case in the Indian NREGA scheme. The results give an indication of the differential impact that this restriction has and suggest that if poverty reduction is a central goal of the CWP this restriction may not be useful. However, at the level of 1 million jobs or less the differential impact is minimal.

In Scenario 1A the overall impact of restricted participation is almost exactly the same as when participation is unrestricted, although there are slight differences in the total number of people who are lifted out of poverty under each of the poverty lines. A smaller number move above the lower line, relative to Scenario 1, while a larger number move above the upper line. The reason for this is that here CWP jobs get allocated to a larger number of relatively better-off households. Poor households with several unemployed members are restricted to one job each and so participation is stretched to include households who are higher up on the income distribution, this reduces the impact on the very poor and explains the decreased movement according to the lower poverty line and the greater effect for those closer to the upper line.

Scenario 1A

1 million Jobs/HH for 100 days

Mean	Estimate	Std. Err.	% Δ	Total Δ
Lower Poverty Line (R3 052)				
P0	0.299	0.001	-1.88%	-892 779
P1	0.149	0.000	-2.00%	
P2	0.102	0.000	-1.91%	
Upper Poverty Line (R5 648)				
P0	0.501	0.001	-1.03%	-488 378
P1	0.268	0.000	-1.77%	
P2	0.183	0.000	-1.90%	

In Scenario 3A (below) the impact of restricted participation is more pronounced. Restricting CWP work to 1 unemployed person per household requires us to select 3.4 million separate households, the result being that some individuals with income above R5 648 participate in this simulation (previously this was the upper bound for participation). This means that individuals who are not considered poor according to either poverty line are now participating in the CWP. Consequently fewer 'very poor' (below the lower line) participants are selected, and thus the number of people pulled above the lower line are fewer than in Scenario 3 – where over 3.4 million people move above the lower line.

However, the number of people who are no longer poor according to the upper line increases, as individuals with relatively greater incomes are selected into the programme.

Scenario 3A

3.4 million Jobs/HH for 100 days

Mean	Estimate	Std. Err.	% Δ	Total Δ
Lower Poverty Line (R3 052)				
P0	0.26012	0.00048	-5.76%	-2 735 338
P1	0.11043	0.00025	-5.87%	
P2	0.06372	0.00018	-5.75%	
Upper Poverty Line (R5 648)				
P0	0.4620	0.0006	-4.92%	-2 334 650
P1	0.2296	0.0003	-5.65%	
P2	0.1445	0.0003	-5.77%	

Programme Costs for 2012

Predicted CWP Project Costs			
	Total Cost (Rm)	% of Govt. Expenditure	% of GDP
1m jobs @ 100 days	10 743	1.11%	0.33%
1m jobs @ 150 days	16 115	1.66%	0.49%
2m jobs @ 100 days	21 486	2.22%	0.65%
2m jobs @ 150 days	32 229	3.32%	0.98%
3.4m jobs @ 100 days	36 526	3.77%	1.11%

The table above reflects the total cost of the CWP for each Scenario, in nominal terms and as a percentage of total government expenditure and a percentage of GDP, in 2012. This cost takes into account the 65:35 labour to materials cost of each CWP service, and then an overall programme management cost which amounts to an added 5% of the program total.