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THE IMPACT OF FOOD PRICES ON THE WELFARE OF HOUSEHOLDS IN SOUTH AFRICA
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Kalahari Lodge, Kimberly

By Roscoe van Wyk | University of Stellenbosch & National Treasury | 2019/20

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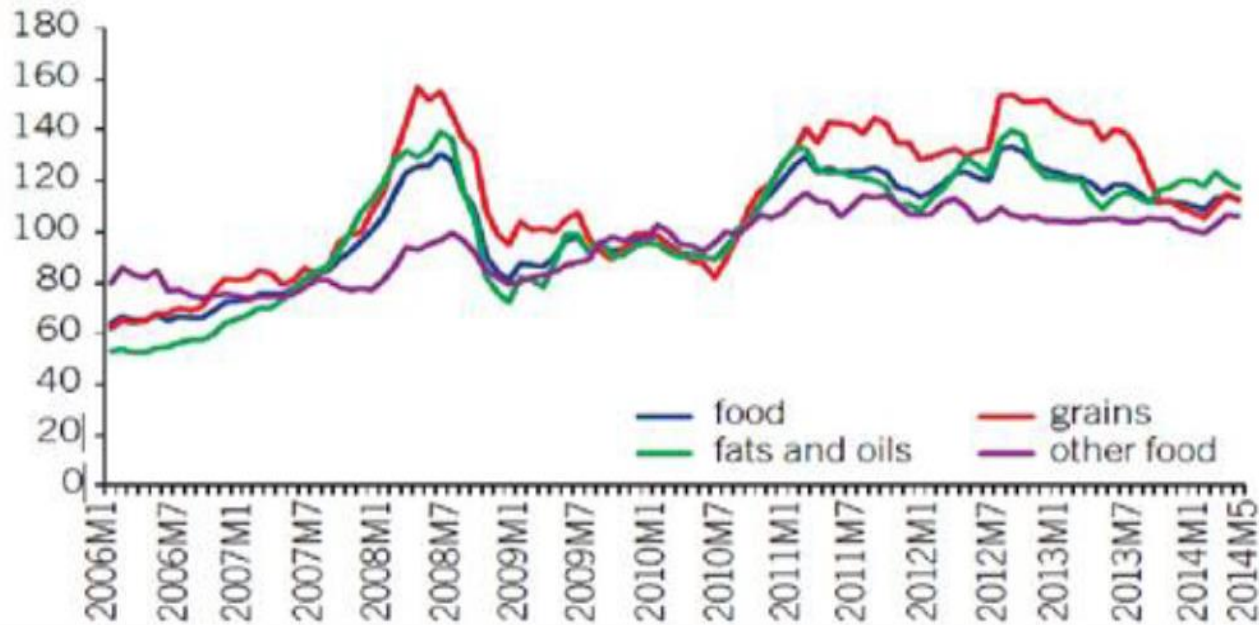
Context and Background

The global food **price surge of 2006 to 2008** has negatively impacted South African households. Rising food prices **adversely affect food security** in South Africa.

The **ever-increasing prices for food** commodities and **lack of access to finance** make it very difficult to strengthen food security amongst households in South Africa.

Whether the consumers are poor or wealthy, the **amount and quality of a consumer's food basket depend on its affordability**, related to the consumer income. South African households depend on household income for consumption.

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Context and Background

Figure 1: World Bank Global Food Price Index

- Global food prices increased by 4% between January and April 2014, alleviating a constant decline in food price trends seen since August 2012
- Global trends suggest that food prices will increase year on year.
- The instability caused by price hikes is not a short-term problem and can have lasting effects on poverty.

Source: World Bank, DECPG (2014)

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Context and Background

Table 1: Comparison between rural and urban food prices (2014)

Product	Rural Food Prices January 2014	Urban Food Prices January 2014	R/unit
Full Cream Long Life Milk 1L	11.28	11.23	0.05
Loaf of Brown Bread 700g	8.95	9.47	-0.52
Loaf of White Bread 700g	9.30	10.49	-1.19
Maize Meal 5kg	31.23	29.17	2.06
Margarine 500g	19.47	17.62	1.85
Rice 2kg	20.41	22.85	-2.44
Sunflower Oil 750ml	15.55	17.37	-1.82
Ceylon/Black Tea 62.5g	8.75	8.47	0.28
White Sugar 2.5kg	27.75	25.26	2.49
Average			**0.08**

Source: StatsSA (2014)

Table 2: Comparison between rural and urban food prices (2019)

Product	Urban Food Prices May 2019 (R/unit)	Rural Food Prices May 2019 (R/unit)	Price difference (R/unit)
Full cream milk – long life 1ℓ	14.45	15.29	-0.84
Loaf of brown bread 700g	12.63	12.55	0.08
Loaf of white bread 700g	13.96	13.54	0.42
Special maize 2.5kg	20.79	20.37	0.42
Super maize 2.5kg	23.53	22.58	0.95
Margarine spread 500g	27.40	28.43	-1.03
Peanut butter 400g	28.75	30.78	-2.03
Rice 2kg	26.02	26.78	-0.76
Sunflower oil 750ℓ	21.99	18.03	3.96
Ceylon/black tea 62.5g	16.47	12.94	3.53
White sugar 2.5kg	39.20	42.39	-3.19
Average			**0.14**

Source: StatsSA (2019)

- The greatest disparity between prices of rural and urban commodities was for white sugar (R2.49), maize meal (R2.06) and margarine (R1.85).

- Rural households would have to pay more for these commodities than urban consumers would have paid.

- Furthermore, rice, sunflower and white bread were substantially more expensive for rural consumers compared to prices in urban areas

- Whether consumers are poor or wealthy, the amount and quality of a consumer's food basket depends on the affordability, related to the consumer income.

Problem Statement

Poverty in South Africa has always been of great concern, as it affects the wellbeing of the population.

As the poverty gap is ever widening, the prices of goods and services are increasing over time and access to finance for South African households is limited.

The lack of studies initiated on the impact of food prices on the welfare of households in a South African context, creates a gap in the literature which could answer many questions by using correlation analysis and data collecting methods to provide an understanding of how food prices affect the welfare of South African households.

Determining the impact on welfare households created by food prices could lead to innovative policy reforms for food security. Such policies may reveal affordable sustainable food baskets for the poorer households.

Research Question and Objective(s)

Research Question(s):

- What is the relationship between household welfare and food prices in South Africa?

Objective(s) of the study:

- The primary objective is to examine the impact of food prices on household welfare in South Africa covering the period of 1990 to 2015. The sub-objectives related to the primary objective are:

- To analyse the **short-run relationship** and **long-run relationship** between food prices and household welfare in South Africa by determining how real household welfare responds/reacts whenever there is a shock in food prices and its fundamental determinants.

- To distil recommendations towards a conceptual framework for the mitigation of the impact of high food prices on households in South Africa.

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Limitations of the study

- The study is affected by many socioeconomic factors such as poverty, income distribution, unemployment as well as economic factors such as inflation.

- Owing to the lack of credible data that covers the entire period of study, variables that could have been useful in the analysis were omitted.

- The key variables that were suggested by literature were, however, used in the analysis.

- econometric results are determined by and limited to the quality of the data.

- Poor recordkeeping by institutions and inconsistency of data are the key issues resulting in this limitation

Literature Review

Theoretical Framework

- Critical for the state to have an encompassing knowledge of the correlation between market & price behaviour in times of food crises (Von Braun et al., 1993)

- Rising food prices increase the risk faced by lower-income households & subsequently transfers real income from lower-income consumers (Newbery 1989).

- Poor households spend the majority of their household income on food, making food prices an important factor in the well-being of the poor (Pinstrup-Andersen, 1985).

- Changes in price of food influences the ability of households to purchase food items (Jacobs, 2009).

- South African urban households spend more toward food than do rural households.(Bonti-Ankomah, 2001).

- Poorer households cope with rising food prices by reducing their purchases of food items and changing their consumption behaviour, which could change a household's status from one that is food secure to one that is not (Jacobs, 2009).

Empirical Studies

- Aliber (2009:397), using Engel's Law, established that the total share of expenditure on food is higher the poorer the household is.

- In Mexico, changes in local food prices from 2005 to 2007 proposed a 1.7% rise in extreme poverty in rural households (Wood et al. 2011).

- Alem and Soderbom (2012) suggests that welfare of the poor living in Ethiopia was sensitive to food price changes.

- Approx. 80% of SA rural households are unable to afford a basic nutritional basket of food (Altman et al. 2009).

- The state must intervene when there is a lack of credibility in food market liberalisation due to a shortage of effective policy to protect the poor (Gouel, 2013).

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Methodology

Study Design

- Vector Error Correction Modelling (VECM) was utilised to estimate a regression model analysing both short-run & long-run relationships between variables. The study employed annual time series data derived from secondary sources such as the World Bank and OECD covering the period 1990–2015.

Model specification

- HDI = f (UN, LNFP, HFCE, CPI)
- Where: HDI - Household disposable income as a proxy of welfare; UN – Unemployment; LNFP - Food prices in a logarithm form; HFCE - Household final consumption expenditure; CPI - Consumer price index
- HDIt = 0 + 1UN + 2LNFP + 3HFCE + 4CPI + µt
- Where: b0– Constant; b1, b2, b3, b4 – Coefficients; µt – Error term

Model diagnostics checks

- Normality, Serial correlation, Heteroscedasticity, Non-linear unit root test, lag test, etc.

Results

Table 3 and 4: Long-run and Short-run regressions: HDI

TABLE : Long-run regression results: Household disposable income.

Variable(s)	Coefficient	Standard errors	t-statistics
UN (-1)	-0.054	0.046	-1.164
LNFP(-1)	-21.318	0.515	41.371
HFCE(-1)	-1.481	0.134	11.046
GDP (-1)	0.516	0.089	-1.748
CPI(-1)	-0.398	0.069	5.728

UN, unemployment; LNFP, food prices in a logarithm form; HFCE, household final consumption expenditure; GDP, gross domestic product; CPI, consumer price index.

TABLE . : Short-run regression results.

Variable(s)	Coefficient	Standard errors	t-statistics
CointEq1	-0.071	0.067	-2.054
D(HDI[-1])	-0.551	0.031	-3.722
D(UN[-1])	-0.012	0.031	-0.386
D(LNFP[-1])	2.467	2.095	1.177
D(HFCE [-1])	0.016	0.055	0.304
D(GDP[-1])	0.089	0.033	2.708
D(CPI[-1])	0.077	0.029	2.639

HDI, household disposable income; UN, unemployment; LNFP, food prices in a logarithm form; HFCE, household final consumption expenditure; GDP, gross domestic product; CPI, consumer price index.

- The implication of the negative relationship between UN and HDI was that a 1% increase in UN would deteriorate HDI marginally.

- Furthermore, a 1% increase in LNFP would reduce HDI significantly.

- Increases in HFCE and CPI would reduce HDI only marginally in SA.

- GDP is found to be positively correlated with HDI since it is observed that 1% increase would improve the HDI marginally.

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Key Findings

The cointegration analysis confirmed a long-run relationship among variables.

A significant negative relationship between food prices and household welfare was discovered, implying that an increase in food prices would result in household welfare reduction in South Africa.

The short-run model estimated revealed convergence toward equilibrium in the long-run, although the adjustment was weak at 7% per annum.

The results confirmed that the model did not suffer from heteroskedasticity, serial correlation and normality challenges. The polynomial test confirmed the stability of the model since all AR polynomial had roots with a modulus which were <1 and they lay within the unit circle

The study concludes that food prices are detrimental to household welfare in South Africa. These results are believed to be efficient and consistent, based on the diagnostic and stability test undertaken.

Recommendations

Long-run policy recommendations:

Long-run impacts on household welfare can be stabilised through the following policy mechanisms:

- Improving the unemployment rate in South Africa;

- Improving access to finance and credit.

The successful implementation of recommendations by the South African government to implement policy options, such as food subsidies and tariffs for staple food sources, will provide South African households with the following:

- Sustainable food prices for South African households

- Improvement of household welfare by reducing staple food prices;

- Reduction of total household expenditure.

Short-run policy recommendations:

The policy options in the short run to address the impact of food prices on household welfare in South Africa could include the following:

- Subsidising staple food baskets for households in South Africa

- Reducing prices of staple foods with the reduction of staple food tariffs

- Reducing household expenditure on basic needs through subsidisation.

Roscoe van Wyk

IGR: PROVINCIAL BUDGET ANALYSIS

☎ +27 12 406 9052

✉ Roscoe.vanWyk@treasury.gov.za
website: www.treasury.gov.za

national treasury
Department:
National Treasury
REPUBLIC OF SOUTH AFRICA

USB
University of Stellenbosch
Business School

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