Policy brief

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Estimating the growth elasticity of poverty in Zambia, 2006-2015

In brief

- The paper measures the responsiveness of poverty reduction to growth in Zambia over the past decade using data from the Living Conditions Monitoring Survey.
- Using the national poverty lines and comparable consumption aggregate, the results indicate that headcount poverty in Zambia decreased from 66% in 2006 to 55% in 2015.
- Poverty levels are particularly high for households that derive their income from agriculture. In fact, poverty levels in agriculture recorded an increase over the period 2006-2015, while those deriving income from sectors such as construction, wholesale and retail trade, and mining experienced significant reductions in poverty levels.
- The growth-elasticity of headcount poverty is found to have increased over time, from -0.56 in 2006, to -0.68 in 2010, and to -0.67 in 2015. The results imply that a percentage increase in consumption resulted in a 0.67% decrease in headcount poverty in 2015.
- The national elasticity figures mask substantial variation across provinces, with elasticity levels ranging from -0.44 to -0.69 across the ten provinces in 2015.
- Poverty decomposition estimates reveal that growth has been the main driver of poverty reduction in Zambia, with a smaller contribution from redistribution.
- This brief is based on the paper Economic Growth, Inequality and Poverty: Estimating the Growth Elasticity of Poverty in Zambia, 2006-15 (2017) by Chrispin Mphuka Oliver Kaonga and Mike Tembo

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Overview of the research

This study aims to investigate whether the rapid economic growth Zambia has experienced in recent years has had a significant poverty alleviating effect.

Focusing on the period 2006-2015, the analysis provides insight into the following aspects of poverty in Zambia:

- **The shifts in poverty levels on national and regional levels.**
- **The shifts in poverty levels across economic sectors.**
- **The responsiveness of poverty reduction to growth - i.e. the growth elasticity of poverty.**
- **The relative impact of growth versus redistribution on observed poverty reduction.**

The study uses consumption as a measure of household living standards (i.e. poverty) and makes use of consumption data collected in the Living Conditions Monitoring Surveys (LCMS) conducted by the Central Statistical Office for the years 2006, 2010 and 2015.

Key findings from the analysis are highlighted below.

The Zambian economy recorded high growth rates in the period 2006-2014

Zambia experienced rapid economic growth during the period under review. Real GDP growth averaged 5% between 2006 and 2010, and 6% between 2010 and 2014. However, this period of rapid growth was brought to an end in 2015 due to weakening copper prices, a national electricity crisis, a volatile exchange rate, and international borrowing costs.

Over this period, the economy continued a structural shift with an increasing share of the service sector (45% of GDP 2013) and declining shares of agriculture, industry and manufacturing.

Gains from economic growth have mainly benefited the non-poor

To understand how economic growth has been distributed across income groups, the researchers analysed consumption data from the LCMS. The analysis shows that the poorest 20th percentile of the population (as measured by consumption levels) experienced the lowest growth in real consumption (below 10% per annum) during the period 2006-2015. Comparatively, the top 60th percentile experienced growth in excess of 20% -- with increasing growth as one moves up the income distribution.

Poverty levels have declined, but remain high

Using the national poverty lines defined by the Central Statistical Office, the analysis reveals that headcount poverty at the national level has decreased from 66% in 2006, to 60% in 2010, and further down to 55% in 2015.

The study also reveals a large discrepancy in both the level and trends of poverty across rural and urban areas, highlighting that improvements in national headcount poverty have been driven by urban rather than rural improvements. Notably, the headcount poverty estimate in rural areas remained constant between 2010 and 2015 at 78% while it dropped from 27% to 23% in urban areas. Similarly, the results indicate a high variance in both the level and trends of headcount poverty across provinces – with the lowest poverty levels found in Lusaka Province and the highest in Western Province.

Head-count poverty estimates

	2006	2010	2015
National	66%	60%	55%
Rural	81%	78%	78%
Urban	36%	27%	23%
PROVINCES			
Central	72%	61%	57%
Copperbelt	44%	34%	30%
Eastern	78%	78%	72%
Luapula	75%	80%	83%
Lusaka	30%	24%	18%
Muchinga			71%
Northern	80%	75%	83%
Northwestern	72%	67%	65%
Southern	76%	68%	59%
Western	86%	80%	84%

Poor households are predominantly those engaged in agriculture

In order to understand the sectoral distribution of poverty, the researchers use the sector of employment of the head of the household, as reported in the LCMS data, to allocate households to specific economic sectors.

The results reveal that poverty levels are particularly high in the agricultural sector, with 80% of households living below the poverty line in 2015. In contrast, construction, manufacturing, and the wholesale and retail sectors have a much lower proportion of individuals living in poverty - in the range of 31% to 34%.

The lowest poverty levels were recorded in the mining sector, where headcount poverty is estimated at 6% in 2015.

Growth elasticity of poverty has increased

The growth elasticity of poverty gives an indication of how effectively growth has been at contributing to poverty reduction.

The paper defines the growth elasticity of poverty as the percentage change in poverty following a percentage change in consumption.

The headline finding is that the poverty elasticity of growth increased from -0.56 in 2006, to -0.68 in 2010, then underwent a slight decrease to -0.67 in 2015. The findings imply that a 1% increase in overall consumption in 2015 resulted in a 0.67% decrease in headcount poverty.

Furthermore, disaggregation of the elasticity based on the sector of employment indicates that poverty levels have been most responsive to growth in the construction industry, where a 1% increase in consumption in 2015 led to a 0.98% reduction in poverty. Growth in agriculture is also found to have a substantial impact on poverty levels, with an estimated growth elasticity of poverty of -0.72 in 2015.

Decomposition of poverty into growth and inequality components

Changes in poverty levels can arise from changes in overall income levels or changes in income distribution. Thus, reductions in poverty levels can occur even in periods where there is zero growth in overall income, through redistribution from wealthier to poorer households.

Accordingly, the researchers decompose poverty reduction into a growth component and a redistribution component. The findings indicate that the change in the headcount poverty ratio from 2006 to 2015 (a drop from 66% to 55%) can be divided as follows:

- Growth: 6.67 percentage points
- Redistribution: 4.8 percentage points
- Residual: 0.54 percentage points

The results show that 61% (6.67 percentage points) of the reduction in poverty levels can be attributed to growth, while 43.9% (or 4.8 percentage points) can be attributed to redistribution. The main conclusion is that both growth and redistribution played an important role in the observed reduction in headcount poverty over the period 2006-2015, with growth making a larger contribution.

Policy recommendations

The analysis in the paper shows that poverty levels in Zambia have declined, but remain high. This is despite significant economic growth rates recorded over the past decade. Estimates of the growth elasticity of poverty show that increases in overall consumption result in less than proportional reductions in poverty levels.

The findings indicate that effective policies for targeting poverty cannot assume that growth automatically translates into poverty reduction, and thus need to incorporate policies aimed at redistribution of the gains from growth.

Poverty levels are found to be particularly high in the agricultural sector where the majority of households live below the poverty line.

The results are particularly striking in view of costly government programmes such as the Farmer Input Support Programme and maize marketing through the Food Reserve Agency. This suggests a need to review existing programmes and consider alternative policy options for improving productivity and income levels in agriculture.

Alternatively, policies could target shifting agricultural labour to sectors with greater scope for productivity increases and job creation, such as manufacturing and services.