

THE SOUTH AFRICAN FOOD COST REVIEW: 2017



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and



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This publication attempts to provide more insight into the complex factors driving commodity and food prices. This is the 13th publication of the South African Food Cost Review, emanating from the recommendations of the Food Pricing Monitoring Committee in 2003 to monitor food prices in South Africa on a regular basis. The purpose of this publication is to reflect on food price trends during 2017.



FOREWORD BY THE CHIEF EXECUTIVE OFFICER: NAMC

One of the most basic human needs in life is survival. With this, availability and accessibility of affordable nutritious food plays a vital role in any household. It is therefore vital for any country to create the platform for a healthy food system. South Africa is rated second best in Africa in terms of the Global Food Security Index (GFSI) in 2017 and 44th in the world out of 113 countries. South Africa has food security at national level but struggles to achieve this at household level. This means that enough food is produced in South Africa but either citizens do not have enough money to buy enough nutritious food or there isn't any access towards food. This creates ample challenges for policy makers and the ruling party of the day. The implications of food insecurity are significant. A lack of access to food results in physical impairment on humans, as well as psychological and social implications.

Food prices are therefore an important contributor towards food security in any country. Basic food needs to be accessible especially to the poor. A few basic food products in South Africa are VAT zero-rated. This makes it more affordable for consumers, especially those who spend a big part of the disposable income on food. Since 1994, the government has implemented the National School Nutrition Programme (NSNP), which provides daily meals to about 9 million children in over 20,000 public schools. South Africa also has a social grant for an estimated 17 million South Africans. These measures go a long way in assisting South African citizens with the choice to procure more nutritional food.

The recent drought had showed the vulnerability of food inflation when it doubled from the previous year. The Rand also depreciated which resulted in higher food prices, impacting especially those which South Africa is not self-sufficient on or don't produce at all for example, wheat, poultry meat, rice and many more. But with this, South Africa's food system and economy are of such a nature, that there was food on the retailers' shelves, although much more expensive than previous years. A lot can be done to improve food system efficiency on micro- and meso levels. A stable political environment will ensure a platform with confidence and trust, which will result in local and foreign investments, which will have an effect on the economic growth of the country and increase employment.

A key to economic growth lies within the secondary agricultural sector. If South Africa can improve agro-processing, it could be beneficial to import substitution, job creation, economic growth and a much more stable economic environment.

The annual Food Cost Review published by the National Agricultural Marketing Council (NAMC) is a valuable document that provides important information about the key factors that drive food prices in South Africa.

Mr. Z.W. Xalisa

Chief Executive Officer: National Agricultural Marketing Council



EXECUTIVE SUMMARY

Global food price trends during 2017

Global food prices illustrated an upward trend during 2017, according to the United Nations Food and Agriculture Organisation (FAO, 2018b). The Food Price Index (FPI) gained 8.2% year-on-year (y-o-y) in 2017, reaching the highest annual average since 2014. The Organisation's FPI is a trade-weighted index that measures monthly changes in international prices for five major food commodity groups – major cereals, vegetable oils, dairy, meat and sugar.

Trends in the agriculture, forestry and fisheries trade

South Africa's agricultural sector has an auspicious outlook, despite the fact that challenges such as policy uncertainty and climate change remain dark clouds. For the past 11 years, South Africa has had a positive trade balance in the agricultural sector. The years 2016 and 2017 recorded the highest exports of agricultural products at a value of R127.3 billion and R126.8 billion respectively, while the value of the imports was highest in 2016 at a value of R91.8 billion. Both imports and exports of agricultural products declined in 2017 compared to the previous period (2016). Unprocessed products constituted about 54.3% of all agricultural exports, valued at R126.8 billion during the 2017 period, while processed food products constituted the remaining share of 45.7%. On the other hand, processed food products accounted for a larger share (65.3%) of the total agricultural imports (i.e. unprocessed products constituted about 34.7%). It is therefore evident that in value terms, South Africa exported more unprocessed agricultural products than processed food products, and the country imported more processed food products compared to unprocessed agricultural products.

Agricultural product exports increased from R112.1 billion in 2015 to R126.8 billion in 2017, translating into a 13.2% growth. South Africa exhibits very good performance in exporting fruits. By the end of 2017, South Africa's main agricultural exports included oranges, which accounted for 7.9% of total value, followed by grapes (5.7%), wine in 2ℓ packaging (5%), corn (4.7%) and apples (3.9%), while the total value and share of South Africa's agricultural imports during 2015, 2016 and 2017 amounted to R76.1 billion, R91.8 billion and R86.9 billion respectively.

For the past 11 years, South Africa has had a positive trade balance in the fisheries sector. The total value of exported fishery products declined by R2.5 billion in 2017 compared to the previous year (2016), while imported products increased by R368 million in the same period. The year 2016 recorded the highest exports of fishery products at a value of R7.4 billion, while the value of imports was highest in 2017 at a value of R5.6 billion. The total value of fishery products exported during 2015, 2016 and 2017 amounted to R6.1 billion, R7.4 billion and R5.0 billion respectively and the value of exports declined by 18.2% between 2015 and 2017. The total value of fishery products imported during 2017 amounted to R5.5 billion, representing a 5.3% growth rate between 2016 and 2017.

For the past 11 years, South Africa's forestry sector has had a positive trade balance, except during the 2007 and 2012 periods. The value of forestry exports increased from R11.5 billion in 2007 to R27.7 billion in 2017, indicating a positive growth trend. Total exports of forestry products during 2015, 2016 and 2017 amounted to R26.3 billion, R29.5 billion and R27.7 billion respectively, which declined by 6.1% from 2016 to 2017. Total imports of forestry products during 2017 amounted to R23.2 billion and the value of imports grew by 1.2% between 2016 and 2017.

Trends in input costs

From 1993 to 2017, real net farming income increased by 350.46%, expenditure on intermediate goods and services increased by 198.01%, while gross income increased by only 159.73%. Between 2016 and 2017, real net farm income, real gross income and real expenditure on intermediate goods and services increased by 6.65%, 1.87% and 1.16% respectively.

From 2001 to 2017, the total Farming Requisite Price Index (FRPI) increased by 263.76%, while the price of intermediate goods and services increased the most by 272%, followed by the price of materials for fixed improvements and the price of machinery and implements by 231.84% and 179.7% respectively between 2001 and 2017. The FRPI increased by 4.34% from 2016 to 2017, with the largest increase of 4.42% in the price of intermediate goods and services.



From 2012 to 2017, the Producer Price Index (PPI) of electricity and water increased by 57.62%; final manufactured goods (headline PPI) increased by 32.47%; agriculture, forestry and fisheries increased by 32.18%, while intermediate manufactured goods increased by 30.61% and mining by 23.63%. During 2017 the increases for electricity and water, mining, final manufactured goods, intermediate manufactured goods and agriculture were 5.71%, 5.43%, 4.88%, 3.97%, 4.88% and 0.46% respectively.

The PPI includes the production stages of final manufactured goods, intermediate manufactured goods, electricity and water, mining, and agriculture, forestry and fisheries between 2016 and 2017:

- sawmilling and wood increased by 5.72%;
- rubber products increased by 3.34%;
- glass and glass products increased by 2.7%;
- basic and fabricated metals increased by 2.3%;
- agriculture increased by 0.46%;
- mining increased by 4.88%;
- electricity increased by 5.71%;
- water increased by 5.43%;
- intermediate manufactured goods increased by 4.88%; and
- final manufactured goods increased by 3.97%.

Non-food inputs used at almost all stages of the food value chain include fuel, electricity, labour and water. All these items fall within the category of administered and regulated prices, and showed the following price trends between 2016 and 2017:

- The regulated minimum wage for primary agriculture was R3 001.13/month.
- 0.05% sulphur diesel at the coast and in Gauteng increased by 10.56% and 10.35% respectively.
- Crude oil price increased by 21.69%.
- The agricultural sector utilised electricity at an average of 141.70 c/kWh in 2016/17.

Inflationary trends for selected food items

Stats SA changed the base year for calculating the Consumer Price Index (CPI) to December 2016. Following these changes, the average overall South African food and non-alcoholic beverages inflation rate for 2017 reached 7%, compared to the average rate in 2016 of 10.5%.

Provincially, the Western Cape Province experienced the highest annual food inflation increase (5.3%), between December 2016 and December 2017. This was followed by the Gauteng (4.8%) and Eastern Cape (4.6%) provinces.

Trends in prices, farm values and price spreads

In order to better understand the difference in margins between farm-gate and retail prices, the farm values of selected products and the Farm-to-Retail-Price-Spread (FTRPS) were calculated. Price spreads measure the aggregate contributions of food manufacturing, distribution, wholesale and retail firms that transform farm commodities into final products:

- Poultry: The real FTRPS of fresh whole chickens decreased on average, by 11.61% between 2016 and 2017. During the same period, the farm value share of fresh whole chicken increased by 10.33%. The average farm value share for fresh whole chicken per kg in 2017 was 59.29%.
- Beef: The average real FTRPS of beef decreased by 8.42% between 2016 and 2017 and reached R35.95/kg in 2017. The real farm value share of beef increased by 40.36% between 2016 and 2017. The real farm value share of beef was 55.11% in 2017.
- Lamb: The real FTRPS of lamb decreased by 11.13% between 2016 and 2017 and was R57.15/kg on average during 2017. The real farm value share of lamb increased by 12.15% between 2016 and 2017.
- Pork: The average real FTRPS increased from R47.44/kg in 2016 to R50.37/kg in 2017 (6.17% increase). The real farm value share decreased by 0.41% on average between 2016 and 2017 and was 35.16% on average during 2017.
- Milk: The average real FTRPS increased from R8.56/ℓ to R8.64/ℓ (0.9%) between 2016 and 2017.
- Maize: Between January 2009 and December 2017, the FTRPS showed high instability as a result of the substitution effect between special and super maize meal. The FTRPS of super maize meal between 2009 and 2017 fluctuated between R2 023/ton and R4 643/ton.
- Wheat: The average FTRPS for brown bread was R22 043/ton of flour in 2017, while the white bread average FTRPS was R22 449/ton of flour in 2017.

Selected topics

The Food Cost Review: 2017 also features selected topics with regard to:

- Rural households' food expenditure assessment.





ACKNOWLEDGEMENTS

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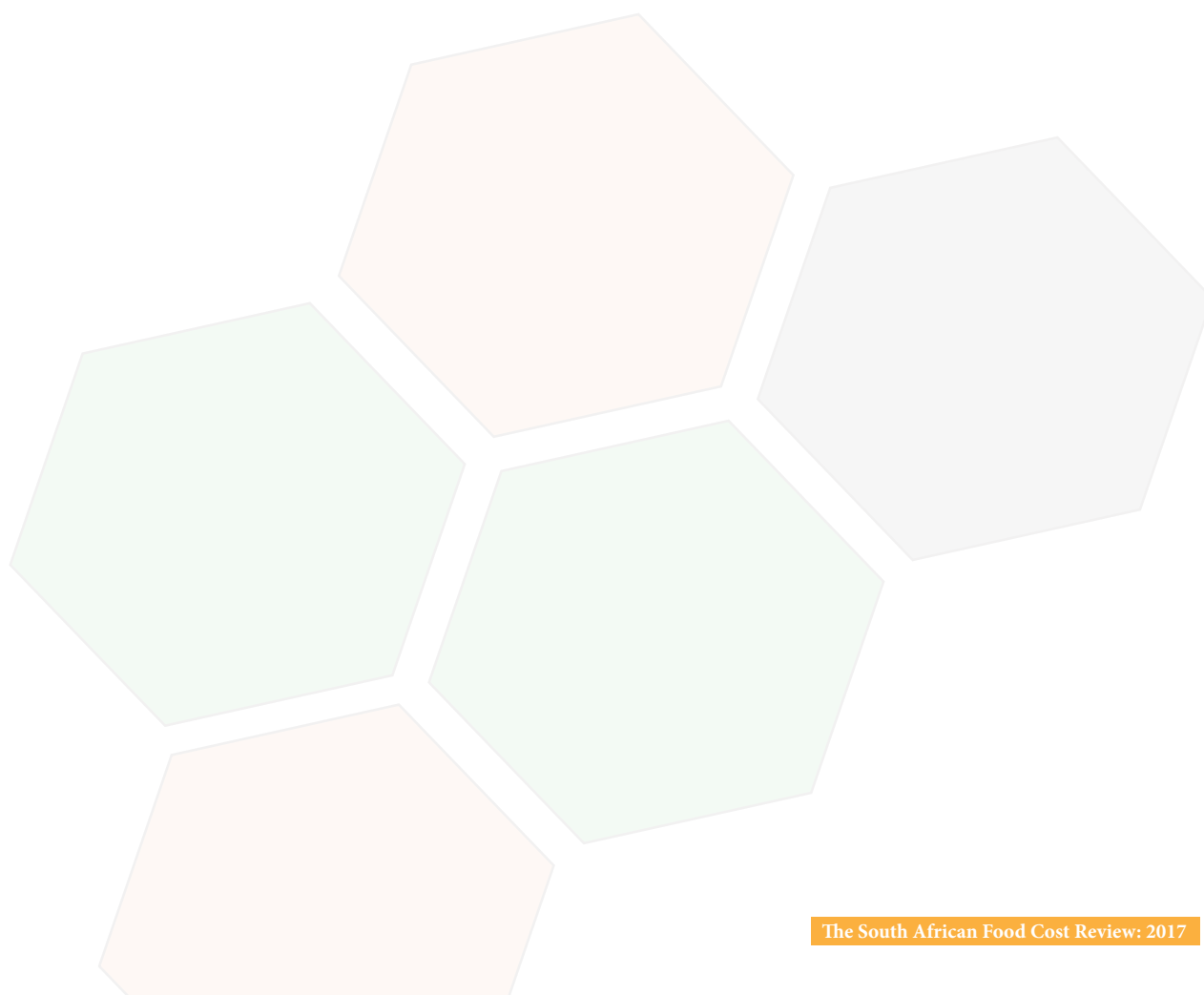


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ABBREVIATIONS/ACRONYMS

AFF	Agriculture, Forestry and Fisheries
AMT	Agrimark Trends
CEC	Crop Estimates Committee
CPI	Consumer Price Index
DAFF	Department of Agriculture, Forestry and Fisheries
DAP	Diammonium Phosphate
DoL	Department of Labour
EU	European Union
FAO	Food and Agriculture Organisation
Fertasa	Fertiliser Association of Southern Africa
FPI	Food Price Index
FP&M SETA	Fibre Processing and Manufacturing Sector Education and Training Authority
FRPI	Farming Requisite Price Index
FSSA	Fertiliser Society of South Africa
FTRPS	Farm-to-Retail-Price-Spread
GDP	Gross Domestic Product
GFSI	Global Food Security Index
Grain SA	Grain South Africa
GTA	Global Trade Atlas
ha	Hectares
HS	Harmonised System
HSRC	Human Sciences Research Council
IAC	Inter-Academy Council
IEA	International Energy Association
IFIA	International Fertiliser Industry Association
IPAP	Industrial Policy Action Plan
IQF	Individually Quick Frozen
KCL	Potassium Chloride
km	Kilometre
kWh	Kilowatt Hour
MAP	Monoammonium Phosphate
m-o-m	Month-on-month
MOP	Muriate of Potash
MPO	Milk Producers' Organisation
NAMC	National Agricultural Marketing Council
NERSA	National Energy Regulator of South Africa
NFD	National Freight Database
NGP	National Growth Path
NRMDP	National Red Meat Development Programme
NSNP	National School Nutrition Programme
OECD	Organisation for Economic Co-operation & Development



OLS	Ordinary Least Squares
OPEC	Organisation of the Petroleum Exporting Countries
PPI	Producer Price Index
SADC	Southern African Development Community
SAFEX	South African Futures Exchange
SAGIS	South African Grain Information Service
SAPIA	South African Petroleum Industry Association
SAMPRO	South African Milk Processors' Organisation
Stats SA	Statistics South Africa
UK	United Kingdom
UN	United Nations
US	United States
USA	United States of America
VAT	Value-Added Tax
WTA	World Trade Atlas
y-o-y	Year-on-year



1. FOOD PRICE TRENDS

1.1 Global food price trends during 2017

Global food prices illustrated an upward trend during 2017, according to the United Nations Food and Agriculture Organisation (FAO, 2018b). The Food Price Index gained 8.2% year-on-year (y-o-y) in 2017, reaching the highest annual average since 2014. The Organisation’s “Food Price Index” is a trade-weighted index that measures monthly changes in international prices for five major food commodity groups – major cereals, vegetable oils, dairy, meat and sugar. All sub-indexes except the sugar price index were higher in 2017. The dairy price index saw the sharpest annual increase with 31.5% while meat prices rose by 9% last year, compared to 2016. The vegetable oil and cereal prices were also up by 3% and 3.2% respectively. Sugar prices were 11.2% lower on average in 2017 than in 2016, due largely to a bumper harvest in Brazil, the world’s leading producer. In December, global food prices dropped by 3.3% compared to November 2017 due to a sharp decrease in the prices of vegetable oils and dairy products. The index, a measure of the monthly change in international prices of a basket of food commodities, stood at 169.8 points in December 2017, down by 3.3% from November (FAO, 2018b).

Global food prices declined marginally during November 2017, as lower dairy prices offset a sharp increase in sugar and vegetable oil quotations (FAO, 2018b). The index averaged 175.8 points in November, down by 0.5% from the previous month while still up by 2.3% from a year earlier. The FAO also revised its global cereal forecasts upward and expects worldwide supplies to rise to nearly 3 331 million tons, an all-time high. The November decline was driven by a 4.9% monthly drop in the FAO Dairy Price Index, as quotations for butter, cheese and whole and skim milk powders all fell. By contrast, the FAO Sugar Price Index jumped 4.5% on the month, due mostly to a decline in exports from Brazil and concerns that firmer oil prices may lead more production to be used for producing ethanol. The FAO Vegetable Oil Index also rose by 1.2% during November 2017, led by higher soy oil prices, while palm oil values declined due to higher-than-expected stock levels in Malaysia. The FAO Meat Price Index was broadly unchanged as bovine meat prices rose and pig-meat quotations declined. The FAO Cereal Price Index registered a small rise in November 2017, led by a 1.1% increase in international rice quotations (FAO, 2018a).

The international Food Price Index increased on average by 8.16% between 2016 and 2017, y-o-y (Figure 1).

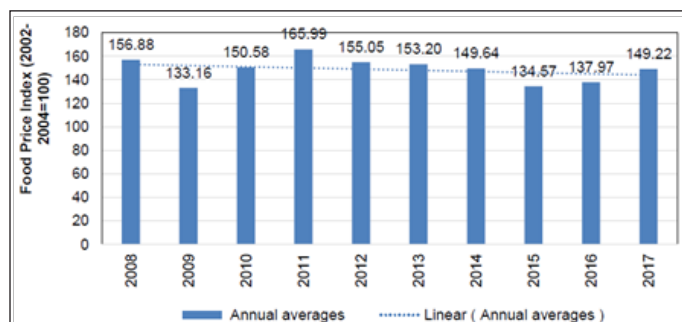


Figure 1: Annual averages for the international Food Price Index

Source: FAO (2018b)

Figure 2 shows the international price indices for various food categories from 2013 to 2017. The y-o-y, (December 2017 vs. December 2016) growth increases in the food category were as follows: the meat price index (+8.43%), followed by the cereals price index (+7.19%). The dairy price index (-4.26%), oils price index (-11.15%) and sugar price index (-22.28%) all illustrated annual decreases.

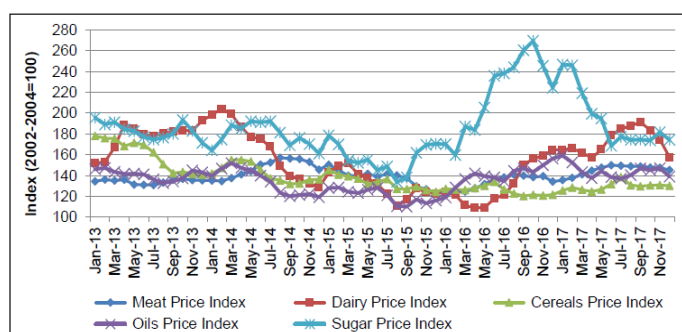


Figure 2: International price indices for various food categories

Source: FAO (2018b)

The Agricultural Outlook for 2017-2026 projects that demand will grow more slowly. Future growth in crop production will be attained mostly by increasing yields, and growth in meat and dairy production. Agricultural trade is expected to grow more slowly but remain less sensitive to weak economic conditions. Real prices are also expected to remain flat or decline for most commodities (OECD & FAO, 2018c).



2. SOUTH AFRICA’S AGRICULTURE, FORESTRY AND FISHERIES TRADE REVIEW

2.1 Overview of South Africa’s primary and secondary AFF products

The agriculture, forestry and fisheries sectors have been identified as key catalysts for economic growth, job creation and broad-based transformation within the economy. Despite the relatively small direct share of the total gross domestic product (GDP), agriculture, forestry and fisheries are vital to South Africa’s economy. These sectors supply some of the most important material needs of South Africans such as food and fibre, while providing significant employment and self-employment opportunities (DAFF, 2012b). South Africa’s Agricultural, Forestry and Fisheries (AFF) trade performance should be viewed in relation to both primary and secondary products traded. Upscaling agro-processing and marketing is one of the priority areas identified so as to create employment in terms of the New Growth Path (NGP). The Industrial Policy Action Plan 2 (IPAP2) also encourages agro-processing as a sector with a job creation multiplier effect. Agro-processing not only stimulates value addition but also ensures higher returns than primary products when exporting to international markets (DAFF, 2014).

Figure 3 highlights the value of South Africa’s unprocessed AFF trade with the world between 2007 and 2017. The unprocessed AFF exports increased from R23.9 billion in 2007 to R83.2 billion in 2017. The main products that resulted in this growth include chemical wood pulp, which recorded a value of R10.3 billion, oranges (R10 billion), grapes (R7.2 billion) and corn (maize) at a value of R5.8 billion in 2016. Unprocessed AFF imports increased from R12.8 billion to R34.4 billion between 2007 and 2017. Both exports and imports of unprocessed AFF products reached their peak in 2016 at a value of R83.7 billion and R40.7 billion respectively. The main commodities imported during the 2017 period include wheat at a value of R4.4 billion, followed by unused postage (R3.9 billion), raw sugar (R2.2 billion) and live cattle (R2 billion). South Africa exported a high value of unprocessed AFF products as compared to the imported value, which resulting in a positive trade balance.

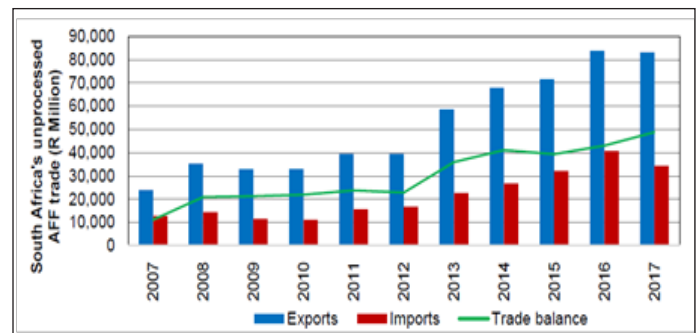


Figure 3: South Africa’s unprocessed AFF trade (2007-2017)
Source: Global Trade Atlas (GTA) (2018)

According to DAFF, total agro-processed exports in comparison with the manufacturing sector were 19.1% and 10.9% respectively; while total agro-processed imports relative to the manufacturing sector were 18.2% and 9.7% respectively. Additionally, the agro-processing industry accounted for 41.3% and 3.6% of total employment in the manufacturing sector and the economy respectively (Quantec, 2016). Figure 4 shows the value of processed AFF imports and exports between 2007 and 2017. The value of processed AFF exports increased from R20.8 billion in 2007 to R76.3 billion in 2017, indicating a 266% growth in exports. The main processed food imported included rice wine (2ℓ) at a value of R6.1 billion, followed by food preparations Nesoi (R2.4 billion), wine Nesoi (not elsewhere included) (R2 billion) and kraftline (R2 billion). During the period under review, imports of processed AFF food products showed a stronger growth trend than exports. South Africa continued to import more processed food products than it exported, resulting in a negative trade balance. The value of processed AFF imports increased from R30.4 billion in 2007 to R81.2 billion in 2017. The main processed food products imported included rice at a value of R6.1 billion, followed by palm oil (R4.3 billion), chicken cuts (R4.3 billion) and cane/beet sugare (R2.9 billion) respectively.

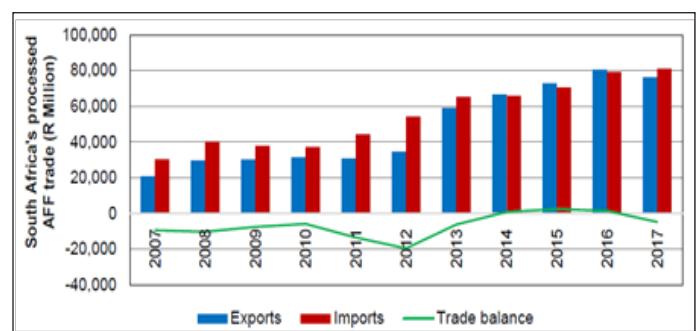


Figure 4: South Africa’s processed AFF trade (2007-2017)
Source: GTA (2018)

2.2 South Africa's agricultural trade performance

South Africa's agricultural sector has an auspicious outlook, despite the fact that challenges such as policy uncertainty and climate change remain dark clouds. For the past 11 years, South Africa has had a positive trade balance in the agricultural sector. Figure 5 highlights the trends in the value of exports and imports between 2007 and 2017. The years 2016 and 2017 recorded the highest exports of agricultural products at a value of R127.3 billion and R126.8 billion respectively, while the value of imports was highest in 2016 at a value of R91.8 billion. Both imports and exports of agricultural products declined in 2017 compared to the previous period (2016). Unprocessed products constituted about 54.3% of all agricultural exports, valued at R126.8 billion during the 2017 period, while processed food products constituted the remaining share of 45.7%. On the other hand, processed food products accounted for a larger share (65.3%) of the total agricultural imports (i.e. unprocessed products constituted about 34.7%). It is therefore evident that in value terms, South Africa exported more unprocessed agricultural products than processed food products and imported more processed food products compared to unprocessed agricultural products.

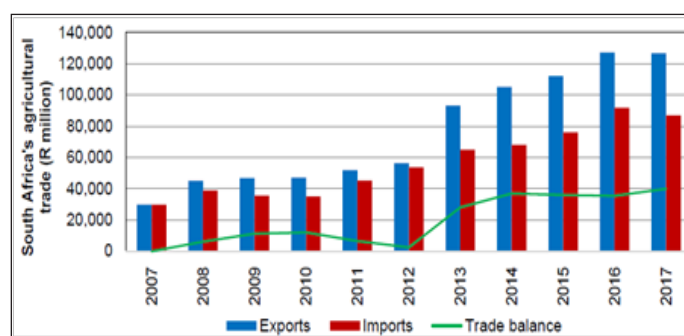


Figure 5: South African agricultural trade performance (2007-2017)
Source: GTA (2018)

Table 1 shows the value and share of South Africa's agricultural products exported to the world between 2015 and 2017. Products are classified according to the Harmonised System (HS) code system with six digits, to allow participating countries to classify products on a common basis for customs purposes.

Agricultural product exports increased from R112.1 billion in 2015 to R126.8 billion in 2017, translating into a 13.2% growth. South Africa exhibits very good performance in exporting fruits. At the end of 2017, South Africa's main agricultural exports included oranges, which accounted for 7.9% of the total value, followed by grapes (5.7%), wine in 2ℓ packaging (5%), corn (4.7%) and apples (3.9%). The top 10 exported products accounted for 39.5% of the total of agricultural exports in 2017. The top five leading markets for South Africa's agricultural exports were the Netherlands, United Kingdom (UK), Namibia, Botswana and China, each valued at R10.9 billion, R8.8 billion, R8.7 billion, R8.2 billion, and R6.8 billion respectively. These countries collectively absorbed about 34.4% of total agricultural exports in 2017.

Table 1: Main agricultural products exported by South Africa, 2015-2017

Product HS6 code	Product Description	Value in R' million			% Share			% Change 2016/17
		2015	2016	2017	2015	2016	2017	
Agricultural Products		112068	127343	126818				-0.41
080510	Oranges	7633	8836	10028	6.81	6.94	7.91	13.49
080610	Grapes	6126	6408	7209	5.47	5.03	5.68	12.49
220421	Wine in 2ℓ packaging	5964	6546	6396	5.32	5.14	5.04	-2.30
100590	Corn	2147	4441	5899	1.92	3.49	4.65	32.83
080810	Apples	4861	5275	4981	4.34	4.14	3.93	-5.58
510111	Wool	3134	3799	4557	2.80	2.98	3.59	19.96
080550	Lemons	3073	3890	3895	2.74	3.06	3.07	0.11
080830	Pears	2062	2792	2662	1.84	2.19	2.10	-4.68
210690	Food preparations	2367	2407	2354	2.11	1.89	1.86	-2.22
170114	Cane Sugar	868	1194	2066	0.77	0.94	1.63	73.04

Source: GTA (2018)



Table 2 highlights the total value and share of South Africa’s agricultural imports during 2015, 2016 and 2017, which amounted to R76.1 billion, R91.8 billion and R86.9 billion respectively. This represents a 14.2% growth rate between 2015 and 2017. South Africa’s leading suppliers of agricultural products (imports) during 2017 were Brazil (7.3%), Thailand (6.1%), Argentina (5.7%), United States of America (USA) (5.2%) and Swaziland (4.7%). The top

10 suppliers constituted about 50.1% of total agricultural imports into South Africa. In 2017, rice was ranked as the leading agricultural product imported by South Africa at a value of R6.2 billion, followed by wheat, palm oil, chicken cuts, cane/beet sugar and whiskies at a value of R4.4 billion, R4.4 billion, R4.3 billion, R2.9 billion and R2.5 billion respectively. The top 10 imported products constituted about 38.5% of South Africa’s total agricultural imports.

Table 2: Main agricultural products imported by South Africa, 2015-2017

Product HS6 code	Product Description	Value in R' million			% Share			% Change 2016/17
		2015	2016	2017	2015	2016	2017	
Agricultural Products		76105	91809	86862				-5.39
100630	Rice	5361	5975	6126	7.04	6.51	7.05	2.52
100199	Wheat and Meslin	6016	4453	4369	7.91	4.85	5.03	-1.87
151190	Palm Oil	3181	4200	4363	4.18	4.58	5.02	3.87
020714	Chicken cuts	3372	3972	4300	4.43	4.33	4.95	8.26
170199	Cane/beet Sugar	882	1419	2853	1.16	1.55	3.28	101.06
220830	Whiskies	2693	2495	2510	3.54	2.72	2.89	0.61
230400	Soybean Oilcake	2398	2972	2455	3.15	3.24	2.83	-17.41
210690	Food preparations	2084	2358	2241	2.74	2.57	2.58	-4.96
170113	Cane Sugar	1494	1776	2176	1.96	1.93	2.51	22.54
010229	Cattle, Live	1063	635	1975	1.40	0.69	2.27	210.94

Source: GTA (2018)

2.3 South African Fisheries trade review

South Africa’s fisheries sector plays a relatively small part, in direct economic terms, in the economy, contributing only about 1% to the Gross Domestic Product (GDP) (FAO, 2015). The Western Cape is the centre of industrial fisheries, and the sector is the dominant source of employment in areas such as Saldanha Bay and St Helena Bay. **Figure 6** shows the trade performance (exports, imports and trade balance) of fishery products traded during the 2007-2017 period, measured in billion rand. For the past 11 years, South Africa has had a positive trade balance in the fisheries sector. The total value of exported fishery products declined by R2.5 billion in 2017 compared to the previous year (2016), while imported products increased by R368 million in the same period. The year 2016 recorded the highest exports of fishery products at a value of R7.4 billion, while the value of imports was highest in 2017 at a value of R5.6 billion. In 2017, unprocessed fishery products represented 40.1% of total fish imports (R5.6 billion) while processed fishery food products accounted for a larger share of 59.9%. On the export side, about 69.2% of the total value of R5 billion exported was unprocessed fishery products, while processed fishery food products accounted for the remaining share of 30.8%.

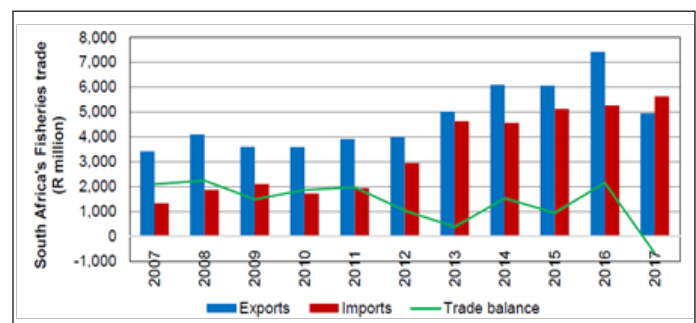


Figure 6: South African Fisheries trade (2007-2017)

Source: GTA (2018)

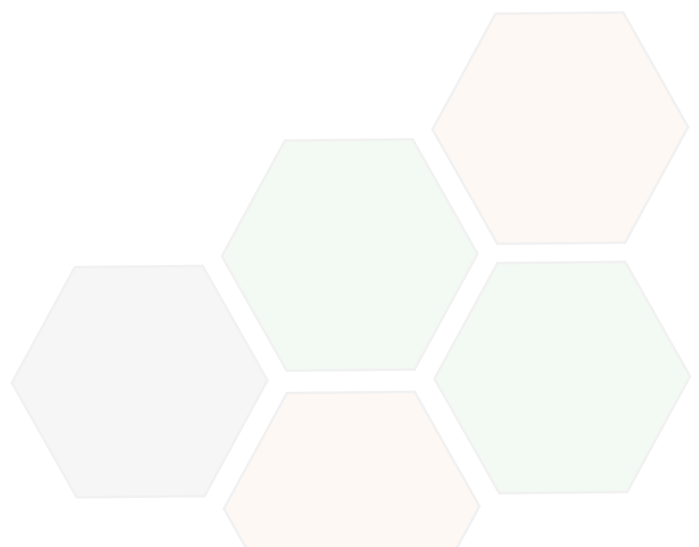


Table 3 illustrates that the total value of fishery products exported during 2015, 2016 and 2017 amounted to R6.1 billion, R7.4 billion and R5.0 billion respectively, and the value of exports declined by 18.2% between 2015 and 2017. In 2017, hake fillets, frozen hake, frozen fish and rock lobster were the top four exported products, with total exports of these products amounting to R1 338 million, R560 million, R493 million and R317 million respectively.

The top 10 exported products accounted for about 76.8% of South Africa's total fishery exports in 2017. In the same year, the leading export destinations for South Africa's fishery products were Spain (16.6%), Italy (14.8%), Portugal (8.5%), USA (7.2%), Hong Kong (6.3%) and Namibia (4.9%). The top 10 export destinations for South Africa's fishery products collectively accounted for about 72.9% of the total value.

Table 3: Main Fishery products exported, 2015–2017

Product HS6 code	Product Description	Value in R' million			% Share			% Change 2016/17
		2015	2016	2017	2015	2016	2017	
Fishery Products		6065	7426	4960				-33.21
030474	Hake Fillets	1139	1499	1338	18.78	20.19	26.98	-10.75
030366	Hake, Frozen	489	604	560	8.06	8.14	11.30	-7.27
030389	Fish, Frozen	306	407	493	5.04	5.48	9.93	20.93
030611	Rock Lobster	232	293	317	3.83	3.95	6.40	8.30
160419	Fish, Prepared	130	237	275	2.14	3.19	5.54	16.00
160413	Sardines	189	243	273	3.12	3.27	5.51	12.57
160557	Abalone, Prepared	205	249	190	3.38	3.35	3.83	-23.67
030355	Jack (Horse Mackerel) Frozen	119	160	152	1.97	2.16	3.05	-5.56
030617	Shrimps and Prawns, Frozen	44	115	111	0.73	1.55	2.23	-3.92
030781	Abalone, Live, Fresh	91	89	102	1.50	1.20	2.06	14.08

Source: GTA (2018)

Table 4 indicates that the total value of fishery products imported during 2017 amounted to R5.5 billion, representing a 5.3% growth rate between 2017 and 2016. The five leading suppliers provided 56.6% of South Africa's total fishery imports. Sardines and frozen sardines, together with tuna and shrimps (and prawns), were the leading imported products, constituting 50.3% of all fishery imports. Namibia was ranked as the main supplier of fishery products to South Africa with an

estimated value of R1.2 billion in 2017. This represents 21% of the total value of R5.5 billion worth of imports. Thailand was ranked second, accounting for 20% of total value imported, followed by China (12.1%), Morocco (9.2%), Norway (7.9%) and Argentina (5%).



Table 4: Main Fishery products imported, 2015-2017

Product HS6 code	Product Description	Value in R' million			% Share			% Change 2016/17
		2015	2016	2017	2015	2016	2017	
Fishery Products		5121	5270	5549				5.3
160413	Sardines	1429	936	908	27.91	17.75	16.35	-2.99
030353	Sardines, Frozen	275	584	647	5.37	11.07	11.66	10.91
160414	Tunas	470	348	622	9.19	6.60	11.21	78.85
030617	Shrimps and Prawns	486	656	612	9.48	12.46	11.04	-6.7
030474	Hake Fillets, Frozen	190	272	352	3.72	5.17	6.34	29.06
030389	Fish, Frozen	316	319	331	6.16	6.06	5.97	3.77
030355	Jack (Horse Mackerel), Frozen	410	287	314	8.00	5.44	5.66	9.55
030366	Hake, Frozen	201	269	271	3.93	5.10	4.89	0.94
030749	Cuttlefish & Squid	253	341	242	4.94	6.46	4.35	-29.06
030313	Atlantic Salmon and Danube Salmon	96	102	147	1.87	1.93	2.65	44.76

Source: GTA (2018)

2.4 South African Forestry trade review

The forestry sector is a key driver for the development of South Africa's local economies, particularly in rural areas where poverty is compounded by the lack of employment opportunities (FP&M SETA, 2014). The Southern African Development Community (SADC) region in general specialises in raw commodities, which are subject to international commodity prices. Of course, these commodities need to be marketed as they can benefit the country and SADC countries at large as foreign exchange earners. Figure 7 shows the trends in the value of exports and imports between 2007 and 2017. For the past 11 years, South Africa's forestry sector has had a positive trade balance, except during the 2007 and 2012 periods. The value of forestry exports increased from R11.5 billion in 2007 to R27.7 billion in 2017, indicating a positive growth trend.

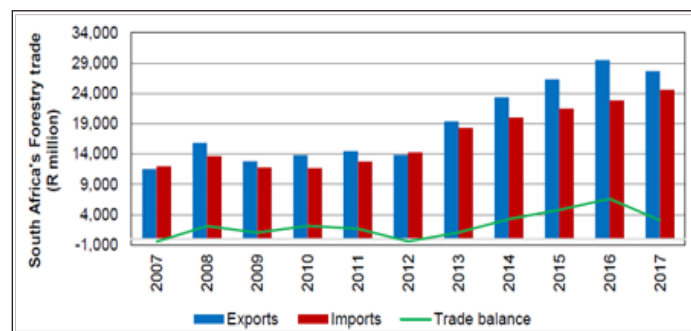
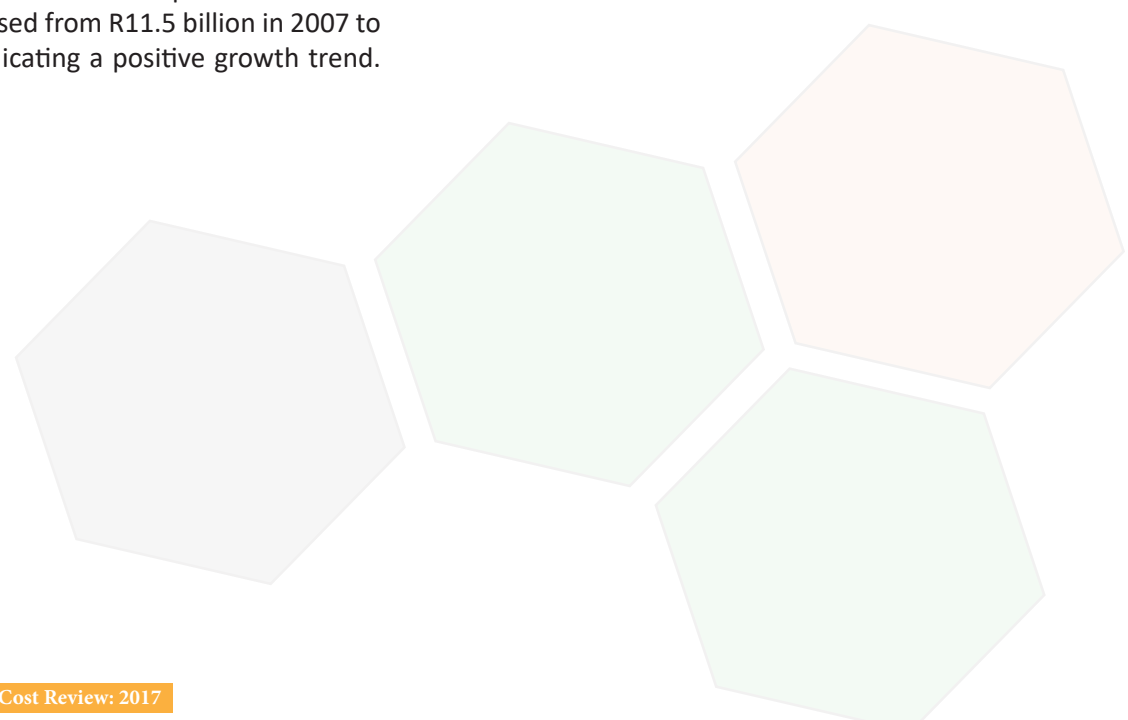


Figure 7: South African Forestry trade (2007-2017)

Source: GTA (2018)





The major importers of South Africa's forestry products are in Africa, Europe and Asia (GTA, 2018). Forestry products provide a range of wood and non-wood products, as well as social and environment services, such as the conservation of soil, water and biological diversity. Wood and wood products are the main commercial products of forests and these largely include fuel wood and charcoal. Table 5 shows that the total exports of forestry products

during 2015, 2016 and 2017 amounted to R26.3 billion, R29.5 billion and R27.7 billion, which declined by 6.1% from 2016 to 2017. India (13.9%), China (12.6%), Japan (9.7%), Indonesia (7.5%) and Namibia (5.6%) were the leading export destinations for South Africa's forestry products during 2017. Chemical wood pulp, wood in chips and kraftliner were the leading export products, accounting for 37.5%, 10.3% and 7.2% respectively.

Table 5: Main Forestry products exported by South Africa, 2015–2017

Product HS6 code	Product Description	Value in R' million			% Share			% Change 2016/17
		2015	2016	2017	2015	2016	2017	
Forestry Products		26298	29505	27697				-6.13
470200	Chemical Woodpulp, Dissolving Grades	8853	10740	10372	33.66	36.40	37.45	-3.42
440122	Woodin Chipsor Particles, Nonconiferous	2573	2900	2863	9.79	9.83	10.34	-1.27
480419	Kraftliner, Uncoated, Bleached, In Rolls or Sheets	2278	2399	1994	8.66	8.13	7.20	-16.88
470329	Chem Woodpulp, Sodaetc., N Dis S Bl & Bl Nonconif	1282	1330	1854	4.88	4.51	6.69	39.45
481910	Cartons, Boxes & Cases Corrugated Paper & Paperbd	780	688	712	2.97	2.33	2.57	3.43
441820	Doors and their Frames and Thresholds, of Wood	509	617	585	1.93	2.09	2.11	-5.19
480256	Paper, Uncoat, Nt Ov 10% Wt Mec Prc;40-150G/M2 Sheets	526	540	569	2.00	1.83	2.05	5.44
490199	Printed Books, Brochures, etc., Nesoi	640	622	549	2.43	2.11	1.98	-11.69
480511	Semichemical Flutng Ppr (CorrugatngMed) Unctd Rll	260	428	424	0.99	1.45	1.53	-0.89
481810	Toilet Paper	340	361	419	1.29	1.22	1.51	16.13

Source: GTA (2018)

Table 6 highlights that the total imports of forestry products during 2017 amounted to R23.2 billion and the value of imports grew by 1.2% between 2016 and 2017. The leading suppliers for South Africa's forestry products were the United Kingdom (13.6%), China (11.1%), Germany (8.9%), United States (6.5%) and Brazil (5.4%)

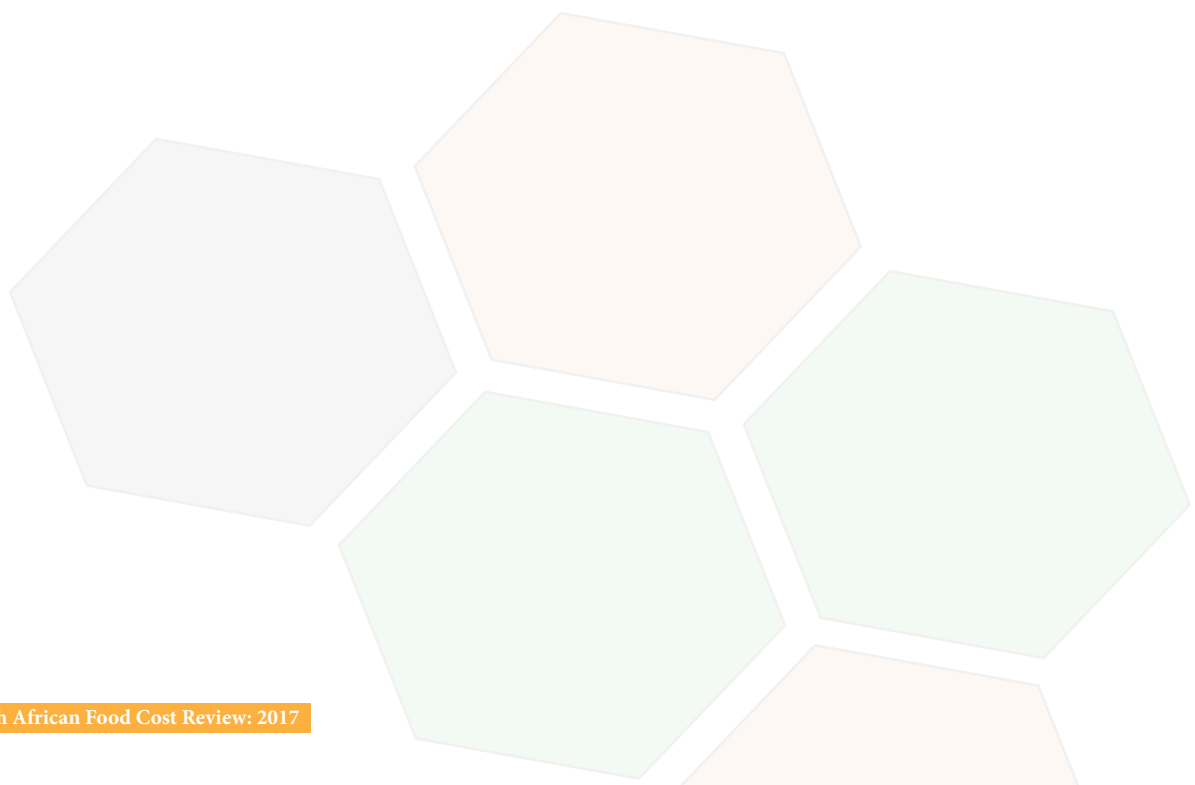
during 2017. Unused postage, printed books, paper and paper board coat, chemical woodpulp and paper (and paper board cellulose) were the leading products imported, constituting 34.7% of all forestry imports in 2017.



Table 6: Main Forestry products imported by South Africa, 2015–2017

Product HS6 code	Product Description	Value in R' million			% Share			% Change 2016/17
		2015	2016	2017	2015	2016	2017	
Forestry Products		21500	22880	23163				1.24
490700	Unused Postage, Check Forms, Banknotes, Stock, etc.	102	190	3883	0.48	0.83	16.76	1941.94
490199	Printed Books, Brochures, etc., Nesoi	1808	1635	1411	8.41	7.15	6.09	-13.70
481159	Ppr/Pbrd Coat/Impg/Cvr W/ Plastic, Nesoi	1254	1176	1249	5.83	5.14	5.39	6.19
470321	Chemical Woodpulp, Soda, etc. N Dis S Bl & Bl Conif	762	768	732	3.54	3.36	3.16	-4.67
481190	Paper, Paperbd, Cellulose Wadd Etc, Coat, etc. Nesoi	742	677	731	3.45	2.96	3.16	8.07
481141	Gummed/Adhesive Ppr & Ppboard, Pressure-Sensitive	609	673	708	2.83	2.94	3.06	5.17
480257	Paper&Ppb,	461	502	662	2.15	2.19	2.86	31.91
481092	Ppr/Pbrd Ex Krft/Grphc Clay Coatd Multi-Ply Rl/ Sht	485	583	626	2.26	2.55	2.70	7.36
481029	Ppr/Pbrd Ex Lit-Wgh Writng, etc. Clay Ctd Ov 10% Mec	574	698	612	2.67	3.05	2.64	-12.33
480261	Paper & Paperboard, Uncoated, >10% Mech. Fib., Rolls	542	692	501	2.52	3.03	2.17	-27.56

Source: GTA (2018)



3. TRENDS IN INPUT COSTS

3.1 Terms of trade for primary agriculture

The rise in input costs at farm level creates what is known as the cost-price squeeze effect. This is best illustrated by calculating the terms of trade at the primary agricultural level by dividing the primary Producer Price Index (PPI) by the Farming Requisite Price Index (FRPI); i.e., the prices received by farmers for their output divided by the prices paid for farm inputs. It is evident that the terms of trade at the primary agricultural level have deteriorated significantly over time as illustrated in Figure 8. There was, however, some relief during the commodity price boom from 2005 to 2007. The terms of trade for primary agriculture reached their peak in 2007 and then decreased drastically until 2010. The increase from 2013 continued during 2014, 2015 and 2016. However, the terms of trade for primary agriculture declined by 6.92% during 2017.

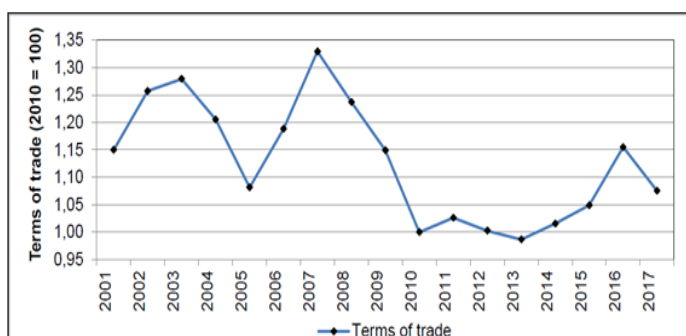


Figure 8: Terms of trade (2001–2017)
Source: DAFF (2018) and own calculations

The overall financial position of primary producers is constantly under pressure. Figure 9 shows the real gross income, real expenditure on intermediate goods and services, and the real net farming income from 1993 to 2017. Over the depicted period, real net farming income increased by 350.46%, expenditure on intermediate goods and services increased by 198.01%, while gross income increased by only 159.73%. Between 2016 and 2017, real net farm income, real gross income and real expenditure on intermediate goods and services increased by 6.65%, 1.87% and 1.16% respectively.

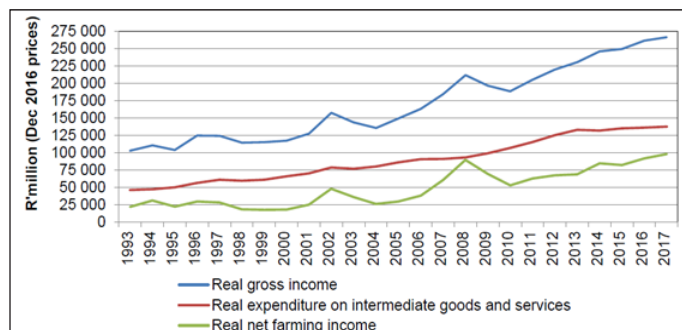


Figure 9: Real gross income, expenditure on intermediate goods and services, as well as farming income (1993–2017)
Source: DAFF (2018), Stats SA (2018) and own calculations

Within the ambit of the aforementioned, this section reflects on cost trends for selected inputs in primary agriculture and the food value chain, which cause this cost-price squeeze.

3.2 Farming Requisite Price Index (FRPI) trends

The FRPI, as calculated by the DAFF, measures the trends of prices that farmers pay for farming inputs. The total FRPI includes prices of machinery and implements, material for fixed improvements, and intermediate goods and services, and is a weighted average index.

From Figure 10, it is evident that all the input categories' prices showed continuous increases throughout the depicted period. The total FRPI increased by 263.76%, while the price of intermediate goods and services increased the most by 272%, followed by the price of materials for fixed improvements and the price of machinery and implements, by 231.84% and 179.7% respectively, between 2001 and 2017. The FRPI increased by 4.34% from 2016 to 2017, with the largest increase of 4.42% in the price of intermediate goods and services.

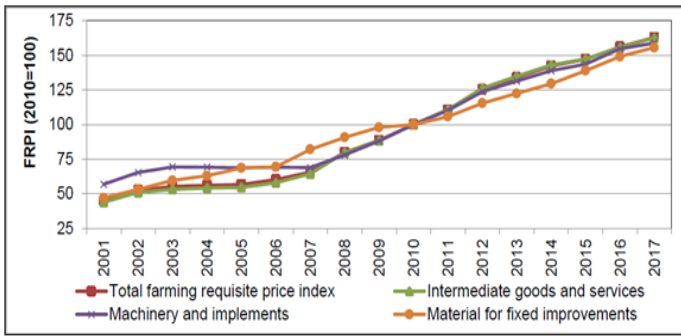


Figure 10: Total FRPI (2001–2017)
Source: DAFF (2018)

Figure 11 illustrates the price trends of intermediate goods and services, i.e. fertiliser, fuel, animal health and crop protection, animal feed, packing material, and maintenance and repairs, from 2001 to 2017. When considering the price trends of intermediate goods and services, although they slightly increased from 2006, it is clear from Figure 11 that the price of fuel increased drastically from 2007 to 2008 by 15.35%. The price of fertiliser came down during 2009 and 2010, but not to the levels prior to 2008. The animal feed price was the highest from 2012 to 2017. From 2001 to 2017 the price of animal feed rose by 341.35%, the price of fertiliser rose by 259.60%, and the price of fuel rose by 248.40%. The price trends of these inputs from 2016 to 2017 were as follows: an increase of 3.09% in the price of animal feed, an increase of 2.68% in the price of fuel and an increase of 4.01% in the price of fertiliser.

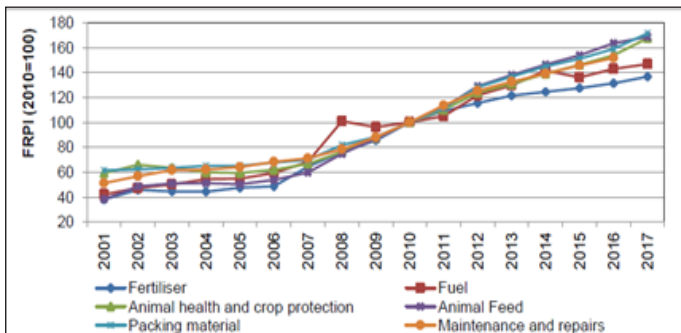


Figure 11: FRPI of intermediate goods and services (2001–2017)
Source: DAFF (2018)

3.3 Producer Price Index (PPI) trends

The cost of food manufacturing is influenced not only by the price of raw commodities as inputs, but also by non-food inputs. Among these are the costs of diesel, packaging material, electricity and labour. The PPI – as calculated by Stats SA – was reclassified and rebased during 2013. The index changed from a first point-of-sale (factory-level) measure to a stage-of-production measure. Thus, the new PPI measures the change in the prices of goods either as they leave their place of production or as they enter the production process. This index includes

the production stages of final manufactured goods, intermediate manufactured goods, electricity and water, mining and agriculture, and forestry and fisheries.

The PPI is measured at production stages and is a weighted average index to indicate the production inflation of the economy. Figure 12 shows the PPI for the different stages of production. From 2012 to 2017, the PPI of electricity and water increased by 57.62%; final manufactured goods (headline PPI) increased by 32.47%; agriculture, forestry and fisheries increased by 32.18%, while intermediate manufactured goods increased by 30.61% and mining by 23.63%. During 2017 the increases for electricity, water, mining, final manufactured goods, intermediate manufactured goods and agriculture were 5.71%, 5.43%, 4.88%, 3.97%, 4.88% and 0.46% respectively.

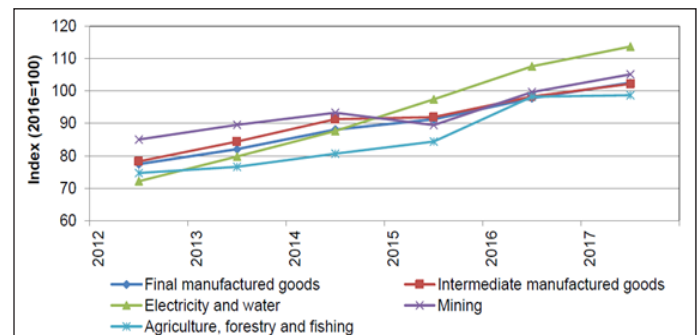


Figure 12: PPI for different stages of productui (2012–2017)
Source: Stats SA (2018)

Figure 13 shows the PPI for intermediate manufactured goods. These items are not industry specific but indicate price trends to industry on the input side. From 2012 to 2017, the PPI of sawmilling and wood increased by 35.28%, glass and glass products increased by 29.54%, rubber products increased by 28.61% and basic and fabricated metals increased by 23.67%.

Price trends between 2016 and 2017 for the items depicted were as follows: sawmilling and wood increased by 5.72%, rubber products increased by 3.34%, glass and glass products increased by 2.7% and basic and fabricated metals increased by 2.3%.

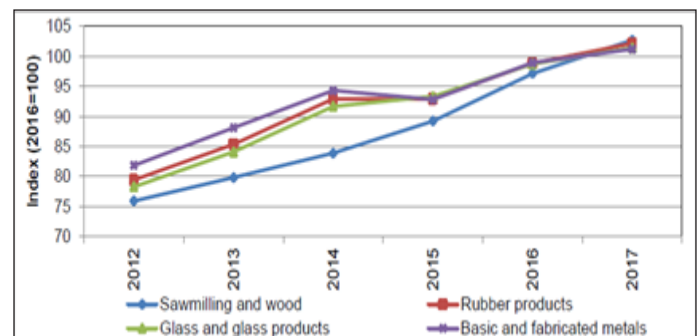


Figure 13: PPI for selected input items (2012–2017)
Source: Stats SA (2018)

3.4 Trends in the cost of selected inputs

3.4.1 Fertiliser prices

International fertiliser prices

The main role of fertilisers is to replenish nutrients in the soil to make it productive for agricultural practices. According to the International Fertiliser Industry Association (IFA) (2016), in response to sharply declining commodity prices, commercial farmers reduced their fertiliser application rates in 2014. Low international commodity prices and weakened economic activity in emerging economies impacted further on the fertiliser supply and demand situation. Global nutrient demand in 2015 was adequately supplied from existing production capacity and from newly commissioned operations. However, feedstock issues and political tensions have continued to impact production and global trade. The global demand for fertiliser nutrients (N, P₂O₅ and K₂O) is expected to reach 201.66 million tons by the end of 2020 (FAO, 2017). On the supply side, the global total nutrient capacity is expected to increase by 3.7% and supply is expected to grow by 1.7% by 2020.

Figure 14 illustrates the trend of international fertiliser prices between 2002 and 2017. There was a fluctuation of prices over the period under review, where urea, diammonium phosphate (DAP) and muriate of potash (MOP) increased by 125.18%, 92.4% and 91.93% respectively. Between 2016 and 2017 the price of MOP, DAP and Urea Granular (46) decreased by 28.5%, 26.1% and 14.4% respectively.

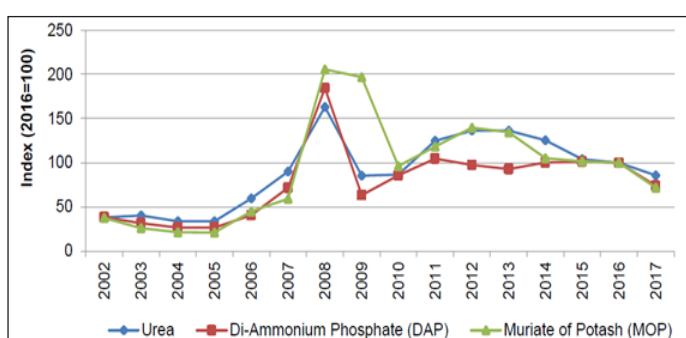


Figure 14: International fertiliser prices (2002–2017)

Source: Grain South Africa (Grain SA) (2018)

Domestic fertiliser prices

The South African fertiliser industry is fully exposed to world market forces in a totally deregulated environment, with no import tariffs or government-sponsored measures. The local demand for fertiliser is in the region of two million physical tons. This amounts to approximately 750 000 tons of plant nutrients (N + P₂O₅ + K₂O). Table 7 shows South African fertiliser demand, and the domestic production and import situation.

Table 7: South African fertiliser demand, domestic production and imports

Nutrient	Demand (thousand tons)	Domestic production (thousand tons)	Imports (thousand tons)	Products
Nitrogen (N)	400	250	150	Mostly urea
Phosphate (P ₂ O ₅)	200	Over 75% of demand	< 25% of demand	Mostly DAP
Potassium (K ₂ O)	160	None	All	Mostly MOP

Source: Fertiliser Society of South Africa (FSSA) (2016)

South Africa imported US\$498.44 million and exported US\$355.61 million of fertiliser in 2017 (TradeMap, 2018). South Africa is a net importer of potassium and imports approximately 40% of its nitrogen requirements (Fertasa, 2018). Thus, the domestic prices are significantly impacted on by the international prices of raw material and fertiliser, as well as shipping costs and the rand/dollar exchange rate. Figure 15 details the analysis of movement for South African fertiliser prices between 2002 and 2017. The prices of local fertilisers – Monoammonium Phosphate (MAP), Urea Granular (46) and potassium chloride (KCL) – showed an increase of 175.6%, 144.81% and 110.96% respectively between 2002 and 2017. Furthermore, on average, price movements were generally sideways and with some smaller fluctuations until the end of 2007, after which they escalated during 2008 with decreases during 2009, with the exception of KCL. During the period under review, MAP and Urea Granular (46) reached their peak in 2008 while KCL had the highest price in 2009. The price of KCL, MAP and Urea Granular (46) decreased by 16.2%, 13.6% and 9% respectively between 2016 and 2017.

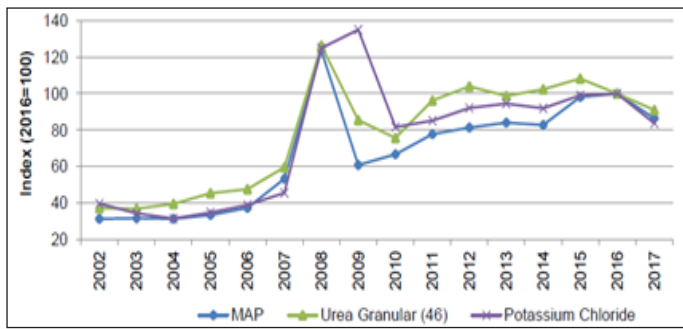


Figure 15: Local fertiliser price trends (2002–2017)

Source: Grain SA (2018) and own calculations

3.4.2 Administered and regulated prices

An administered price is defined as the price of a product that is set consciously by an individual producer or group of producers and/or any price that can be determined or influenced by government, either directly or through a government agency/institution without reference to market forces.

Examples of administered prices are the following:

- Housing (assessment rates, sanitary fees, refuse removal, water, electricity and paraffin)
- Transport (petrol, public transport – trains, motor licences and motor vehicle registration)
- Communication (telephone fees, postage, cellphone calls)
- Recreation and culture (television licence)
- Education (school fees and university, technikon and college fees)
- Restaurants and hotels (university boarding fees).

Regulated prices are those administered prices that are monitored and controlled by government policy. To this end, price regulation does not necessarily imply the presence of an economic regulator, but a restriction on the extent to which prices may vary, depending on government’s policy objective.

Examples of administered prices that are regulated are the following:

- Housing (water, electricity and paraffin)
- Transport (petrol)
- Communication (telephone fees, postage, cellphone calls)

Transport

International crude oil prices

Crude oil is not only the primary feedstock for fuels that transport everything around the globe, but also a feedstock to many items along the supply chain. Crude oil prices affect food value chains in several complex ways, from influencing the prices of primary agricultural inputs, to inputs used in value-addition processes (e.g., packaging) to the distribution of food. Trends in the crude oil price are therefore an important indicator of trends in prices throughout the food value chain.

The movement of the crude oil price from 2002 to 2017 as illustrated in Figure 16. Crude oil was valued at US\$24.89/barrel in 2002 where it increased at a decreasing rate until it rocketed in the early part of 2007 and reached an average price of US\$97.55/barrel in 2008. However, crude oil prices decreased significantly by 36.7% to US\$61.80/barrel in 2009 compared to 2008.

The International Energy Agency (IEA) (2009) reported that the price of oil depends on a multitude of global economic factors, such as economic growth, future demand and supply of oil, and speculation in the oil market. Tighter credit availability, the slowdown in economic activity as a result of the global financial and economic crises and less speculation in the oil market were the reasons provided by the IEA for the significant drop in oil prices since mid-2008. Nevertheless, this downward trend did not continue during 2011 and the crude oil price increased by 79.9% on an average annual basis. During the same year, 2011, the average crude oil price surpassed the peak of US\$111.15/barrel. According to the IEA (2013), supply shortfalls during 2012 caused by the Libyan civil war, international sanctions against Iran and unplanned non-OPEC output stoppages forced the price past the 2008 peak.

The situation has improved in the levels of supply from the USA and Iraq and includes some recovery in Libyan supply during 2012. On the demand side, the global economic recovery lost momentum and there are signs that China’s demand is reducing. During 2013 the crude oil price decreased by only 0.9%. In 2014 the price of crude oil had a significant decrease of 9%. The combination of robust world crude oil supply growth and weak global demand contributed to rising global inventories and falling crude oil prices. The influx of US oil meant that major exporters, including Saudi Arabia, Nigeria and Algeria, have had to compete for new markets. This led to producers being forced to discount prices in the new competitive landscape. World oil supply stayed higher than world oil

demand throughout 2015 after similar conditions started at the beginning of 2014. This led to further decreases in the oil price. Demand slowed down in Europe, China and the US. The crude oil price increased by 119.89% between 2002 and 2017. The crude oil price showed an increase of 21.69% from 2016 to 2017. The average value of crude oil was US\$54.73/barrel in 2017.

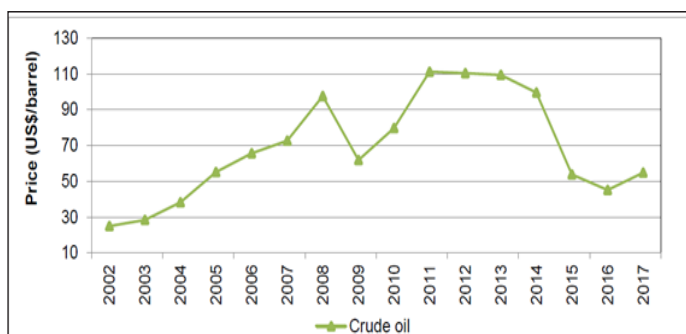


Figure 16: Crude oil price (2002–2017)

Source: Grain SA (2018)

Domestic fuel and transport costs

Fuel makes a significant contribution to the variable costs of primary agricultural production, as well as food distribution costs. The crude oil price and 0.05% sulphur diesel price trends in Gauteng and at the coast between 2002 and 2017 are illustrated in Figure 17. The movement of the international oil price, taxes and levies, and the instability of the exchange rate, affect the local price of diesel. From 2002 to 2017, the local prices of the 0.05% sulphur diesel in Gauteng, 0.05% sulphur diesel at the coast and crude oil (\$/barrel) has increased by 227.96%, 227.6% and 120.4%, respectively. The diesel price peaked in 2008, achieving an average price of R9.27/ℓ, with R9.34/ℓ in Gauteng and R9.20/ℓ at the coast. The average diesel price, however, decreased significantly during 2009 (-29.47%). Over the same period, the crude oil price decreased by 36.65%. These peaks in the price of diesel were surpassed during 2013 and 2014 when the average diesel price amount to R11.86/ℓ and R12.55/ℓ.

Price trends for the items depicted between 2016 and 2017 were as follows: the crude oil price, 0.05% sulphur diesel at the coast and 0.05% sulphur diesel in Gauteng increased by 21.69% (\$/barrel), 10.56% (R/ℓ) and 10.35% (R/ℓ) respectively.

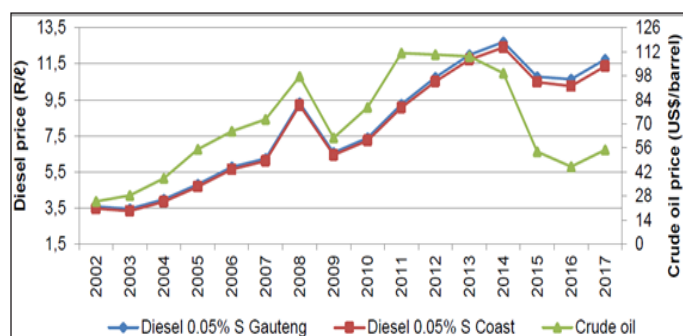


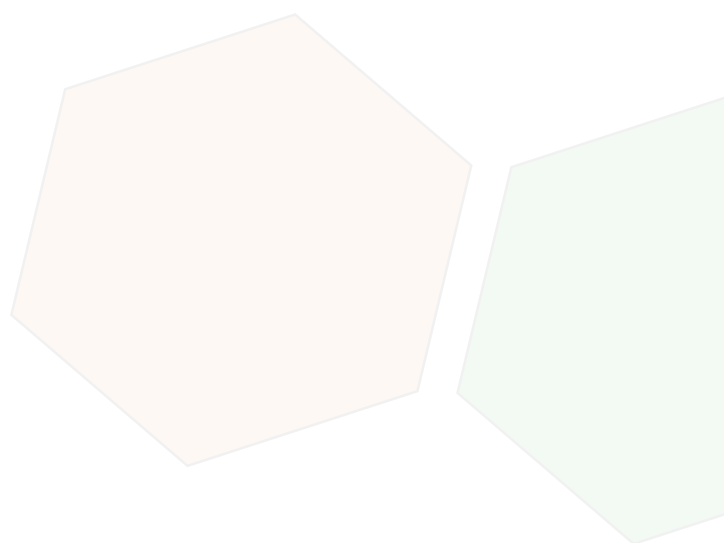
Figure 17: Diesel prices in Gauteng and at the coast (2002–2017)

Source: South African Petroleum Industry Association (SAPIA) (2018) and Grain SA (2018)

Transport and logistical costs account for a substantial portion of the overall cost of food. The diverse nature, location and size of the various agricultural value chains from farm gate to consumer present a highly complex transport matrix. Furthermore, there is a perception that food prices are driven up by high fuel prices, but never come down when fuel prices drop. Cognisance should be taken of the fact that there are also other cost drivers that affect transport and logistical costs.

Based on the National Freight Database (NFD), three vehicle categories were chosen to represent vehicles typically used to transport agricultural products and livestock. The NFD categorises vehicles by their number of axles. This method is similar to that applied in the calculation of toll road fees.

Figure 18 illustrates the vehicle cost composition over time for different sized vehicles¹. Fixed costs include depreciation, cost of capital, licence, insurance and wages. Running costs include fuel, oil, maintenance, tyres and incidental costs. The sum of the fixed and running costs is the total operational cost.



¹ Assumptions: 1 – 85 000 km per annum, 260 work days, 8-ton payload and estimated economical life of 8 years.
2 – 180 000 km per annum, 286 work days, 28-ton payload and estimated economical life of 5 years.
3 – 200 000 km per annum, 286 work days, 36-ton payload and estimated economical life of 4 years.

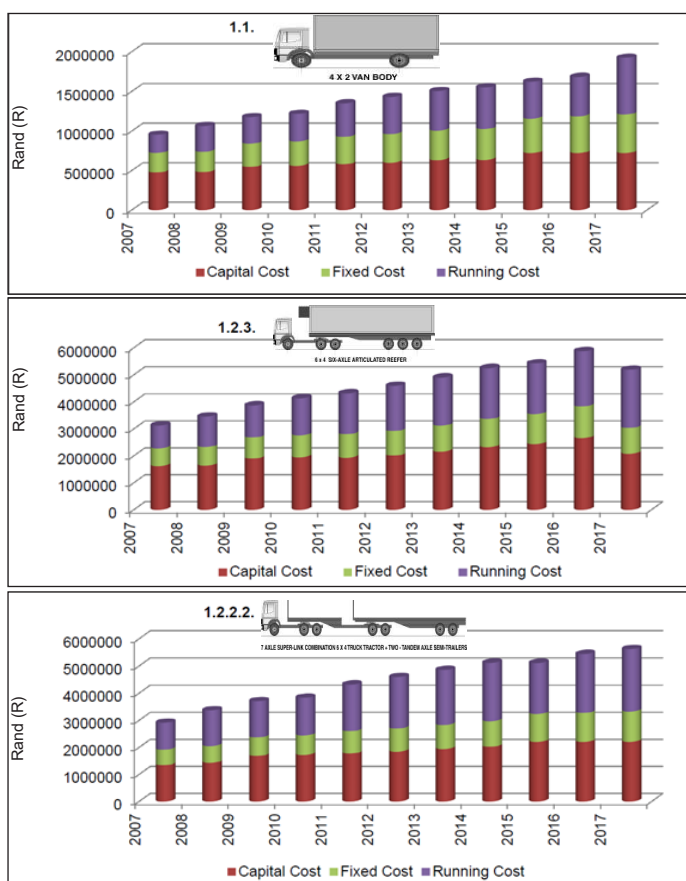


Figure 18: Vehicle costs over time for different sized vehicle (2007–2017)

Source: FleetWatch (2018)

Table 8: Vehicle cost changes from 2007 to 2017

2-axle vehicles	6-axle vehicles	7-axle vehicles
Capital cost: 52.14%	Capital cost: 28.18%	Capital cost: 64.41%
Fixed cost: 95.82%	Fixed cost: 45.43%	Fixed cost: 94.01%
Running cost: 210.89%	Running cost: 155.91%	Running cost: 131.88%

Source: Own calculations based on FleetWatch (2018)

Energy

Eskom is not only the major energy supplier in South Africa, but also in Africa at large. Eskom generates approximately 95% of the electricity used in South Africa, and about 45% in Africa (Eskom, 2017). Figure 19 illustrates the average price (c/kWh) of electricity that Eskom transmits and distributes to industrial, mining, commercial, agricultural, residential customers and redistributors compared with the average price at international level. Between the financial years of 2004/05 and 2009/10, the average price (c/kWh) in the residential sector was expensive or highest compare with other sectors. The residential sector utilised electricity at an average price of 38.70c/kWh and 63.98c/kWh from 2003 to 2009/10 respectively. During 2010/11, the agricultural sector overlapped the residential sector. Since then, the agricultural sector was the industry that purchased electricity at the highest price until the 2016/17 financial year. The agricultural sector utilised electricity at an average price of 141.70c/kWh in 2016/17.

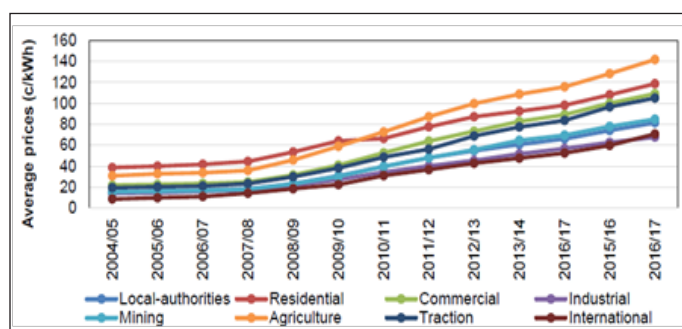


Figure 19: Average price (c/kWh) sold to different sectors

Source: Eskom (2018)

Figure 20 depicts the trend between the change in average Eskom price and annual inflation rate between 2007 and 2017. There was a fluctuation movement between the two variables, tariff and CPI headline, during the period under review. Between 2007 and 2017, Eskom tariffs decreased by 0.54%. In 2011, Eskom tariffs increased by 32.08% compared to 2010. In 2017, they increased by 8.48% compared to 2016.

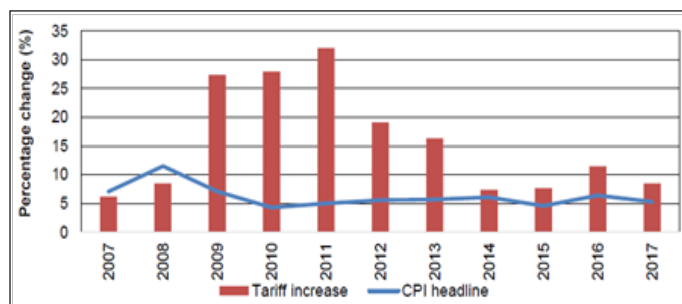


Figure 20: Eskom tariff changes

Source: National Energy Regulator of South Africa (NERSA) (2018) & Stats SA (2018)

Labour

Promoting and creating quality jobs is regarded as one of the key priorities for the South African economy. Figure 21 illustrates the regulated minimum wages for primary agriculture in South Africa. This minimum wage is always revised during March of the year. The minimum wage for farmworkers in 2008 was recorded as R1 090/month. Since 2012, it increased slightly; however, the minimum wage from 2012 to 2013 increased drastically by 51.2%. In 2017, the minimum wage was reported to be R3 001.13/month.

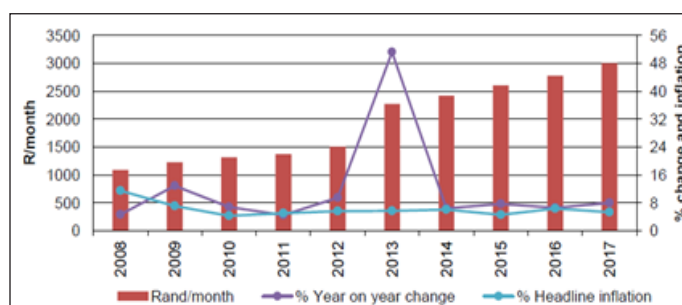


Figure 21: Minimum wages (2008–2018)

Source: Department of Labour (DoL) (2018)

4. INFLATIONARY TRENDS FOR SELECTED FOODSTUFFS

4.1 Food and non-alcoholic beverages

The average overall South African food and non-alcoholic beverages inflation rate for 2017 reached 7%, compared to the average rate in 2016 of 10.5%. Figure 22 presents the food and non-alcoholic beverage index and rate of change from January 2013 to December 2017.

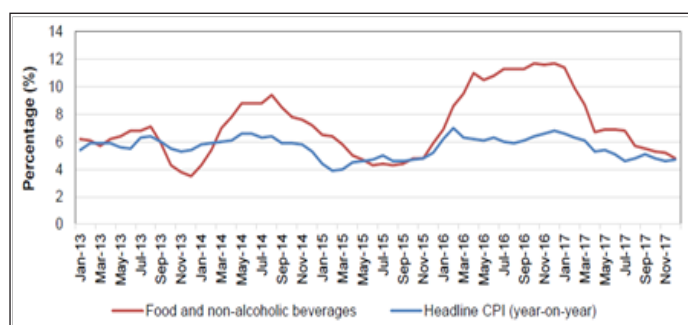


Figure 22: CPI rate of change for food and non-alcoholic beverages
Source: Stats SA (2018)

The food inflation indices for the nine provinces of the country are shown in Figure 23. Provincially, the Western Cape Province experienced the highest annual food inflation increase (5.3%), between December 2016 and December 2017. This was followed by the Gauteng (4.8%) and Eastern Cape (4.6%) provinces.

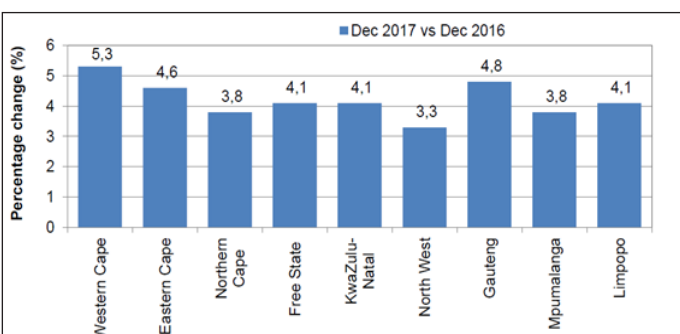


Figure 23: CPI for food and non-alcoholic beverages in the different provinces of South Africa
Source: Stats SA (2018)

The indices for the different food CPI components are shown in Figure 24. It is evident that the meat category had the largest percentage increase (14%) from 2016 to 2017, followed by unprocessed foods (6.3%) and milk, eggs and cheese (4.8%). The largest decrease was in the bread and cereals category (-5%).

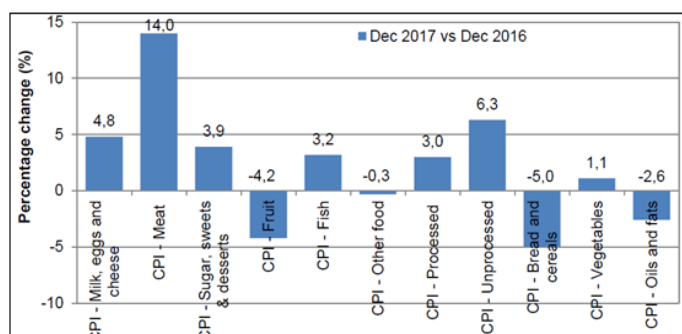


Figure 24: CPI for different food groups
Source: Stats SA (2018)

4.2 Urban food price trends

This section provides insights pertaining to the average retail prices of specific food items in urban areas for 2017 and how they compared with the retail prices of the period from 2015 to 2016.

Selected retail prices for wheat products are shown in Table 9. On average, the retail price of wheat products decreased by 2.38% between 2016 and 2017. The price of a 700g loaf of brown bread increased by 2.8% and of a 700g loaf of white bread by 2.07% respectively during the same period.

Table 9: Average annual retail prices for certain wheat products

Wheat Products	Price Level			Percentage Change	
	2015	2016	2017	2016-17	2015-16
Cake flour 1kg	12.17	12.37	12.71	2.77%	1.67%
Cake flour 2.5kg	22.63	26.14	26.01	-0.48%	15.48%
Cake flour 5kg	47.55	54.29	55.19	1.64%	14.18%
Loaf of brown bread 600g	6.45	6.61	6.86	3.74%	2.55%
Loaf of brown bread 700g	10.60	11.77	12.10	2.80%	11.03%
Loaf of brown bread 800g	13.27	14.66	15.26	4.15%	10.42%
Loaf of white bread 600g	7.26	7.69	7.88	2.43%	5.84%
Loaf of white bread 700g	11.77	12.97	13.24	2.07%	10.18%
Loaf of white bread 800g	10.50	11.74	5.50	-53.15%	11.80%
Macaroni 500g	10.73	12.09	12.59	4.21%	12.64%
Spaghetti 500g	11.04	12.39	12.85	3.70%	12.21%
Average				-2.38%	9.82%
Wheat (R/ton)	4 042.22	4 445.55		-5.22%	9.98%

Source: Stats SA (2018)



Selected retail prices for maize products are shown in **Table 10**. On average, the retail price for 2.5kg special maize decreased by 3.39% in 2017. The average price of 2.5kg super maize decreased by 4.48% during the same period.

Table 10: Average annual retail prices maize products

Maize Products	Price Level			Percentage Change	
	2015	2016	2017	2016-17	2015-16
Special maize 10kg		81.32	77.07	-5.23%	
Special maize 1kg	6.25	10.25	10.00	-2.44%	64.06%
Special maize 2.5kg	14.94	23.65	22.85	-3.39%	58.30%
Super maize 10kg	8.88	11.70	11.60	-0.84%	31.77%
Super maize 2.5kg	19.95	26.85	25.64	-4.48%	34.55%
Super maize 5kg	36.08	49.20	45.98	-6.56%	36.38%
Average				-4.75%	45.01%
Yellow maize (R/ton)	2 661.05	3 360.42		-35.59%	26.28%
White maize (R/ton)	2 925.30	4 396.11		-52.06%	50.28%

Source: Stats SA (2018)

Table 11 shows the retail prices for oils and fats between 2015 and 2017. Margarine spread (500g) increased by 10.06% between 2016 and 2017, compared to the 8.23% increase in 2015–2016. Sunflower oil (750ml) decreased by 1.31% during the same period.

Table 11: Average annual retail prices sunflower products

Sunflower Products	Price Level			Percentage Change	
	2015	2016	2017	2016-17	2015-16
Brick margarine 125g	7.59	8.38	8.39	0.12%	10.45%
Brick margarine 1kg	39.26	41.37	43.08	4.14%	5.36%
Brick margarine 250g	12.01	13.37	14.02	4.86%	11.35%
Brick margarine 500g	19.61	21.52	22.24	3.35%	9.75%
Margarine spread 1kg	37.42	40.28	40.63	0.88%	7.66%
Margarine spread 500g	22.25	24.08	26.50	10.06%	8.23%
Sunflower oil 2ℓ	34.85	45.86	41.87	-8.69%	31.60%
Sunflower oil 500ml	13.56	16.58	14.63	-11.73%	22.27%
Sunflower oil 750ml	18.45	22.48	22.19	-1.31%	21.88%
Average				0.19%	14.28%
Sunflower seed (R/ton)	5 625.36	6 535.17	4 694.07	-28.17%	16.17%

Source: Stats SA (2018)

Table 12 shows the retail prices for processed vegetables between 2015 and 2017. Tinned baked beans (225g) increased by 9.52% between 2016 and 2017. Dried beans (1kg) increased by 17.67% during the same period.

Table 12: Average annual retail prices processed vegetables products

Processed Vegetables	Price Level			Percentage Change	
	2015	2016	2017	2016-17	2015-16
Baked beans - tinned 225g	7.58	7.98	8.74	9.52%	5.24%
Baked beans - tinned 410g	8.45	8.85	9.42	6.44%	4.67%
Beans - dried 1kg	28.72	33.18	39.04	17.67%	15.51%
Beans - dried 2kg	48.37	56.91	63.03	10.75%	17.65%
Beans - dried 500g	15.28	17.65	19.63	11.20%	15.55%
Average				11.12%	11.95%

Source: Stats SA (2018)

Table 13 shows the average retail prices for selected fresh vegetables. Potatoes (fresh, 10kg) showed the largest price increase of 29.75%. The average retail price of fresh cabbage increased by 6.61%, while onions per kg decreased by 12.44%, between 2016 and 2017.

Table 13: Average annual retail prices for certain food items in the vegetable group

Fresh Vegetables	Price Level			Percentage Change	
	2015	2016	2017	2016-17	2015-16
Avocado - per kg*	18.06	22.86	26.74	17.00%	26.56%
Beetroot - fresh per kg	10.82	12.48	12.64	1.29%	15.29%
Cabbage - fresh each	11.60	13.82	13.75	-0.50%	19.12%
Cabbage - fresh per kg	11.13	11.38	12.13	6.61%	2.21%
Carrots - fresh per kg	14.45	10.72	9.75	-9.11%	-25.79%
Cauliflower - fresh per kg	41.75	28.58	35.06	22.70%	-31.55%
Onions - fresh per kg	9.92	13.47	11.80	-12.44%	35.82%
Potatoes - fresh 10kg	23.70	42.39	55.00	29.75%	78.86%
Potatoes - fresh per kg	9.70	12.91	11.66	-9.66%	33.09%
Pumpkin - fresh per kg	16.68	12.09	11.87	-1.81%	-27.50%
Spinach/Morogo - fresh per kg	35.62	25.40	22.72	-10.56%	-28.69%
Sweetcorn/Baby Corn/Mielies*	16.62	19.72	19.75	0.13%	15.50%
Sweet potatoes - fresh per kg	15.83	18.86	18.48	-2.04%	19.18%
Tomatoes - fresh per kg	18.94	17.45	16.65	-4.59%	-7.87%
Average				1.91%	9.12%

Source: Stats SA (2018) and Nielsen* (2018)

Table 14 shows the retail prices of selected processed and unprocessed meat products from 2015 to 2017. On average, the retail prices for the different meat cuts increased by 10.07% between 2016 and 2017. The average retail price of beef chuck per kg increased by 16.17% from 2016 (R70.62/kg) to 2016 (R82.04/kg). The average retail price of fresh chicken portions and whole chicken per kg increased by 5.5% and 5.77% respectively.

Table 14: Average annual retail prices for certain items of processed and unprocessed meat

Processed & Unprocessed Meat	Price Level			Percentage Change	
	2015	2016	2017	2016-17	2015-16
Bacon per kg		33.03	34.14	3.35%	
Bacon 250g	126.19	101.57	110.87	9.16%	-19.51%
Beef brisket - fresh per kg	64.03	69.10	80.16	16.00%	7.92%
Beef chuck - fresh per kg	65.20	70.62	82.04	16.17%	8.32%
Beef mince - fresh per kg	66.60	69.01	76.21	10.43%	3.63%
Beef rump steak - fresh per kg	107.10	114.70	124.98	8.96%	7.10%
Beef T-bone - fresh per kg	82.43	87.83	97.61	11.14%	6.55%
Chicken portions - fresh per kg	51.21	53.75	56.70	5.50%	4.96%
Chicken portions - frozen average per kg	28.98	28.75			-0.80%
Lamb - fresh per kg	111.06	122.07	129.15	5.80%	9.91%
Lamb - leg per kg	104.20	115.20	128.76	11.77%	10.55%
Lamb - loin chop per kg	121.51	131.62	145.77	10.75%	8.32%
Lamb - neck per kg	88.22	93.86	106.36	13.32%	6.39%
Lamb - rib chop per kg	113.50	126.46	141.25	11.69%	11.42%
Lamb - saddle chop per kg	117.54	128.94			9.70%
Polony per kg	35.45	39.31	42.59	8.35%	10.88%
Pork - ribs per kg	71.19	73.53	81.94	11.43%	3.29%
Pork chops - fresh per kg	70.04	71.43	79.66	11.52%	1.98%
Whole chicken - fresh per kg	39.56	41.83	44.25	5.77%	5.74%
Average				10.07%	5.35%

Source: Stats SA (2018)

Table 15 indicates that retail prices of eggs and dairy products increased by 4% between 2016 and 2017, with 2.5 dozen eggs showing the largest annual increase of 10.13%.

Table 15: Average annual retail prices for certain food items in the eggs and dairy group

Eggs and Dairy Products	Price Level			Percentage Change	
	2015	2016	2017	2016-17	2015-16
Cheddar cheese per kg	119.52	98.75	103.06	4.36%	-17.38%
Eggs 0.5 dozen	12.82	14.44	14.95	3.58%	12.58%
Eggs 1 dozen		21.75	22.33	2.67%	
Eggs 1.5 dozen	34.65	36.91	39.06	5.83%	6.50%
Eggs 2.5 dozen	44.91	49.09	54.07	10.13%	9.31%
Full-cream milk - fresh 1ℓ	12.13	12.96	13.80	6.46%	6.87%
Full-cream milk - fresh 2ℓ	23.29	25.00	25.74	2.95%	7.34%
Full-cream milk - fresh 500mℓ	8.74	9.51	10.01	5.23%	8.76%
Full-cream milk - long life 1ℓ	12.77	13.43	13.94	3.77%	5.19%
Full-cream milk - long life 500mℓ	8.35	8.80	8.80	-0.09%	5.39%
Low-fat milk - fresh 1ℓ	13.38	14.36	15.20	5.89%	7.32%
Low-fat milk - long life 1ℓ	12.68	13.30	13.81	3.83%	4.90%
Powdered milk 250g	36.03	37.88	37.99	0.27%	5.14%
Powdered milk 400g	55.37	60.71	63.27	4.21%	9.65%
Powdered milk 500g	51.78	54.18	53.88	-0.55%	4.63%
Powdered milk 900g	122.21	130.59	137.66	5.42%	6.86%
Average				4.00%	5.54%

Source: Stats SA (2018)

As shown in Table 16, the average retail prices of apples and bananas increased by 5.52% and 7.08% respectively between 2016 and 2017. The retail price of oranges increased by 6.83% between 2016 and 2017.

Table 16: Average annual retail prices for fruit

Fruits	Price Level			Percentage Change	
	2015	2016	2017	2016-17	2015-16
Apples - fresh per kg	16.80	17.59	18.56	5.52%	4.72%
Bananas - fresh per kg	12.76	14.18	15.18	7.08%	11.14%
Grapes - per kg*	28.88	32.67	32.28	-1.20%	13.10%
Mango - per kg*	18.12	22.52	25.85	14.81%	24.26%
Oranges - fresh per kg	8.37	16.75	17.90	6.83%	100.08%
Peaches - per kg*	20.99	24.11	25.98	7.75%	14.88%
Pears - per kg*	16.18	18.09	18.43	1.88%	11.76%
Pineapples - per kg*	14.27	19.58	17.36	-11.31%	37.25%
Plums - per kg*	21.04	24.76	25.10	1.39%	17.66%
Watermelon - per kg*	28.07	30.17	29.79	-1.27%	7.51%
Average				3.15%	24.24%

Source: Stats SA (2018) and Nielsen* (2018)



The prices of selected fish products for 2015–2017 are presented in Table 17. The retail price of tinned fish (excluding tuna) for 115g increased by 6.66%, in 2017. The average retail price of tinned tuna (170g) increased by 10.72% during the same period.

Table 17: Average annual retail prices for certain food items in the fish group

Fish Products	Price Level			Percentage Change	
	2015	2016	2017	2016-17	2015-16
Fish (excl. tuna) - tinned 155g	9.13	9.95	10.61	6.66%	8.98%
Fish (excl. tuna) - tinned 215g	11.35	12.91	13.61	5.45%	13.78%
Fish (excl. tuna) - tinned 400g	16.23	17.28	17.57	1.67%	6.44%
Fish (excl. tuna) - tinned 425g	15.08	16.34	16.30	-0.24%	8.34%
Tuna - tinned 170g	15.76	16.20	17.94	10.72%	2.81%
Average				4.85%	8.07%

Source: Stats SA (2018)

Various other products are shown in Table 18. The average retail prices of 1kg and 5kg white sugar increased by 14.04% and 15.93% respectively between 2016 and 2017. When comparing sugar prices between 2015 and 2016, increases of 13.23% and 19.78% were reported for 1kg and 5kg of white sugar respectively. The retail price of instant coffee 750g increased by 0.34% between 2016 and 2017, compared with the 11.93% reported in 2015–2016. The retail prices of 62.5g and 200g Ceylon/black tea increased by 15.66% and 25.25% respectively during the same period.

Table 18: Average annual retail prices for certain other food items

Other Products	Price Level			Percentage Change	
	2015	2016	2017	2016-17	2015-16
Cold Cereals 375g	30.52	32.52	35.56	9.35%	6.55%
Cold Cereals 400g	31.10	31.19	34.62	11.00%	0.28%
Cold Cereals 450g	22.84	25.57	25.61	0.16%	11.92%
Cold Cereals 500g	29.10	30.77	32.60	5.92%	5.76%
Cold Cereals 750g	39.37	42.53	44.72	5.14%	8.03%
Ceylon/black tea 125g	18.10	23.55	24.82	5.41%	30.13%
Ceylon/black tea 200g		13.94	17.46	25.25%	
Ceylon/black tea 250g	23.90	27.88	31.56	13.18%	16.63%
Ceylon/black tea 500g	44.33	50.50	55.58	10.07%	13.90%
Ceylon/black tea 62.5g	10.45	12.37	14.31	15.66%	18.39%
Instant coffee 100g	25.75	27.73	26.98	-2.69%	7.68%
Instant coffee 200g	67.16	74.13	80.94	9.18%	10.38%
Instant coffee 250g	30.57	33.72	35.54	5.39%	10.30%
Instant coffee 500g	46.28	48.48	54.89	13.24%	4.76%
Instant coffee 750g	69.98	78.33	78.59	0.34%	11.93%
Peanut butter 400g	22.74	24.77	27.61	11.50%	8.92%
Peanut butter 800g	43.34	47.05	50.91	8.20%	8.56%
Rice 10kg	110.40	111.10	113.90	2.52%	0.63%
Rice 1kg	16.03	17.20	18.62	8.28%	7.30%
Rice 2kg	23.49	25.15	26.04	3.56%	7.05%
Rice 500g	7.62	7.96	8.21	3.19%	4.38%
Rice 5kg	58.74	63.43	65.86	3.82%	7.98%
White sugar 10kg	112.57	139.10	159.11	14.38%	23.56%
White sugar 1kg	14.42	16.33	18.62	14.04%	13.23%
White sugar 2.5kg	27.98	33.49	38.65	15.39%	19.71%
White sugar 250g	4.46	5.02	5.48	9.08%	12.53%
White sugar 2kg	22.08	26.39	28.99	9.87%	19.49%
White sugar 500g	7.75	9.03	10.19	12.83%	16.56%
White sugar 5kg	58.42	69.97	81.12	15.93%	19.78%
Average				8.94%	11.65%

Source: Stats SA (2018)



4.3 Rural food price trends

This section provides insight into the average prices of specific food items in rural areas for 2015 to 2017.

Table 19 shows that in 2017, consumers in rural areas paid 3.55% more, on average, for a loaf of brown bread (700g) and 4.42% more for a loaf of white bread (700g) than they did in 2016.

Table 19: Average annual retail prices for wheat products in rural areas

Wheat Products	Price Level			Percentage Change	
	2015	2016	2017	2016-17	2015-16
Loaf of white bread 600g	8.74	9.54	10.06	5.38%	9.21%
Loaf of white bread 700g	9.98	11.00	11.49	4.42%	10.20%
Loaf of brown bread 600g	8.95	9.97	10.43	4.59%	11.45%
Loaf of brown bread 700g	10.94	12.02	12.44	3.55%	9.84%
Average				4.48%	10.17%

Source: Stats SA (2018)

Selected rural retail prices for maize products are shown in Table 20. On average, the rural retail price for 2.5kg special maize increased by 2.66% between 2016 and 2017. The price of 2.5kg super maize increased by 0.48% during the same period.

Table 20: Average annual retail prices for maize products in rural areas

Maize Products	Price Level			Percentage Change	
	2015	2016	2017	2016-17	2015-16
Special maize 1kg	6.71	9.84	10.17	3.43%	46.59%
Special maize 2.5kg	15.29	22.54	23.14	2.66%	47.44%
Special maize 5kg	29.34	41.76	39.86	-4.56%	42.33%
Super maize 1kg	9.15	11.47	12.06	5.15%	25.37%
Super maize 2.5kg	19.76	25.48	25.60	0.48%	28.93%
Super maize 5kg	35.21	48.01	47.63	-0.79%	36.33%
Average				1.06%	37.83%

Source: Stats SA (2018)

The average prices of 500mℓ sunflower oil, 500g margarine spread and 500g brick margarine increased by 4.95%, 18.04% and 3.78% respectively between 2016 and 2017 (Table 21).

Table 21: Average annual retail prices for oils and fats in rural areas

Sunflower Products	Price Level			Percentage Change	
	2015	2016	2017	2016-17	2015-16
Brick margarine 125g	8.36	8.78	9.35	6.55%	5.08%
Brick margarine 250g	12.18	13.57	14.65	7.96%	11.36%
Brick margarine 500g	19.13	21.66	22.48	3.78%	13.25%
Margarine 1kg	34.64	39.06	39.95	2.29%	12.75%
Margarine 125g	8.06	9.09	7.12	-21.73%	12.83%
Margarine 250g	11.84	12.03	14.45	20.17%	1.60%
Margarine 500g	19.44	20.69	24.42	18.04%	6.41%
Sunflower oil 2ℓ	33.75	42.14	40.25	-4.47%	24.83%
Sunflower oil 500mℓ	12.47	13.94	14.63	4.95%	11.80%
Sunflower oil 750mℓ	15.26	17.90	17.67	-1.27%	17.30%
Average				3.63%	11.72%

Source: Stats SA (2018)

Consumers in rural areas paid 2.75% and 3.92% more, respectively, for full-cream fresh (1ℓ) and full-cream long-life (1ℓ) milk. The price of half a dozen eggs increased by 7.13% between 2016 and 2017 (Table 22).

Table 22: Average annual retail prices for dairy products in rural areas

Dairy Products	Price Level			Percentage Change	
	2015	2016	2017	2016-17	2015-16
Eggs 0.5 dozen	8.66	9.03	9.67	7.13%	4.29%
Full-cream milk - fresh 1ℓ	12.00	12.76	13.11	2.75%	6.33%
Full-cream milk - fresh 2ℓ	24.03	25.51	26.07	2.18%	6.16%
Full-cream milk - fresh 500mℓ	8.72	9.21	9.90	7.53%	5.59%
Full-cream milk - long life 1ℓ	13.54	13.99	14.54	3.92%	3.31%
Full-cream milk - long life 500mℓ	9.45	9.94	10.24	3.09%	5.18%
Low-fat milk - fresh 1ℓ	13.37	15.00	15.11	0.69%	12.20%
Low-fat milk - fresh 2ℓ	24.55	26.51	27.07	2.09%	7.99%
Average				3.67%	6.38%

Source: Stats SA (2018)

Table 23 shows the prices of Ceylon/black tea and instant coffee paid by consumers in rural areas for the period 2015–2017. On average, the price of 250g Ceylon/black tea and 250g instant coffee increased by 5.73% and 6.65% respectively.



Table 23: Average annual retail prices for tea and coffee in rural areas

Tea and Coffee	Price Level			Percentage Change	
	2015	2016	2017	2016-17	2015-16
Ceylon/black tea 125g	14.79	17.61	20.34	15.52%	19.06%
Ceylon/black tea 200g	18.18	22.37	27.45	22.68%	23.07%
Ceylon/black tea 250g	24.43	27.16	28.72	5.73%	11.17%
Ceylon/black tea 62.5g	9.74	11.22	12.20	8.75%	15.24%
Instant Coffee 100g	16.70	17.73	19.15	8.05%	6.15%
Instant Coffee 250g	32.52	35.27	37.62	6.65%	8.48%
Instant Coffee 750g	69.98	78.61	79.40	1.00%	12.33%
Average				9.77%	13.64%

Source: Stats SA (2018)

Table 24 shows the average retail prices of dried beans paid by consumers in rural areas in 2015–2017. The price of 1kg dried beans increased by 7.31% during the depicted period.

Table 24: Average annual retail prices for beans in rural areas

Beans	Price Level			Percentage Change	
	2015	2016	2017	2016-17	2015-16
Beans Dried 1kg	26.81	30.25	32.46	7.31%	12.82%
Beans Dried 2kg	47.09	53.05	49.78	-6.16%	12.66%
Beans Dried 500g	14.88	16.14	16.60	2.85%	8.42%
Average				1.33%	11.30%

Source: Stats SA (2018)

The retail prices of sugar in the rural areas showed increases of 16.4%, 13.46% and 8.37% for 1kg, 2.5kg and 500g of white sugar respectively between 2016 and 2017 (Table 25).

Table 25: Average annual retail prices of sugar in rural areas

Sugar	Price Level			Percentage Change	
	2015	2016	2017	2016-17	2015-16
White sugar 1kg	14.25	16.32	19.00	16.40%	14.54%
White sugar 2.5kg	31.71	36.56	41.48	13.46%	15.28%
White sugar 500g	69.90	82.81	89.74	8.37%	18.47%
Average				12.75%	16.10%

Source: Stats SA (2018)

The average retail prices of meat and fish in rural areas increased by 13.85%, 53.2% and 10.1% respectively for beef chuck per kg, fresh chicken portions per kg and tinned fish (excl. tuna) 425g, between 2016 and 2017 (Table 26).

Table 26: Average annual retail prices of meat and fish in rural areas

Meat and Fish	Price Level			Percentage Change	
	2015	2016	2017	2016-17	2015-16
Beef brisket - fresh per kg	62.91	68.31	78.00	14.19%	8.58%
Beef chuck - fresh per kg	64.58	68.54	78.03	13.84%	6.14%
Beef fillet - fresh per kg		127.72	144.89	13.44%	7.95%
Beef rump steak - fresh per kg	92.26	98.25	105.80	7.68%	6.49%
Beef T-bone - fresh per kg	76.94	84.19	92.62	10.02%	9.42%
Chicken portions - fresh per kg	10.25	11.71	17.94	53.20%	14.23%
Chicken portions - fresh 2kg	55.00	57.55			4.63%
Chicken portions - frozen per kg	18.97	20.96			10.46%
Chicken portions - frozen 2kg	50.35	50.63			0.57%
Fish (excl. tuna) - tinned 155g	8.74	10.15	10.82	6.60%	16.14%
Fish (excl. tuna) - tinned 425g	16.00	16.50	18.17	10.10%	3.13%
Average				16.14%	7.98%

Source: Stats SA (2018)

On average, the rural retail price of various rice packages increased by 4.74% between 2016 and 2017 (Table 27).

Table 27: Average annual retail prices of rice in rural areas

Rice	Price Level			Percentage Change	
	2015	2016	2017	2016-17	2015-16
Rice 1kg	14.22	14.97	15.82	5.64%	5.29%
Rice 2kg	23.72	25.03	25.47	1.75%	5.55%
Rice 500g	7.81	8.21	8.78	6.83%	5.14%
Average				4.74%	5.33%

Source: Stats SA (2018)

On average, the rural retail price of peanut butter (270g) increased by 13.41% between 2016 and 2017 (Table 28).

Table 28: Average annual retail prices of peanut butter in rural areas

Peanut Butter	Price Level			Percentage Change	
	2015	2016	2017	2016-17	2015-16
Peanut butter 270g	18.93	20.38	23.11	13.41%	7.64%
Peanut butter 400g	24.26	25.90	29.26	12.95%	6.77%
Peanut butter 800g	41.68	45.80	53.57	16.97%	9.90%
Average				14.44%	8.10%

Source: Stats SA (2018)

Table 29 shows that the average rural retail price of sorghum meal increased by 15.53% between 2016 and 2017.

Table 29: Average annual retail prices of sorghum meal in rural areas

Rice	Price Level			Percentage Change	
	2015	2016	2017	2016-17	2015-16
Sorghum meal (e.g. Mabella) 1kg	14.77	16.08	18.57	15.53%	8.85%
Average				15.53%	8.85%

Source: Stats SA (2018)

As shown in Table 30, the average retail prices of apples and bananas fresh per kg increased by 7.59% and 4.97% respectively between 2016 and 2017. The retail prices of potatoes and onions decreased by 8.69% and 6.55% respectively between 2016 and 2017.

Table 30: Average annual retail prices for fruit and vegetables in rural areas

Fruit and Vegetables	Price Level			Percentage Change	
	2015	2016	2017	2016-17	2015-16
Apples - fresh per kg	14.90	16.94	18.23	7.59%	13.73%
Bananas - fresh per kg	10.39	14.04	14.73	4.97%	35.16%
Cabbage - fresh per kg		12.31	12.32	0.12%	
Onions - fresh per kg	9.57	12.16	11.36	-6.55%	27.12%
Oranges - fresh per kg	11.40	14.91	17.45	17.00%	30.78%
Potatoes - fresh per kg	9.84	12.83	11.72	-8.69%	30.35%
Potatoes - fresh 10kg	46.35	66.41	54.70	-17.63%	43.27%
Tomatoes - fresh per kg	16.76	18.01	17.65	-1.99%	7.44%
Average				-0.65%	26.84%

Source: Stats SA (2018)

4.4 Comparison between rural and urban food prices

Figure 25 compares urban and rural prices from 2016 to 2017. On average, the cost of an urban food basket was higher than that of the rural food basket. This basket consists of: full-cream milk – long life (1ℓ), a loaf of brown bread (700g), a loaf of white bread (700g), special maize meal (2.5kg), super maize meal (2.5kg), margarine spread (500g), peanut butter (400g), rice (2kg), sunflower oil (750mℓ), Ceylon/black tea (62.5g), and white sugar (2.5kg).

In December 2017, the urban basket cost R237.09, compared to the rural basket of R235.58. During December 2016, these costs were R244.91 and R234.57 respectively.

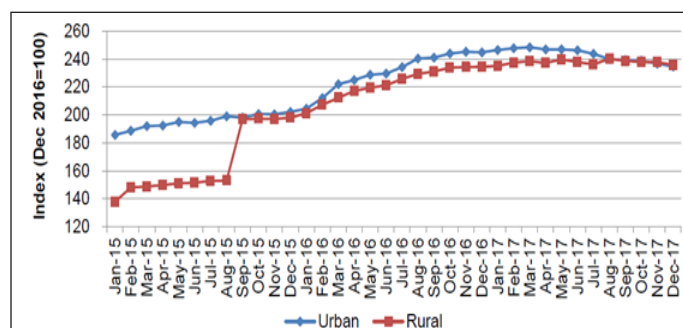


Figure 25: Comparison between rural and urban food prices in 2015–2017

Source: Stats SA (2018)



5. TRENDS IN PRICES, FARM VALUES AND PRICE SPREADS

5.1 Introduction

This section provides an overview of the price trends in selected food value chains. Where information is available, international trends are also discussed. This section also provides more detail on the different cost components that contribute to the margin between farm-gate prices and the price the consumer pays for selected food items. One way to investigate this is to look at the farm values of selected products and the Farm-to-Retail-Price-Spread (FTRPS) of various industries.

In order to better understand the margin between farm-gate and retail prices, the farm values of selected products and the FTRPS will be calculated. The farm value share is the value of the farm product's equivalent in the final food product purchased by the consumer. The FTRPS is the difference between what the consumer pays for the food product at retail level and the value of the farm product used in that product. Price spreads measure the aggregate contributions of food manufacturing, distribution, wholesale and retail firms that transform farm commodities into final products.

5.2 Price trends in the meat sector

5.2.1 Poultry industry

Figure 26 illustrates the FAO Poultry Meat Price Index, Brazil, export value for chicken and the United States of America (USA) export unit value of broiler cuts. According to the FAO, the Poultry Meat Price Index increased by 8.17% between 2016 and 2017.

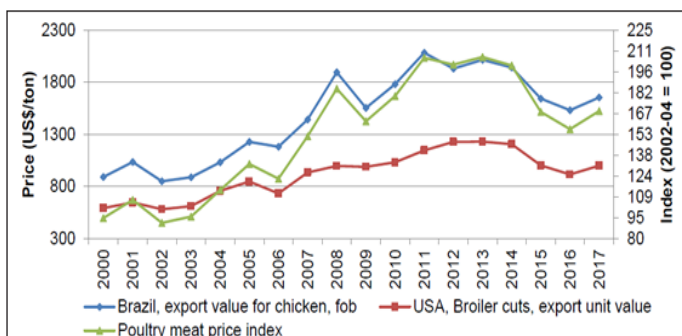


Figure 26: International poultry price trends
Source: FAO (2018c)

The retail prices for selected poultry products are shown in Figure 27. The annual average retail price of fresh chicken portions (per kg), fresh whole chickens (per kg) and individually quick frozen (IQF) chicken portions (1kg) were R56.70/kg, R42,96/kg and R20,55/kg respectively in 2017. In real terms, the annual average retail prices for fresh chicken portions, fresh whole chickens and IQF chicken portions were R55.06/kg, R41.72/kg and R19.94/kg respectively.

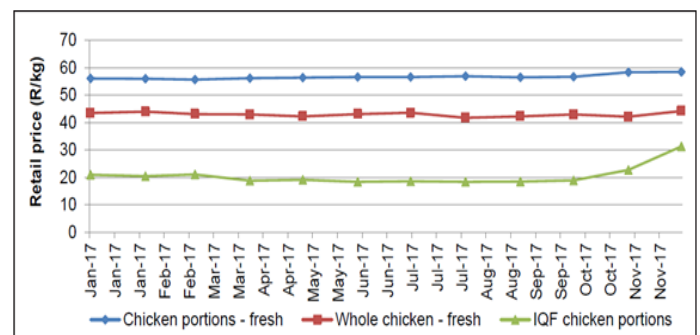


Figure 27: Poultry retail price trends²
Source: Stats SA (2018)

Figure 28 shows the trends in the producer prices of poultry. The annual average producer price of fresh chicken increased by 1.26% (from R22.48/kg in 2016 to R22.76/kg in 2017). The annual average producer price of frozen chicken increased by 0.74% (from R21.57/kg to R21.73/kg between 2016 and 2017). Compared to 2010 price levels, the 2017 annual average price of frozen and fresh chickens increased by 50.08% and 20.05% respectively.

In real terms, fresh and frozen chicken producer prices increased by 0.69% and 0.16% respectively between 2016 and 2017. When compared to 2010, the real producer price of frozen chicken increased by 7.51% whilst fresh chicken decreased by 14.04%.

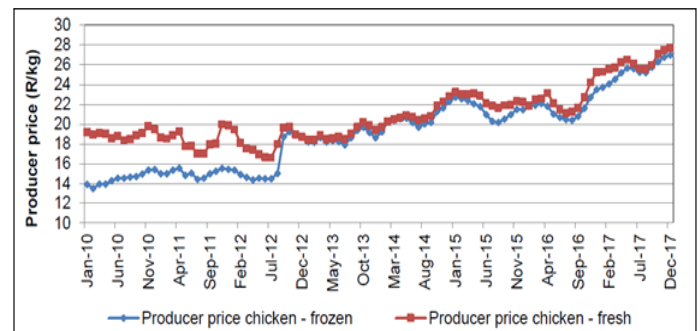


Figure 28: Poultry producer price trends
Source: AMT (2018)

² Note: Stats SA introduced additional products as from January 2017 and excluded some of the pre-January 2017 products. Due to the limitation of data, the trend for retail prices will start from January 2017.

The real FTRPS and farm value share of fresh whole chicken are shown in Figure 29. The real FTRPS of fresh whole chicken decreased on average, by 11.61% between 2016 and 2017. During the same period, the farm value share of fresh whole chicken increased by 10.33%. The average farm value share for fresh whole chicken per kg in 2017 was 59.29%.

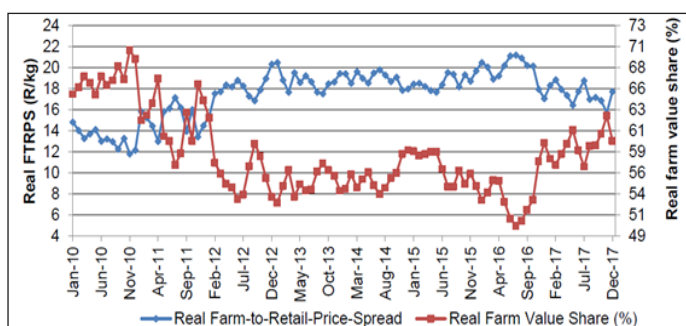


Figure 29: Real FTRPS and farm value share of poultry
Source: Stats SA (2018), AMT (2018) and own calculations

5.2.2 Beef

Figure 30 depicts the international beef price trends. According to the FAO Bovine Meat Price Index, the annual average international beef price decreased by 6.57% between 2016 and 2017. When comparing the figures for 2000 and 2017, the average international beef price increased by 96.78%.

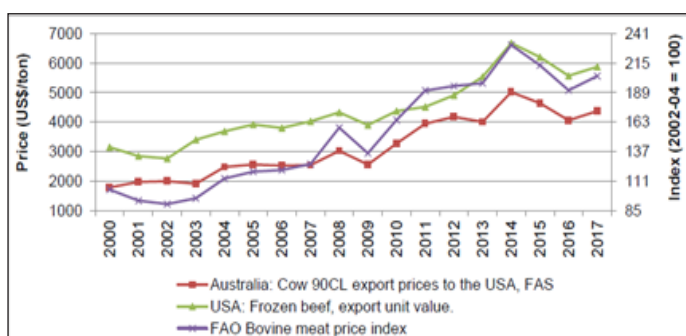


Figure 30: International beef price trends
Source: FAO (2018c)

The retail price of beef continued to increase throughout the period under review (see Figure 31). The average annual retail price for chuck, brisket, T-bone, mince and rump steak increased by 16.17%, 16%, 11.14%, 10.43% and 8.96% respectively between 2016 and 2017.

In real terms, the average annual retail prices for chuck, brisket, T-bone, mince and rump steak increased by 10.25%, 10.09%, 5.48%, 4.81% and 3.43% respectively between 2016 and 2017.

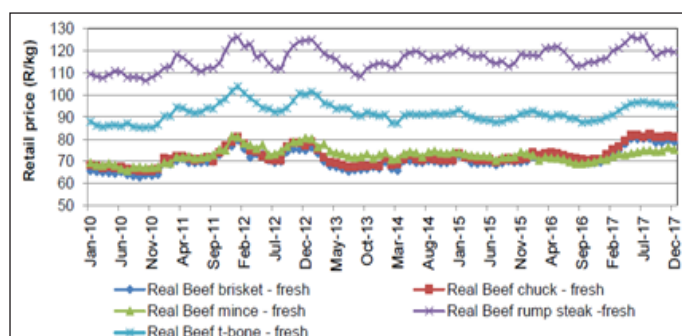


Figure 31: Retail price trends for different beef cuts
Source: Stats SA (2018)

The producer prices for the different classes of beef are shown in Figure 32. The annual average producer price of beef class C2/C3, B2/B3 and A2/A3 increased by 1.79%, 1.6% and 0.91% respectively between 2016 and 2017. In real terms, beef producer prices showed an increasing trend. The annual average real producer price of class C2/C3, B2/B3 and A2/A3 increased by 1.25%, 1.06% and 0.37% respectively between 2016 and 2017.

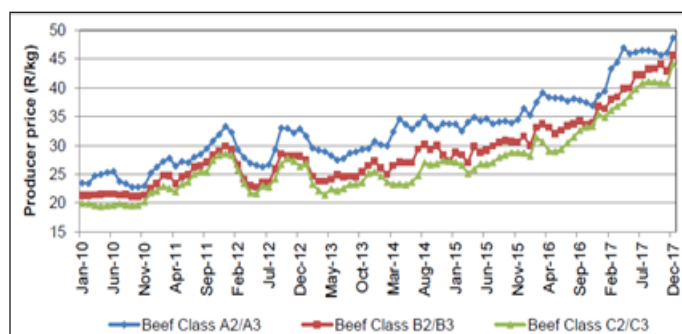


Figure 32: Beef producer price trends
Source: AMT (2018)

The real FTRPS and the farm value share of beef are shown in Figure 33 below. The average real FTRPS of beef decreased by 8.42% between 2016 and 2017 and reached R35.95/kg in 2017. The real farm value share of beef increased by 40.36% between 2016 and 2017. The real farm value share of beef was 55.11% in 2017.

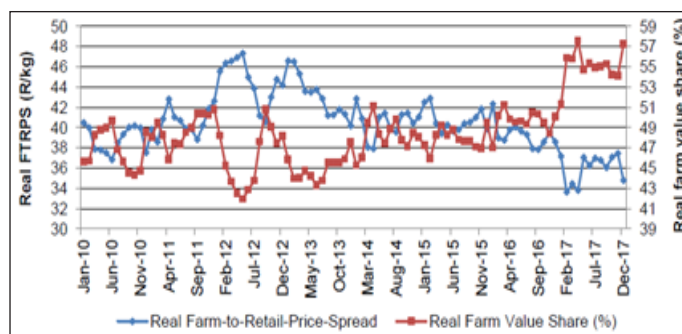


Figure 33: Real FTRPS and farm value share for beef
Source: Stats SA (2018), AMT (2018) and own calculations



5.2.3 Lamb

International lamb prices continued their upward trend during 2014, after some declines during 2012 and 2013 (Figure 34). This upward trend was short lived with a noticeable decline during 2015 and 2016. According to the FAO, international lamb prices increased noticeably by 25.77% between 2016 and 2017.

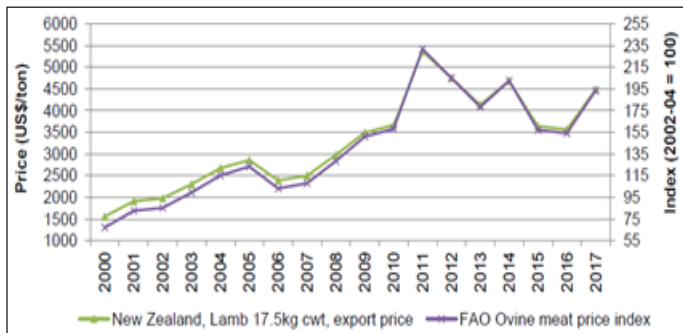


Figure 34: International lamb price trends

Source: FAO (2018c)

The domestic retail prices of lamb cuts showed an increase during 2014, followed by a decline during 2013, to continue the long-term increasing trend (Figure 35). These increases continued during 2016 and 2017. The average annual retail price of lamb neck, lamb leg, rib chops and loin chops increased by 13.32%, 11.77%, 11.69% and 10.75% respectively between 2016 and 2017.

In real terms, the average annual retail prices of lamb neck, lamb leg, rib chops and loin chops increased by 7.53%, 6.08%, 6% and 5.1% respectively between 2016 and 2017.

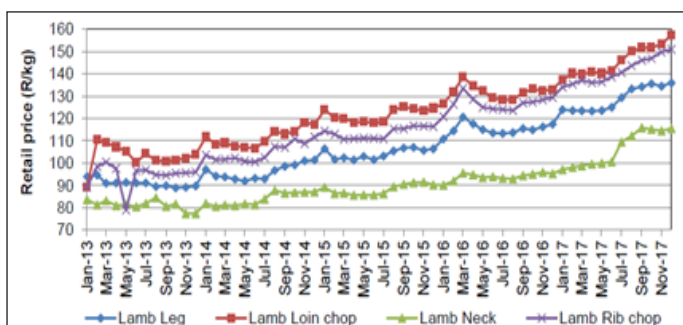


Figure 35: Lamb retail price trends

Source: Stats SA (2018)

Figure 36 shows that the producer price for the different lamb classes continued with an increasing trend during 2016 and 2017 after a noticeable decline during 2012 and 2013. The average producer price of class B2/B3 increased by 1.73% between 2016 (R48.14/kg) and 2017 (R48.97/kg). The annual average producer price for class C2/C3 and class A2/A3 increased by 1.94% and 1.65% respectively between 2016 and 2017.

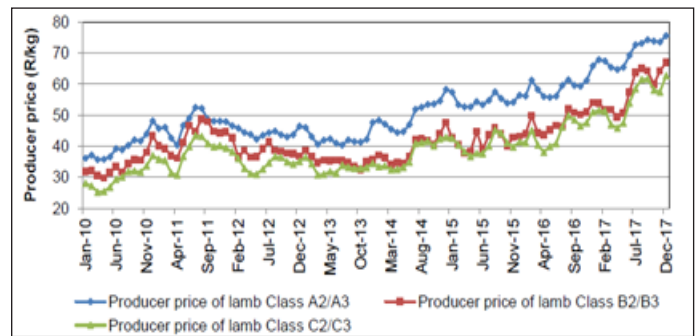


Figure 36: Lamb producer price trends

Source: AMT (2018)

The real FTRPS and the farm value share of lamb are depicted in Figure 37. The real FTRPS of lamb decreased by 11.13% between 2016 and 2017 and was R57.15/kg on average during 2017. The real farm value share of lamb increased by 12.15% between 2016 and 2017.

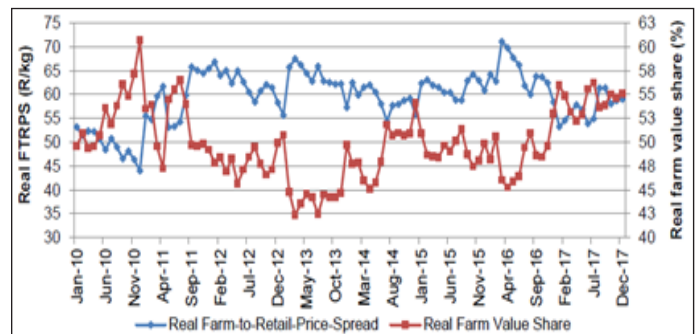


Figure 37: Real FTRPS and farm value share of lamb

Source: Stats SA (2018), AMT (2018) and own calculations

5.2.4 Pork

According to the FAO Pig Meat Price Index, the annual average international pork price increased by 9.38% between 2016 and 2017 (Figure 38). The annual average USA frozen pork price increased by 4.35% between 2016 and 2017.

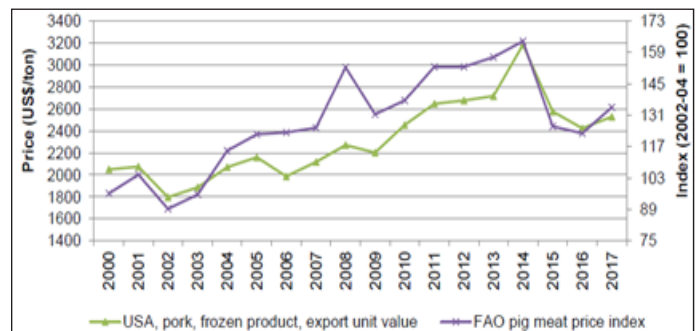


Figure 38: International pork price trends

Source: FAO (2018c)

Figure 39 shows the retail price trends of fresh pork chops. The retail price of pork chops increased by 0.97% between 2016 (R71.43/kg) and 2017 (R72.12/kg). In real terms, the average retail price of pork chops increased by 0.55% during the period under review.

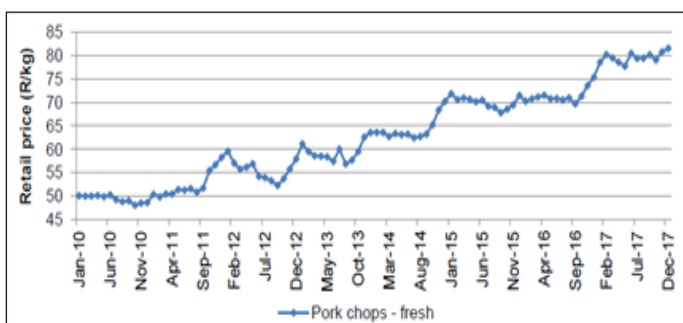


Figure 39: Pork retail price trends

Source: Stats SA (2018)

Figure 40 shows that the producer price of porkers and baconers experienced much more volatility since the end of 2011. The annual average producer price of porkers and baconers increased by 1.53% and 1.39% respectively between 2016 and 2017. During 2017 the annual average real producer price increased by 0.97% and 0.83% for porkers and baconers respectively.

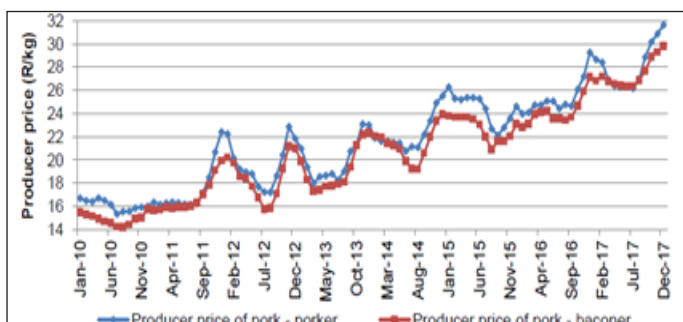


Figure 40: Pork producer price trends

Source: AMT (2018)

Figure 41 shows the real FTRPS and farm value share of pork chops. The average real FTRPS increased from R47.44/kg in 2016 to R50.37/kg in 2017 (6.17% increase). The real farm value share decreased by 0.41% on average between 2016 and 2017 and was 35.16% on average during 2017.

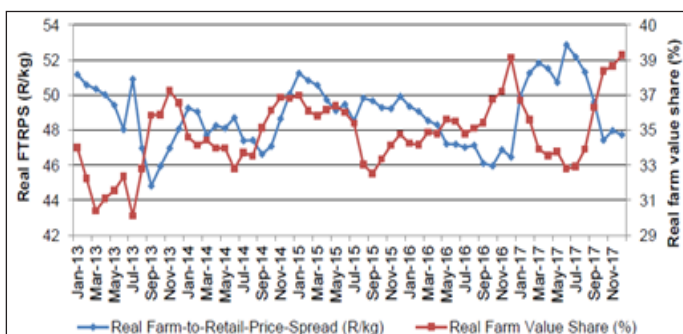


Figure 41: Real FTRPS and farm value share of pork

Source: Stats SA (2018), AMT (2018) and own calculations

5.3 Price trends in the dairy sector

5.3.1 Milk

Figure 42 shows the trend in the raw milk price and retail values for fresh full-cream (1ℓ) and fresh low-fat milk (1ℓ) between January 2012 and December 2017. The average retail prices in 2017 were R13.80/ℓ and R15.20/ℓ for fresh full-cream (1ℓ) and fresh low-fat milk (1ℓ) respectively. Compared to 2016, fresh full-cream milk (1ℓ) and fresh low-fat milk (1ℓ) prices were, on average, R12.96/ℓ and R14.36/ℓ respectively. Between 2016 and 2017, the prices increased, on average, by 6.5% for fresh full-cream (1ℓ) and by 5.9% for fresh low-fat milk (1ℓ). The average calculated raw milk price (using data from the South African Milk Processors' Organisation (SAMPRO) and the Milk Producers' Organisation (MPO)) increased from R4.59/ℓ to R4.90/ℓ (6.9%) between 2016 and 2017.

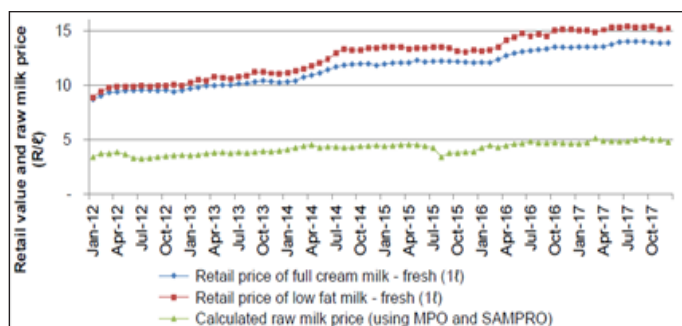


Figure 42: Raw milk price and the retail values for full-cream and low-fat milk, sachets (R/ℓ)

Sources: Stats SA (2018), MPO (2018), SAMPRO (2018) and own calculations

In order to explain the relationship between the raw milk price and packaged, standardised pasteurised milk, a high number of assumptions should be made regarding factors such as the fat content of milk produced in South Africa, the price of cream, the production, packaging, administration, marketing and management cost of cream, and the quantity of each fat class of milk (fat free, low fat and full cream) sold (SAMPRO, 2010). Due to the complex nature, process and the number of assumptions that should be addressed, the rest of this section will only discuss the farm value share and price spread between full cream milk and the retail price of milk.

Figure 43 shows the farm value share as a percentage of the real retail value for fresh full cream milk (1ℓ), between January 2012 and December 2017. In 2012, the average real farm value share of fresh full cream (1ℓ) was 37.55%. The real farm value share for fresh full cream milk (1ℓ) decreased to reach a trough of 27.92% in August 2015, after peaking at 41.52% during April 2014. In December 2017, the real farm value share for fresh full cream milk (1ℓ) reached 34.64%. The average real farm value share for fresh full cream milk (1ℓ) increased from 35.39% to 35.54% (0.4%) between 2016 and 2017.

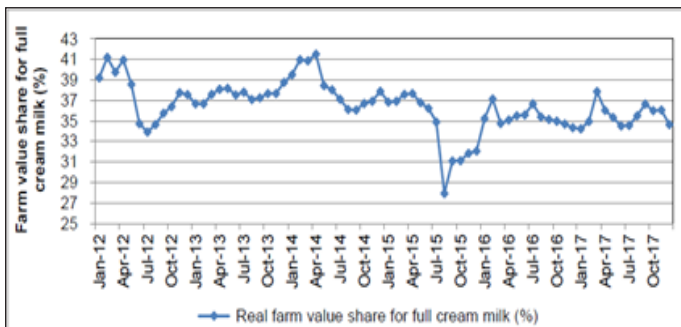


Figure 43: Real farm value shares for full cream milk, sachets (R/ℓ)
Sources: Stats SA (2018), MPO (2018), SAMPRO (2018) and own calculations

Figure 44 shows the trend in the real FTRPS for fresh full cream milk (1ℓ) between January 2012 and December 2017. In January 2012, the spread was R6.92/ℓ, reaching a peak of R9.46/ℓ during August 2015. The average real FTRPS increased from R8.56/ℓ to R8.64/ℓ (0.9%) between 2016 and 2017.



Figure 44: Real FTRPS for full cream milk, sachets (R/ℓ)
Sources: Stats SA (2018), MPO (2018), SAMPRO (2018) and own calculations

In order to get a better understanding of the margins and costs in the fresh milk dairy value chain, industry stakeholders were consulted with regard to the off-farm value chain. Two different scenarios were constructed to explain the costs and margins in the fresh milk dairy value chain, as applicable to full-cream pasteurised milk in a 2ℓ container, namely:

- (i) A low value-added scenario:
 - Raw milk close to processing plant;
 - Less complex technology;
 - Cheaper type and size of packaging;
 - Direct surroundings of distribution; and
 - Limiting marketing and advertising costs.
- (ii) A high value-added scenario:
 - Raw milk farther away from processing plant;
 - More complex technology;
 - Type and size of packaging more expensive;
 - Distribution to farther outlets; and
 - Marketing and advertising costs.

It should be noted that the typical contribution of each value-adding activity to the retail selling price of full-cream pasteurised milk in a 2ℓ container will differ from firm to firm, from region to region, from one to another type and size of packaging, and from season to season. Information revealed by a number of highly experienced and informed milk processors was requested to indicate what they regard as typical low- and high-cost scenarios in South Africa for each of the value-adding activities. Table 31 and Table 32 show the distribution costs and margins along the fresh milk dairy value chain, per action, for both a low- and a high-cost scenario.

From Table 31 and Table 32, it is evident that in January 2018 the raw milk price (2ℓ) contributed between 40.3% and 45.3% of the total selling price to the consumer, compared to 36.4% and 40.2% in January 2017. The raw milk price for the low-cost scenario in January 2018 was R9.50 per 2ℓ container, compared to the R9.60 reported in January 2017, a decline of 1.04%. The raw milk price for the high-cost scenario was R10.00 in January 2018, compared to R10.50 in January 2017 (-4.8%).

Action 1 comprises the collection and transportation of the raw milk to the processing plant in both the low- and high-cost scenarios, contributing between 5.4% and 5.7% to the total selling price consumers paid in January 2018. **Action 2** (the sum thereof) contributed between 20.2% and 21.2%, while **Action 3** (the sum thereof excluding the selling price to the retailer) contributed between 16.3% and 18% to the selling price consumers paid in January 2018.

When considering the individual items of the actions mentioned above for January 2018, the container (2ℓ plastic or gable top) (**Action 2**) contributed the greatest proportion of 14.1% to the selling price in the low-cost scenario, whilst the retailer mark-up (**Action 4**) contributed the greatest proportion of 17.7% to the selling price in the high-cost scenario. The retailer mark-up is the difference between the price the consumer pays and the price at which the retailer procures the milk and includes all electricity, labour, and distribution costs at retail level.



Table 31: Typical cost composition of pasteurised full-cream milk in 2ℓ containers offered for sale in a retail store – low-cost scenario³

Item	Low cost		Low cost		Low cost		Low cost		Low cost		
	Jan-18	Jan-17	Jan-16	Jan-15	Jan-14	R/2ℓ	% of selling price	R/2ℓ	% of selling price	R/2ℓ	% of selling price
Raw milk price (2ℓ)	9.50	9.60	7.00	9.50	9.60	9.60	45.3	9.50	45.3	9.60	40.2
Action 1											
Raw milk collection and transportation to processing plant	1.20	1.20	0.95	1.20	1.20	1.20	5.7	1.20	5.7	1.20	5.0
Action 2:											
Processing and quality assurance	1.30	2.10	1.90	1.30	2.10	1.30	6.2	1.30	6.2	2.10	8.8
Container (2ℓ plastic or 2ℓ gable top)	2.95	2.40	2.20	2.95	2.40	2.95	14.1	2.95	14.1	2.40	10.0
Filling of 2ℓ containers	0.20	0.20	0.15	0.20	0.20	0.20	1.0	0.20	1.0	0.20	0.8
Action 3:											
Marketing and distribution by milk processor	1.87	3.40	3.15	1.87	3.40	1.87	8.9	1.87	8.9	3.40	14.2
Interest, profit and overhead costs	1.90	1.80	1.50	1.90	1.80	1.90	9.1	1.90	9.1	1.80	7.5
Selling price to retailer	18.92	20.70	16.85	18.92	20.70	18.92	90.3	18.92	90.3	20.70	86.6
Action 4:											
Retailer mark-up	2.03	3.20	2.50	2.03	3.20	2.03	9.7	2.03	9.7	3.20	13.4
Selling price to consumer	20.95	23.90	19.35	20.95	23.90	20.95	100.0	20.95	100.0	23.90	100.0

Source: SAMPRO (2018) and own calculations

³ A number of highly experienced and informed milk processors were requested to indicate what they regard as typical low costs and the typical high costs in South Africa for each of the value-adding activities. It must be emphasised that the milk processors concerned were not requested to reveal the costs of their firms. The question to the milk processors was to indicate what can, according to their judgment, be regarded in the South African dairy industry as the typical low and high costs of each value-adding activity. This does not mean that the milk processors continuously achieve the prices in the marketplace, as set out in the above calculations.

Table 32: Typical cost composition of pasteurised full-cream milk in 2ℓ containers offered for sale in a retail store – high-cost scenario⁴

Item	High cost Jan-18		High cost Jan-17		High cost Jan-16		High cost Jan-15		High cost Jan-14	
	R/2ℓ	% of selling price	R/2ℓ	% of selling price	R/2ℓ	% of selling price	R/2ℓ	% of selling price	R/2ℓ	% of selling price
Raw milk price (2ℓ)	10.00	40.3	10.50	36.4	9.00	33.6	10.00	40.3	10.50	36.4
Action 1:										
Raw milk collection and transportation to processing plant	1.35	5.4	1.35	4.7	1.30	4.9	1.35	5.4	1.35	4.7
Action 2:										
Processing and quality assurance	1.50	6.0	2.70	9.4	2.65	9.9	1.50	6.0	2.70	9.4
Container (2ℓ plastic or 2ℓ gable top)	3.20	12.9	3.20	11.1	3.10	11.6	3.20	12.9	3.20	11.1
Filling of 2ℓ containers	0.30	1.2	0.30	1.0	0.20	0.7	0.30	1.2	0.30	1.0
Action 3:										
Marketing and distribution by milk processor	1.95	7.9	4.30	14.9	4.25	15.9	1.95	7.9	4.30	14.9
Interest, profit and overhead costs	2.10	8.5	2.50	8.7	2.50	9.3	2.10	8.5	2.50	8.7
Selling price to retailer	20.40	82.3	24.85	86.1	23.00	85.8	20.40	82.3	24.85	86.1
Action 4:										
Retailer mark-up	4.40	17.7	4.00	13.9	3.80	14.2	4.40	17.7	4.00	13.9
Selling price to consumer	24.80	100.0	28.85	100.0	26.80	100.0	24.80	100.0	28.85	100.0

Source: SAMPRO (2018) and own calculations

⁴ It must be emphasised that the milk processors concerned were not requested to reveal the costs of their firms. The question to the milk processors was to indicate what can, in their judgment, be regarded in the South African dairy industry as the typical low and high costs of each value-adding activity. This does not mean that the milk processors continuously achieve the prices in the marketplace as set out in the above calculations.



5.3.2 Powdered milk

Figure 45 shows the trends in the powdered milk retail prices for 250g and 500g packets between January 2012 and December 2017. The average retail price for 250g reached R37.99 in 2017, compared to R37.88 during 2016 (+0.3%). In 2017, 500g powdered milk reached R53.88, compared to R54.18 during 2016 (-0.6%).

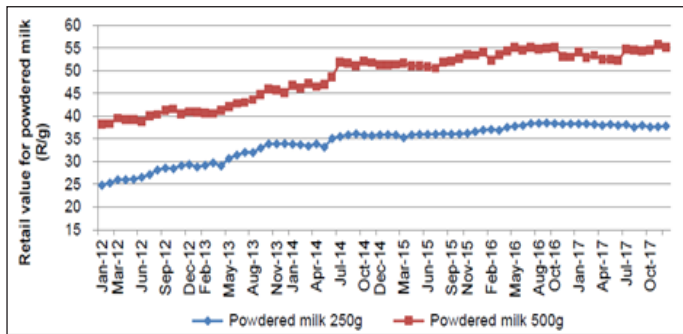


Figure 45: Retail price of powdered milk
Source: Stats SA (2018)

5.3.3 Milk, cheese and margarine

Figure 46 shows the trends in the retail prices for fresh full-cream milk (R/l), fresh low-fat milk (R/l), cheddar cheese, and margarine (R/kg) between January 2012 and December 2017. The average retail prices in 2017 were R13.80, R15.20, R103.06 and R43.08 for full-cream milk – fresh, low-fat milk – fresh, cheddar cheese and margarine respectively. Average retail prices were lower in 2016 for full-cream milk – fresh, low-fat milk – fresh, cheddar cheese and margarine at R12.96, R14.36, R98.75 and R41.37 respectively. Between 2016 and 2017, the price changed, on average, by 6.5%, 5.9%, 4.4% and 4.1% respectively.

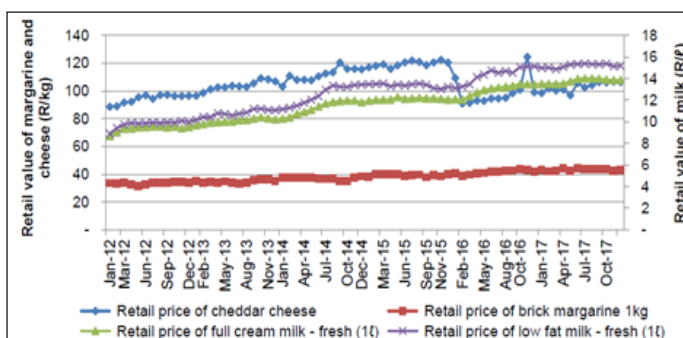


Figure 46: Retail price of milk, (R/l), cheddar cheese and butter (R/kg)
Sources: Stats SA (2018)

5.4 Price trends in the maize sector

5.4.1 Production, stock levels and consumption of white maize

White maize in South Africa is mainly produced for human consumption and about 80% of its production is processed in a form of maize meal. White maize is considered as a domestic staple food on which the majority of people rely. White and yellow maize are summer crops that are planted annually in the same season. The maize marketing season lasts from 1 May to 30 April. Figure 47 indicates the total supply and demand of white maize.

The figure indicates that the total supply is always above the total demand, which implies that South African maize farmers are capable of producing sufficient maize in the effort to ensure that the country is food secure. Total maize supplied in the 2017/18 marketing season reflected the highest recorded stock of 9 888 181 tons, following the good harvested crop during the same period under review.

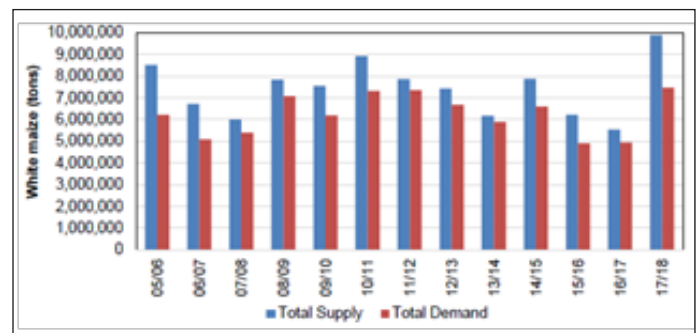


Figure 47: Domestic maize production, consumption and area harvested (white maize)
Source: South African Grain Information Service (SAGIS) (2018)

Figure 48 indicates the stock levels of white maize for the 2017/18 marketing season. Ending stock levels were approximately four times more when compared to the previous marketing year of 2016/17. This was as a result of the highest crops recorded by the Crop Estimates Committee (CEC), of DAFF, in that season. South Africa had sufficient maize stocks in 2017/18, with pipeline requirements (45-day stock) of 805 557 tons at the end of the season.



5.4.2 Production, stock levels and consumption of yellow maize

Yellow maize is primarily used in the animal feed industry, while an estimated 10% is used for human consumption.

Figure 50 indicates that the yellow maize supply was higher than the demand for maize in South Africa during the 2017/18 season. A total of 6 881 796 tons was supplied to the commercial market, which included producer deliveries of 6 360 089 tons with zero yellow maize imports during the 2017/18 marketing season.

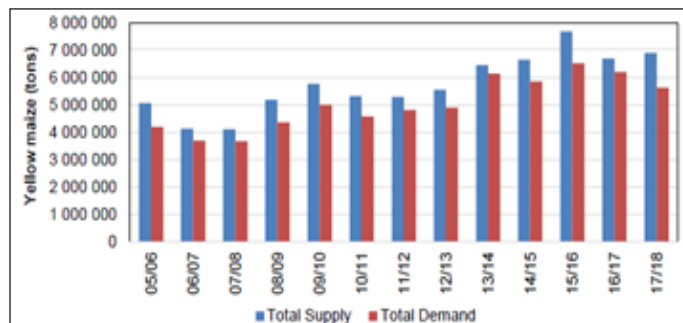


Figure 50: Supply and demand of yellow maize

Sources: SAGIS (2018), Grain SA (2018) and own calculations

Figure 51 illustrates the carryover stocks of yellow maize required in the pipeline (consumption for 45 days) of 464 266 tons. Ending stock levels of yellow maize were lower than in the previous season, while exports increased from 438 879 tons to 1 629 739 tons in the 2017/18 marketing season.

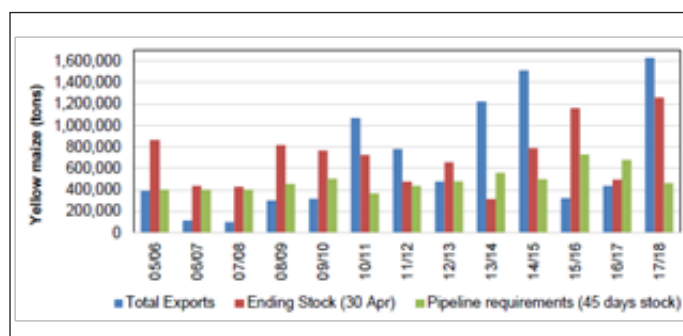


Figure 51: Total exports, pipeline requirements, carry-out as a % of total domestic demand (yellow maize)

Sources: SAGIS (2018), Grain SA (2018)

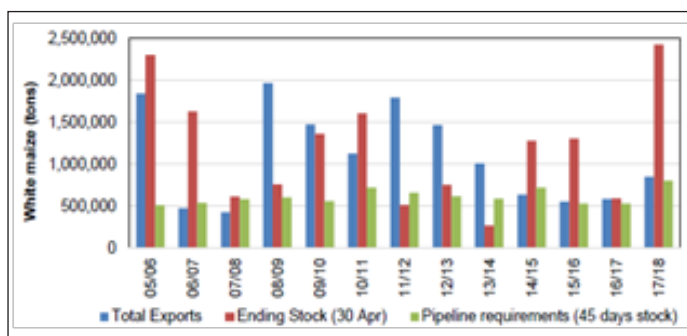


Figure 48: Total exports, pipeline requirements, carry-out as a % of total domestic demand (white maize)

Source: SAGIS (2018)

White maize is predominately used for human consumption and yellow maize is used for animal feed. In some instances, that results in certain short-term shocks in the economy. This consumption pattern can change, depending on the price difference between white and yellow maize. If white maize trades below the price of yellow maize, feed manufacturers then tend to use white maize in their feed rations. If yellow maize trades below the price of white maize, the same tendency occurs in the market. Figure 49 illustrates the breakdown of consumption patterns for the 2017/18 marketing season. Processed white maize for human consumption increased from 3 552 000 tons in 2007/08 to 4 459 504 tons in the 2017/18 season. This increase in processed maize for human consumption is possibly attributable to the growth in the human population over the past decade. Processed white maize used for animal consumption significantly increased in 2017/18 due to the prices and the switch within animal feed from yellow maize to white maize usage.

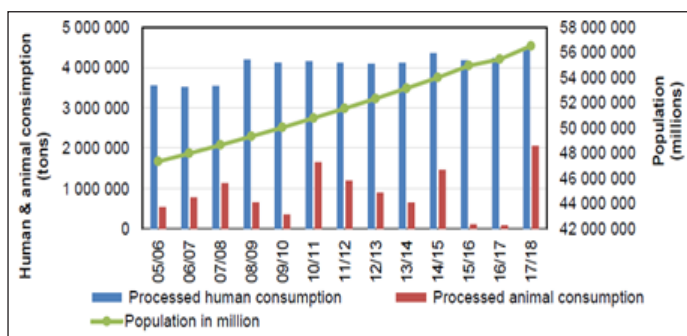


Figure 49: Consumption of white maize

Source: SAGIS (2018)

Table 33: South African maize balance sheet for the 2017/18 season

Marketing season	White Maize	Yellow Maize	Total Maize
	2017/18 tons	2017/18 tons	2017/18 tons
CEC (Crop Estimate)	9 916 000	6 904 000	16 820 000
CEC (Retention)	0	0	0
SUPPLY			
Opening stock (1 May)	597 837	496 801	1 094 638
Producer deliveries	9 268 593	6 360 089	15 628 682
Imports	0	0	0
Early deliveries	0	0	0
Surplus	21 751	24 906	46 657
Total Supply	9 888 181	6 881 796	16 769 977
DEMAND			
Processed for the local market	6 533 966	3 765 714	10 299 680
- human	4 459 504	533 972	4 993 476
- animal and industrial	2 061 649	3 214 798	5 276 447
- gristing	12 813	16 944	29 757
Withdrawn by producers	35 885	67 021	102 906
Released to end-consumers	30 125	150 419	180 544
Net receipts(-)/disp(+)	7 583	8 080	15 663
Deficit	0	0	0
Local demand	6 607 559	3 991 234	10 598 793
Exports	851 969	1 629 739	2 481 708
- products	42 038	150 836	192 874
- whole maize	809 931	1 478 903	2 288 834
Total Demand	7 459 528	5 620 973	13 080 501
Closing Stock (30 Apr)			
- processed p/month	544 497	313 810	858 307
- months' stock	4,5	4,0	4,3
- days' stock	136	122	131

Source: SAGIS (2018)

Note: Crop Estimates Committee (CEC)

5.4.3 White maize price trends

Figure 52 illustrates the trends of white maize prices in South Africa. The average spot price for white maize started to increase in December 2015. The spot prices were peaked in the beginning of January 2016 and increased rapidly above import parity in March 2016. The average spot price for white maize declined to R1 832/ton in December 2017, as a result of a bumper crop that was harvested in South Africa during the period under review.

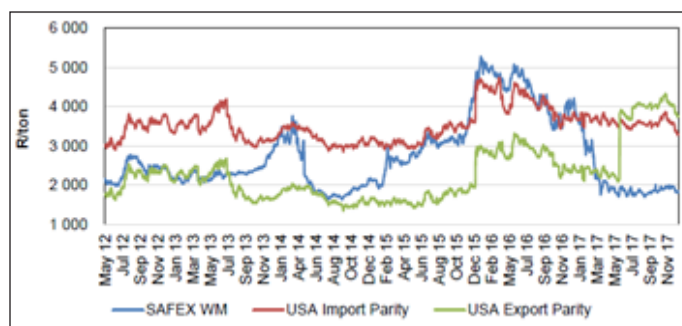


Figure 52: Import parity, export parity and the South African Futures Exchange (SAFEX) for white maize prices

Source: Grain SA (2018)

5.4.4 Yellow maize price trends

Figure 53 explains the trends of domestic yellow maize prices. The average spot prices for yellow maize started to increase in January 2015. The spot price reached a peak of R4 130/ton in the beginning of November 2015. This was R280 above import parity. Yellow maize prices started to decline in December 2016, moving closer to export parity as the new crop season began. The average spot price was R1 934/ton in December 2017.

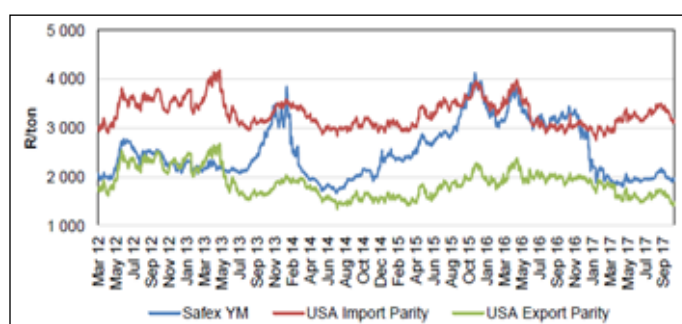


Figure 53: Import parity, export parity and SAFEX yellow maize price

Source: Grain SA (2018)



5.4.5 Real farm value of super maize meal⁵

Figure 54 shows the trend in the real farm value and real retail value of super maize meal between January 2009 and December 2017. The real farm value of super maize meal increased from R3 027/ton in January 2009 and peaked at R4 722/ton in January 2017 and significantly dropped to R2 254/ton in December 2017. The real retail value was R5 048/ton in January 2009 and increased to R6 893/ton in December 2017.

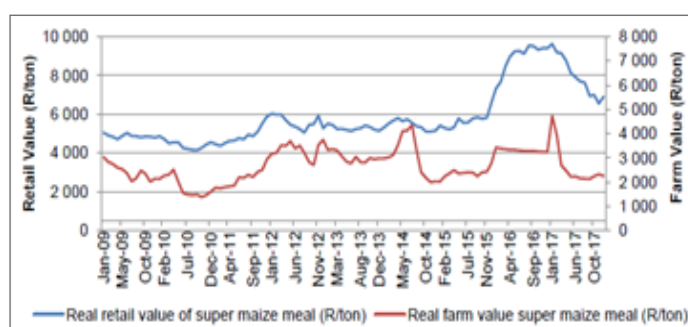


Figure 54: Real farm value and real retail value of farm value of super maize meal

Source: SAFEX (2018), Stats SA (2018) and own calculations

Figure 55 shows the trend in the farm value shares for super maize meal. Between 2009 and 2014, the average farm value share of super maize fluctuated at around 58% and 78%. In 2016, the farm value shares for super maize fluctuated between 33% and 34% in 2017.

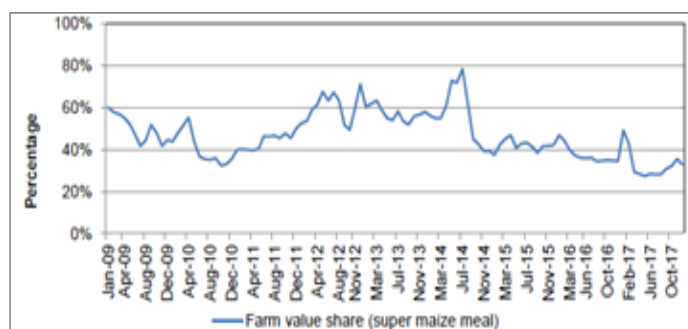


Figure 55: Real farm value share and super maize meal

Source: SAFEX (2018), Stats SA (2018) and own calculations

Figure 56 shows the FTRPS for super maize meal between January 2009 and December 2017. The FTRPS showed high instability as a result of a substitution effect between special and super maize meal. When prices change, a likelihood that arises is that consumers tend to switch to an affordable option of maize meal as pressure on disposable income is realised. The FTRPS of super maize meal between 2009 and 2017 fluctuated between R2 023/ton and R4 643/ton.

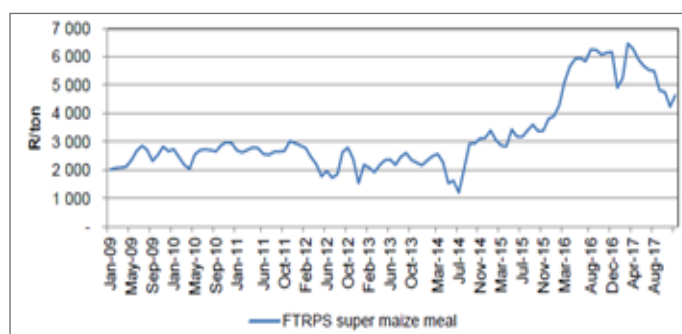


Figure 56: Real FTRPS of super maize meal

Source: SAFEX (2018), Stats SA (2018) and own calculations

5.5 Wheat sector

5.5.1 Production and imports

Wheat is predominantly produced in the Western Cape Province, with an average crop production of 1 816 000 tons being realised over the past 10 years. During the 2016/17 marketing season, a total of 1 870 000 tons of wheat was produced from 508 365 hectares (ha) (Figure 57). This was a 33% increase from the 2015/16 season of 1 406 000 tons. This increase in South African wheat production was as a result of improved hectares of land for wheat production and use of improved technology. Wheat imports for South Africa declined by 55% from 2 062 000 tons to 934 000 tons. This was attributed to improved crop production during the season under review.

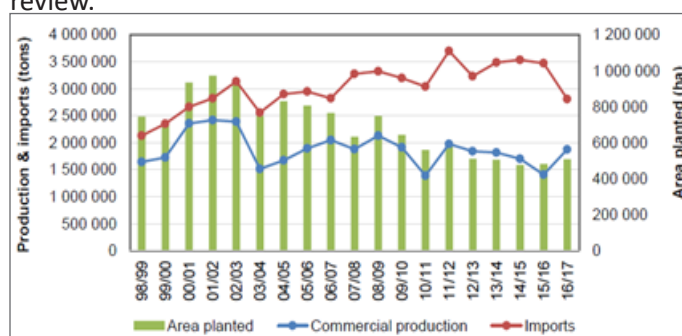


Figure 57: Area planted, production and imports of wheat (tons)

Source: SAGIS (2018) and Grain SA (2018)

⁵ Due to the data limitation for the monitoring of an average retail price for special maize meal (5kg) by Stats SA for the period February 2015 to December 2017, this section will only include the spread for super maize meal (5kg).

5.5.2 Consumption

Figure 58 illustrates domestic wheat consumption and production for the past 19 years. South African wheat consumption in the 2016/17 marketing season was 3 300 000 tons. This was a slight increase when compared to the 3 247 000 tons in the 2015/16 marketing season. This increase was due to a substitution effect from bread to maize meal and other starches. The price of bread was relatively cheaper than the price of maize meal, following the drought that hit South Africa during the period under review. A large quantity of wheat produced locally is used for human consumption. Approximately less than 1% of wheat is used for the animal feed industry.

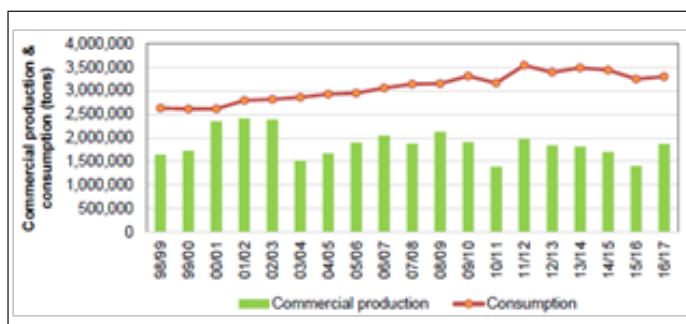


Figure 58: Wheat consumption and production
Source: SAGIS (2018)

5.5.3 Price trends

Figure 59 shows domestic wheat prices with import and export parity. From the movement of trends below, it can be seen that the domestic wheat price trades closely to import parity. This implies that South Africa is a net importer of wheat, as local production does not meet commercial demand. Therefore, any change in exchange rates and global wheat prices due to structural changes in the economy will be immediately noted in the domestic wheat price. The domestic wheat price traded between R3 919/ton and R4 892/ton during 2017.

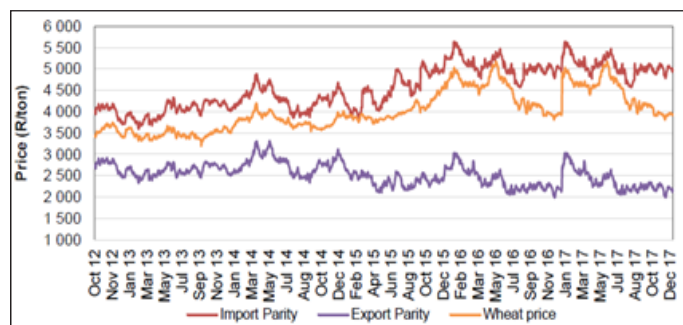


Figure 59: Import parity, export parity and SAFEX wheat price
Source: SAGIS (2018), SAFEX (2018)

5.5.4 Real farm-gate and retail prices of brown and white bread⁶

Figure 60 represents the real farm-gate price of wheat per ton, lagged by four months, compared to the retail prices of brown and white bread. The average real farm-gate price of wheat (lagged by four months) decreased by 3.9% from R3 964/ton in 2016 to R3 807/ton in 2017. The retail price of white bread (sliced) decreased by 3.1%, while brown bread (sliced) decreased by 2.2% from 2016 to 2017. This decrease in the price of bread was a result of the forces of supply and demand for raw wheat. South African wheat production improved and reduced imports by more than 50%.

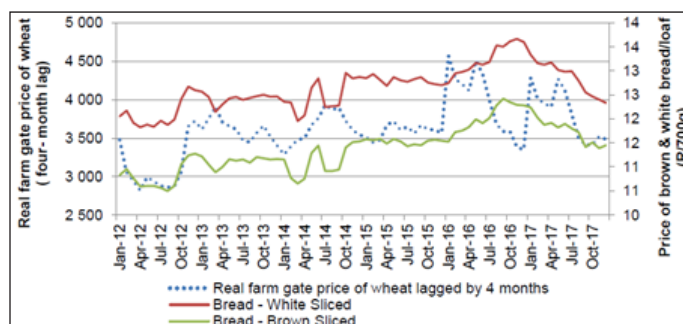


Figure 60: Real farm-gate price of wheat and real retail prices of brown and white bread
Source: SAFEX (2018), Stats SA (2018) and own calculations

Figure 61 illustrates the percentage differences in real prices between white and brown bread from 2012. On average during 2017, white bread was 9.4% more expensive than brown bread. Brown bread is zero rated for value-added tax (VAT), while 14% VAT was charged on white bread in 2017.

⁶ In order to calculate the real farm value and real retail value of a ton of flour used for a 700g loaf of white bread, the following assumptions were made: the extraction rate from 1 ton of wheat is 0.8 tons of white bread flour and 0.87 tons of brown bread flour. An average of 464g of flour is needed to bake a 700g loaf of white bread and 440g to bake a 700g loaf of brown bread.

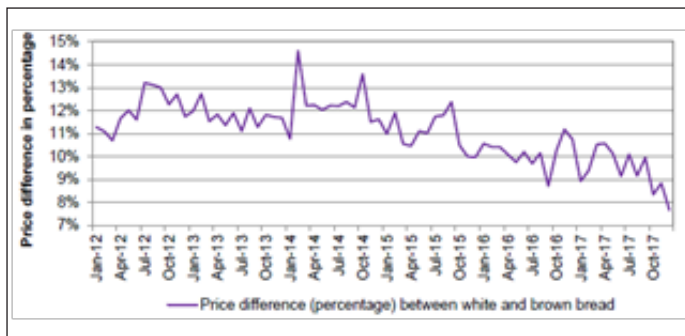


Figure 61: Price difference between white and brown bread
Source: Stats SA (2018) and own calculations

5.5.5 Real farm value share of brown and white bread

Figure 62 shows that the real farm value shares for both brown and white bread were between 15% and 22%, on average, for 2016. The averages in 2017 fluctuated between 16% and 18% respectively for brown and white bread.

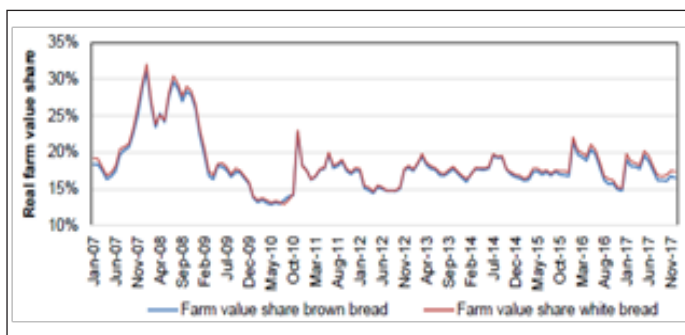


Figure 62: Real farm value share of brown and white bread
Source: SAFEX (2018), Stats SA (2018) and own calculations

5.5.6 Real farm-to-retail-price spread (FTRPS) of white and brown bread⁷

Figure 63 shows the real FTRPS for brown and white bread. On average, the FTRPS for brown bread was R22 043/ton of flour in 2017, while the white bread average FTRPS was R22 449/ton of flour in 2017.

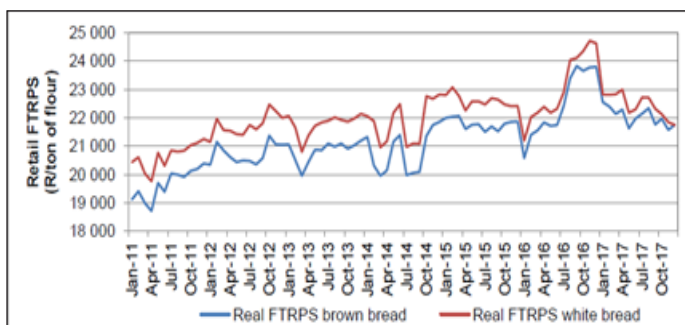


Figure 63: Real FTRPS of brown and white bread
Source: SAFEX (2018), Stats SA (2018) and own calculations

5.6 Sunflower seed

Sunflower seed is a summer grain which is usually planted around October to mid-January. Sunflower is mainly produced in the Free State and North West provinces. Sunflower seed constitute about 5% of the total grains produced in South Africa. Sunflower oil is one of the products manufactured from processed sunflower seeds. The by-product of sunflower is oilcake, which is used in the animal feed industry. The husk is used as bedding in the broiler industry or as an energy source at processing plants. The marketing season for sunflower seed is from 1 March – 28/29 February.

5.6.1 Production and consumption of sunflower seed

Figure 64 indicates area planted, producer deliveries and processed sunflower seeds for consumption. Sunflower area planted varied between 635 750ha and 828 000ha between 1999 and 2017. A farmer's decision to plant sunflower is generally dependent on various factors, which include the price of substitute products, such as maize, and climatic conditions for that specific planting season. Sunflower adapts well under South African climatic conditions. Sunflower has an advantage of being produced when planting conditions are not suitable for other crops. Over the past 10 years, average yields (tons/ha) varied between 0.95 and 1.55. Producer deliveries and processed sunflower seeds for humans, animals and crushed (for oil and oilcake) have fluctuated over the years between high crops and low harvested crops, especially during drought-stricken years. Processed sunflower seed increased by 25.12% from December 2016 (707 327 tons) to December 2017 (885 039 tons), while area planted declined from 718 500ha in 2016 to 635 750ha in 2017. This was due to the substitution effect of maize and sunflower. Farmers planted more hectares of maize and soybeans during the season under review.

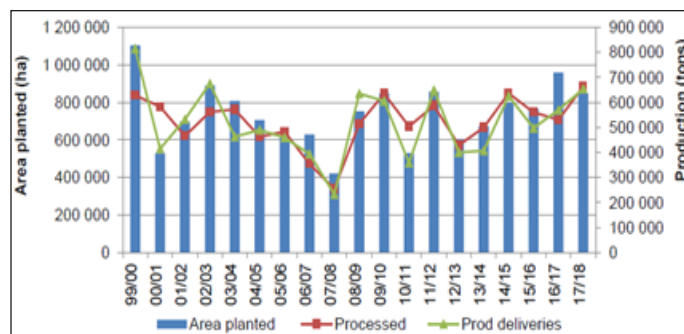


Figure 64: Area planted, production deliveries and processed sunflowers seed for consumption in South Africa
Source: SAGIS (2018) and own calculations

⁷ Note: The real farm-to-retail-price spread (FTRPS) is calculated by deducting the real farm value for a ton of flour from the real retail value of a ton of flour. The price spread is representative of all the costs involved in the value-adding process.

5.6.2 Price trends of sunflower seed

Figure 65 illustrates domestic sunflower prices (SAFEX, 2018). The average domestic sunflower price decreased by 24.43% from December 2016 (R5 862/ton) to December 2017 (R4 430/ton). This decrease in the domestic price of sunflower seed could be attributed to the increase in producer deliveries and high carry-over stocks in the 2017 marketing season. The retail price of sunflower oil (750mℓ) decreased by 1.99% from December 2016 (R22.51/750mℓ) to December 2017 (R22.06/750mℓ) due to the decline in the domestic price of sunflower seed.

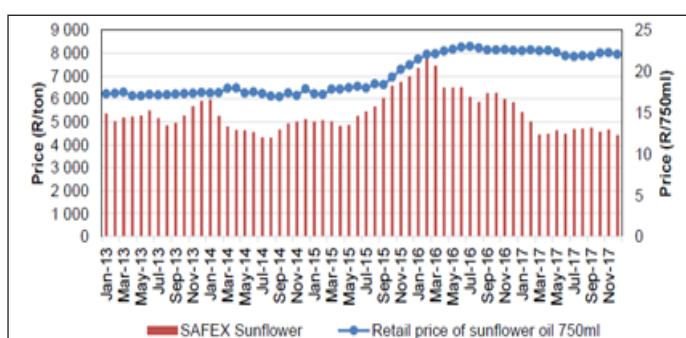


Figure 65: Domestic sunflower seed price and retail price of sunflower oil (750mℓ)

Source: SAFEX (2018) and Stats SA (2018)

5.7 Soybeans

Soybean is a summer crop which is mainly produced in the Free State, KwaZulu-Natal and Mpumalanga provinces, under both dryland and irrigation systems. These provinces account for approximately 85% of soybeans produced in the country, with a recent increase in production from the North-West Province. Soybeans are estimated to constitute about 9% of the total summer grains produced domestically.

5.7.1 Soybean production

Domestic soybean production for the 2017/18 marketing season was estimated at 1 290 218 tons, as illustrated in Figure 66. This was an 80.79% increase from the previous season of 2016/17. The total area planted in 2017/18 increased by 14.15% from 2016 (502 800ha) to 2017 (573 950ha). Planting soybeans in the 2017/18 marketing season proved to be more profitable when compared to sunflower and maize.

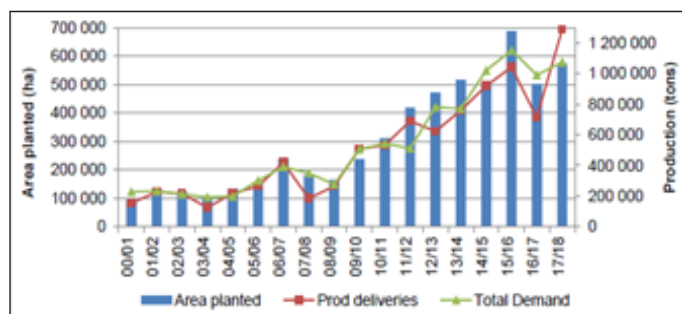


Figure 66: Area planted, production deliveries and total demand for soybean seed in South Africa

Source: SAGIS (2018) and own calculations

5.7.2 Soybean consumption

The domestic demand for soybeans in South Africa was approximately 1 074 502 tons in 2017/18. Approximately 147 302 tons were processed as feed and full-fat soybean meal. This was an 49.21% increase from the previous (2016/17) season. Human consumption of soybeans was estimated at 25 056 tons in 2016, as illustrated in Figure 67.

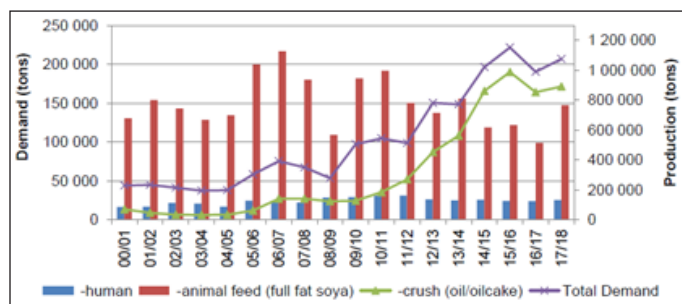


Figure 67: Feed and full-fat soya, crushed for oil and oilcake, total domestic demand and consumption of soybean seed in SA

Sources: SAGIS (2018) and own calculations

5.7.3 Price trends for soybeans

Figure 68 illustrates the domestic (SAFEX) import and export parity prices at Randfontein for soybeans. The domestic average price decreased by 26.8% from December 2016 (R6 510/ton) to December 2017 (R4 765/ton). The import parity price decreased by 3.4% over the same period, while the export parity price increased by 18%.

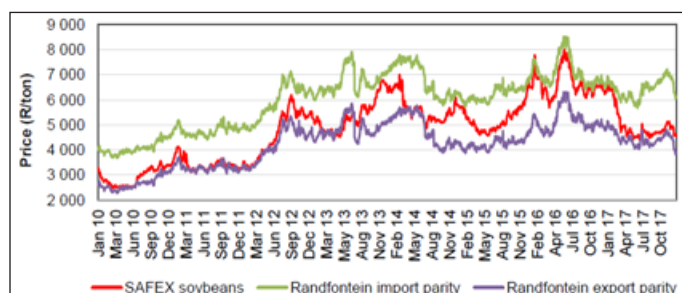


Figure 68: Soybean SAFEX import and export parity prices in SA

Source: Grain SA (2018) and own calculations



5.8 Vegetable sector

Figure 69 depicts the volumes of selected fresh vegetables sold at the national fresh produce markets from January 2010 to December 2017. The total volumes of potatoes, onions and tomatoes sold increased by 17.66%, 3.89% and 0.47% respectively between 2016 and 2017. The total volume of cabbage decreased by 0.11% between 2016 and 2017.

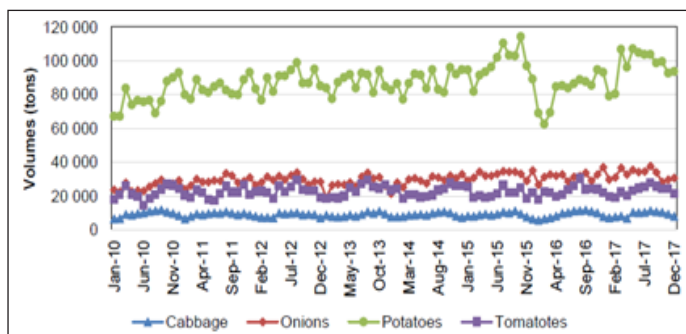


Figure 69: Volume of selected vegetables sold at fresh produce markets

Source: DAFF (2018) and own calculations

The market price trends for selected fresh vegetables from January 2010 to December 2017 are shown in Figure 70. The market prices for selected vegetables were, on average, lower in 2017 compared to 2016. In nominal terms, the average decrease in market prices, per ton, of onions and potatoes were 28.31% and 26.62% respectively in 2017, as compared to 2016. The average market price per ton of cabbages and tomatoes were 8.85% and 3.48% higher in 2017, as compared to 2016.

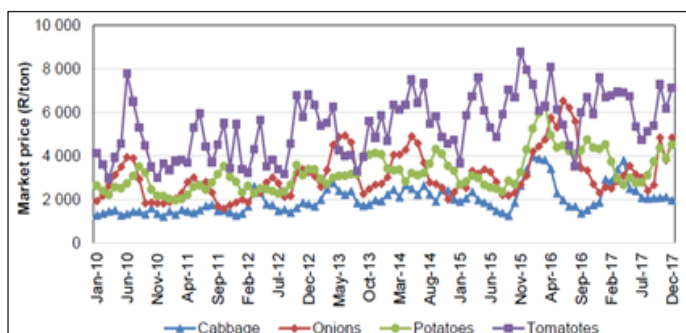


Figure 70: Market price trends for selected fresh vegetables

Source: DAFF (2018) and own calculations

Figure 70 illustrates the nominal retail price trends for selected fresh vegetables from January 2011 to December 2017. The prices for fresh onions, potatoes and tomatoes, per kg, decreased by 12.44%, 9.66% and 4.59% respectively between 2016 and 2017. The average retail price of fresh cabbage per kg increased by 6.61% between 2016 and 2017.

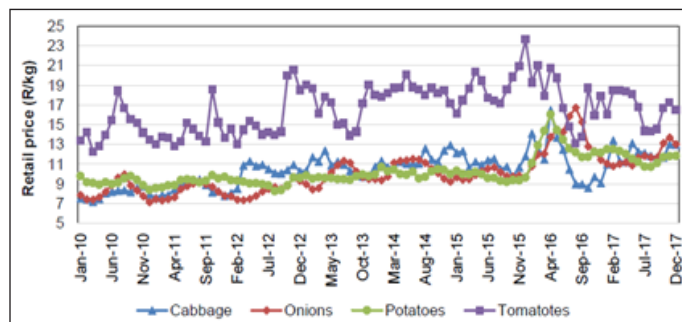


Figure 71: Retail price trends for selected fresh vegetables

Sources: Stats SA (2018) and own calculations

Figure 72 depicts the annual changes in the prices of vegetables between 2013 and 2017. The most notable trend is how cauliflower and lettuce had the highest prices annually. It is also evident that the prices of most vegetables decreased during 2017. The prices of cabbage, avocados and cauliflower, however, increased in 2017, in comparison with the years under review.

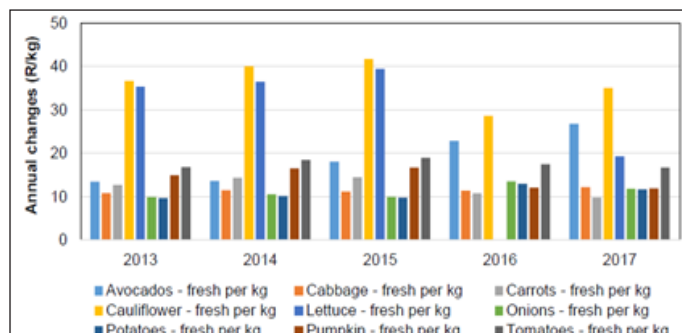


Figure 72: Retail price trends for selected fresh vegetables – annual changes

Sources: Stats SA (2018) and own calculations

5.9 Fruit Sector

Figure 73 depicts the retail price trends for selected fruits from January 2011 to December 2017. On average, the retail prices for the selected fruits were higher in 2017 compared to 2016. The average prices per kg of bananas, apples and oranges were 7.08%, 5.52% and 4.29% higher respectively in 2017, as compared to 2016.

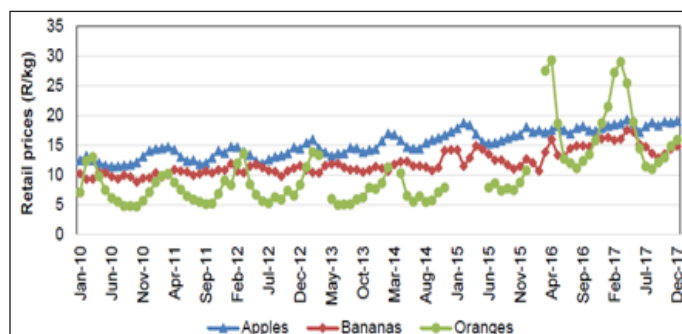


Figure 73: Retail price trends for selected fresh fruit

Source: Stats SA (2018) and own calculations



6. SELECTED TOPICS

6.1 Rural households' food expenditure assessment

6.1.1 Introduction

This article provides a brief overview of the rural food environment, the factors influencing access to food suppliers in said environment, as well as the comparison of household characteristics that could potentially influence the money spent on food. In other words, it looks at the availability and location of food stores and food markets, the transaction costs of getting the food, and the household features that are likely to influence the budget allocation for food. The idea is to attempt to come to a conclusion on how these factors play out in influencing the affordability as well as access to food by rural households. Subsequently, this could have an influence on access and the ability to purchase nutritious food, thereby all the factors combined would tend to influence the level of food security.

6.1.2 The rural food environment

Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (FAO, 2006). Although South Africa is food secure at a national level, it faces a structural household food insecurity problem (HSRC, 2007). However, there is no specific and accepted measure of this phenomenon and there are no regularised ways of monitoring it (Altman, Hart & Jacobs, 2009). In addition, food security is multidimensional in nature and changes over time, making accurate measurement and policy targeting a challenge.

According to the IAC (2004) the root cause of food insecurity in developing countries is the inability of people to gain access to food due to poverty. Mwaniki (2006) argues that all constraints to food security affect the livelihoods of rural households as they contribute to insufficient access to food. Hence, rural households rely on farming to supplement other sources of food in order to improve their food security status, and this is the reason the majority consume their produce and sell the surplus to generate extra income.

According to Baiphethi and Jacobs (2009) there is a general consensus that households access food mainly through three sources, namely the markets, subsistence production and transfers from public programmes or other households. Access to adequate food at a household level increasingly depends on how food markets and distribution systems function (Altman et al., 2009). This section looks at options available for rural households to access food, mainly through own production and food markets (informal and formal).

Own production

Subsistence agriculture can play an important role in livelihood creation amongst the rural poor, although there is a need to significantly increase productivity to ensure long-term food security (Baiphethi & Jacobs, 2009). Rural households use farming to fight food insecurity which is why the majority consume their produce and send some to the market, to generate some form of income.

Informal markets

The informal market segment produces and distributes goods and services for a population that cannot afford what the modern economy produces and markets (Hitima, Allen & Heinriings., 2011). The size of this market segment is said to be 2.5 times the entire size of the agricultural sector (Ndabeni & Maharajh, 2013). Harris-White and Sinha (2007) characterise the informal market broadly as consisting of units engaged in production of goods or services operating typically at a low level of organisation, with little or no division between labour and capital as factors of production. It is often seen as an important component in expanding economic participation as it can have a positive effect on poverty, if it rises as an offshoot of the rapidly growing formal sector (Altman, 2008).

Efforts to improve the performance of the sector should be seen in light of the potential contribution of the informal sector to increasing the overall performance of the economy, including its provincial and local productive economic capabilities (Ndabeni & Maharajh, 2013). Informal markets generally also support local food systems, which can be argued to be more socially and environmentally sustainable than large-scale, industrial food systems. Louw, Jordaan and Ndanga (2008) identify informal markets as part of a spot mechanism. Below is a description of two types of informal market segments that rural households use to access food, i.e. hawkers and spaza shops.



■ Hawkers

Street hawking is practised in almost all major cities and rural towns of South Africa. Hawking plays an important role in the urban economy, providing necessary items that are largely durable and cost-effective to average income-earning households at an affordable rate. Fresh and locally produced agricultural products are sold by hawkers mainly found in front of municipal markets and around schools, commuter spots, hospitals and gardens, traffic junctions and central business districts (Mthombeni, Anim & Nkoki-Mandleni, 2014). Hawkers are one of the market options available for rural households to access food.

■ Spaza shops

Spaza shops are small grocery shops or convenience stores (Liedeman, 2013). The actual size and composition of the South African spaza market is poorly understood. The decline of South African spaza shops has long been predicted because they appear to be uncompetitive, and the precise nature of this uncompetitiveness has been poorly understood (Bear, Bradnum, Tladi & Pedro, 2005). The majority of spaza shops are not registered and mostly do not adhere to the municipal rules for conducting business in residential areas (Liedeman, 2013). Rural households utilise spaza shops to procure food since they are mostly situated within residential areas where consumers can easily access them without having to spend on transport.

■ Formal retail markets

Supermarkets and fast food chains have become important players in the South African food system (Louw et al., 2008). Supermarkets and retailers are a key route to market for food, thus they wield a great deal of power in the value chain (Ncube, 2018). There are four large domestic food retail chains in South Africa, namely Shoprite/Checkers, Pick n Pay, Spar and Woolworths. According to Louw et al. (2008) the food market share for supermarkets is at an increasing rate. This may influence marketing opportunities for smallholders who are also providing food for rural households. Deep rural households are limited in terms of access to these formal markets since they are mostly situated at a travelling distance. However, they do use these markets to access food, though in deep rural areas they only buy in bulk once a month from these supermarkets when they have access to transport to go to town. According to a study done by D'Haese and Van Huylenbroeck (2005), the majority of households go to supermarkets in the nearest city for most of their shopping and experience transport challenges when procuring from these markets. Hence, one family member would take a minibus taxi once or twice a month to buy the most needed goods in bulk.

Concluding remarks

Rural households rely on farming to supplement other sources of food in order to improve their food security status. The informal market also contributes significantly to the food security of the most vulnerable rural populations. Moreover, formal grocery stores such as supermarkets also play a meaningful role for rural households as they offer a variety and quality of food products for households to choose from when they do their monthly grocery shopping. The next section looks at the factors that influence access to food.

6.1.3 Factors influencing rural households' access to food

Distance to food suppliers

People residing in rural areas identified as low income with limited access to food spend on average more than 19.5 minutes travelling to a grocery store, which is more than the national average travelling time of 15 minutes (Sakyi, 2012). According to Sakyi (2012), the distance to store, travel time to store, car ownership by the household and how difficult it is for households to get to a supermarket are used as the measures of household food access.

The informal food retail sector remains an important conduit for the distribution of food in rural areas of South Africa, while relying heavily on the formal sector to produce a large proportion of the food itself (Crush & Frayne, 2011). Supermarkets have increasingly penetrated urbanised areas in the former homelands over the past decade (with the provision of social grants a key factor in boosting effective demand). However, their reach remains limited, and rural populations living in remote areas have to travel long distances to gain access to food (Crush & Frayne, 2011). As such, street vendors, hawkers and spaza shops play an important role in bringing food closer to these remote populations.

■ Rural road networks in South Africa

Smith and Visser (2001) and Lishman (2013) indicate that rural road networks consist of 301 000 km (gravel) and 63 000 km (surfaced) roads in South Africa. Furthermore, research suggests that only 34% of rural people live within 2 km of all-season roads in Africa, compared to 65% in other developing countries (Chamorro & Tighe, 2009; Roberts, Shyam & Rastogi, 2006).

■ Modes of transport used

In many cases, rural populations depend mainly on walking and carrying items. This reduces the time available for more productive activities and, to some degree, it reinforces their state of poverty (Bryceson & Howe, 1992). A major reason for lack of access to transport in rural areas of South Africa has been inadequate road networks. Hence, robust rural road network development is needed to reduce poverty, improve rural livelihoods and increase economic growth (Altman et al., 2009).

Concluding remarks

The topic was to analyse factors influencing rural households' access to food, and it indicates that most of the rural households travel long distances to access food from grocery stores (formal retailers), while hawkers, street vendors and spaza shops play an important role in conveying food closer to the rural households. A major reason for limited access to transport in remote areas of South Africa has been inadequate road networks. The next section compares household characteristics that could potentially influence the amount of money spent on food.

6.1.4 Comparison of household characteristics and their influence on food expenditure

The analysis of the households is based on a sample of 31 households from the Eastern Cape. One of the reasons for targeting this province is that the NAMC is implementing the National Red Meat Development Programme (NRMDP), which aims to improve communal livestock breeding systems and formal market access for communal livestock farmers. Therefore, the basis for the decision to work with these farming households was the presumption that it would be easy to get access to them, through the NRMDP. This implies that the NRMDP was used merely as a way of getting access to the households. The analysis is based on a sample of 31 communal farmers.

Figure 74 shows that, based on the survey, a larger proportion of the households are headed by men compared with their female counterparts. An interesting question here is to what extent does this pattern play out in household decision-making? Figure 75 shows the education level of the household heads.

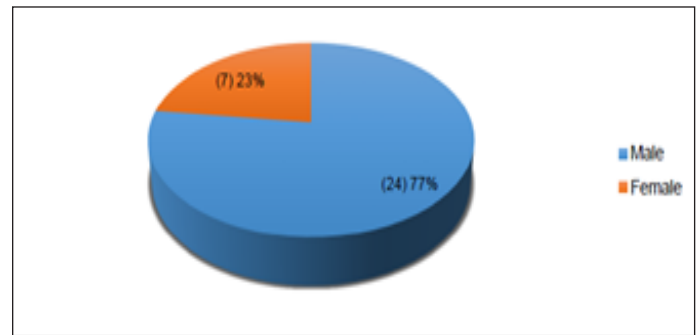


Figure 74: Gender distribution

Source: Own calculations from a household survey (2018)

Education is known to play a critical role upon individuals as it has the potential to enhance their ability to obtain, process and use information that may improve the production process. In other words, education makes it somewhat easier for individuals to adopt new technologies and new innovative ways and strategies that directly lead to increased productivity. Figure 75 shows that a larger proportion of the household heads had obtained secondary education level (32%), followed by those that had obtained primary education level (29%) and those that had never attended school (29%), while very few (10%) had a tertiary education. In other words, the results show that only 42% of the sampled household heads may have the ability to process written information or can write themselves. To what extent could this influence their decision-making? Unfortunately, there is no solid answer to this question yet.

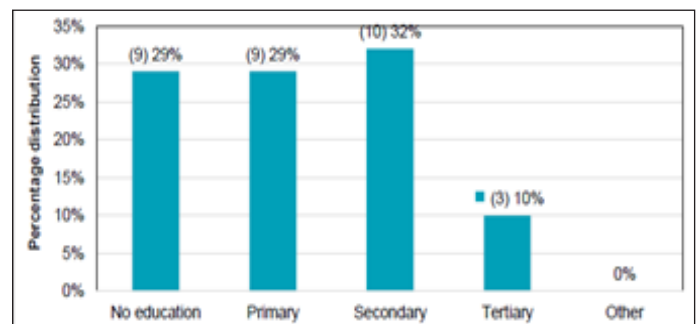


Figure 75: Level of education

Source: Own calculations from a household survey (2018)

The results show that the majority of the household heads were pensioners (45%), followed by those that were unemployed (35%). Only 20% (combined) of the sampled household heads were either in formal employment or running small businesses for cash income. Following this analysis, it is expected that farming activities could play one of the main roles as a source of extra income for the majority of households. The results are presented in Figure 76.



Figure 76: Employment status

Source: Own calculations from a household survey (2018)

The results indicate that the deduction that was made about farming activities being one of the main sources of extra income was correct. Figure 77 shows that social grants remain the largest (58%) source of income for the sampled households, while farming activities emerged as the second largest (16%) source of income. However, non-farming activities combined constitute the second largest (36%) source of income for the sampled households. This also highlights the scale of the farming activities, but not undermining the value of farming, particularly the value of cattle in communal livelihoods.

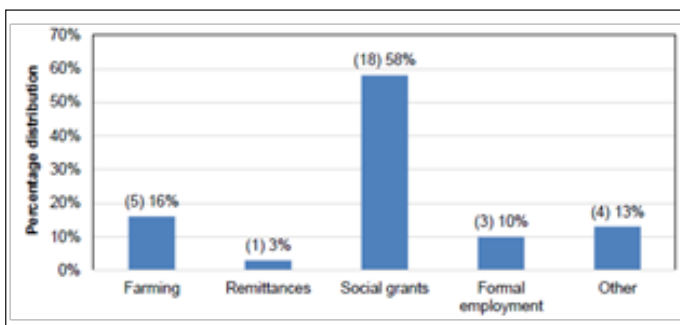


Figure 77: Sources of income

Source: Own calculations from a household survey (2018)

Table 34 presents the mean values of age, household size, number of dependants, land size, number of cattle and number of sales. These variables could have an influence on the decision of households to spend certain amounts on certain things as they may give an indication of the ability of household heads to stimulate the decision-making process, the number of members to be accounted for, as well the resources that could potentially enable the derivation of income.

Table 34: Variables with mean values

Variables	Mean	Standard error
Age	61	2.67
Household size	8	1.28
Number of dependants	5	0.84
Land size	2	0.77
Number of cattle	13	2.25
Number of sales	2	0.39

Source: Own calculations from a household survey (2018)

Table 34 shows that the average age distribution of the sampled household heads is 61 years. The average household size is eight (8) people per household. Noteworthy is that the number of people depending directly on the household head falls below the average household size. This may be due to the fact that some people may be receiving child support grants for their children. Therefore, those children may directly depend on their parents rather than the grandparents.

A larger proportion of the sampled households indicated that they do not own the land to which they have access. However, the average land size that they have permission to occupy is two hectares. This is because there were fewer individuals that indicated they actually own land and they have larger land size for farming purposes.

The average cattle herd size is 13 cattle. The households tend to sell about two cattle per annum to generate income. This may indicate that the sales are a mere cushion against shocks in the sense that they seem to be driven by the need or households' financial requirements at a particular moment. However, that is one side of looking at the matter. The other would be the fact that the average herd sizes are small, which makes farmers a bit hesitant to sell, given that they use cattle for many different reasons, including draught power.

Table 35: Household income versus food expenditure

Variables	Mean	Standard Deviation	Frequency
Household income	R5 011.87	7 789.03	31
Household food expenditure	R1 306.45	1 157.28	31

Source: Own calculations from a household survey (2018)

Table 35 shows that the average income received by the sampled households is R5 011.87 with a large variation, from R1 000.00 to R40 000.00. The money that goes into buying food stands at R1 306.45, varying from R500.00 to R7 000.00. This means that, on average, sampled households spend 26% of their income on food. However, if you make a simple comparison and take the extreme ends, you would find that the households at the lowest bracket spend 50% of their income on food, while those at the highest bracket spend about 17%.

Next, a simple regression analysis was run using an Ordinary Least Squares (OLS) method to determine the extent to which other variables influence the money spent on food. The results are given in Table 36 below.

Table 36: Regression analysis

Variables	Coefficients	Standard error	P> t
Constant	492.84	323.20	0.141
Occupation	212.02	285.26	0.465
Household income	0.103	0.021	0.000
Household size	-19.22	24.66	0.444
Number of dependants	57.27	46.40	0.230
Land size	20.94	38.19	0.589
Number of cattle	9.68	16.46	0.562
Number of sales	-69.30	97.31	0.484

Number of observations = 31, F (7, 23) = 8.75 and R-squared = 0.7270
Source: Own calculations from a household survey (2018)

The results show that only one variable does significantly influence the expenditure on food – this is household monthly income. When you increase the household income by one unit, the money spent on food increases by R0.10. This is a small but significant correlation. Only two variables had a negative influence, namely household size and the number of cattle sold per annum. The reason could be that the proportional increase in the money spent on food is lower than the proportional increase in the household size, such that it becomes negative as the household increases versus a certain amount of the income. With regard to the number of cattle sold, the reason could be that the cattle are used mainly as a buffer against shocks. Therefore, the sales of livestock are informed by a certain need of money at a point in time. However, it is only 73% of the proportion of the variance in the dependent variable that is predicted from the independent variables as indicated by the R².

Conclusion

This article provided a brief overview of the factors that contribute to rural household food insecurity, particularly those that put a lot of pressure on the already lower incomes (in relative terms) thereby reducing the purchasing power of these households and their ability to afford nutritious food. Firstly, some of these households are situated in poorly developed areas where there is poor access to road networks that connect people with food suppliers, mainly food stores and supermarkets that offer quality food at reasonable prices. Secondly, due to poor road networks, it means that there is some walking distance to the nearest road, and there is also some distance to the nearest towns where supermarkets are situated.

This implies that there is an opportunity cost in terms of time that could have been spent on other productive activities at home. Furthermore, there is an increase in the transaction cost of getting food, as the money is spent on the transport fare and bearing in mind that there is a cost charged for bulk foodstuffs for being loaded in the vehicle. This makes the cost of getting food from the retail stores and supermarkets higher.

In addition, rural households receive lower household monthly incomes relative to the household size – mainly depending on social grants. As such, they tend to spend a larger proportion of their income on food and forgo other investments. This may be regarded as a poverty trap. Hence, the informal markets such as hawkers and spaza shops play a big role in the rural space. However, there are questions about the quality of food they supply, given that they are not properly structured to properly store food for a long time.

Therefore, either way, the rural households struggle to get access to nutritious and quality food because:

- i. The higher transaction costs of getting to the supermarkets reduces their budget for food, and therefore they tend to be more responsive to the increase in the price of meat, milk, etc. This compromises the nutritional value of their food basket;
- ii. The informal markets in rural areas are often not fully equipped to offer fresh food, yet they are most convenient for rural households to get much-needed foodstuff before the next payday.

Hence, these households tend to rely on agricultural production as one of the main sources of food. In other words, although they produce at a small scale, rural households' agriculture production remains a main buffer against food insecurity. Therefore, rural infrastructure development could play a huge role in reducing food insecurity. Creation of markets through innovative ways of resuscitating the informal market, governments can support smallholder production and open market infrastructure, where people could sell their produce. One of the benefits from this is that the money will circulate within different localities, thereby enabling further development and eventually reducing the effects of poverty and food insecurity.

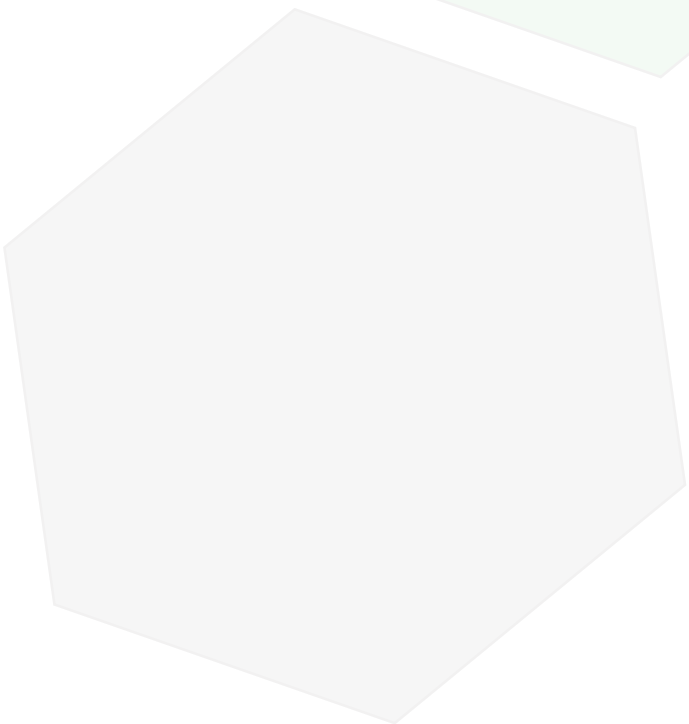
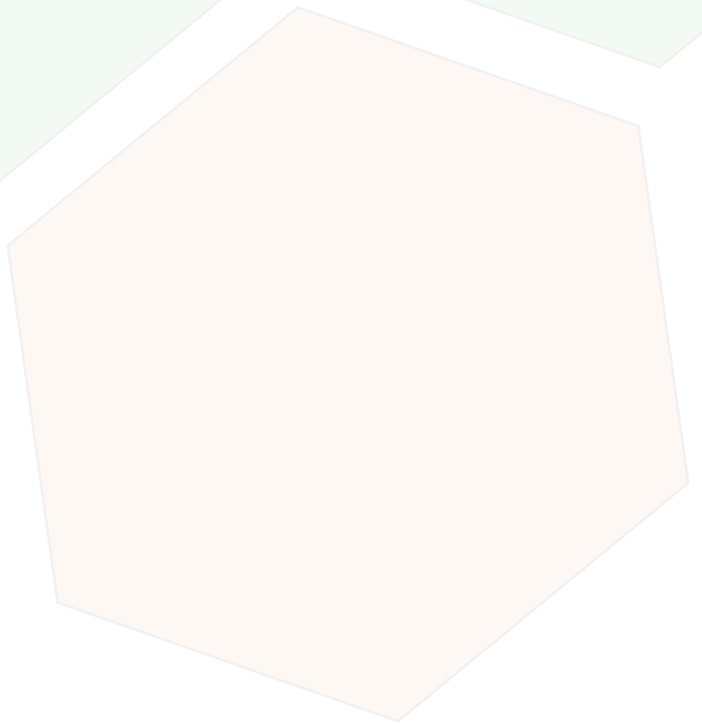
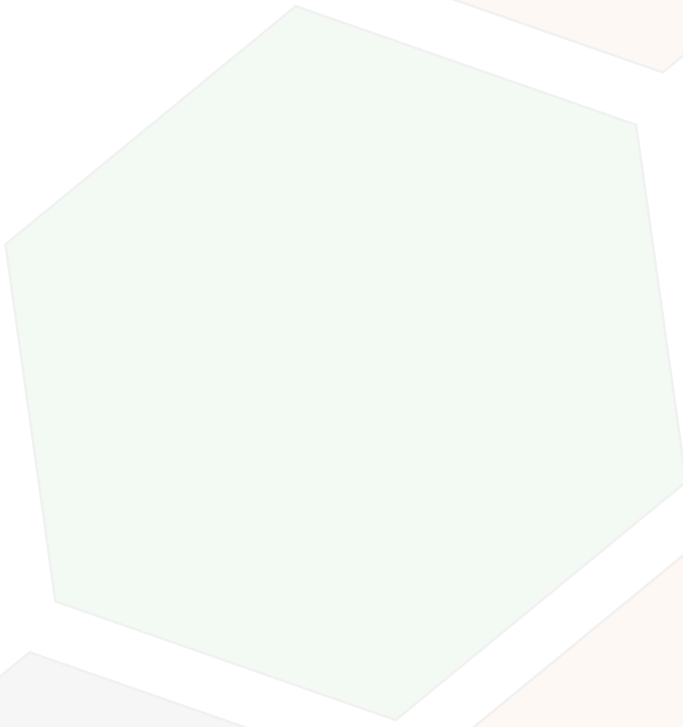
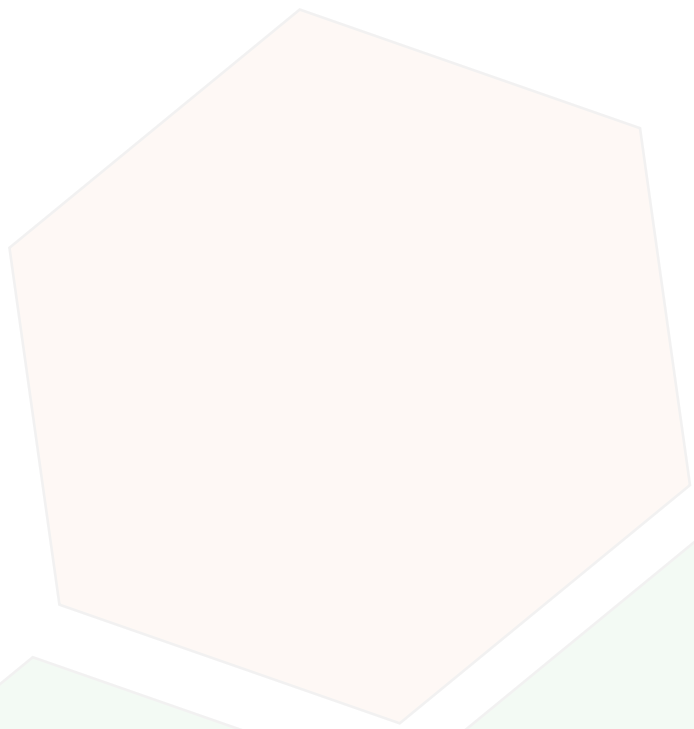


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