Inflation in a time of inequality
Assessing the relevance of cost of living measures for the poor

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Outline

- South Africa: inequality and poverty
- Uses and perceptions of CPI
- Selected literature
- Methodology
- Description of the reference groups
- Comparison of inflation rates
- Conclusion
South Africa: inequality and poverty

South Africa is the most unequal country in the world (Gini index)

1. South Africa: 63.0
2. Namibia: 61.0
3. Botswana: 60.5
4. Suriname: 57.6
5. Zambia: 57.1
6. Central African Republic: 56.2
7. Lesotho: 54.2
8. Mozambique: 54.0
9. Belize: 53.3
10. Swaziland: 51.5
11. Brazil: 51.3
12. Colombia: 50.8
13. Guinea-Bissau: 50.7
14. Suriname: 50.6
15. Rwanda: 50.4

Source: World Bank: Open Data portal
In 2015, more than a quarter of the population were living below the food poverty line.
Approximately 13.8 million South Africans were living below the FPL in 2015, down from a peak of 16.7 million in 2009.
Uses and perceptions of CPI

Uses of CPI not necessarily in harmony

Original intention of using CPI

- Escalator of wages, social grants
- Deflator of poverty lines

vs

These have become more important over the last 20 years

- Macro economic measure of inflation
- Deflator in national accounts
Uses and perceptions of CPI

Whose CPI is it?

Is the CPI “a general measure of price change of consumer goods and services bought by typical households in SA?”

Common for an official CPI to show a bias towards the more wealthy, but its credibility rests on relevance to the general population.

Significant inequality and the high levels of poverty puts this to the test.
Perceptions of how inflation impacts the poor

Inflation is breaking the poor – and interest rates could rise too

Dewald Van Rensburg
© 2016-10-19 17:52

Inflation in September was once again higher than the official target range of 3% to 6%, making it very likely that the South African Reserve Bank will raise interest rates next month.

Statistics South Africa’s Consumer Price Index for last month puts
Uses and perceptions of CPI

Perceptions of how inflation impacts the poor

Why inflation hits poor hardest

DAILY NEWS / 24 OCTOBER 2017, 6:00PM / THOBeka Ngema

Johannesburg - The poor would feel the effects of changes in consumer price inflation (CPI) more severely than others because of the higher weighting of food in their expenditure baskets. FNB said on Wednesday.

"However, this situation may be slowly turning for the better as food price inflation seemingly starts to turn the corner downward," household and property sector strategist John Loos said in a statement.

The lower income group had a CPI rate of 6.76% in June, which declined to 6.61% in July.

"However, while starting to slow, this rate remains higher than the very high expenditure group's 6.3% in July, with the other three expenditure groups somewhere in between," Loos said.

"For the time being, therefore, the lowest income groups continue to experience the highest consumer inflation."

Earlier on Wednesday, Statistics SA said the CPI for all urban areas was 6.3% in July compared to 6.6% in June. On average, prices increased by 0.8% between June and July this year.

Loos said food and non-alcoholic beverages remained one of the most troublesome areas of CPI, with the inflation rate of this sub-index well above overall CPI at 8.83% year-on-year.

Of some consolation, especially for lower income groups, was that the sub-index's year-on-year rate had not become...
Concerns using CPI in poverty measurement:

• Exclusion of own production
• No being able to track shifts between subsistence and consumption expenditure
• Urban CPI (i.e. excluding rural areas)
• Non-selection of outlets and product varieties that are more commonly used by the non-poor
• Weighting system typically biases the CPI towards the expenditure of the rich which reduces its usefulness in estimating real changes in poverty
Selected literature

South African studies

• Calculation of group specific indices
• Using Stats SA expenditure data and CPI inflation rates: 1975 - 2007

Key findings
• Over long periods of time the poor do not experience worse inflation than headline
• The poor do experience greater volatility in inflation
Methodology

Identify: relevant reference groups of ‘the poor’

Develop: expenditure weights for each

Calculate: group specific inflation rates

Test: differences from headline inflation
Methodology

Advantages of this research

- Latest weights data
- Detailed expenditure and price data
- 10 year period
Methodology

1. **Weights**

   Identify households in LCS fitting different criteria

   Locate these households in CPI adjusted weights dataset

   Aggregate weights from elementary index level:
   410 products x 21 regions
Methodology

Indices

2

- Only 2016 weights used (Paasche)
- Elementary (unweighted) indices used
- Aggregation from product/region using normal arithmetic aggregation
- Calculate annual rates of change
Methodology

The mean, median and standard deviation of each group are calculated and tested for statistical difference from headline inflation.

- Welch F-test
- Kruskal-Wallis test
- Levene test
Reference groups

1. Food poverty line
   R441 pppm

2. Lower-bound poverty line
   R647 pppm

3. Upper-bound poverty line
   R992 pppm

2015 prices
pppm: per person per month
Reference groups

Social grants

Number of grants dispersed

- All Grants
- Child Support Grants

Population (millions)


4. Household receives one social grant
5. Social grant the main source of income

Reference groups

National minimum wage
Reference groups

National minimum wage

“South Africa’s minimum wage is not a living wage” – Ramaphosa

Ramaphosa says there is a long way ahead, though.

By Alexis Haden - 2018-04-27

Thousands take to the streets to protest R20 minimum wage

Sarah Smith 25 Apr 2018 12:23

Around 6000 workers and community organisers from Johannesburg and surrounding areas participated in Wednesday’s general strike.
Reference groups

Central tendency measures

7. Median expenditure

8. Democratically weighted
Reference groups

Proportion of total households in each reference group:

- Minimum wage: 11%
- Food poverty line: 14%
- Median expenditure: 16%
- Social grant main source of income: 24%
- Lower-bound poverty line: 25%
- Upper-bound poverty line: 40%
- Receives social grant: 47%
Reference groups

Average expenditure of reference groups*

<table>
<thead>
<tr>
<th>Category</th>
<th>Expenditure</th>
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<tr>
<td>Food poverty line</td>
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<td>Lower-bound poverty line</td>
<td>R 50,300</td>
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<td>Upper-bound poverty line</td>
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<td>Median expenditure</td>
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<td>Social grant main source of income</td>
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<td>Receives social grant</td>
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<td>Total country</td>
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*Annual
## Expenditure proportions

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<tr>
<th>Description</th>
<th>FPL</th>
<th>LPL</th>
<th>UBPL</th>
<th>Receive social grant</th>
<th>Social grant: income</th>
<th>Min wage</th>
<th>Med expenditure</th>
<th>Democratic</th>
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Inflation rates

Household receives one social grant
Inflation rates

Social grant the main source of income


Total country
Inflation rates

Minimum wage


Total country
## Inflation rates

### Significant mean/median/variance

<table>
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<tr>
<th>Metric</th>
<th>Mean</th>
<th>Median</th>
<th>Standard deviation</th>
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<tr>
<td>Food poverty line</td>
<td>8.49</td>
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<td>Lower bound Poverty line</td>
<td>8.32</td>
<td>7.78</td>
<td>2.95</td>
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<td>Upper bound Poverty line</td>
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<td>Social Grant Household</td>
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<td>Social Grant (MSOI)</td>
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<td>Minimum wage Household</td>
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<td>Median Expenditure Household</td>
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<td>Headline CPI (total country)</td>
<td>7.63</td>
<td>7.32</td>
<td>1.90</td>
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</table>

= 1% level of significance and 5% level of significance
Conclusions

- Most of the poor live in rural areas but official headline inflation is for urban areas
- Only food poverty line and lower bound poverty line have significantly different inflation to headline total country
- No significant difference found in food or housing component inflation rates for different groups and headline
- Most groups have significantly higher volatility of inflation

- **Recommendation 1**: Look at using different measure to deflate poverty levels

- **Recommendation 2**: No merit to escalating grants with alternative inflation measure
Thank you