



FOOD COST REVIEW

2021

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This publication attempts to provide more insight into the complex factors driving commodity and food prices. This is the 16th 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 up to April 2021, where possible.

FOREWORD

During the past year the South African food system was tested significantly, notably by the unexpected COVID-19 pandemic. The first lockdown announcement meant that the informal market would stop trading, which resulted in riots and increased food insecurity, showing that researchers still have a lot to learn about the South African informal food market. Luckily these restrictions were uplifted two weeks after implementation. Other sectors like the fast-food service, restaurants, tobacco, and alcoholic beverage sectors were hard-hit by the lockdown, resulting in a spiral of negative growth for these industries, increasing unemployment figures.

It is important to note that an economic global slowdown effect was experienced on agricultural product prices before the lockdown. The Food and Agricultural Organisation (FAO) indicated that the food price index already decreased by 6% from January to March 2020, with meat prices decreasing by 9% and grain prices dropping by 2%, while the price of dairy products moved sideways. An increase in maize and wheat prices were experienced on a global scale.

When the lockdown was announced, South African consumers rushed to stock up with food. Economists expected that a very sharp decrease in the demand for food would be visible shortly after the announcement, but this was not the case. Home cooking increased and the demand for home cooking products increased on a national level and across the globe. Especially high increases were experienced in vegetables and fruits. The lockdown also resulted in an increase in demand for essential food items like bread, maize meal, oranges, apples, and certain meat items. World rice supplies decreased due to export regulations, increasing prices. The world vegetable oil supply also decreased due to a shortage of palm oil.

The South African economy contracted by 51% in the second quarter of 2020. The GDP fell more than 16% in the second quarter of 2020. Historical data for the past 60 years indicates that this contraction was the biggest ever. South Africa also experienced the lowest production since the first quarter of 2009. Household spending also decreased by close to 50%. The agricultural industry was the only sector able to keep its head above water as the economy plunged.

As previously mentioned, the South African agricultural sector was the sector least affected by COVID-19. With a dramatic decrease in fuel prices, decrease in the interest rate, depreciation of the exchange rate and an increase in the demand for food, the agricultural economy sector show good economic growth. Nonetheless, the impact of COVID-19 on an ailing South African economy will result in a change in consumers' preferences and maybe also in a decrease in demand for the future.

Dr Simphiwe Ngqangweni - Chief Executive Officer: National Agricultural Marketing Council

EXECUTIVE SUMMARY

About this publication

In October 2002, the Cabinet approved the establishment of a food price monitoring mechanism (Food Pricing Monitoring Committee) in accordance with the Agricultural Marketing Act. The Food Pricing Monitoring Committee was appointed in January 2003 with specific terms of reference. A central part of the terms of reference related to the analysis of the price formation mechanisms in supply chains of basic foodstuffs. The research output of the committee provided a useful foundation upon which the state can monitor trends in food prices, food processing costs and FTRPS.

This is the sixteenth publication of the South African Food Cost Review and it provides a specific overview of trends in food price inflation and food prices at the retail level. An analysis of commodity prices and FTRPS is given. This publication also reports on several factors that directly or indirectly affect the agricultural sector, including domestic economic developments, consumer dynamics, climate change, the oil market, transport, input costs and agricultural trade.

Global food price trends

During the first five months of 2021, global food prices significantly increased (FAO, 2021a), with the Food Price Index (FFPI) averaging a three-year high of 119.1 points (20.2%) higher when 99.1 points were recorded in 2020, surpassing the 2011 high. The international Food Price Index increased, on average, by 3.7% from 2019 to 2020, year on year (y-o-y). The global commodities market during 2020 was affected by the coronavirus (COVID-19), where certain countries implemented trade restriction instruments. For example, in March 2020, Russia imposed a temporary ban on rice, wheat, maize and barley exports, while Romania suspended grains exports to non-EU markets (FAO, 2021b). The vegetable oils sub-index averaged 173.8 points, up 95.1 points (121%) y-o-y, the highest since 2008 (173.4 points) (FAO, 2021c). The main contributors to price hikes in vegetable oils were (i) export duties from Indonesia, which is the leading supplier of palm oil, following excessive rain, which negatively affected yields and (ii) limited soybean exports from Argentina, which were affected by prolonged strikes in crushing companies and some logistical glitches at the ports and (iii) rising demand from the global market, particularly from China.

Trends in agriculture trade

South Africa exports more unprocessed products than it imports. In 2020, South Africa exported R94 344 million worth of unprocessed agricultural products. The Netherlands was ranked as the main market destination for South Africa's unprocessed agricultural exports, constituting about 14.9% in 2020. The United Kingdom (UK) came second with 9.3%, followed by China (5.4%), United Arab Emirates (UAE) (5.4%) and Botswana (4.1%), respectively. About R43 570 million worth of unprocessed products were imported in the same period and Thailand was the principal supplier (mainly supplying rice) with a 12.8% contributing share. Brazil came second with a contributing share of 8.4%, followed by India (7.7%), Poland (6.9%) and Namibia (5.7%), respectively.

South Africa imported about R43 750 million worth of unprocessed agricultural products – an increase of 5.3% compared to the 2019 value. The top 10 imported products constituted about 63.3% of the total imports of R43 570 million. Most unprocessed agricultural products are imported due to limited production capacity and unfavourable planting conditions. Rice was ranked as the main imported product with a share value of 19.8%, mainly supplied by Thailand (63.1%), India (28%) and Brazil (4.8%), respectively.

Trends in input costs & PPI

The terms of trade at the primary agricultural level have deteriorated significantly over time. There was, however, some relief during the commodity price boom from 2005 to 2007. The terms of trade for primary agriculture reached a peak in 2007, then decreased drastically up until 2010. The terms of trade for primary agriculture increased slightly by 0.7% in 2020 compared to 2019.

The overall financial position of primary producers is constantly under pressure. Between 2019 and 2020, the real net farm income, real gross income and real expenditure on intermediate goods and services increased by 35.8%, 12.2% and 3.0%, respectively.

According to the Fertilizer Association of Southern Africa (Fertasa, 2021), South Africa imported 2.2 million tons of overall fertiliser and exported 667.3 tons of fertiliser in 2020. The price of urea increased by 3.5%, while potassium chloride (KCL) and mono-ammonium phosphate (MAP) decreased by 3.7% and 1.0%, respectively, between 2019 and 2020.

The crude oil price showed a decrease of 32.0% from 2019 to 2020. The price decreases during 2019 and 2020 mainly reflected a slowdown in oil demand due to COVID-19 regulations and the US-China trade war weakening the global economy. The average value of crude oil was USD43.40/barrel in 2020.

Domestic fuel price trends between 2019 and 2020 were as follows: 0.05% sulphur diesel at the coast and 0.05% sulphur diesel in Gauteng decreased by 11.3% and 10.0%, respectively, while the crude oil price decreased by 32.0%.

In 2020, the Eskom tariff increase decreased by 36.8% compared to 2019, which was still above inflation.

From 2012 to 2020, the Producer Price Index (PPI) of electricity and water, mining, final manufactured goods (headline PPI), intermediate manufactured goods, and agriculture, forestry and fisheries (AFF) increased by 104.0%, 97.7%, 49.8%, 49.8%, and 37.8%, respectively. During 2020, increasing trends were realised for mining (32.5%), electricity and water (10.2%), AFF (4.7%) and both final manufactured goods and intermediate manufactured goods (2.5%) when compared to 2019.

Inflationary trends for selected food items

The South African headline and food and non-alcoholic beverages inflation rates reached 4.4% and 6.3%, respectively, in April 2021. Provincially, the North West Province experienced the highest annual food inflation increase (4.9%) between April 2020 and April 2021, followed by the Eastern Cape and Limpopo (4.8%) and Western Cape (4.5%) provinces.

Trends in prices, farm values and price spreads

Poultry: The real FTRPS of fresh whole chicken increased by 37.5% and the farm value share decreased, on average, by 17.0% between 2019 and 2020. The average farm value share for fresh whole chicken per kg in 2020 was 45.6%. The annual average producer price of IQF chicken marginally decreased by 0.1% (from R23.74/kg in 2019 to R23.72/kg in 2020). Comparing the first four months of 2021 and 2020, the producer price of IQF, frozen and fresh chicken, increased by 7.6%, 5.8% and 2.7%, respectively.

Beef: The average real farm value share and the real FTRPS of beef increased by 29.5% and 7.9%, respectively, between 2019 and 2020. The average real farm value share and real FTRPS of beef reached 48.0% and R40.04/kg, respectively during the same time.

Lamb: The real farm value share and the real FTRPS of lamb increased by 16.5% and 12.3%, respectively, between 2019 and 2020. The real retail price of lamb was R136.08/kg, on average, during 2020.

Pork: The average real FTRPS increased by 7.1%, while the real farm value share decreased by 0.7% on average between 2019 and 2020.

Milk: In January 2015, the FTRPS was R8.48/ℓ, reaching a peak of R9.93/ℓ during May 2020. The average annual real FTRPS increased from R9.13/ℓ in 2019 to R9.26/ℓ in 2020.

Maize: The FTRPS showed high instability due to a substitution effect between special and super maize meal. When prices change, a likelihood arises that the consumer tends to switch to an affordable maize meal option as pressure on disposable income is realised. The FTRPS of super maize meal between 2017 and 2020 fluctuated between R4 200/ton and R3 515/ton.

Wheat: The retail price of white bread sliced increased by 3.52%, while brown bread sliced increased by 3.12% from 2019 to 2020. Total supply, including production, imports and carry-over stocks, was at 3 952 059 tons, while local demand was at 3 587 151 tons.

On average, the FTRPS for brown bread was R21 357/ton of flour in 2020, while the white bread average FTRPS was R21 951/ton of flour in 2020.

Vegetables: In nominal terms, the average market prices, per ton, of onions, cabbages, potatoes and tomatoes increased by 20.4%, 17.6%, 15.5% and 6.1%, respectively in 2020 as compared with 2019.

Fruit Sector: The average market price per ton of oranges and bananas increased by 34.5% and 23.4%, respectively, while the average market price per ton of apples decreased by 2.6% in 2020, as compared with 2019. On the retail level, the average prices per kg of oranges and bananas were 23.2% and 15.5% higher, respectively, while the retail price of apples decreased by 16.6% in 2020, as compared with 2019.

Selected Topics

COVID-19 response measures affecting agricultural trade

Following the outbreak of the COVID-19 pandemic in 2019, countries responded in numerous ways, including imposing lockdowns as well as effecting temporary trade measures. These measures are broadly categorised into trade-restrictive and trade-liberalising measures. Trade-restrictive measures aim to limit exports of agricultural products while liberalising measures aim to enhance imports of products of critical importance. Temporary trade measures on their own may not have had a significant impact on agricultural trade, given that most measures were in effect for a relatively brief period of time. However, to a great extent, the impact arose from a collection of other measures that are not directly linked to the agricultural sector. Despite all COVID-19-related bottlenecks, agricultural trade has proved to be resilient, which is key in saving lives and livelihoods, given that it enables communities to have access to food. There is thus a need at all costs to keep trade flowing across regions (within and beyond South Africa).

Smallholder farmers: Are they contributing to the availability and affordability of food?

As an occupation, agriculture generally occurs on a large commercial scale as well as on a small subsistence scale, where approximately 95% of agricultural output is produced by commercial farmers, with about 250 000 smallholder farmers producing the remainder. Nonetheless, the smallholder farmers' contribution to the sustainable development goals of poverty eradication, ending hunger, industry innovation, provision of decent work and responsible production is critical. Public-private partnerships that unlock financial investment on smallholder farmers are also crucial to unleash the potential contribution of these farmers to food security – availability and affordability. Despite the mixed findings on the contribution of smallholder farmers to food security, the existing evidence highlights the great potential of these farmers in respect of food availability and affordability, employment creation and economic growth for the country.

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Abbreviations/Acronyms

AFF	Agriculture, Forestry and Fisheries
AGRA	Alliance for a Green Revolution in Africa
AMT	Agrimark Trends
BFAP	Bureau for Food and Agricultural Policy
CAADP	Comprehensive Africa Agriculture Development Programme
CEC	Crop Estimates Committee
c	Cent
Coronavirus	COVID-19
CPI	Consumer Price Index
DAFF	Department of Agriculture, Forestry and Fisheries
DALRRD	Department of Agriculture, Land Reform and Rural Development
DAP	Diammonium Phosphate
DoL	Department of Labour
ED	Expenditure Deciles
EU	European Union
EEU	Eurasian Economic Union
FAO	Food and Agriculture Organization
Fertasa	Fertilizer Association of Southern Africa
FPI	Food Price Index
FRPI	Farming Requisite Price Index
FTRPS	Farm-to-Retail-Price Spread
g	gram
Grain SA	Grain South Africa
ha	Hectares
HS	Harmonised System
IFA	International Fertilizer Association
IGC	International Grain Council
IQF	Individually Quick Frozen
KCL	Potassium Chloride
KZN	Kwa-Zulu Natal
kg	Kilogram
km	Kilometre
kWh	Kilowatt Hour
ℓ	Litre
LDCs	Least Developed Countries
MAP	Mono-Ammonium Phosphate
ml	Millilitre
Mt	Metric ton
MOP	Muriate of Potash
MPO	Milk Producers' Organisation
NAMC	National Agricultural Marketing Council
NERSA	National Energy Regulator of South Africa
NFD	National Freight Database
OECD	Organisation of Economic Co-operation and Development
PPI	Producer Price Index
R	South African Rand
RSA	Republic of South Africa
S&DEC	Supply & Demand Estimates Committee
SAFEX	South African Futures Exchange
SAGIS	South African Grain Information Service

SAMPRO	South African Milk Processors' Organisation
SAPIA	South African Petroleum Industry Association
Stats SA	Statistics South Africa
UK	United Kingdom
UN	United Nations
UAE	United Arab Emirates
US	United States
USA	United States of America
USD (\$)	United States Dollar
USDA	United States Department of Agriculture
VAT	Value-Added Tax
y-o-y	Year-on-year

1. FOOD PRICE TRENDS

1.1. Global food price trends

During 2021 up to May, global food prices significantly increased (FAO, 2021a), with the Food Price Index (FPI) averaging a three-year high of 119.1 points (20.2%) higher when 99.1 points were recorded in 2020, surpassing the 2011 high. The international Food Price Index increased, on average, by 3.7% from 2019 to 2020, y-o-y, as illustrated in **Figure 1**.

The FPI is a trade-weighted food index measured on a monthly basis where international prices for five (5) major food groups commodities, namely cereals, vegetable oils, dairy, meat and sugar, are weighted. Of these food groups, the cereals, vegetable oils and sugar sub-indices contributed immensely to the overall FPI, whilst meat and dairy products declined when compared to the previous year. The global commodities market during 2020 was affected by the COVID-19 pandemic where certain countries implemented trade restriction instruments. For example, in March 2020, Russia imposed a temporary ban on exports of rice, wheat, maize and barley while Romania suspended exports of grains to non-EU markets (FAO, 2021b).

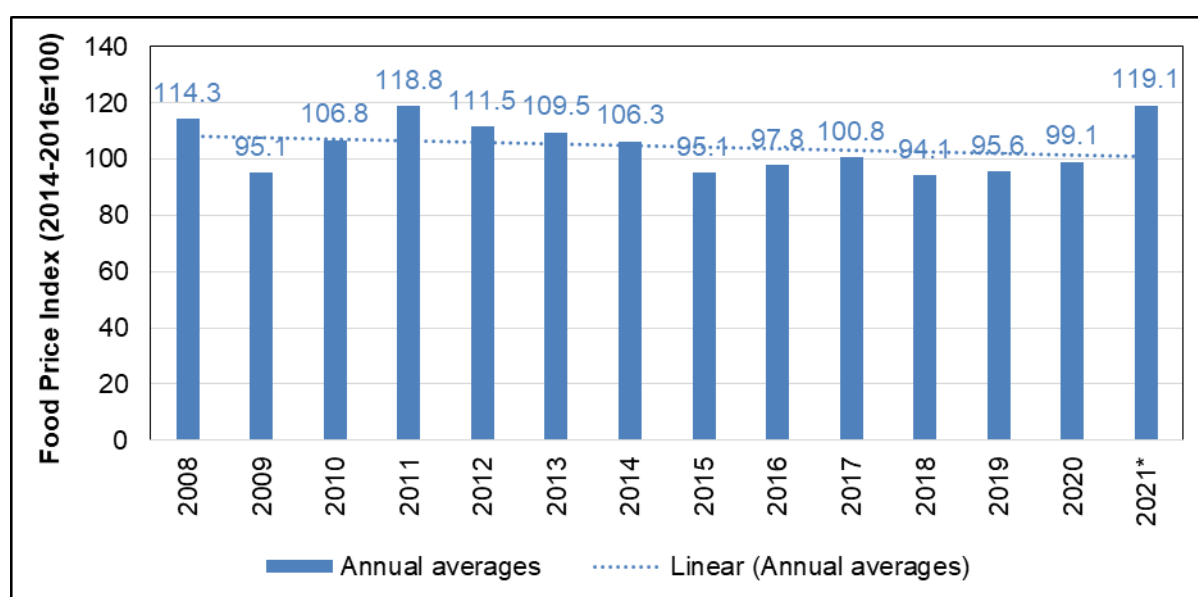


Figure 1: Annual averages for the International Food Price Index

Source: FAO (2021b)

*Note: including up to May 2021

As already mentioned, the COVID-19 pandemic affected food prices during 2020/21, as the prices of certain food groups rose noticeably since the beginning of restrictions in an effort to control the pandemic. **Figure 2** presents price sub-indices for the five (5) major food commodity groups. On an annual basis (May 2021 vs May 2020), the cereals sub-index averaged 132.1 points, which was 34.2% higher when compared to the 2020 average of 98.5 points. This increase can be attributed largely to tight supplies and strong demand for maize (5.6% higher) and wheat (7.6% higher) from the global market when compared to the 2019/20 marketing season. Rice also rose by 8.6%, y-o-y, the highest in six (6) years (IGC, 2021). This was mainly due to temporary export bans and logistical glitches during tight COVID-19 restrictions from global rice exporters such as Kyrgyzstan, Myanmar and Pakistan, to mention a few. The vegetable oils sub-index averaged 173.8 points, up 95.1 points (121%) y-o-y, the highest since 2008 (173.4 points) (FAO, 2021c). The main contributors to price hikes in vegetable oils were export duties from Indonesia which is the leading supplier for palm oil following excessive rain which negatively affected yields, as well as limited soybean exports from Argentina, which were affected by prolonged strikes in crushing companies and some logistical glitches at the ports and rising

demand from the global market, particularly from China. The sugar sub-index also increased significantly when compared to May 2020, averaging 106.1 points in May 2021, up 37.6 points (54.8%) y-o-y due to tight supplies from the global market due to rising demand in the food and beverage industries. The dairy and meat products sub-indices both showed noticeable increases, recording an increase of 26.3% and 10.8%, respectively, when compared to the same period in the previous year. Both meat and dairy prices were negatively affected by feed prices for maize and soybeans mainly, as well as disease outbreaks which partly affected meat prices at certain periods.

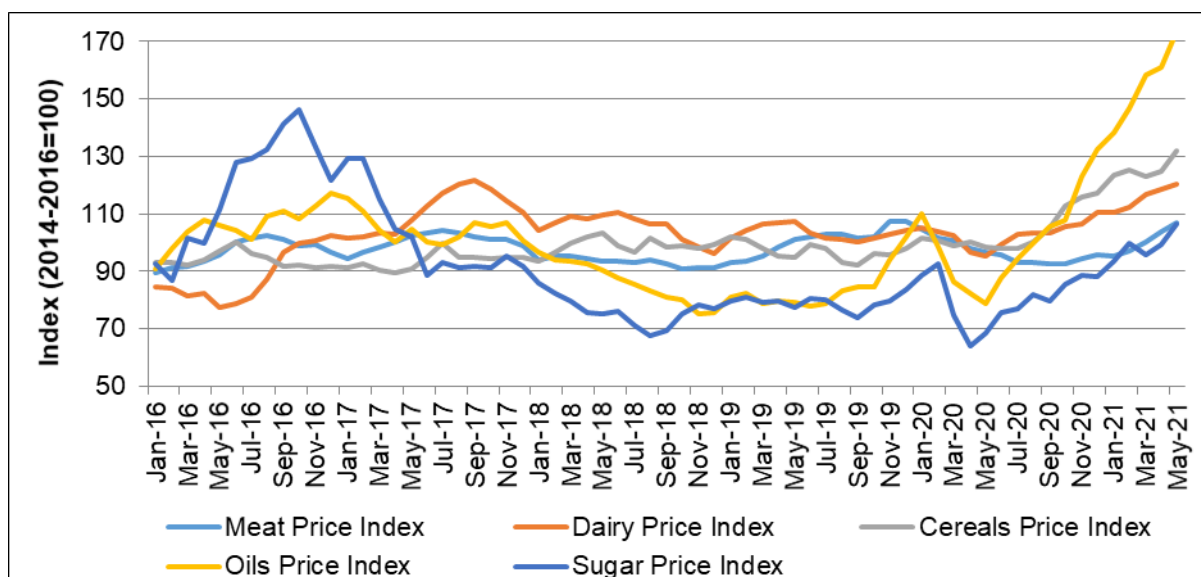


Figure 2: International price indices for various food categories

Source: FAO (2021b)

Global leading organisations monitoring agriculture are currently signalling uncertainty for the 2021/22 food outlook, especially for coarse grains. IGC (2021) predicts a new record of 2.301 million tons of coarse grains for the 2021/22 marketing season. However, food, feed and industrial uses are all projected to reach new records when compared to the 2020/21 season, leading to a drop in all grains stocks-to-use ratio to an eight-year low of 26%. As a result, the early 2021 focus of the Food and Agriculture Organization (FAO) of the United Nations (UN) for 2021/22 predicts resilient food trade and a continued strong global food price amidst the uncertainty surrounding supply and demand globally. The United States Department of Agriculture (USDA, 2021) is also pointing to firm trade for the 2021/22 season, as predicted by the FAO.

2. SOUTH AFRICA'S AGRICULTURE TRADE REVIEW

2.1. South Africa's agricultural trade review

2.1.1. South Africa's unprocessed agricultural trade

The term "unprocessed agricultural products" means food, fibre and other agricultural products that have not been packaged or otherwise prepared for retail sale, including animal products and unfinished cotton, wool, leather, or any other unfinished natural material (WTO, 2021). The raw materials or unprocessed agricultural products are covered under chapter 1 – 10 of the harmonised system (HS). **Figure 3** highlights the unprocessed agricultural trade performance between 2016 and 2020, measured in millions of Rands. It is evident that South Africa exports more unprocessed products than it imports. In 2020, South Africa exported R94 344 million worth of unprocessed agricultural products. The Netherlands was ranked as the main market destination for South Africa's unprocessed agricultural exports, constituting about 14.9% in 2020. The United Kingdom (UK) came second with 9.3%, followed

by China (5.4%), United Arab Emirates (UAE) (5.4%) and Botswana (4.1%) respectively. About R43 570 million worth of unprocessed products were imported in the same period, and Thailand was the principal supplier (mainly supplying rice) with a 12.8% contributing share. Brazil came second with a contributing share of 8.4%, followed by India (7.7%), Poland (6.9%) and Namibia (5.7%) respectively.

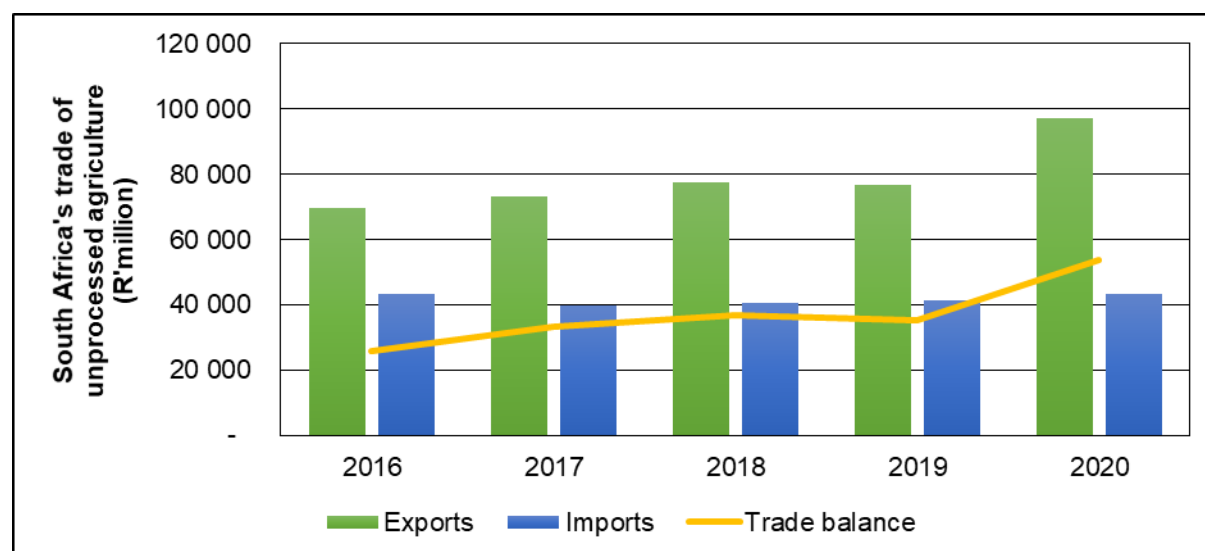


Figure 3: South Africa's unprocessed agricultural trade performance

Source: Trade Map (2021a)

South Africa has realised a positive response in terms of production and export performance, and in completion in supplying farm requirements and marketing. **Table 1** highlights the main unprocessed agricultural products exported by South Africa in 2020, measured in million Rands and percentages. The top 10 unprocessed agricultural products contribute about 60.7% of the total exports (R97 344 million). Oranges are depicted as the main exported unprocessed agricultural product, constituting about 13.4%, and mainly destined for the Netherlands, Portugal and UAE. Table grapes are ranked second with a contributing value of R8 507 million, followed by maize (R8 189 million), apples (R6 688 million), mandarins (R6 379 million) and lemons (R6 145 million), respectively. The country experienced a negative growth value of 0.6% between 2018 and 2019, which was mainly due to a decline in the exported value of oranges (10.7%), maize (34.9%) and grapefruit (15%). However, growth value between 2019 and 2020 positively improved by 26.5%, driven mainly by high increases in maize (123.3%), mandarins (69.4%), lemons (50.9%) and oranges (35.5%) respectively.

Table 1: Main unprocessed agricultural products exported by South Africa

HS Code		Value in R' Million					Share value (%)	Growth (%)	
	Product label	2016	2017	2018	2019	2020	2020	2018-19	2019-20
Primary Agriculture		69 703	73 334	77 380	76 930	97 344	100	-0.6	26.5
080510	Oranges	8 839	10 030	10 785	9 628	13 048	13.4	-10.7	35.5
080610	Table grapes	6 415	7 207	7 135	7 522	8 507	8.7	5.4	13.1
100590	Maize	4 451	5 808	5 631	3 668	8 189	8.4	-34.9	123.3
080810	Apples	5 275	4 979	5 111	5 397	6 688	6.9	5.6	23.9
080521	Mandarins	0	2 562	3 329	3 766	6 379	6.5	13.1	69.4
080550	Lemons	3 901	3 900	3 549	4 072	6 145	6.3	14.8	50.9
080830	Pears	2 792	2 661	2 550	2 641	3 114	3.2	3.6	17.9

HS Code	Product label	Value in R' Million					Share value (%)	Growth (%)	
		2016	2017	2018	2019	2020	2020	2018-19	2019-20
080262	Macadamia nuts, shelled	1 571	1 571	2 457	3 199	2 798	2.9	30.2	-12.5
080540	Grapefruit	1 564	1 754	2 370	2 015	2 158	2.2	-185.0	7.1
081040	Fresh cranberries	367	665	1 059	1 537	2 047	2.1	45.2	33.2

Source: Trade Map (2021b)

When it comes to unprocessed agricultural products, South Africa imports less than it exports, and this resulted in a positive trade balance of R53 774 million in 2020. **Table 2** highlights the main imported unprocessed agricultural products by South Africa in 2020, measured in millions of Rands and percentages. South Africa imported about R43 750 million worth of unprocessed agricultural products – an increase of 5.3% when compared to the 2019 value. The top 10 imported products constituted about 63.3% of the total imports of R43 570 million. Most unprocessed agricultural products are imported due to limited production capacity and unfavourable planting conditions. Rice was ranked as the main imported product with a share value of 19.8%, mainly supplied by Thailand (63.1%), India (28%) and Brazil (4.8%) respectively. Wheat came second with a value of R8 059 million, followed by frozen chicken cuts (R2 898 million), frozen chicken uncut (R1 713 million) and live cattle (R1 709 million), respectively.

Table 2: Main unprocessed agricultural products imported by South Africa

Code		Value in R' Million					Share value (%)	Growth (%)	
	Product label	2016	2017	2018	2019	2020	2020	2018-19	2019-20
Primary Agriculture		43 569	39 867	40 541	41 383	43 570	100	2.1	5.3
100630	Semi or wholly milled rice	5 958	6 126	6 166	6 192	8 614	19.8	0.4	39.1
100199	Wheat and meslin	4 529	4 378	5 352	5 695	8 059	18.5	6.4	41.5
020714	Frozen chicken cuts	3 978	4 302	4 837	4 006	2 898	6.6	-17.2	-27.7
020712	Frozen chicken uncut	1 031	1 597	1 174	1 551	1 713	3.9	32.1	10.4
010229	Live cattle	631	1 976	2 148	1 682	1 709	3.9	-21.7	1.6
050400	Guts, bladders etc.	1 046	1 561	1 617	1 735	1 611	3.7	7.3	-7.2
090111	Coffee	786	842	728	765	881	2.0	5.1	15.1
030353	Frozen sardines	586	648	816	1060	719	1.6	29.9	-32.2
040210	Milk and cream	197	315	236	489	703	1.61	107.3	43.7
020329	Frozen meat of swine	877	945	963	886	682	1.56	-8.0	-23.0

Source: Trade Map (2021b)

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 effect 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., farmers' prices for their outputs, divided by the prices paid for farm inputs. The terms of trade at the primary agricultural level have deteriorated significantly over time, as illustrated in **Figure 4**. There was, however, some relief during the commodity price boom from 2005 to 2007. The terms of trade for primary agriculture reached a peak in 2007, then decreased drastically up until 2010.

The increase from 2013 continued during 2014, 2015 and 2016, after which the trend was downwards again. The terms of trade for primary agriculture increased slightly by 0.7% in 2020 compared to 2019.

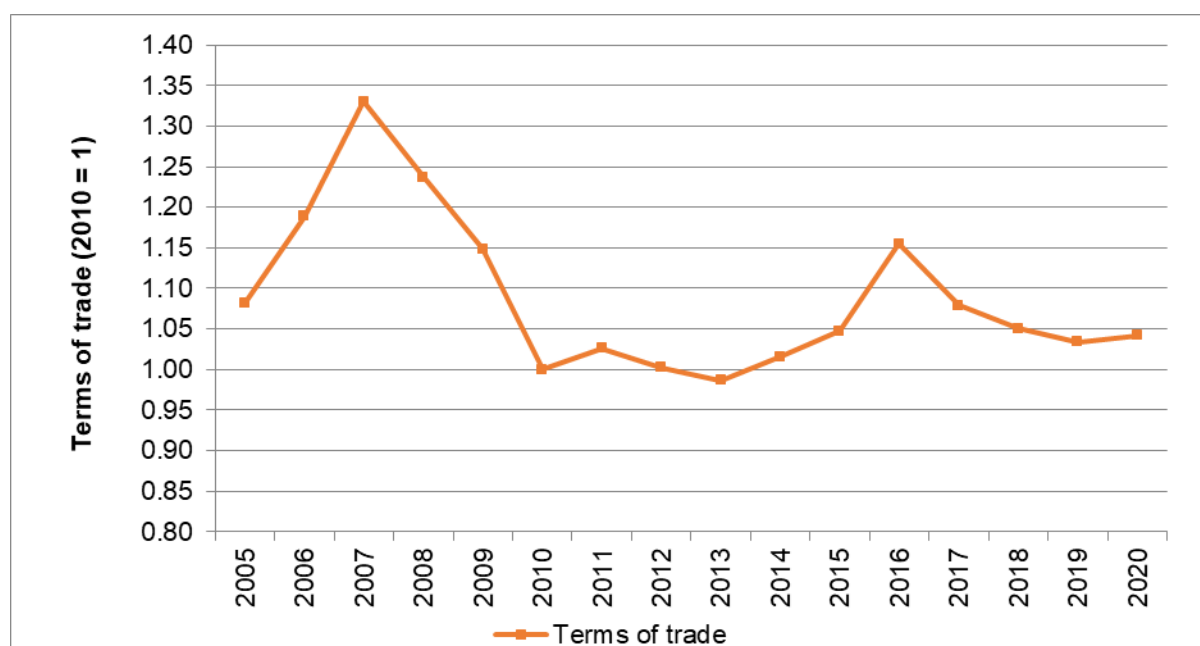


Figure 4: Terms of trade (2005–2020)

Source: DALRRD (2021) and own calculations

The overall financial position of primary producers is constantly under pressure. **Figure 5** shows the real gross income, the real expenditure on intermediate goods and services, and the real net farming income from 1994 to 2020. Over the depicted period, the real net farming income, expenditure on intermediate goods and services and gross income increased by 244.9%, 209.9 % and 155.1%, respectively. Between 2019 and 2020, the real net farm income, real gross income and real expenditure on intermediate goods and services increased by 35.8%, 12.2% and 3.0%, respectively.

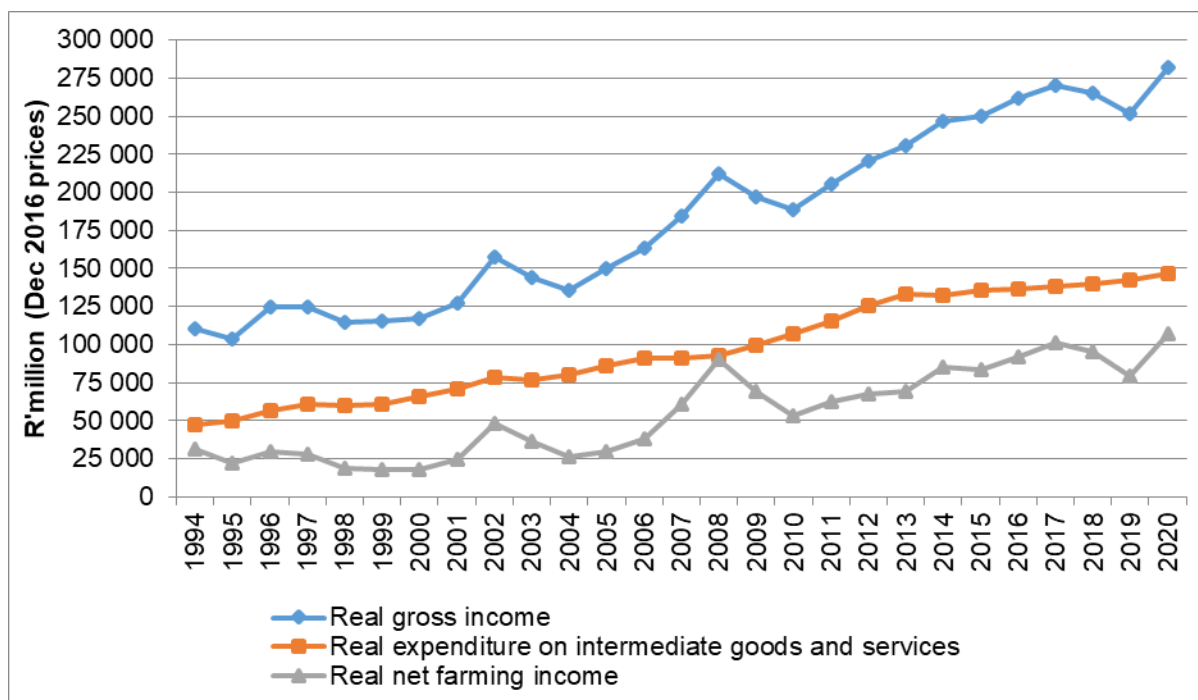


Figure 5: Real gross income, expenditure on intermediate goods and services and net farming income (1994–2020)

Source: DALRRD (2021) and own calculations

This section will reflect cost trends for selected inputs in primary agriculture and the food value chain responsible for the cost-price squeeze within the ambit of the aforementioned.

3.2. 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 6** shows the PPI for the various stages of production. From 2012 to 2020, the PPI of electricity and water, mining, final manufactured goods (headline PPI), intermediate manufactured goods, and agriculture, forestry and fisheries (AFF) increased by 104.0%, 97.7%, 49.8%, 49.8%, and 37.8%, respectively. During 2020, increasing trends were realised for mining (32.5%), electricity and water (10.2%), agriculture (4.7%) and both final manufactured goods and intermediate manufactured goods (2.5%) when compared to 2019.

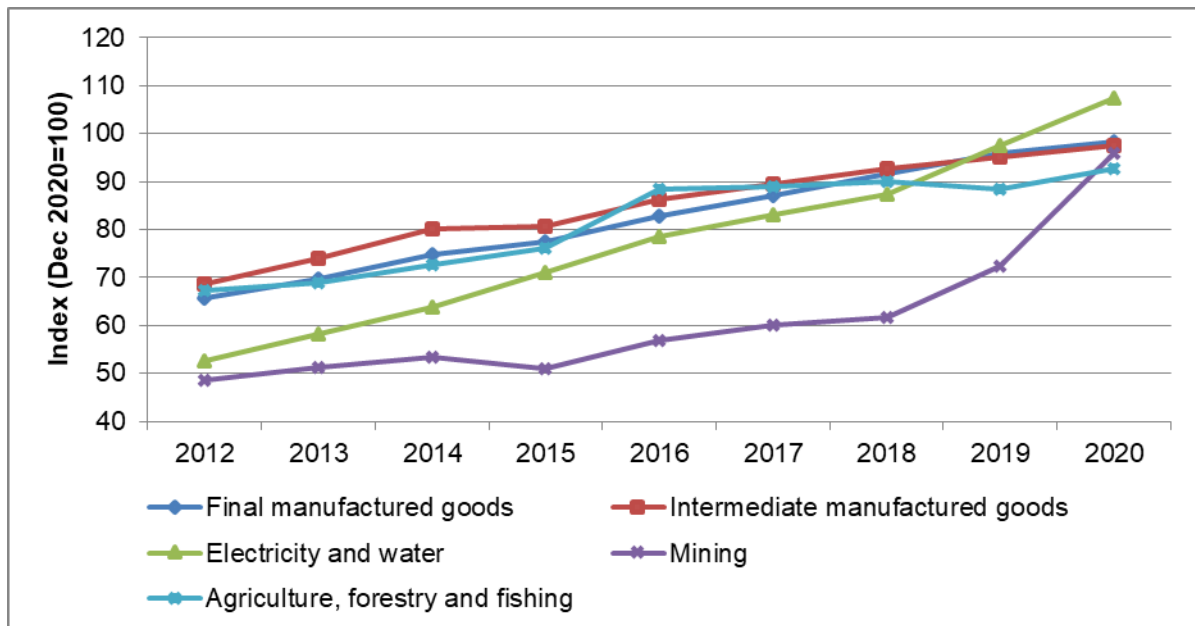


Figure 6: PPI for selected industry groups (2012–2020)

Source: Stats SA (2021)

Figure 7 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 2020, the PPI of basic and fabricated metals by increased by 50.9%, glass and glass products by 40.6%, sawmilling and wood by 40.1%, and rubber products by 30.6%.

Price trends between 2019 and 2020 for the items depicted were as follows: basic and fabricated metals increased by 12.1% and glass and glass products by 5.5%, while rubber products and sawmilling and wood decreased by 4.0%, by 1.1%, respectively.

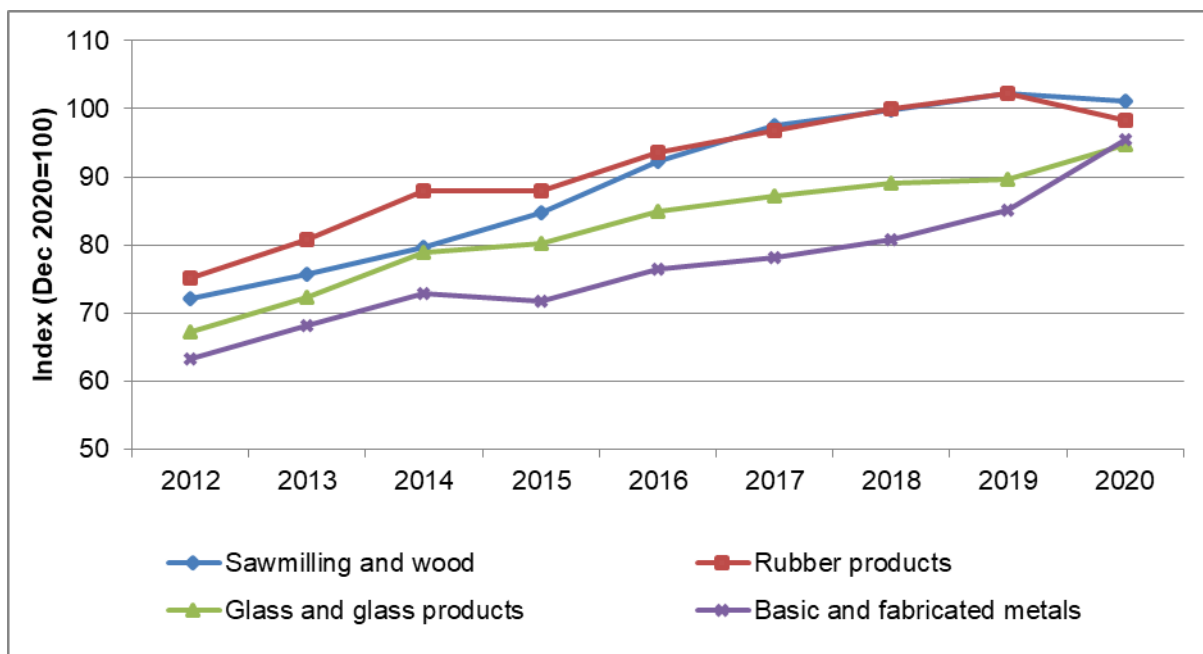


Figure 7: PPI for selected input items (2012–2020)

Source: Stats SA (2021)

3.3. Trends in the cost of selected inputs

3.3.1. Fertiliser prices

3.3.1.1. International fertiliser prices

The purpose of fertilisers is to supplement the natural supply of soil nutrients and build up soil fertility to satisfy the demand for crops. **Figure 8** illustrates the trend of international fertiliser prices between 2002 and 2020. There was a fluctuation of prices over the period under review, where urea, muriate of potash (MOP) and di-ammonium phosphate (DAP) increased by 115.9%, 75.9% and 68.7%, respectively. Between 2019 and 2020, the price of MOP, DAP and urea decreased by 31.7%, 19.8% and 11.5%, respectively. The International Fertilizer Association (IFA, 2021) anticipates a 2% increase in global fertilizer use to 193.5 Mt despite the COVID-19 pandemic in 2020/21. Several factors are contributing to greater fertilizer demand in 2020, including government measures, resilient crop prices, a more attractive relationship between crop and fertilizer prices, weakening of domestic currencies in large agricultural exporting countries, and favourable weather in key consuming countries. World fertilizer supply in 2020 remained relatively resilient globally, despite uncertainties and new challenges related to the COVID-19 pandemic.

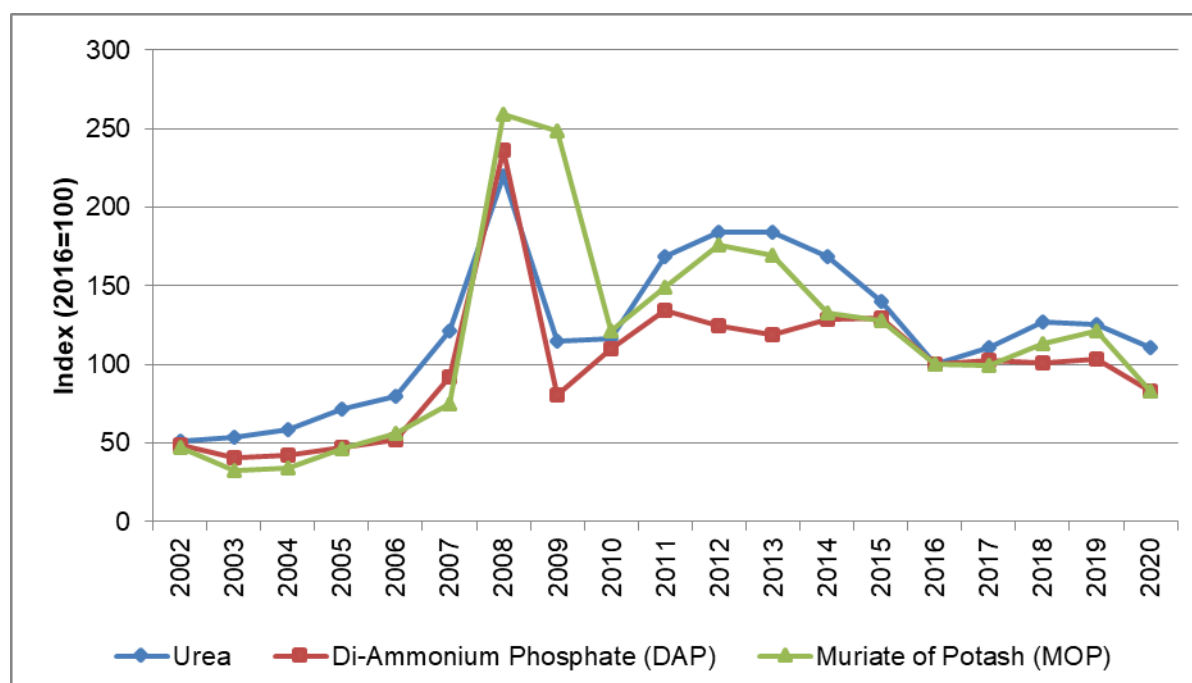


Figure 8: International fertiliser prices (2002–2020)

Source: Grain SA (2021b)

3.3.1.2. 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 protection measures. The local demand for fertiliser is in the region of 2 million physical tons, amounting to approximately 731 000 tons of plant nutrients (N + P₂O₅ + K₂O). **Table 3** shows South African fertiliser demand and the domestic production and import situation.

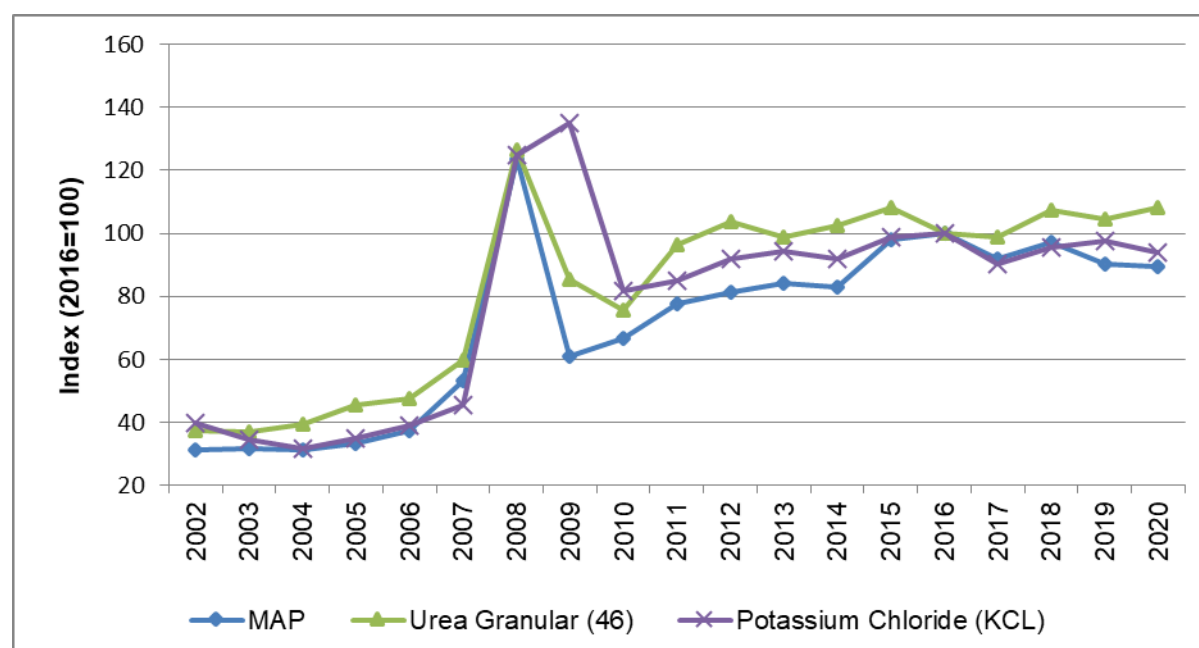
Table 3: South African fertiliser demand, domestic production and imports

Nutrient	Demand (thousand tons)	Domestic production (thousand tons)	Imports (thousand tons)	Products
Nitrogen (N)	470	171	508	Mostly Urea
Phosphate (P ₂ O ₅)	268	196	137	Mostly DAP
Potassium (K ₂ O)	136	None	283	Mostly MOP

Source: FAO (2021b)

According to the Fertilizer Association of Southern Africa (Fertasa, 2021), South Africa imported 2.2 million tons of overall fertiliser and exported 667.3 tons of fertiliser in 2020, meaning that South Africa is a net importer of fertilisers. Thus, the domestic prices are significantly impacted by the international prices of raw materials and fertiliser, as well as by shipping costs and the Rand/Dollar exchange rate.

Figure 9 details the analysis of movement in South African fertiliser prices between 2002 and 2020. The prices of local fertilisers – urea, MAP and KCL – showed increases of 191.3%, 184.7% and 136.5%, respectively, between 2002 and 2020. 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, except for KCL. During the period under review, MAP and urea granular (46) reached their peaks in 2008, while KCL had the highest price in 2009. The prices of urea increased by 3.5% while KCL and MAP decreased by 3.7% and 1.0%, respectively, between 2019 and 2020.

**Figure 9: Local fertiliser price trends (2002–2020)**

Source: Grain SA (2021b) and own calculations

3.3.2. 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, sanitation fees, refuse removal, water, electricity and paraffin).
- Transport (fuel, public transport – trains, motor licences and motor vehicle registration).

- Communication (telephone fees, postage, cellphone calls).
- Recreation and culture (television licences).
- Education (school fees and university, technikon and college fees); and
- Restaurants, hotels and hostels (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 (fuel); and
- Communication (telephone fees, postage, cellphone calls).

3.3.2.1. Transport

International crude oil prices

Crude oil is not only the primary feedstock for fuels that transport everything around the globe, but is 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) and food distribution. Therefore, trends in the crude oil price are an important indicator of trends in prices throughout the food value chain.

The movement of the crude oil price from 2002 to 2020 is illustrated in **Figure 10**. Crude oil was valued at USD24.89/barrel in 2002, after which it increased at a noticeable rate until it rocketed in the early part of 2007 and reached an average price of USD97.55/barrel in 2008. However, crude oil prices decreased significantly by 36.7% to USD61.80/barrel in 2009, as compared to 2008. The crude oil price increased by 74.4% between 2002 and 2020. The crude oil price showed a decrease of 32.0% from 2019 to 2020. The price decreases during 2019 and 2020 mainly reflected a slowdown in oil demand due to COVID-19 regulations, while the US-China trade war weakened the global economy. The average value of crude oil was USD43.40/barrel in 2020.

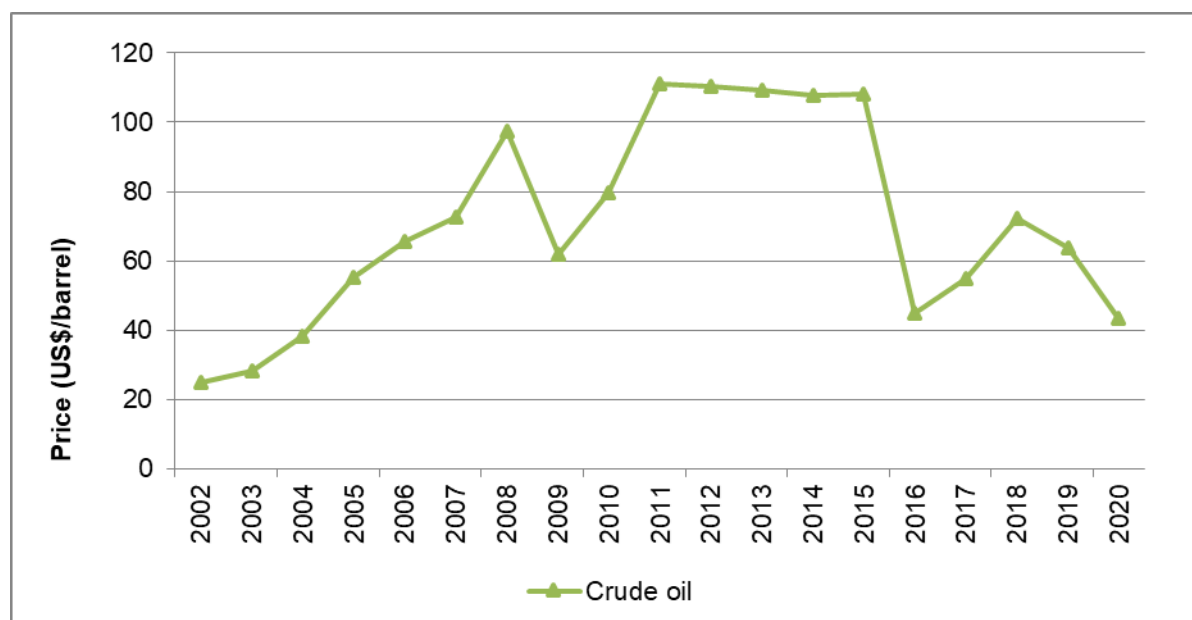


Figure 100: Crude oil price (2002–2020)

Source: Grain SA (2021a)

Domestic fuel and transport costs

Fuel makes a significant contribution to the variable costs of primary agricultural production and food distribution costs. The crude oil price and 0.05% sulphur diesel price trends in Gauteng and at the coast between 2002 and 2020 are illustrated in **Figure 11**. The movement of the international oil price, taxes and levies, and the instability of the exchange rate affect the local price of diesel local price. From 2002 to 2020, the local prices of 0.05% sulphur diesel in Gauteng, 0.05% sulphur diesel at the coast and crude oil (\$/barrel) increased by 262.0%, 256.2% and 74.4%, 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 (-29.7%). Over the same period, the crude oil price decreased by 36.7%. These peaks in diesel price were surpassed during 2013 and 2014 when the average diesel price amounted to R11.86/ℓ and R12.55/ℓ, respectively. During 2020, the diesel price was recorded at R12.96/ℓ in Gauteng Province and R12.34 at the coast.

Price trends for the items depicted between 2019 and 2020 were as follows: 0.05% sulphur diesel at the coast and 0.05% sulphur diesel in Gauteng decreased by 11.3% and 10.0%, respectively and the crude oil price decreased by 32.0%.

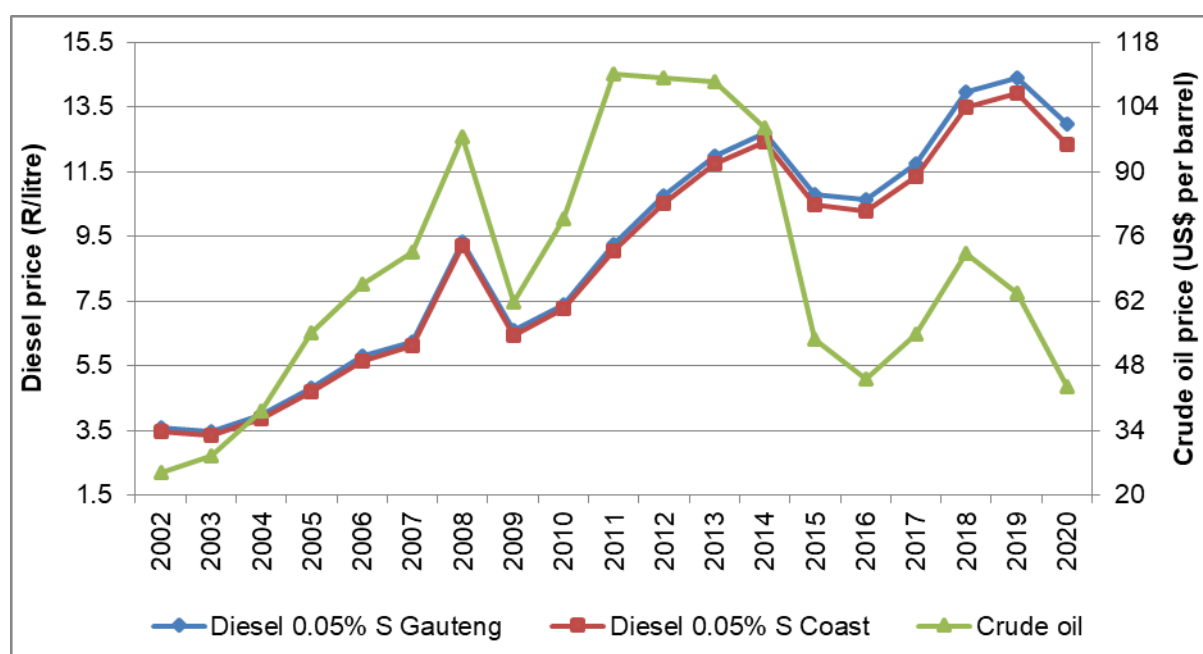


Figure 11: Diesel prices in Gauteng and at the coast (2002–2020)

Source: SAPIA (2021) and Grain SA (2021a)

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 high fuel prices drive up food prices, but never come down when fuel prices drop. Cognisance should be taken of the fact that other cost drivers 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, which is similar to the method applied in the calculation of toll road fees.

Figures 12, 13 and 14 illustrate the vehicle cost composition over time for different sized vehicles¹. Fixed costs include depreciation, cost of capital, licences, insurance and wages. Running costs include

¹ Assumptions: 1 – 85 000 km per annum, 260 work days, 8-ton payload and estimated economic life of 8 years.

fuel, oil, maintenance, tyres and incidental costs. The sum of the fixed and running costs is the total operational cost.

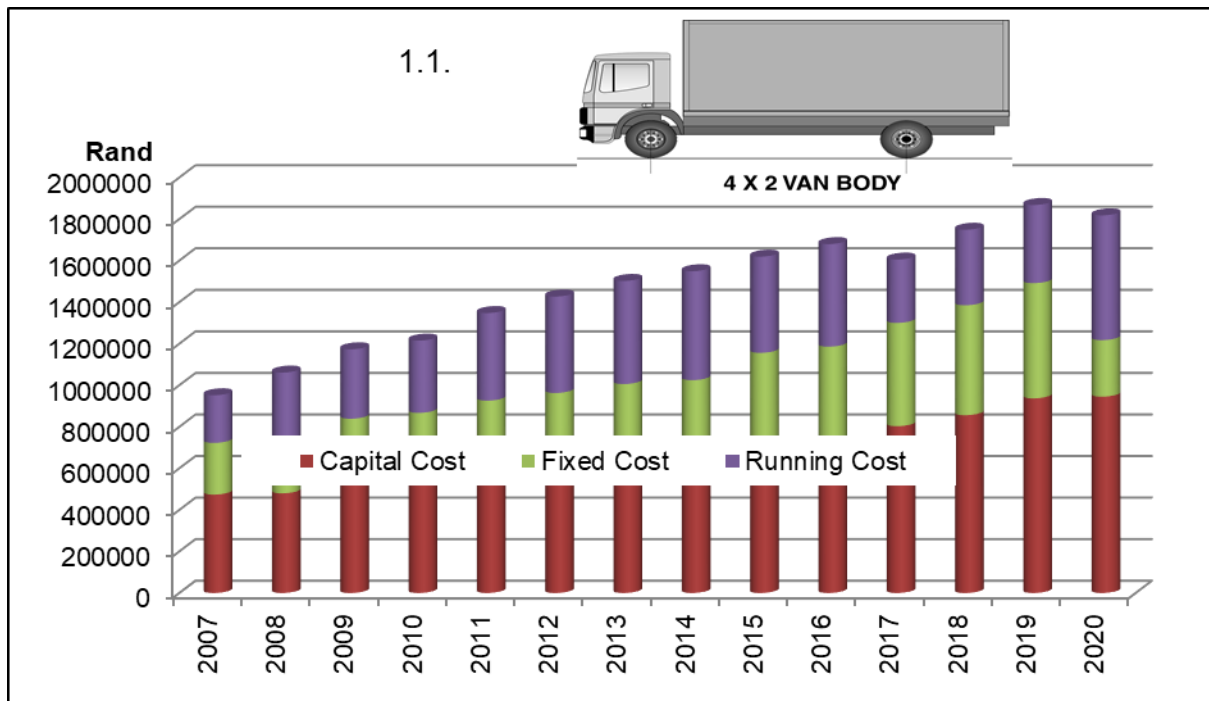


Figure 12: Vehicle costs over time for a 4 x 2 vehicle (2007–2020)

Source: FleetWatch (2021)

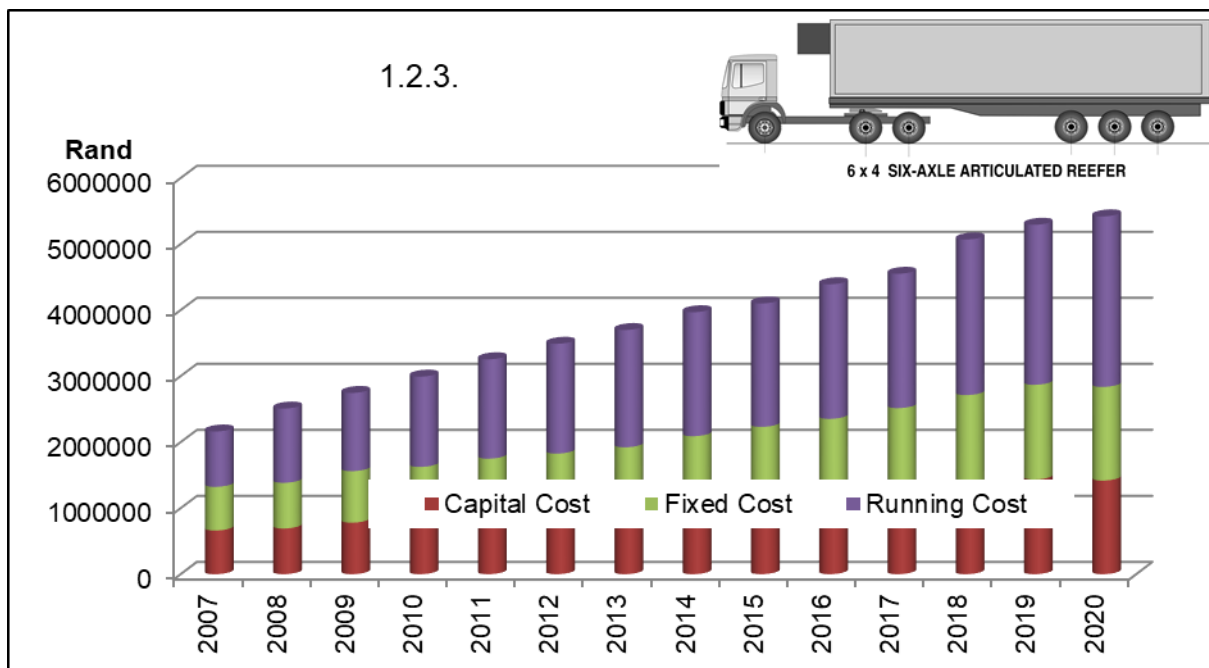


Figure 13: Vehicle costs over time for a 6 x 4 six-axle vehicle (2007–2020)

Source: FleetWatch (2021)

2 – 180 000 km per annum, 286 work days, 28-ton payload and estimated economic life of 5 years.
3 – 200 000 km per annum, 286 work days, 36-ton payload and estimated economic life of 4 years.

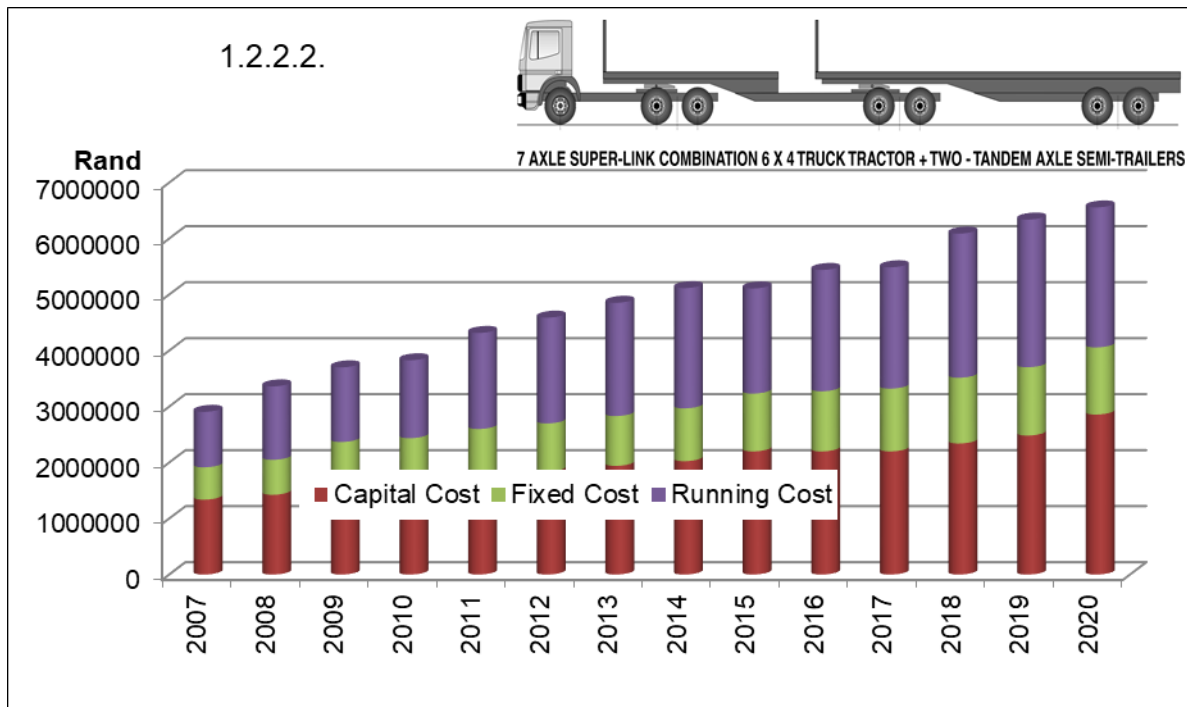


Figure 14: Vehicle costs over time for a 7-axes super link vehicle (2007–2020)

Source: FleetWatch (2021)

Table 4 below illustrates the vehicle cost changes between 2007 and 2020.

Table 4: Vehicle cost changes from 2007 to 2020

2-axle vehicles	6-axle vehicles	7-axle vehicles
Capital cost: 99.4%	Capital cost: 116.8%	Capital cost: 113.6%
Fixed cost: 9.5%	Fixed cost: 114.3%	Fixed cost: 107.5%
Running cost: 161.8%	Running cost: 208.1%	Running cost: 152.3%

Source: Own calculations, based on FleetWatch (2021)

3.3.2.2. Energy

Eskom is not only the major energy supplier in South Africa but also in Africa at large. Eskom generates, transmits and distributes electricity to industrial, mining, commercial, agricultural and residential customers and redistributors. Additional power stations and major power lines are being built to meet the rising electricity demand in South Africa (Eskom, 2021). **Figure 15** illustrates the average price (c/kWh) of electricity that Eskom transmits and distributes to industrial, mining, commercial, agricultural and residential customers and redistributors compared to the average price at the international level. Between the financial years of 2004/05 and 2009/10, the average price (c/kWh) in the residential sector was the most expensive or highest, compared with other sectors. The residential sector utilised electricity at an average price of 38.70c/kWh and 63.98c/kWh from 2004/05 to 2009/10, respectively. During 2010/11, the agricultural sector overlapped the residential sector. Since then, the agricultural sector has remained the industry that purchases electricity at the highest price. The agricultural sector utilised electricity at an average price of 149.79c/kWh in 2018/19.

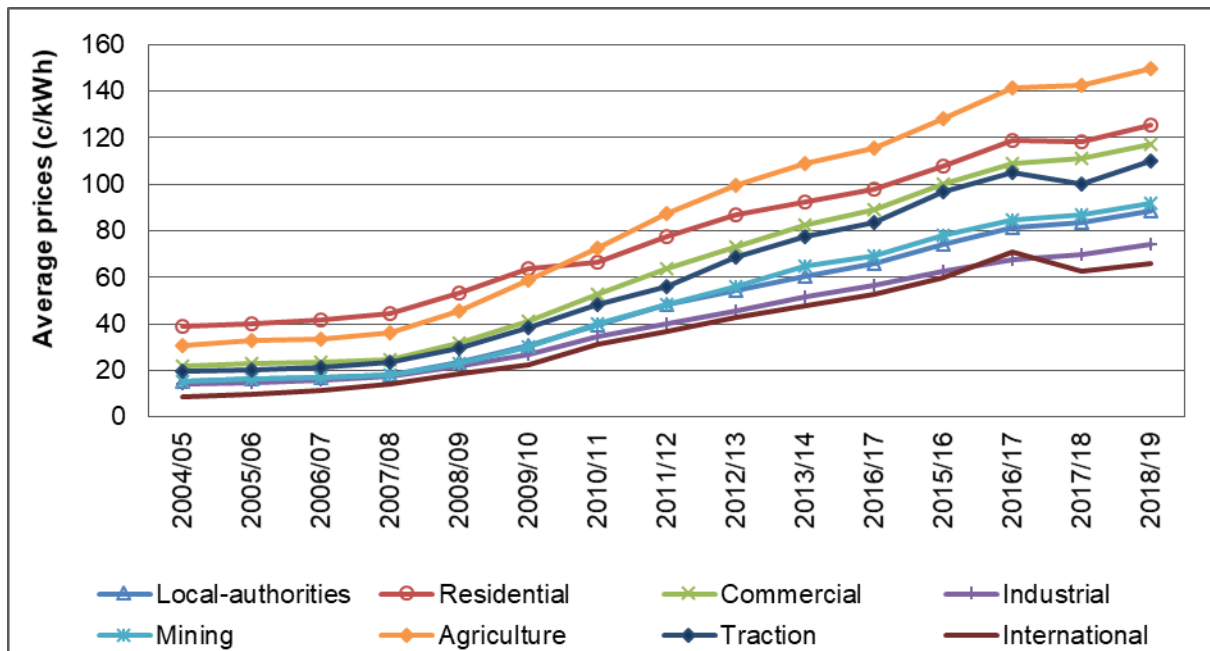


Figure 15: Average price of electricity (c/kWh) sold to different sectors

Source: Eskom (2021)

Figure 16 depicts the trend between the percentage change in average Eskom price and annual inflation rate between 2007 and 2020. There was a fluctuation movement between the two variables – tariff and Consumer Price Index (CPI) – headline during the period under review. In 2020, Eskom's tariff increase was 48.5% higher compared to 2007. In 2020, the Eskom tariff increase decreased by 36.8% compared to 2019, which was still above inflation.

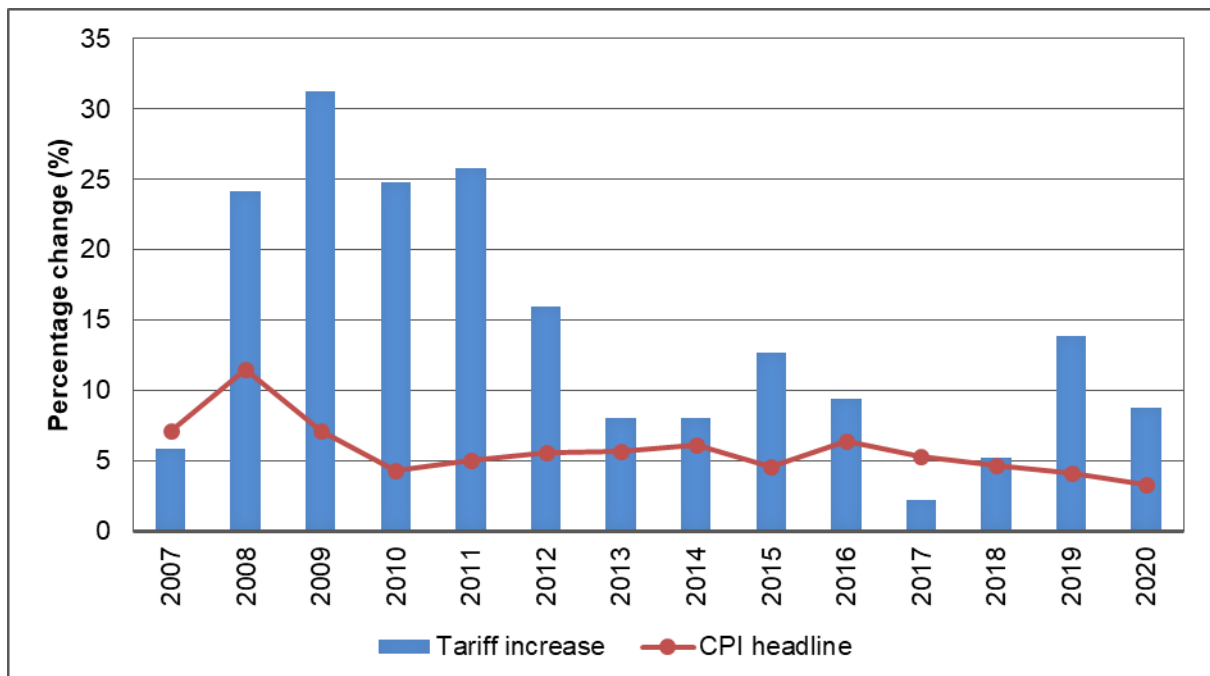


Figure 16: Eskom tariff changes

Sources: NERSA (2021) & Stats SA (2021)

3.3.2.3 Labour

Promoting and creating quality jobs is regarded as one of the key priorities for the South African economy. **Figure 17** illustrates the regulated minimum wages for primary agriculture in South Africa. This minimum wage is always revised during March of each year. The minimum wage for farmworkers in 2008 was recorded as R1 090/month and increased slightly until 2012 when the minimum wage increased drastically by 51.2% between 2012 and 2013. Thereafter the minimum wage continued to increase gradually and in 2020, the minimum wage was reported to be R3 362.40/month, 208.5% higher than in 2008.

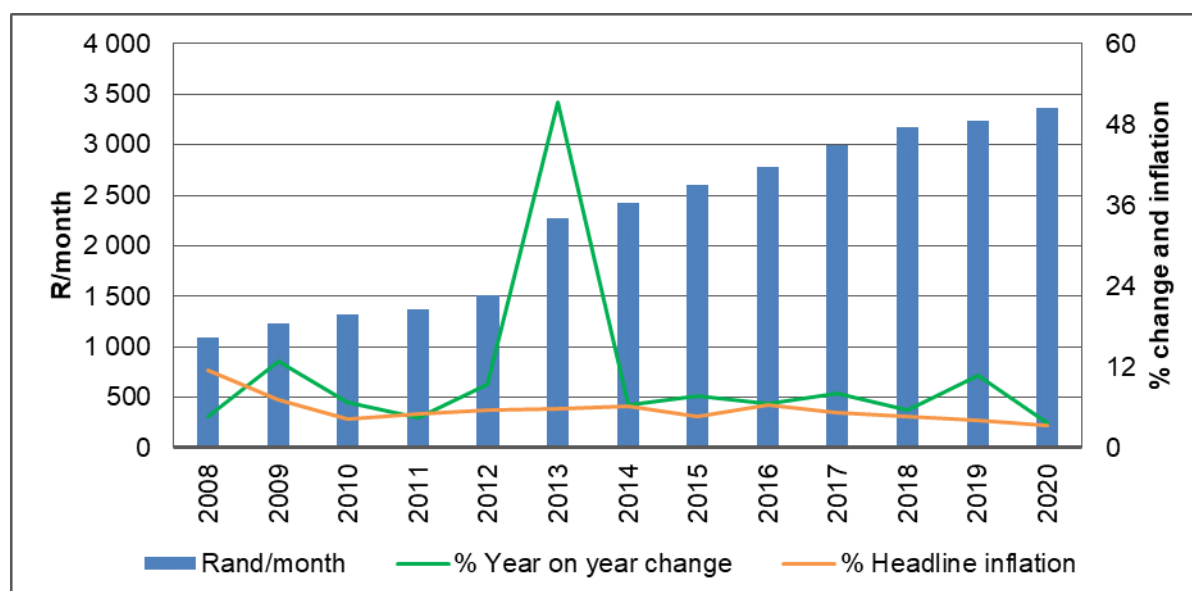


Figure 17: Minimum wages (2008–2020)

Source: DoL (2021)

4. INFLATIONARY TRENDS FOR SELECTED FOODSTUFFS

4.1. Food and non-alcoholic beverages

The South African headline and food and non-alcoholic beverages inflation rates reached 4.4% and 6.3%, respectively in April 2021. **Figure 18** presents the food and non-alcoholic beverage index and the rate of change from April 2015 to April 2021.

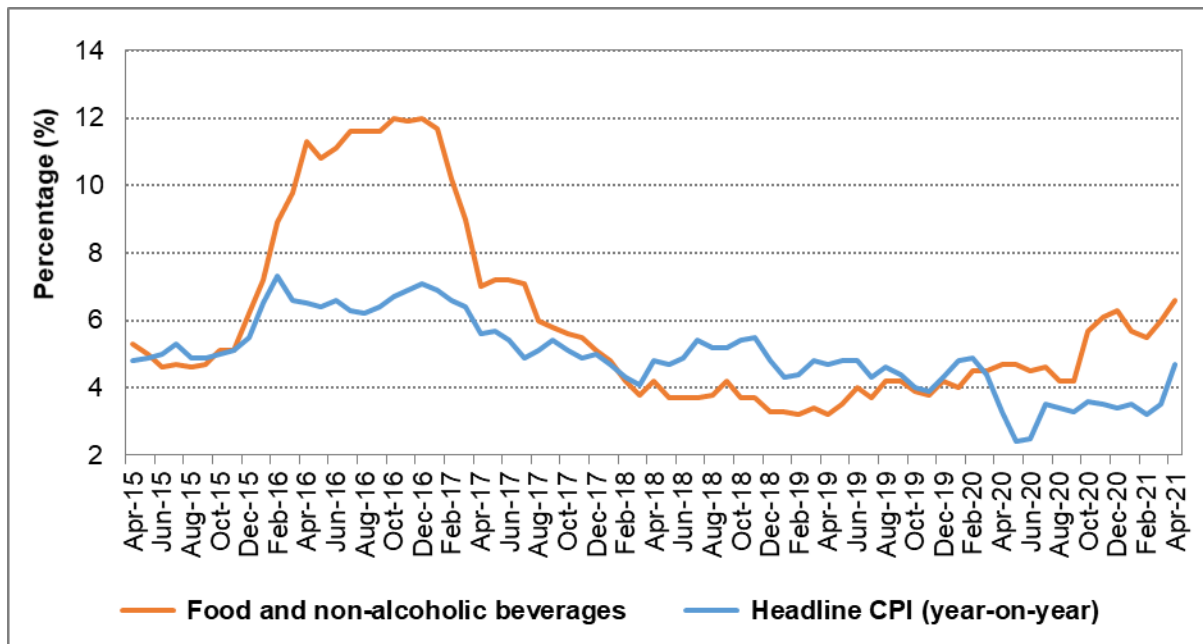


Figure 18: CPI rate of change for food and non-alcoholic beverages

Source: Stats SA (2021)

The food price inflation per province is illustrated in **Figure 19**. Provincially, the North West Province experienced the highest annual food inflation increase (4.9%) between April 2020 and April 2021, followed by the Eastern Cape and Limpopo (4.8%) and Western Cape (4.5%) provinces.

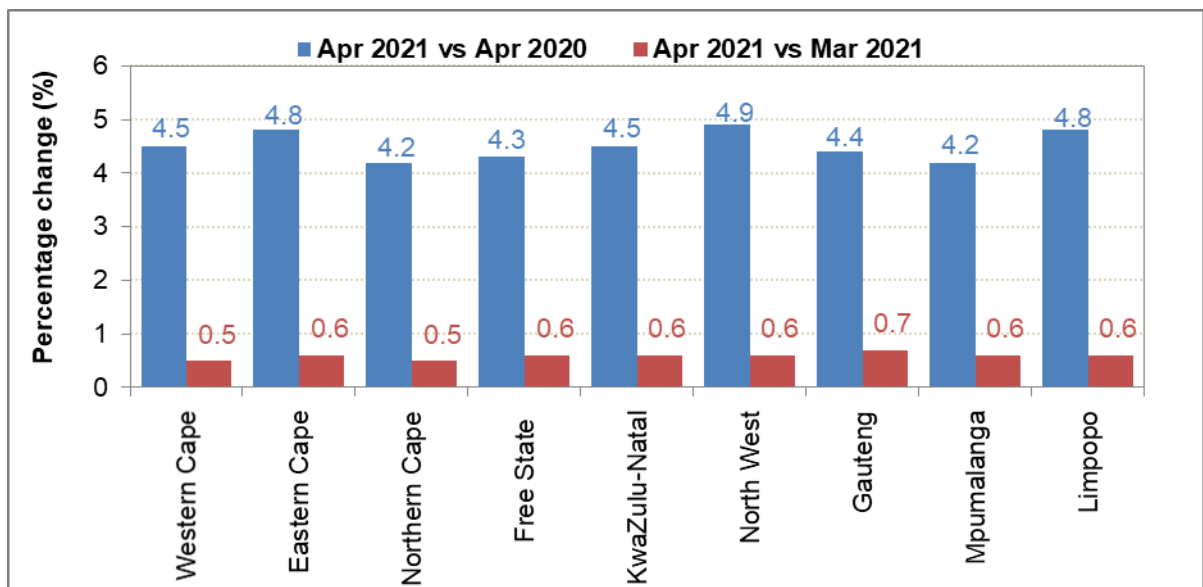


Figure 19: CPI for food and non-alcoholic beverages in the various provinces of South Africa

Source: Stats SA (2021)

The indices for the different food CPI components are shown in **Figure 20**. The oils & fats and fish categories had the highest percentage increases of 16.7% and 8.1%, respectively, between April 2020 and April 2021.

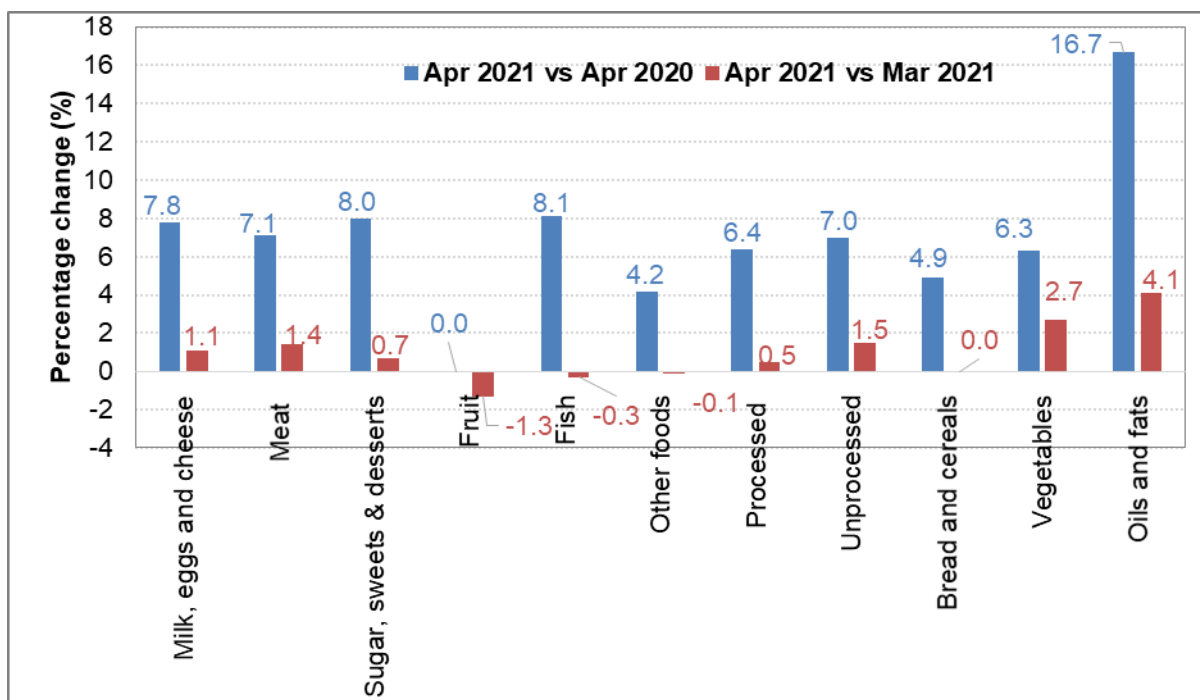


Figure 20: CPI for different food groups

Source: Stats SA (2021)

4.2. Urban food price trends

The COVID-19 pandemic and the drastic actions taken by government to prevent its spread have fundamentally impacted the South African economy and Stats SA's ability to measure it since the end of March 2020. Data collection and calculation methods were adapted to ensure continuous measuring of the retail price effect on consumer inflation. Due to travel restrictions and COVID-19 protocols no rural retail prices were collected, and limited urban price collection took place. The urban prices were mostly collected from the online presence of various retail groups and pooled for national representation.

This section provides insights pertaining to the average retail prices of specific food items in urban areas for 2020 and how they compared with the retail prices of the period from 2018 to 2019.

Selected retail prices for wheat products are shown in **Table 5**. On average, the retail price of wheat products increased by 7.3% between 2019 and 2020. When calculating the average change of the same products for 2018-2019, the average change amounted to 5.3%. The price of a 700g loaf of brown bread increased by 6.5% and that of a 700g loaf of white bread by 6.9%. Producer prices (R/ton) of wheat increased by 14.8% during the same period.

Table 5: Average annual retail prices for certain wheat products

Wheat Products	Price Level			Percentage Change	
	2018	2019	2020	2019-2020	2018-2019
Cake flour 1kg	12.50	12.44			-0.5%
Cake flour 2.5kg	25.50	25.82	28.03	8.6%	1.2%
Cake flour 5kg	54.60	53.26			-2.5%
Instant noodles 73g	4.97	5.29	5.77	9.0%	6.5%
Instant noodles 75g	4.50	5.13			14.0%
Instant noodles 78g	4.68	5.05			7.9%
Instant noodles 85g	3.97	4.19			5.6%
Loaf of brown bread (each)	9.54	8.50			-10.9%

	Price Level			Percentage Change	
Wheat Products	2018	2019	2020	2019-2020	2018-2019
Loaf of brown bread 600g	7.04	7.48			6.2%
Loaf of brown bread 700g	11.67	12.51	13.33	6.5%	7.2%
Loaf of brown bread 800g	13.91	14.66			5.3%
Loaf of white bread (each)	11.68	10.89			-6.8%
Loaf of white bread 600g	8.03	8.34			3.9%
Loaf of white bread 700g	13.05	13.74	14.69	6.9	5.3%
Macaroni 1kg	26.51	27.54			3.9%
Macaroni 3kg	61.44	74.49			21.2%
Macaroni 500g	11.94	12.67	14.02	10.7%	6.1%
Pasta 1kg	36.63	39.22			7.1%
Pasta 500g	17.32	18.03	18.51	2.7%	4.1%
Spaghetti 1kg	25.09	27.18			8.3%
Spaghetti 500g	12.51	13.38	14.25	6.5%	7.0%
Average				7.3%	4.8%
Wheat (R/ton)	4 026.62	4 499.60	5 166.70	14.8%	11.8%

Source: Stats SA (2021)

Selected retail prices for maize products are shown in **Table 6**. On average, the retail price of maize products increased by 8.7% between 2019 and 2020. When calculating the average change of the same products for 2018-2019, the average change amounted to 13.3%. The average retail price for 2.5kg special maize increased by 8.4%% between 2019 and 2020. The average price of 2.5kg super maize increased by 6.8%%. Producer prices (R/ton) of yellow and white maize increased by 8.3% and 8.4%, respectively during the same period.

Table 6: Average annual retail prices of maize products

	Price Level			Percentage Change	
Maize Products	2018	2019	2020	2019-2020	2018-2019
Special maize 10kg	59.01	61.51			4.2%
Special maize 1kg	7.58	8.95	9.93	11.0%	18.1%
Special maize 2.5kg	18.35	20.87	22.63	8.4%	13.7%
Special maize 5kg	34.25	39.16	41.85	6.9%	14.3%
Super maize 10kg	10.17	10.93			7.4%
Super maize 2.5kg	21.51	23.65	25.27	6.8%	10.0%
Super maize 5kg	37.17	40.97	45.17	10.2%	10.2%
Average				8.7%	11.1%
Yellow maize (R/ton)	2 213.49	2 693.42	2 918.53	8.3%	21.7%
White maize (R/ton)	2 168.61	2 801.63	3 036.87	8.4%	29.2%

Source: Stats SA (2021)

Table 7 shows the retail prices for oils and fats between 2018 and 2020. Margarine spread (500g) decreased by 5.2% between 2019 and 2020, compared with the decrease of 0.5% reported between 2018 and 2019. Sunflower oil (750ml) increased by 6.0% between 2019 and 2020. Producer prices (R/ton) of sunflower seed increased by 23.5%% from 2019 to 2020. When calculating the average change of the same products for 2018-2019, the average change amounted to -0.7%.

Table 7: Average annual retail prices of sunflower products

	Price Level			Percentage Change	
Sunflower Products	2018	2019	2020	2019-2020	2018-2019
Brick margarine 125g	7.91	8.02			1.5%
Brick margarine 1kg	44.14	44.62	44.00	-1.4%	1.1%
Brick margarine 250g	13.58	14.06			3.6%

	Price Level			Percentage Change	
Sunflower Products	2018	2019	2020	2019–2020	2018–2019
Brick margarine 500g	22.33	22.04	22.60	-1.3%	-1.3%
Margarine spread 1kg	40.94	40.52			-1.0%
Margarine spread 500g	27.12	26.99	25.58	-5.2%	-0.5%
Sunflower oil 2ℓ	39.28	41.34			5.2%
Sunflower oil 4ℓ	79.76	85.18			6.8%
Sunflower oil 500mℓ	15.02	22.35			48.7%
Sunflower oil 750mℓ	22.35	22.16	23.49	6.0%	-0.9%
Average				0.5%	6.3%
Sunflower seed (R/ton)	4 880.37	5 360.78	6 620.44	23.5%	9.8%

Source: Stats SA (2021)

Table 8 shows the retail prices for processed vegetables between 2018 and 2020. Tinned baked beans (410g) increased by 6.6% between 2019 and 2020. Dried beans (500g) increased by 13.1% during the same period. When calculating the average change of the same products for 2018-2019, the average change amounted to 3.2%.

Table 8: Average annual retail prices of processed vegetable products

	Price Level			Percentage Change	
Processed Vegetables	2018	2019	2020	2019–2020	2018–2019
Baked beans - tinned 410g	9.89	10.62	11.32	6.6%	7.4%
Beans - dried 1kg	37.22	35.19			-5.5%
Beans - dried 2kg	58.91	60.00			1.8%
Beans - dried 500g	19.28	19.11	21.62	13.1%	-0.9%
Average				9.9%	0.7%

Source: Stats SA (2021)

Table 9 shows the average retail prices for selected fresh vegetables. Fresh carrots per kg recorded the largest price increase of 35.1%. Fresh sweet potatoes per kg increased by 19.1% and onions per kg increased by 17.5% between 2019 and 2020.

Table 9: Average annual retail prices for certain food items in the vegetable group

	Price Level			Percentage Change	
Fresh Vegetables	2018	2019	2020	2019–2020	2018–2019
Beetroot - fresh per kg	10.74	12.49	13.50	8.1%	16.4%
Broccoli - fresh per kg	41.96				
Cabbage - fresh each	13.95	15.40	16.62	7.9%	10.4%
Carrots - fresh per kg	9.32	9.78	13.22	35.1%	5.0%
Cauliflower - fresh per kg	42.41	46.21	23.49	-49.2%	9.0%
Lettuce – fresh each		17.41	16.31	-6.3%	
Onions - fresh per kg	14.36	14.46	17.00	17.5%	0.7%
Potatoes - fresh per kg	11.99	12.72	14.43	13.4%	6.1%
Pumpkin - fresh per kg	11.20	12.29	14.39	17.1%	9.7%
Sweet potatoes - fresh per kg	18.15	18.01	21.45	19.1%	-0.8%
Tomatoes - fresh per kg	18.07	20.43	19.75	-3.3%	13.0%
Average				7.1%	7.7%

Source: Stats SA (2021)

Table 10 shows the retail prices of selected processed and unprocessed meat products between 2018 and 2020. On average, the retail prices for meat increased by 9.1% between 2019 and 2020. The average retail price of beef stew per kg increased by 23.1% between 2019 and 2020. The average retail

price of fresh chicken portions and whole chicken per kg increased by 16.6% and 16.8%, respectively during the same period.

Table 10: Average annual retail prices for certain items of processed and unprocessed meat

Processed & Unprocessed Meat	Price Level			Percentage Change	
	2018	2019	2020	2019–2020	2018–2019
Bacon 250g	36.06	38.46	39.58	2.9%	6.7%
Beef brisket - fresh per kg	85.83	83.77	87.62	4.6%	-2.4%
Beef chuck - fresh per kg	87.41	85.22	87.95	3.2%	-2.5%
Beef fillet - fresh per kg	192.41	185.07	227.17	22.8%	-3.8%
Beef mince - fresh per kg	83.82	83.85	89.01	6.2%	0.0%
Beef offal - fresh per kg	36.68	35.21	41.15	16.9%	-4.0%
Beef rump steak - fresh per kg	126.37	126.55	148.73	17.5%	0.1%
Beef sirloin - fresh per kg	136.56	130.98	145.68	11.2%	-4.1%
Beef stew - fresh per kg	77.08	74.83	92.13	23.1%	-2.9%
Beef T-bone - fresh per kg	103.74	103.25	105.99	2.7%	-0.5%
Chicken giblets per kg	34.80	34.00	34.55	1.6%	-2.3%
Chicken portions - fresh per kg	59.34	62.03	72.35	16.6%	4.5%
Chicken portions frozen non IQF per kg	47.80	48.13	51.71	7.4%	0.1%
Corned beef 300g	22.64	22.48	24.96	11.0%	-0.7%
Ham 500g	37.48	38.34	36.99	-3.5%	2.3%
IQF chicken portions – 1.5kg	64.56	66.35			2.8%
IQF chicken portions – 1.8kg	58.01	56.44			-2.7%
IQF chicken portions – 1kg	39.53	43.23	46.85	8.4%	9.4%
IQF chicken portions – 2kg	66.85	65.87	71.17	8.0%	-1.5%
IQF chicken portions – 4kg	142.27	143.25			0.7%
IQF chicken portions – 5kg	167.57	165.32			-1.3%
Lamb - leg per kg	137.13	134.94	157.59	16.8%	-1.6%
Lamb - loin chops per kg	159.36	155.39	174.72	12.4%	-2.5%
Lamb - neck per kg	119.68	119.32	121.54	1.9%	-0.3%
Lamb - offal per kg	50.11	49.41	51.66	4.6%	-1.4%
Lamb - rib chops per kg	155.49	153.40	178.87	16.6%	-1.3%
Lamb - stew per kg	110.83	110.41	126.90	14.9%	-0.4%
Polony 1kg	41.89	46.35	40.21	-13.3%	10.7%
Pork - ribs per kg	76.85	77.89	81.58	4.7%	1.4%
Pork chops - fresh per kg	77.36	77.33	86.12	11.4%	0.0%
Sausage 500g	46.75	47.47	50.82	7.1%	1.5%
Whole chicken - fresh per kg	46.26	48.47	56.61	16.8%	4.8%
Average				9.1%	-0.8%

Source: Stats SA (2021)

Table 11 below indicates that the retail prices of eggs and dairy products increased by 8.2% between 2019 and 2020, with eggs (1.5 dozen) showing the largest annual increase of 24.6%. When calculating the average change of the same products for 2018-2019, the average change amounted to 1.5%.

Table 11: Average annual retail prices for certain food items in the eggs and dairy group

Eggs and Dairy Products	Price Level			Percentage Change	
	2018	2019	2020	2019–2020	2018–2019
Cheddar cheese per kg	104.81	105.79	119.2	12.7%	0.9%
Eggs 0.5 dozen	17.08	16.74	19.33	15.5%	-2.0%
Eggs 1 dozen	22.99	22.00			-4.3%
Eggs 1.5 dozen	44.09	40.75	50.77	24.6%	-7.6%
Eggs 2 dozen	53.73	52.24			-2.8%

	Price Level			Percentage Change	
Eggs and Dairy Products	2018	2019	2020	2019–2020	2018–2019
Eggs 2.5 dozen	61.08	54.14			-11.4%
Full-cream milk - fresh 1ℓ	14.28	14.72	15.68	6.5%	3.1%
Full-cream milk - fresh 250ml	6.75	6.94			2.8%
Full-cream milk - fresh 2ℓ	25.97	27.34	29.07	6.3%	5.3%
Full-cream milk - fresh 500ml	10.43	10.86			4.1%
Full-cream milk – long life 1ℓ	13.91	14.47	15.34	6.1%	4.0%
Full-cream milk - long life 500ml	8.73	9.01			3.2%
Full-cream milk - long life 6x1ℓ	74.24	77.43			4.3%
Low-fat milk - fresh 1ℓ	15.47	15.96	16.00	0.3%	3.1%
Low-fat milk - fresh 2ℓ	26.69	27.71	28.53	3.0%	3.8%
Low-fat milk - long life 1.5ℓ	20.00	20.30			1.5%
Low-fat milk - long life 1ℓ	13.79	14.43	15.22	5.5%	4.7%
Low-fat milk - long life 2ℓ	22.99	29.24			27.2%
Low-fat milk - long life 6x1ℓ	85.04	79.16			-6.9%
Powdered milk 250g	40.68	40.21			-1.2%
Powdered milk 400g	65.25	57.78			-11.4%
Powdered milk 500g	54.59	56.37			3.3%
Powdered milk 900g	138.60	138.33	140.62	1.7%	-0.2%
Average				8.2%	1.0%

Source: Stats SA (2021)

As shown in **Table 12**, nartjies' average retail prices decreased by 44.1%, with oranges increasing by 23.2%, between 2019 and 2020. When calculating the average change of the same products for 2018-2019, the average change amounted to 3.8%.

Table 12: Average annual retail prices of fruit

	Price Level			Percentage Change	
Fruits	2018	2019	2020	2019–2020	2018–2019
Apples - fresh per kg	19.67	21.95	18.30	-16.6%	11.6%
Bananas - fresh per kg	13.76	15.25	17.61	15.5%	10.8%
Naartjies - fresh per kg	25.96	24.49	13.70	-44.1%	-5.6%
Nectarines - fresh per kg	35.92	34.66			-3.5%
Oranges - fresh per kg	17.94	18.53	22.84	23.2%	3.3%
Peaches - per kg	31.41	30.57			-2.7%
Pears - per kg	20.93	20.72	20.45	-1.3%	-1.0%
Pineapples - each		21.49	1760	-18.1%	

Source: Stats SA (2021)

The prices of selected fish products between 2018 and 2020 are presented in **Table 13**. The retail price of 400g tinned fish (excluding tuna) increased by 4.4%. The average retail price of tinned tuna (170 g) increased by 1.2% during the same period.

Table 13: Average annual retail prices of certain food items in the fish group

	Price Level			Percentage Change	
Fish Products	2018	2019	2020	2019–2020	2018–2019
Fish (excl. tuna) - tinned 155g	10.81	11.95			10.5%
Fish (excl. tuna) - tinned 215g	13.92	14.92			7.2%
Fish (excl. tuna) - tinned 400g	18.26	19.38	20.24	4.4%	6.1%
Tuna - tinned 170g	20.04	20.61	20.85	1.2%	2.8%
Average				2.8%	6.7%

Source: Stats SA (2021)

Various other food items are listed in **Table 14**. The average retail price of 1kg rice increased by 39.4% between 2019 and 2020. The retail price of 2kg white sugar increased by 7.3% between 2019 and 2020. The retail price of 62.5g Ceylon/black tea decreased by 5.7% during the same period.

Table 14: Average annual retail prices of certain other food items

Other Products	Price Level			Percentage Change	
	2018	2019	2020	2019–2020	2018–2019
Cold cereals 375g	38.68	39.99			3.4%
Cold cereals 400g	39.00	42.26			8.3%
Cold cereals 450g	25.03	26.45			5.7%
Cold cereals 500g	33.76	36.21	38.83	7.2%	7.2%
Cold cereals 750g	45.86	49.98			9.0%
Ceylon/black tea 125g	26.73	28.99			8.4%
Ceylon/black tea 200g	20.48	18.96			-7.4%
Ceylon/black tea 250g	34.38	36.36	34.30	-5.7%	5.8%
Ceylon/black tea 500g	64.48	65.91			2.2%
Ceylon/black tea 62.5g	15.42	16.30	15.62	-4.2%	5.7%
Instant coffee 100g	24.98	24.86			-0.5%
Instant coffee 200g	78.33	78.75			0.5%
Instant coffee 250g	35.82	35.67	36.07	1.1%	-0.4%
Instant coffee 500g	58.32	60.28			3.3%
Instant coffee 750g	77.04	76.77			-0.3%
Peanut butter 250g	20.49	22.18			8.2%
Peanut butter 400g	27.98	29.59	31.73	7.2%	5.8%
Peanut butter 800g	51.98	54.56			5.0%
Rice 10kg	120.48	119.82			-0.5%
Rice 1kg	18.74	19.53	27.22	39.4%	4.2%
Rice 2kg	25.55	26.65	36.35	36.4%	4.3%
Rice 500g	8.34	8.77			5.1%
Rice 5kg	65.68	72.17			9.9%
White sugar 10kg	156.82	166.30			6.0%
White sugar 1kg	18.76	19.71			5.1%
White sugar 2.5kg	37.57	39.88	42.79	7.3%	6.2%
White sugar 250g	6.00	6.34			5.7%
White sugar 2kg	26.87	30.68			14.2%
White sugar 500g	10.33	11.02			6.7%
White sugar 5kg	79.02	83.76			6.0%
Average				11.1%	4.8%

Source: Stats SA (2021)

4.3. Cost of the NAMC food basket

Figure 21 shows the cost of the NAMC food basket² from January 2017 to April 2021. This basket consists of 28 products and in April 2021, the NAMC food basket amounted to R969.13, revealing an increase of 3.4% or R31.91 from April 2020 and an increase of 16.1% (R134.21) since January 2017.

² Composition of the current food basket (revised in 2017) includes apples per kg, baked beans – tinned (410g), bananas per kg, beans – dried (500g), beef mince per kg, beef offal per kg, cabbage per kg, Ceylon/black tea (250g), cheddar cheese per kg, chicken giblets per kg, eggs (1.5 dozen), fish (excl. tuna) – tinned (400g), full-cream milk – long life (1ℓ), instant coffee (250g), IQF chicken portions (2kg), brown bread (700g), white bread (700g), margarine brick (500g), onions per kg, oranges per kg, peanut butter (400g), polony per kg, potatoes per kg, rice (2kg), sugar – white (2.5kg), sunflower oil (750ml), super maize meal (5kg) and tomatoes per kg.

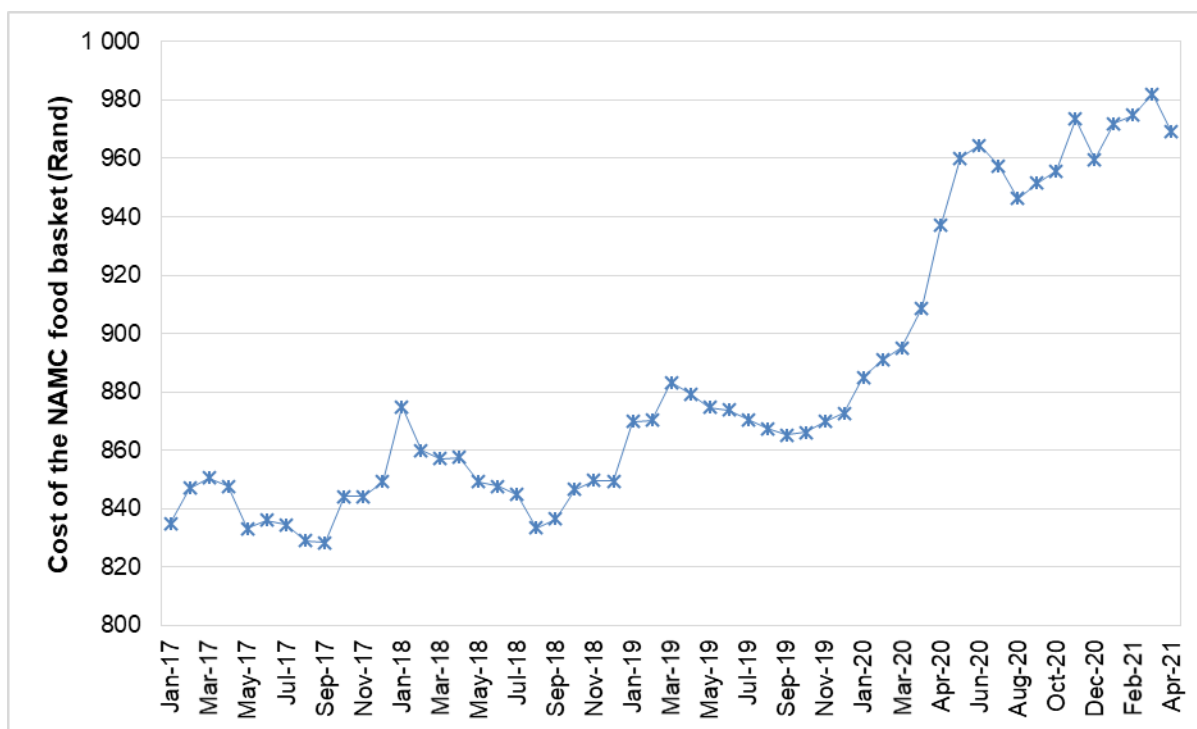


Figure 21: Cost of the NAMC food basket, January 2017 to April 2021

Source: Stats SA (2021)

In April 2020 the data collection methods by Stats SA changed as previously mentioned. There were changes to consumers' buying patterns after the lockdown came into effect and there were disruptions in various value chains due to transport challenges, product availability and weather conditions affecting production. All these factors have led to increased retail prices and consumers have been negatively affected.

The cost of the NAMC food basket expressed as a share of the average monthly income of the poorest 30% of the population increased from 63.0% in April 2020 to 65.1% in April 2021. The cost of the food basket expressed as a share of the average monthly income of the wealthiest 20% of the population increased from 3.4% in April 2020 to 3.5% in April 2021 (**Figure 22**).

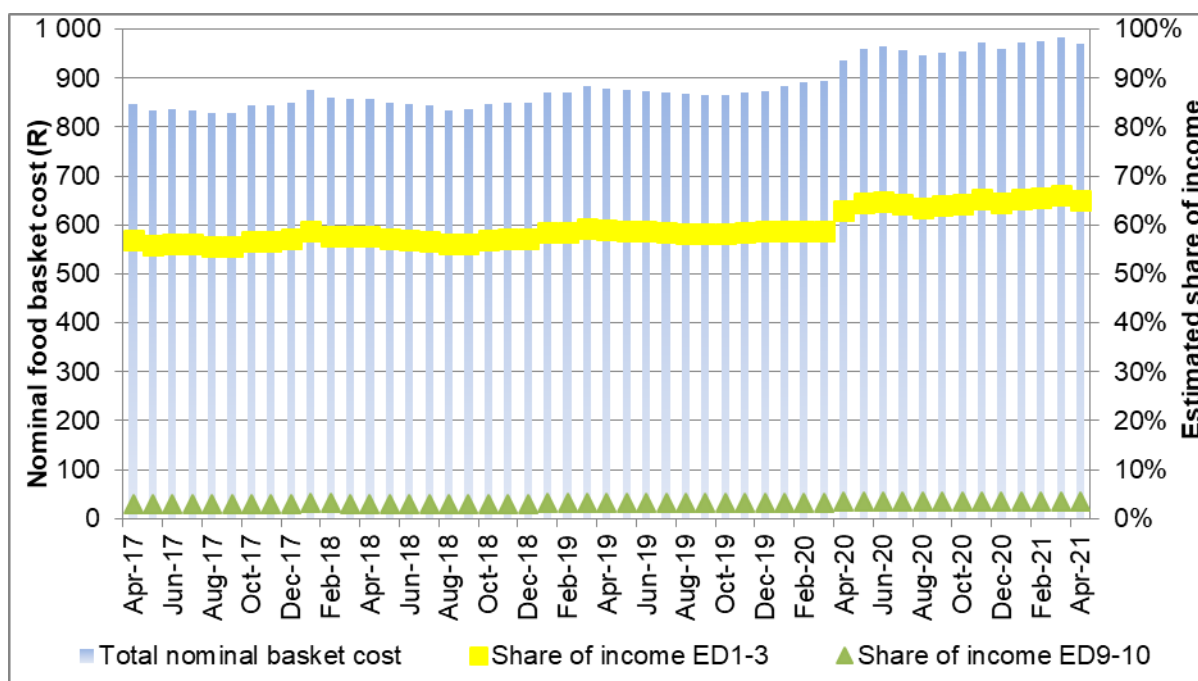


Figure 22: The cost of a typical consumer food basket for the period April 2017 to April 2021, expressed in nominal terms and as a share of the average income of the poorest 30% of households (Expenditure Deciles [ED] 1-3) and the wealthiest 20% of households (ED 9-10)

Sources: BFAP (2021) calculations, based on Stats SA (2021) monitored price data for urban areas

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 further details 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.

To better understand the margin between farm-gate and retail prices, the farm values of selected products and the FTRPS are 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 the 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 23 illustrates the FAO Poultry Meat Price Index, Brazil export value for chicken, and the USA export unit value of broiler cuts and edible offal between 2000 and 2021. Based on data by FAO (2021b), between 2019 and 2020 the global Poultry Meat Price Index decreased by 9.8% while increasing by 9.7% between 2020 and the first four months of 2021. Poultry prices from the USA and Brazil continue to put pressure on the poultry index, each increasing by 12.6% and 5.2%, respectively during the first four months of 2021. This increase could be linked to the elevated global feed prices, poultry demand and sporadic demand for other meat types.

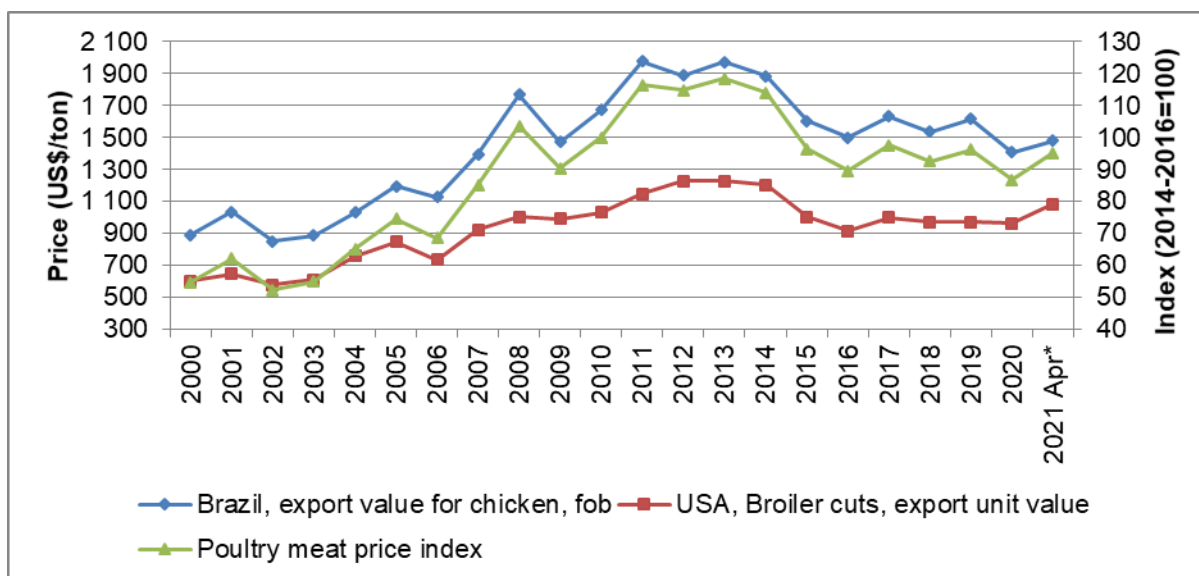


Figure 23: International poultry price trends

Source: FAO (2021b)

The retail prices of selected poultry products are shown in **Figure 24**. The annual average retail prices of fresh chicken portions (per kg), fresh whole chicken (per kg), and individually quick frozen (IQF) chicken portions (1kg) were R72.35/kg, R56.61/kg and R46.85/kg respectively in 2020. In real terms, the annual average retail prices of fresh chicken portions, fresh whole chicken and IQF chicken portions were R62.45/kg, R48.83/kg and R40.43/kg respectively.

In real terms, from 2019 to 2020, the increase in the prices of fresh whole chicken and fresh chicken portions were 13.0%, respectively, while IQF chicken portions increased by 4.9%.

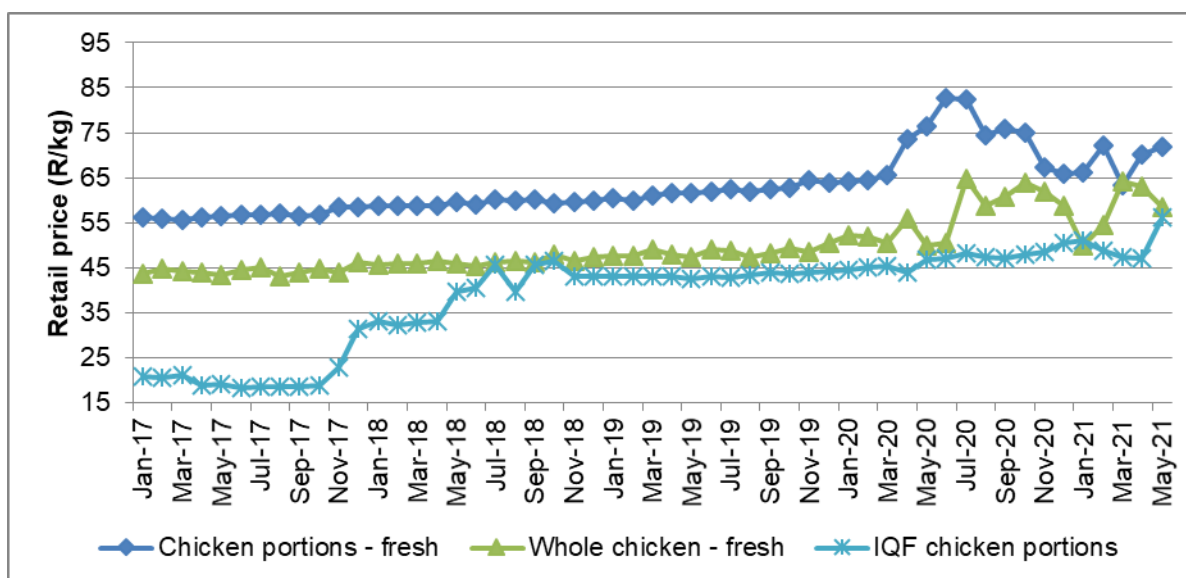


Figure 24: Poultry retail price trends³

Source: Stats SA (2021)

³ 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 starts from January 2017.

Figure 25 shows the trends in the producer prices of poultry from January 2012 to April 2021. On year-on-year bases, the average producer price of fresh chicken decreased by 4.4% (from R26.71/kg in 2019 to R25.53/kg during 2020), while frozen chicken decreased by 0.6% (from R25.60/kg in 2019 to R25.44/kg during 2020). The annual average producer price of IQF chicken marginally decreased by 0.1% (from R23.74/kg in 2019 to R23.72/kg in 2020). Comparing the first four months of 2021 and 2020, the producer price of IQF, frozen and fresh chicken increased by 7.6%, 5.8% and 2.7%, respectively.

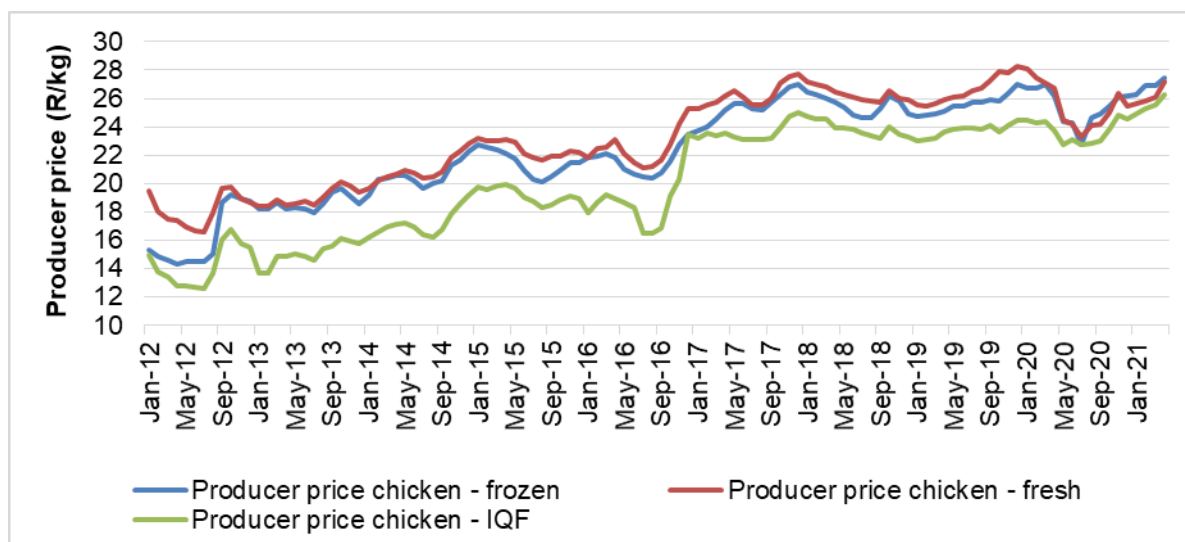


Figure 25: Poultry producer price trends

Source: AMT (2021)

The real FTRPS and farm value share of fresh whole chicken are shown in **Figure 26**. The real FTRPS of fresh whole chicken increased by 37.5% and the farm value share decreased, on average, by 17.0% between 2019 and 2020. The average farm value share for fresh whole chicken per kg in 2020 was 45.6%.

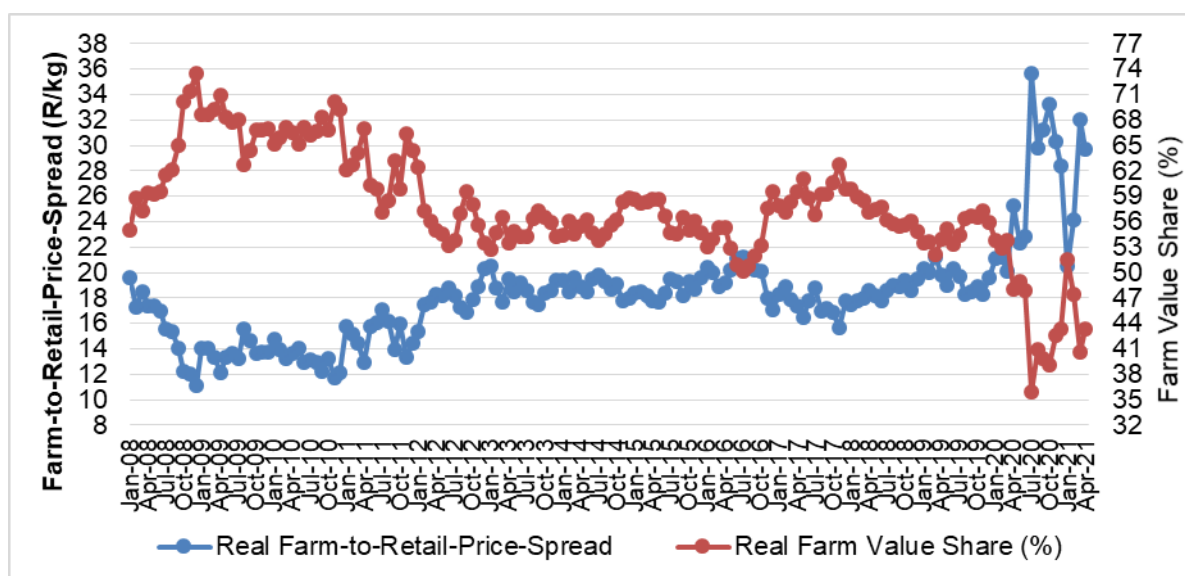


Figure 26: Real FTRPS and farm value share of poultry

Sources: AMT (2021), Stats SA (2021) and own calculations

5.2.2. Beef

Figure 27 presents international beef price trends. Based on the FAO Bovine Meat Price Index, the annual average international beef price increased by 9.4% between 2020 and the first four months of 2021, when compared to a decrease of 1.4% recorded between 2019 and 2020. When comparing the first four months of 2021 and 2000, the average international beef price increased by 118.1%. In terms of the global market, between the first four months of 2021 and 2020, on average export prices from the USA and Australia increased by 6.0% and 5.5%, respectively, pushing the global beef price index up to reach the highest levels since 2014.

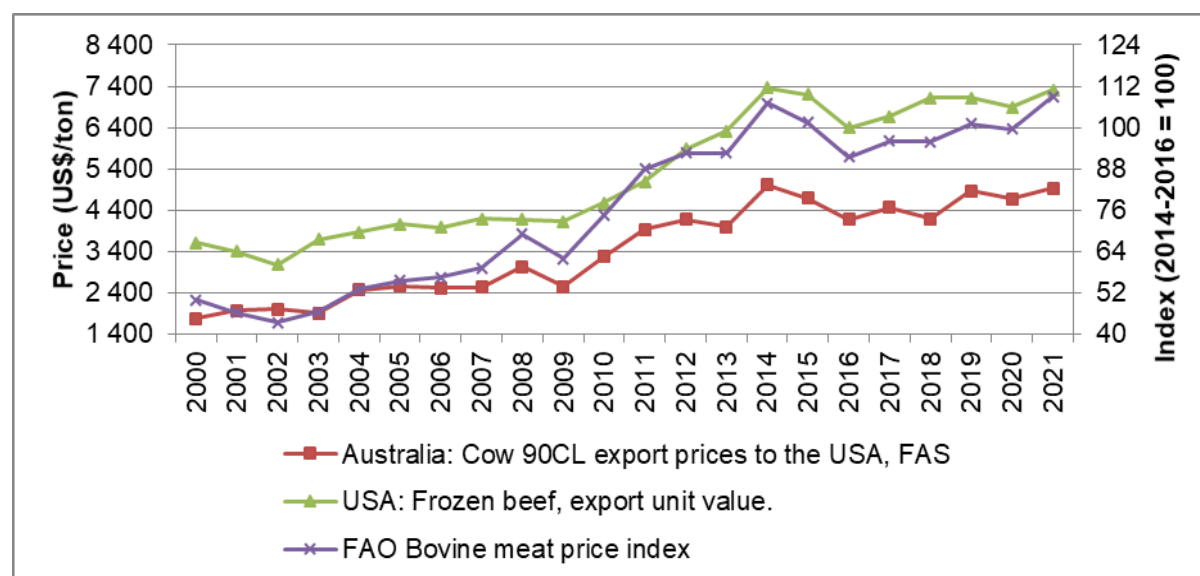


Figure 27: International beef price trends

Source: FAO (2021b)

The retail price of beef continued mostly sideways throughout the period under review, except for rump steak, which followed a downward trend (**Figure 28**). The average annual retail prices of rump, brisket, mince, chuck and T-bone increased by 17.5%, 6.4%, 6.2%, 3.2% and 2.7%, respectively, between 2019 and 2020. In real terms, the average annual retail prices for rump, brisket and mince increased by 13.8%, 3.0% and 2.7%, respectively, between 2019 and 2020. Opposed to this, the prices of T-bone and chuck decreased by 0.6% and 0.1%, respectively, between 2019 and 2020.

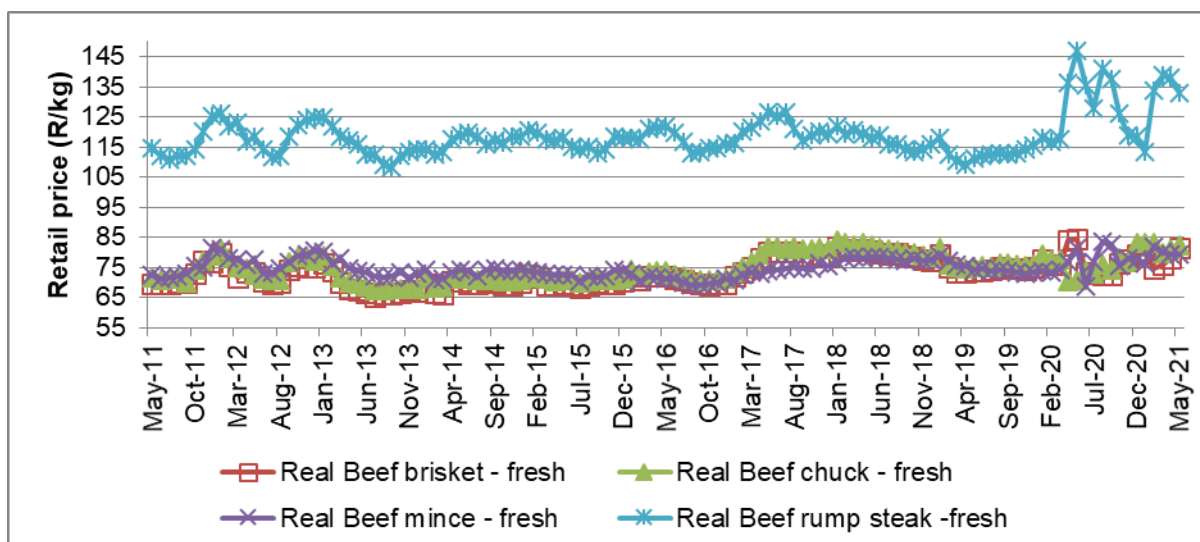


Figure 28: Retail price trends for different beef cuts

Source: Stats SA (2021)

The producer prices for the different classes of beef from 2012 until April of 2021 are shown in **Figure 29**. Based on the AMT data, the annual average producer prices of beef classes B2/B3, C2/C3, and A2/A3 increased by 7.8%, 7.1% and 5.1%, respectively, between 2019 and 2020. The main drivers of this increase were feed costs which continue to put more pressure on producers, as also observed from the international market.

In real terms, beef producer prices showed an increasing trend over the longer term. The AMT data showed that, between 2012 and the first four months of 2021, the average annual producer prices of beef increased as follows: B2/B3 (80.2%), C2/C3 (79.1%) and A2/A3 (71.4%).

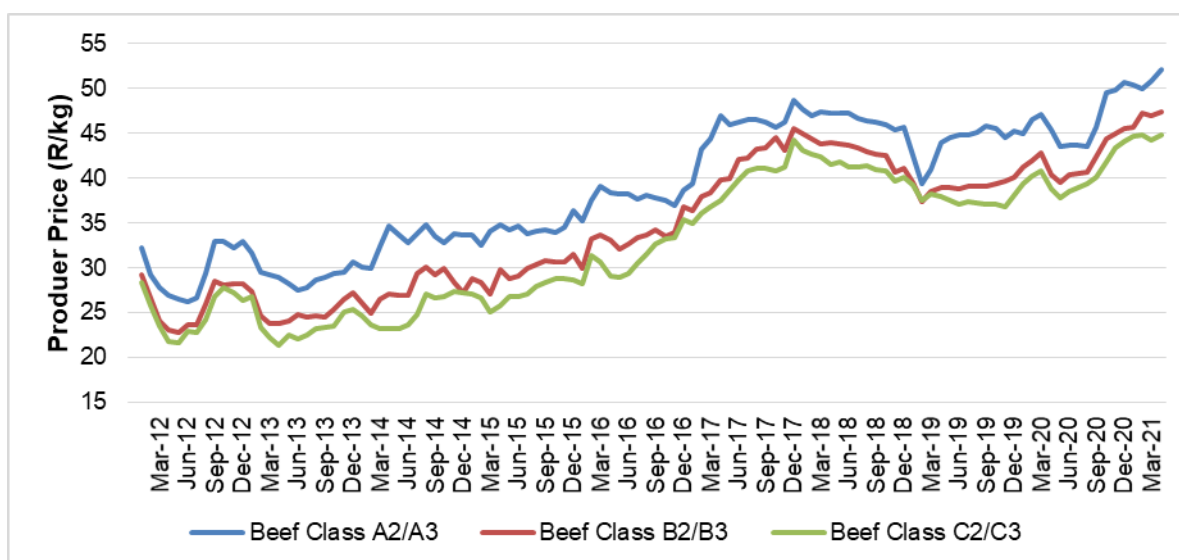


Figure 29: Beef producer price trends

Source: AMT (2021)

The real FTRPS and the farm value share of beef are shown in **Figure 30**. The average real farm value share and the real FTRPS of beef increased by 29.5% and 7.9%, respectively, between 2019 and 2020. The average real farm value share and real FTRPS of beef reached 48.0% and R40.04/kg respectively during the same time.

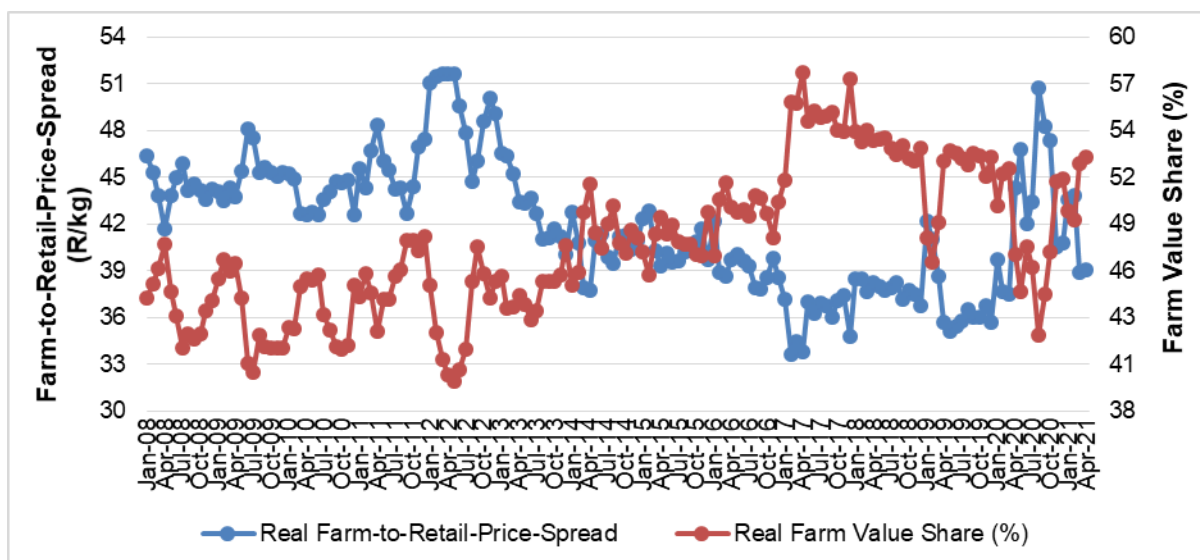


Figure 30: Real FTRPS and farm value share for beef

Sources: AMT (2021), Stats SA (2021) and own calculations

5.2.3. Lamb

Following a decline between 2019 and 2020, international lamb prices continued their upward trend during the first few months of 2021 (**Figure 31**). Based on the FAO data, international lamb prices decreased by 5.7% between 2019 and 2020; however, an increase of 11.7% was recorded between 2020 and the first four months of 2021. This increase can be linked to higher grain and oilseed prices globally, following higher demand with lower carryover stocks from key suppliers.

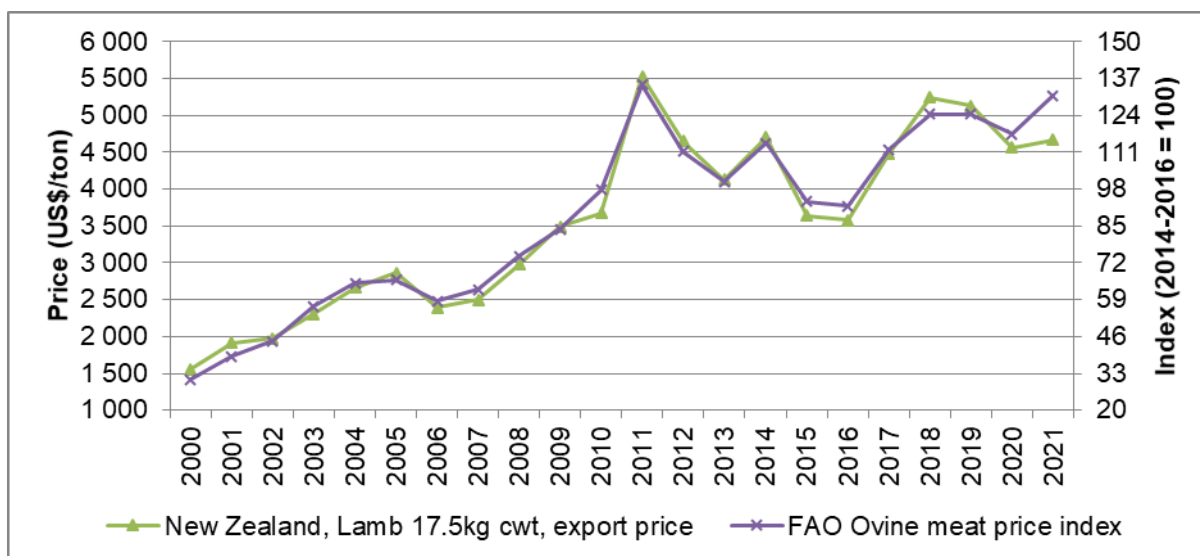


Figure 31: International lamb price trends

Source: FAO (2021b)

The domestic retail prices of lamb cuts showed an increase during 2014, followed by a decline in 2015, and continued with the long-term increasing trend (**Figure 32**). These increases continued during 2017 and 2018. The average annual retail prices of leg, rib chops, loin chops and lamb neck increased by 16.8%, 16.6%, 12.4% and 1.9%, respectively, between 2019 and 2020. In real terms, the average annual retail prices of rib chops, loin chops and lamb leg increased by 12.9%, 8.9% and 3.4%,

respectively, between 2019 and 2020. The real average annual retail price of lamb neck decreased by 1.5% during the same period.

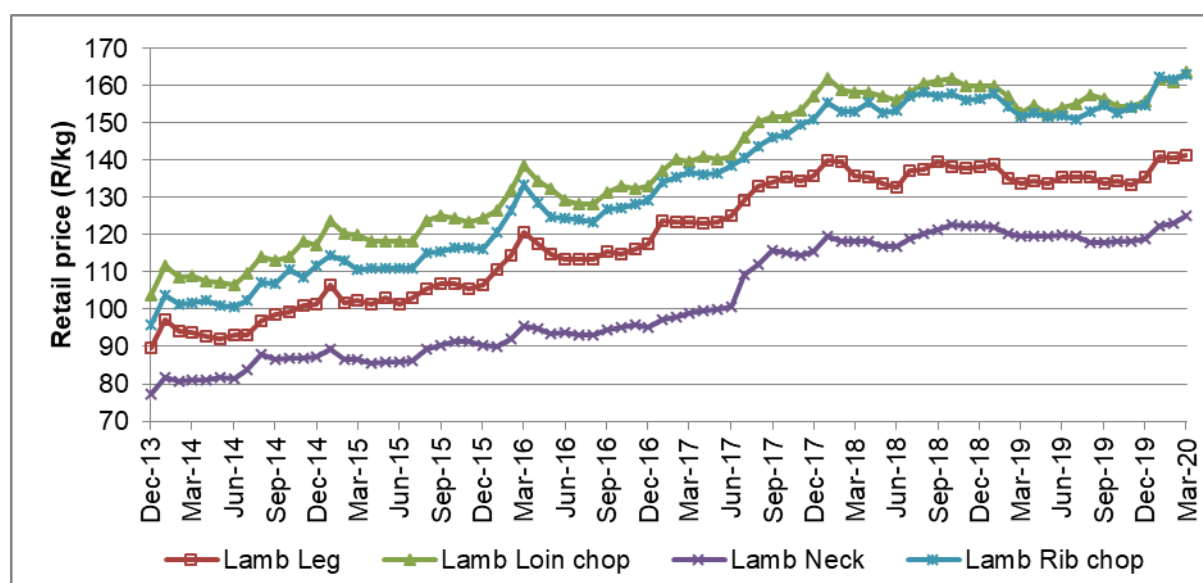


Figure 32: Lamb retail price trends

Source: Stats SA (2021)

Figure 33 shows that the producer prices for the different lamb classes continued with an increasing trend during 2020 and 2021, after a noticeable increase from 2019 to 2020. On average, lamb producer prices for classes A2/A3, C2/C3 and B2/B3 all increased, by 21.1% (from R67.04/kg in 2019 to R81.17/kg in 2020), 20.5% (from R49.60/kg in 2019 to R59.76/kg in 2020) and 16.1% (R53.04/kg in 2019 to R61.60/kg in 2020) respectively. Comparing 2020 and the first four months of 2021, classes B2/B3 increased by 8.9% in 2020 (R61.60/kg) to (R67.11/kg) for the first four months of 2021, while classes C2/C3 and A2/A3 increased by 8.8% and 2.4%, respectively.

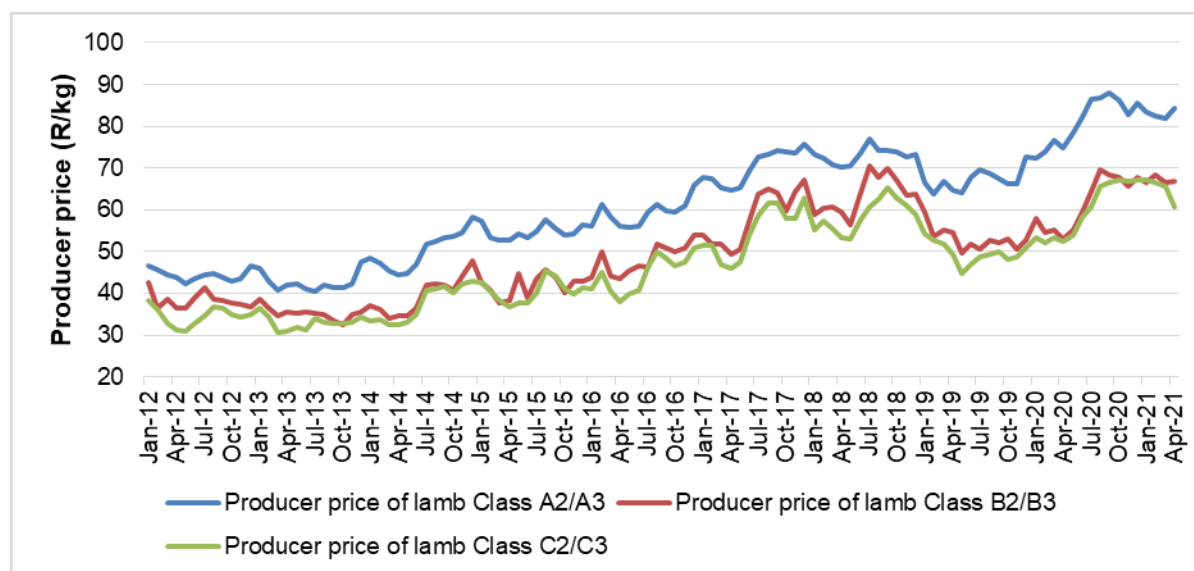


Figure 33: Lamb producer price trends

Source: AMT (2021)

The real FTRPS and the farm value share of lamb are depicted in **Figure 34**. The real farm value share and the real FTRPS of lamb increased by 16.5% and 12.3% between 2019 and 2020. The real retail price of lamb was R136.08/kg, on average, during 2020.

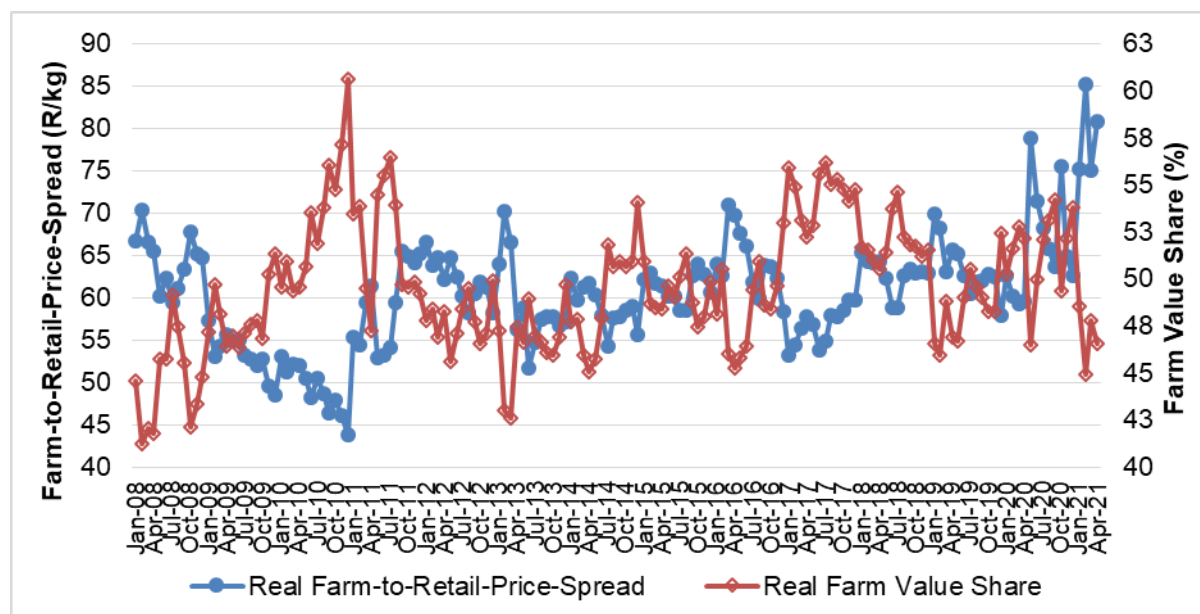


Figure 34: Real FTRPS and farm value share of lamb

Source: AMT (2021), Stats SA (2021) and own calculations

5.2.4. Pork

The global pig meat price index of the FAO is presented in **Figure 35** below. The annual average pork price decreased by 3.6% between 2019 and 2020. During the first four months of 2021, the pig meat price index increased by 2.2% compared to the annual average global price index in 2020. The annual average US frozen pork prices decreased by 2.1% between 2019 and 2020 and increased by 4.0% between 2020 and the first four months of 2021.

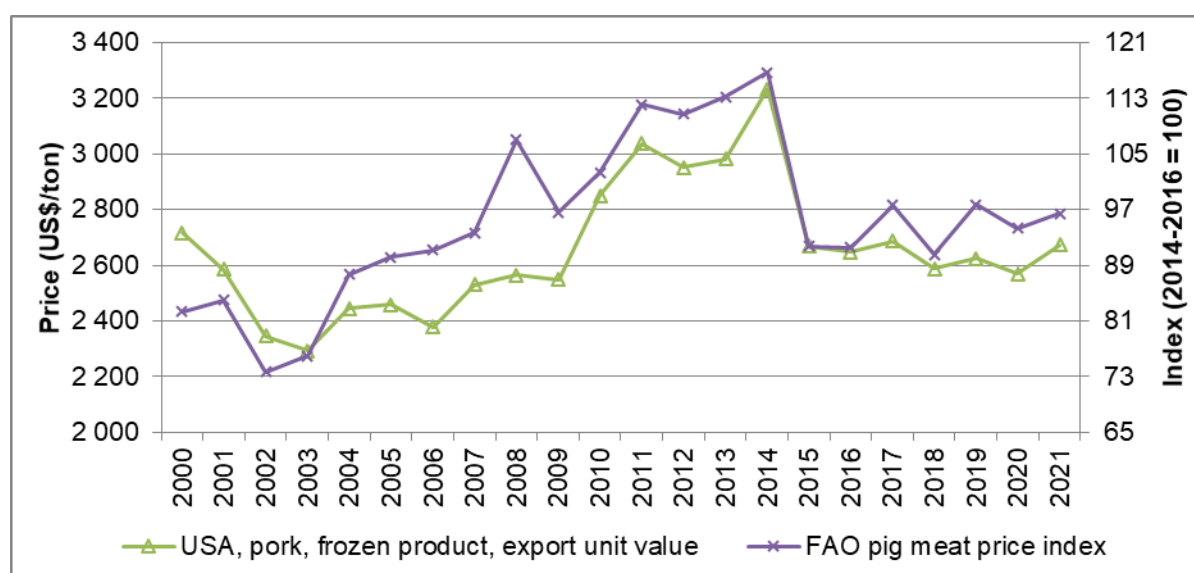


Figure 35: International pork price trends

Source: FAO (2021b)

Figure 36 shows the retail price trends of fresh pork chops. The retail price of pork chops increased by 11.4% between 2019 (R77.33/kg) and 2020 (R86.15/kg). In real terms, the average retail price of pork chops increased by 68.1% during the period under review.

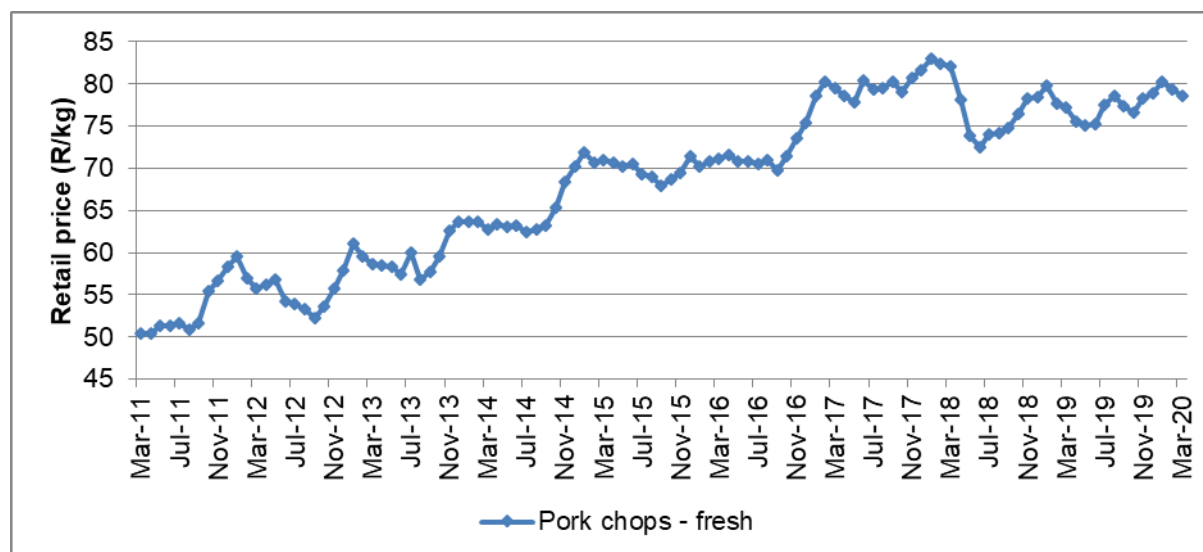


Figure 36: Pork retail price trends

Source: Stats SA (2021)

Figure 37 shows that the producer price of porkers and baconers has experienced much more volatility since the end of 2017. Year-on-year, the average producer price of porkers and baconers increased by 2.7% and 0.1%, respectively, between 2019 and 2020. However, between 2020 and the first four months of 2021, a significant increase was observed. The annual average producer prices increased by 19.2% (from R26.75/kg in 2020 to R31.88/kg in 2021) for porkers and 18.5% (from R24.99/kg in 2020 to R29.63/kg at the end of April 2021) for baconers.

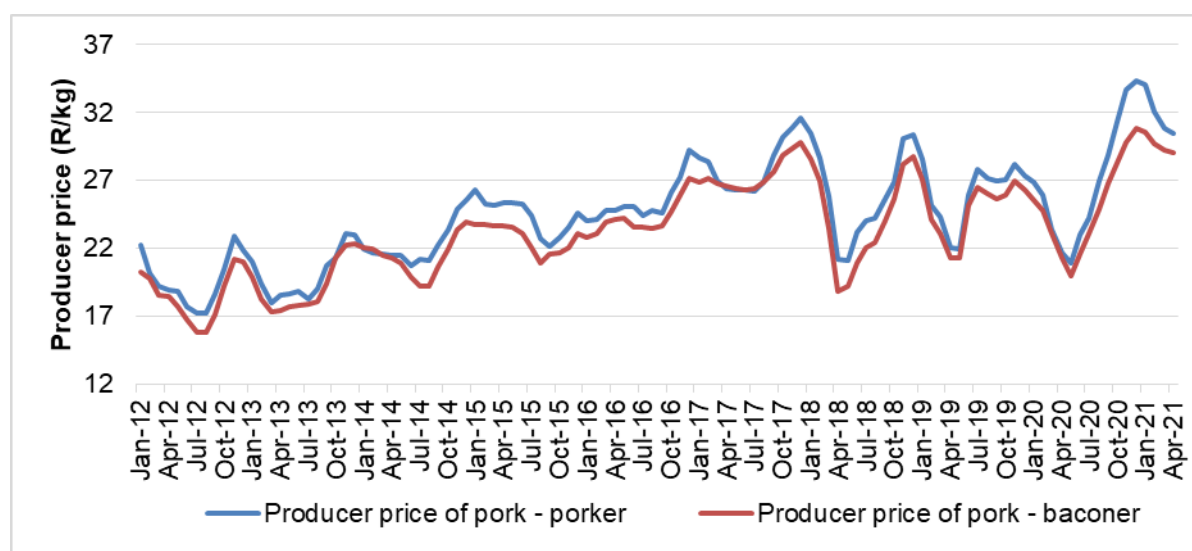


Figure 37: Pork producer price trends

Source: AMT (2021)

Figure 38 shows the real FTRPS and farm value share of pork chops. The average real FTRPS increased by 7.1%, while the real farm value share decreased by 0.7% on average between 2019 and 2020.

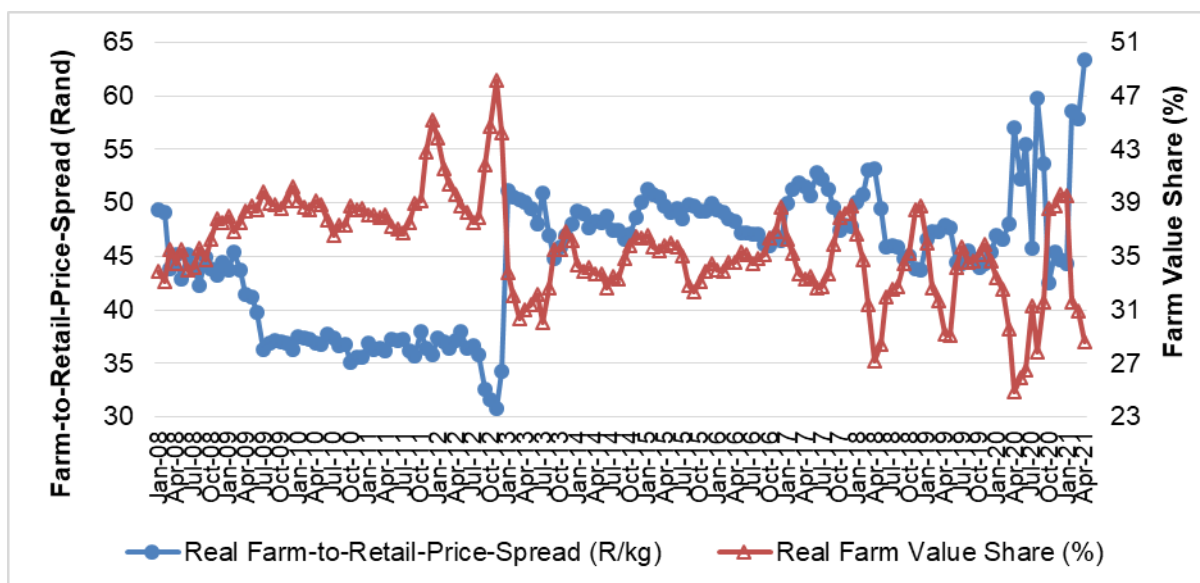


Figure 38: Real FTRPS and farm value share of pork

Source: AMT (2021), Stats SA (2021) and own calculations

5.3. Price trends in the dairy sector

5.3.1. Milk

Figure 39 shows the trends in the raw milk price and retail values for fresh full-cream (1ℓ) and low-fat milk (1ℓ) between January 2015 and May 2021. The average retail prices between May 2020 and May 2021 were R15.10/ℓ and R16.05/ℓ for fresh full-cream (1ℓ) and low-fat milk (1ℓ), respectively. Between May 2020 and May 2021, the prices increased on average by 1.3% for fresh full-cream milk (1ℓ) and by 0.4% for fresh, low-fat milk (1ℓ). Using data from the South African Milk Processors' Organisation (SAMPRO) and the Milk Producers' Organisation (MPO), the calculated raw milk price increased from R4.69/ℓ in May 2020 to R6.15/ℓ in May 2021.

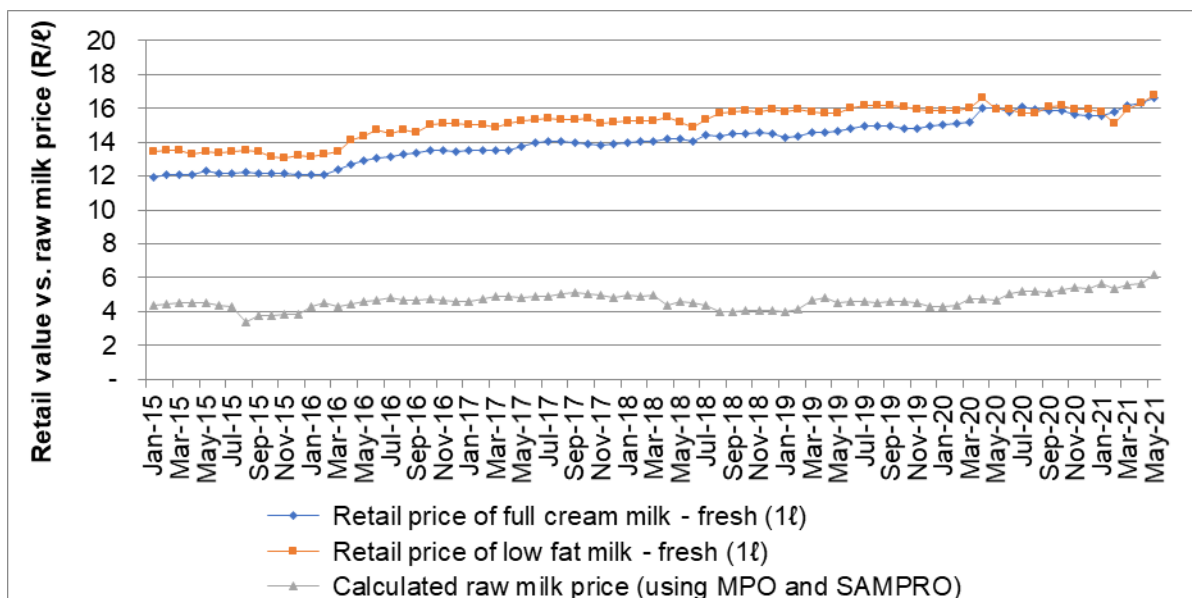


Figure 39: Raw milk price and the retail values for full-cream and low-fat milk, sachets (R/ℓ)

Sources: SAMPRO (2021), Stats SA (2021) and own calculations

In order to explain the relationship between the raw milk price and the price of 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, 2021). Due to the complex nature and 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 of full-cream milk.

Figure 40 shows the farm value share as a percentage of the real retail value for fresh full-cream milk (1ℓ) between January 2015 and May 2021. From May 2020 to May 2021, the average real farm value share of fresh full-cream milk (1ℓ) reached 30.1%. The real farm value share (%) for fresh full-cream milk (1ℓ) decreased to reach a trough of 27.7% in October 2018, after peaking at 37.9% during March 2017. In May 2021, the real farm value share (%) for fresh full-cream milk (1ℓ) reached 37.0%.

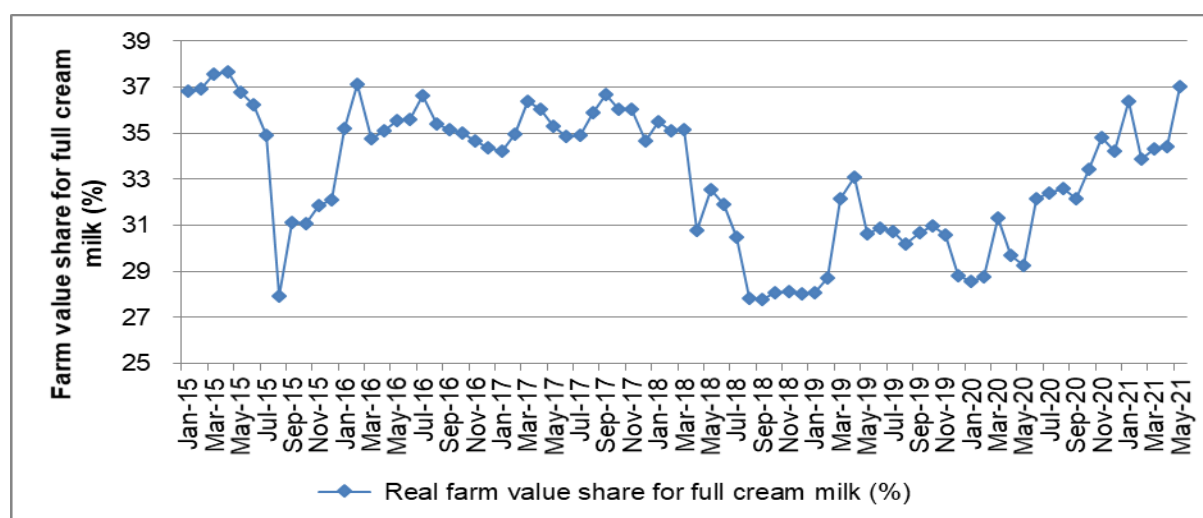


Figure 40: Real farm value shares for full-cream milk, sachets (R/ℓ)

Sources: Stats SA (2021), SAMPRO (2021) and own calculations

Figure 41 shows the trends in the real FTRPS for fresh full-cream milk (1ℓ) between January 2015 and May 2021. In January 2015, the spread was R8.48/ℓ, reaching a peak of R9.93/ℓ during May 2020. The average annual real FTRPS increased from R9.13/ℓ in 2019 to R9.26/ℓ in 2020.

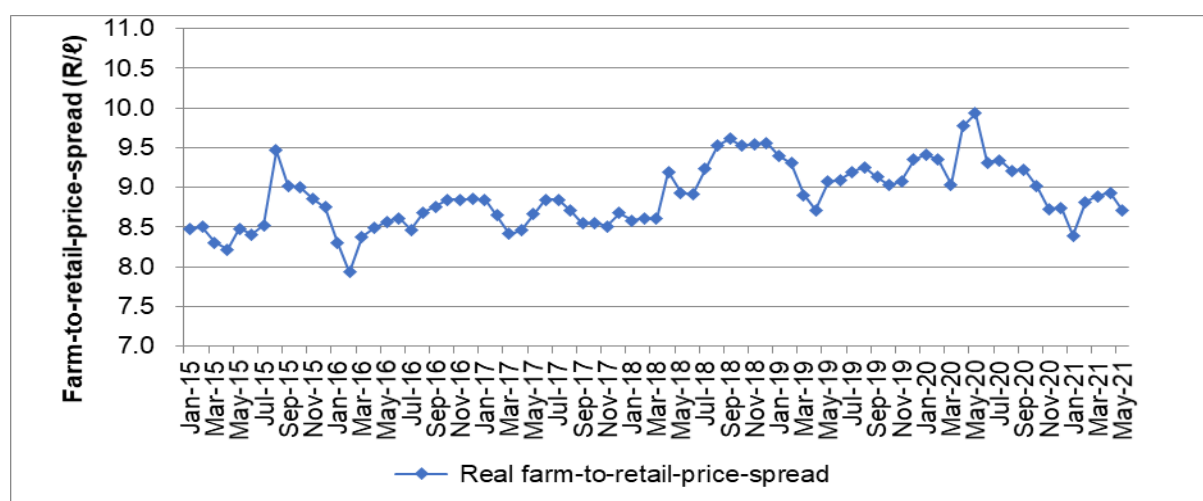


Figure 41: Real FTRPS for full-cream milk, sachets (R/ℓ)

Sources: SAMPRO (2021), Stats SA (2021) and own calculations

To better understand the margins and costs in the fresh milk dairy value chain, industry stakeholders were consulted about 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 further 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 was received from several highly experienced and informed milk processors, who were requested to indicate what they regard as typical low- and high-cost scenarios in South Africa for each of the value-adding activities. **Table 15** and **Table 16** show the distribution costs and margins along the fresh milk dairy value chain, per action, for both a low- and high-cost scenario.

Table 15 and **Table 16** show that in January 2020, the raw milk price (2ℓ) contributed between 38% and 34% of the total selling price to the consumer, compared with 36.4% and 42.6% in January 2019. The raw milk price for the low-cost scenario in January 2020 was R9.60 per 2ℓ container, compared with the R9.00 reported in January 2019 (6.7%). The raw milk price for the high-cost scenario was R10.80 per 2ℓ container in January 2020, compared with the R9.80 reported in January 2019 (10.2%).

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 6.3% and 6.9% to the total selling price consumers paid in January 2020. **Action 2** (the sum thereof) contributed between 21.6% and 23.3%, while **Action 3** contributed between 19.8% and 18.1% to consumers' selling price in January 2020.

When considering the individual items of the actions mentioned above for January 2020, the 2ℓ container (plastic or gable top) contributed the greatest proportion of 13.5% of cost items to the selling price in the low-cost scenario, while the retailer mark-up contributed the highest proportion of 17.8% 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. Between January 2019 and January 2020, the growth of the low- and high-cost scenarios for the consumer's selling price (**Action 4**) varied between R25.25/2ℓ and R31.80/2ℓ.

Table 15: Typical cost composition of pasteurised full-cream milk in 2ℓ containers offered for sale in a retail store – low-cost scenario

	Low cost		Low cost		Low cost		Low cost	
	Jan-20		Jan-19		Jan-18		Jan-17	
Item	R/2 litre	% Of selling price	R/2ℓ	% Of selling price	R/2ℓ	% Of selling price	R/2ℓ	% Of selling price
Raw milk price (2ℓ)	9.60	38.0	9.00	42.6	9.50	45.3	9.60	40.2
Action 1:								
Raw milk collection and transport to processing plant	1.60	6.3	1.29	6.1	1.20	5.7	1.20	5.0
Action 2:								
Processing and quality assurance	1.75	6.9	1.36	6.4	1.30	6.2	2.10	8.8
Container (2ℓ plastic or 2ℓ gable top)	3.40	13.5	3.10	14.7	2.95	14.1	2.40	10.0
Filling of 2ℓ containers	0.30	1.2	0.21	1.0	0.20	1.0	0.20	0.8
Action 3:								
Marketing and distribution by milk processor	2.60	10.3	2.00	9.5	1.87	8.9	3.40	14.2
Interest, profit and overhead costs	2.40	9.5	2.00	9.5	1.90	9.1	1.80	7.5
Selling price to retailer	21.65	85.7	18.96	89.6	18.92	90.3	20.70	86.6
Action 4:								
Retailer mark-up	3.60	14.3	2.19	10.4	2.03	9.7	3.20	13.4
Selling price to consumer	25.25	100.0	21.15	100.0	20.95	100.0	23.90	100.0

Source: SAMPRO (2021) and own calculations

Table 16: Typical cost composition of pasteurised full-cream milk in 2ℓ containers offered for sale in a retail store – high-cost scenario⁴

	High cost		High cost		High cost		High cost	
	Jan-20		Jan-19		Jan-18		Jan-17	
Item	R/2 litre	% Of selling price	R/2ℓ	% Of selling price	R/2ℓ	% Of selling price	R/2ℓ	% Of selling price
Raw milk price (2ℓ)	10.80	34.0	9.80	36.4	10.00	40.3	10.50	36.4
Action 1:								
Raw milk collection and transport to processing plant	2.20	6.9	1.60	5.9	1.35	5.4	1.35	4.7
Action 2:								
Processing and quality assurance	3.10	9.7	2.80	10.4	1.50	6.0	2.70	9.4
Container (2ℓ plastic or 2ℓ gable top)	3.80	11.9	3.40	12.6	3.20	12.9	3.20	11.1
Filling of 2ℓ containers	0.50	1.6	0.35	1.3	0.30	1.2	0.30	1.0
Action 3:								
Marketing and distribution by milk processor	2.85	9.0	2.20	8.2	1.95	7.9	4.30	14.9
Interest, profit and overhead costs	2.90	9.1	2.30	8.5	2.10	8.5	2.50	8.7
Selling price to retailer	26.15	82.2	22.45	83.3	20.40	82.3	24.85	86.1
Action 4:								
Retailer mark-up	5.65	17.8	4.50	16.7	4.40	17.7	4.00	13.9
Selling price to consumer	31.80	100.0	26.95	100.0	24.80	100.0	28.85	100.0

Source: SAMPRO (2021) 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 42 shows the powdered milk retail prices trends for 900g packets between January 2015 and May 2021. The average retail price for 900g powdered milk between January 2020 and December 2020 was R140.62/900g, compared to the R138.33/900g reached between January 2019 and December 2019 (2.9%).

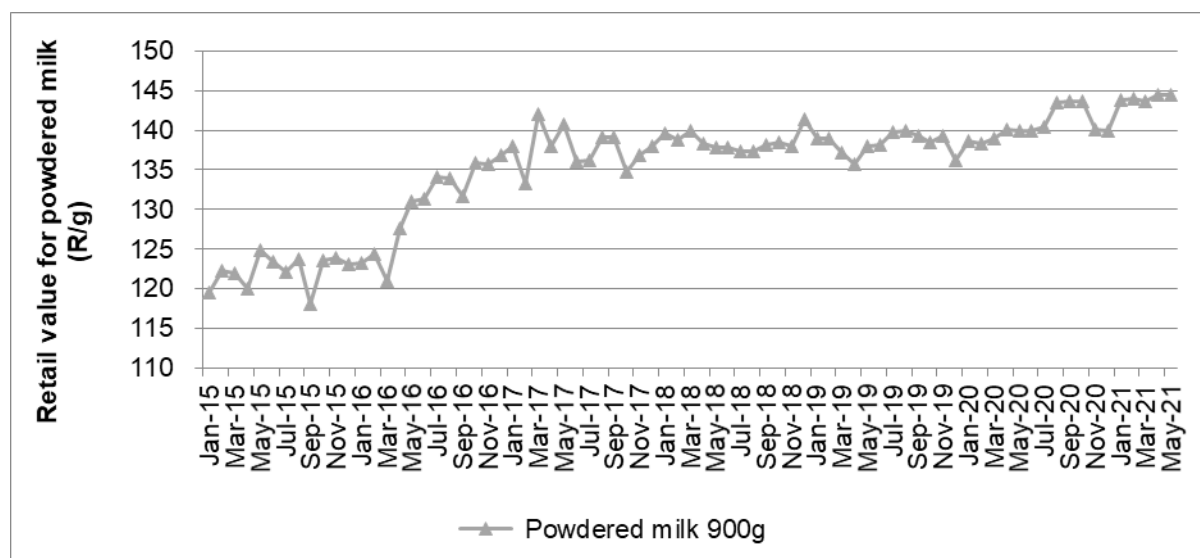


Figure 42: Retail price of powdered milk

Source: Stats SA (2021)

5.3.3. Milk, cheese and margarine

Figure 43 shows the trends in the retail prices for fresh full-cream milk (R/ℓ), fresh, low-fat milk (R/ℓ), cheddar cheese (R/kg), and margarine (R/kg) between January 2015 and May 2021. The average retail prices between May 2020 and May 2021 were R15.10/ℓ (1.3%), R16.05/ℓ (0.4%), R108.04/kg (1.6 %), and R44.50/kg (0.7%), respectively.

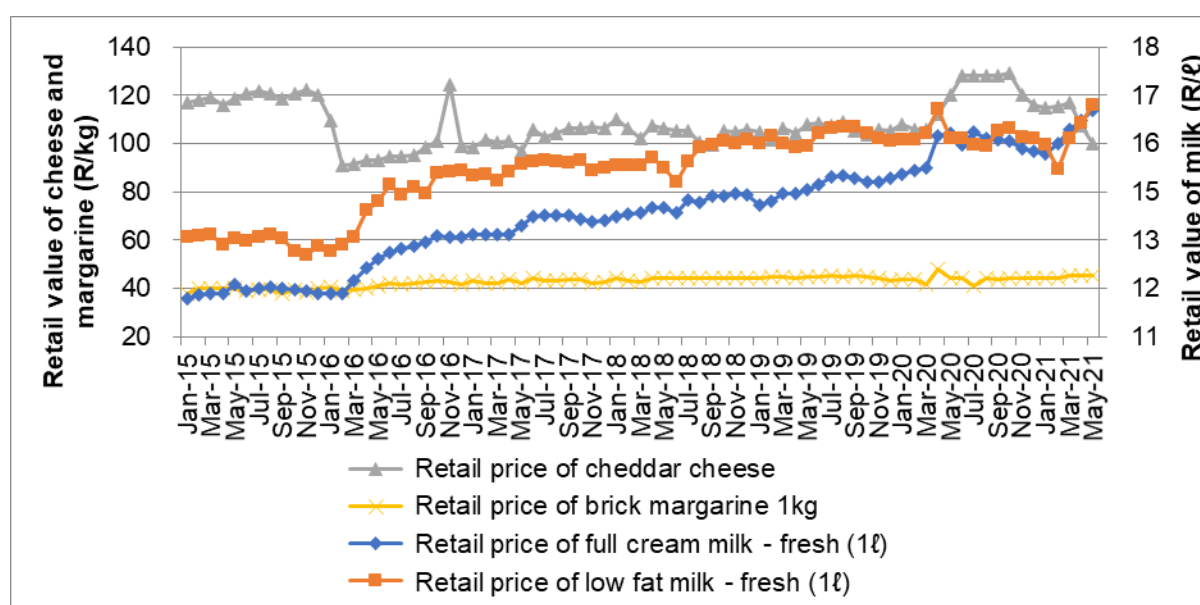


Figure 43: Retail price of milk, (R/ℓ), cheddar cheese and butter (R/kg)

Sources: Stats SA (2021)

5.4. Maize sector

5.4.1. Production, stock levels and consumption of white maize

In South Africa, white maize is mainly produced for human consumption and yellow maize for animal consumption. About 80% of white maize production is processed in the form of maize meal. Both white and yellow maize are summer crops, planted annually in the same season. The maize marketing season runs from 1 May until 30 April. **Figure 44** indicates the total supply and demand for white maize. During the season under review, total white maize supplied was 7 241 472 tons in 2019/20 – down by 1 497 525 tons from 2018/19 on the back of poor yields due to unfavourable climatic weather conditions. Although total white maize supplies were down during 2019/20, the total demand of 6 767 508 tons was still sustained.

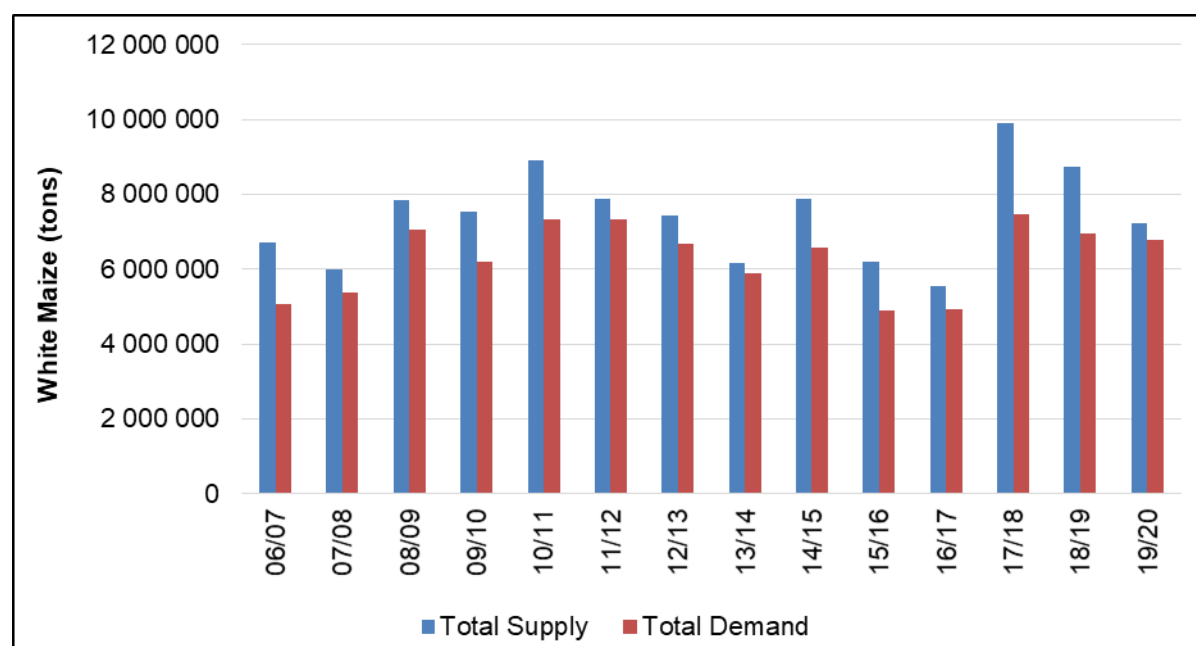


Figure 44: Domestic maize production, consumption and area harvested (white maize)

Source: SAGIS (2021)

Figure 45 indicates the stock levels of white maize for the 2019/20 marketing season. Ending stock levels were down by 1 325 034 tons compared to the previous marketing year of 2018/19, due to a decline in total supply. South Africa's maize stocks for 2019/20 post the end of the marketing season using the pipeline requirements (45-day stock) were 671 846 tons. Total white maize exports increased during the season under review by 658 795 tons, supported by a favourable export season. The 2019/20 white maize export destinations were Botswana, Ethiopia, Uganda, Tanzania, Lesotho, Somalia, Mozambique, Namibia, Zimbabwe and Eswatini (previously known as Swaziland).

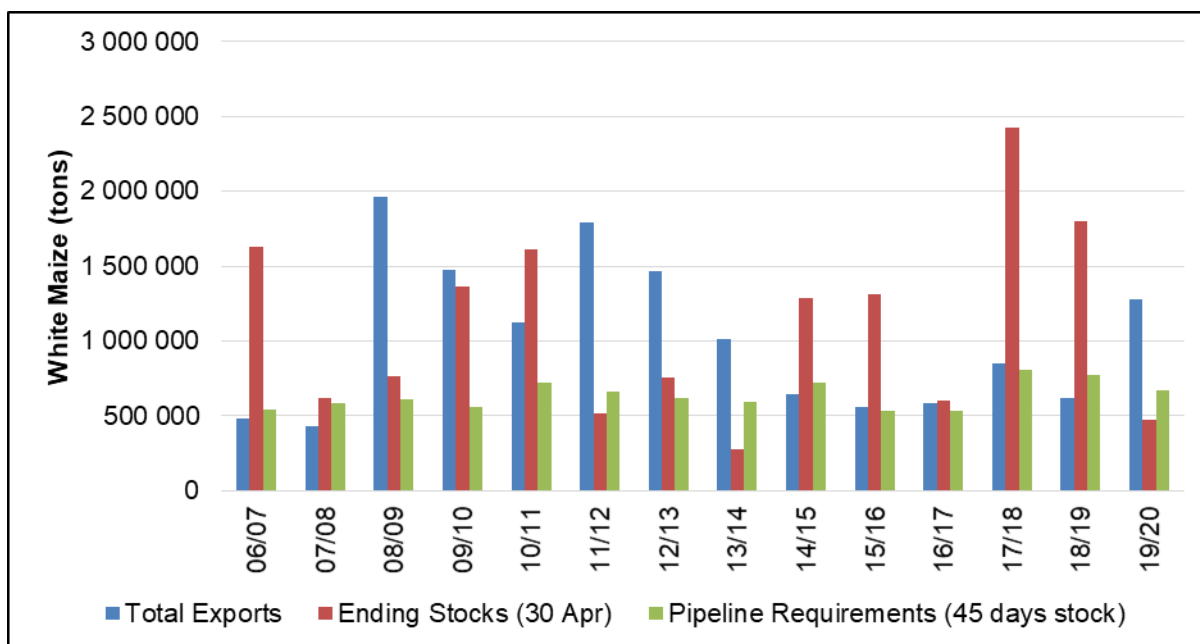


Figure 45: Total exports and pipeline requirements, carried out as a % of total domestic demand (white maize)

Source: SAGIS (2021)

White maize is predominately used for human consumption and yellow maize is used for animal feed. In some instances, this can result 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 46 illustrates the breakdown of consumption patterns for the 2019/20 marketing season. Processed white maize for human consumption increased from 3 552 000 tons in 2007/08 to 4 809 569 tons in the 2019/20 season. This increase in processed maize for human consumption is possibly attributed to the growth in the human population over the years. The South African human population in 2019/20 was recorded at 58 775 000 million heads (Stats SA, 2021).

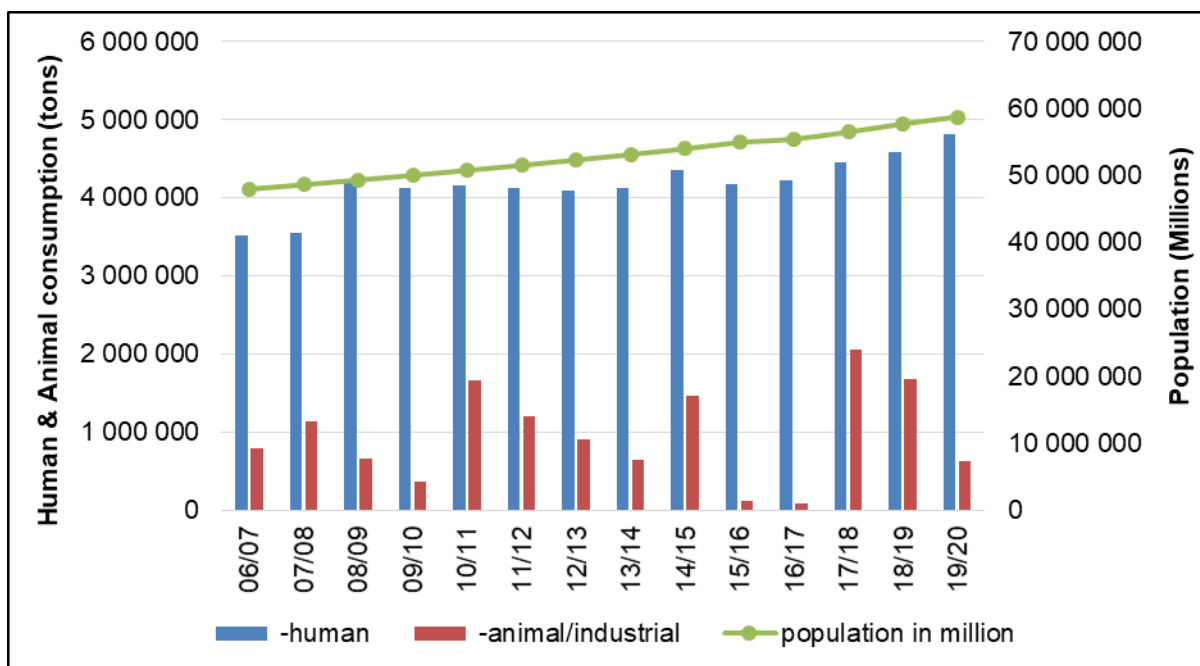


Figure 46: Domestic maize production, consumption and area harvested (white maize)

Sources: SAGIS (2021), Stats SA (2021) and own calculations

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 47** indicates total yellow maize supplies and total demand in South Africa during the 2019/20 season. A total of 6 846 292 tons were supplied to the commercial market, while the yellow maize demand was 6 319 655 tons. Total yellow maize demand comparing 2018/19 and 2019/20 increased slightly by 55 617 tons, which can be attributed to an increase in yellow maize used for animal and industrial consumption and, to a lesser extent, human consumption.

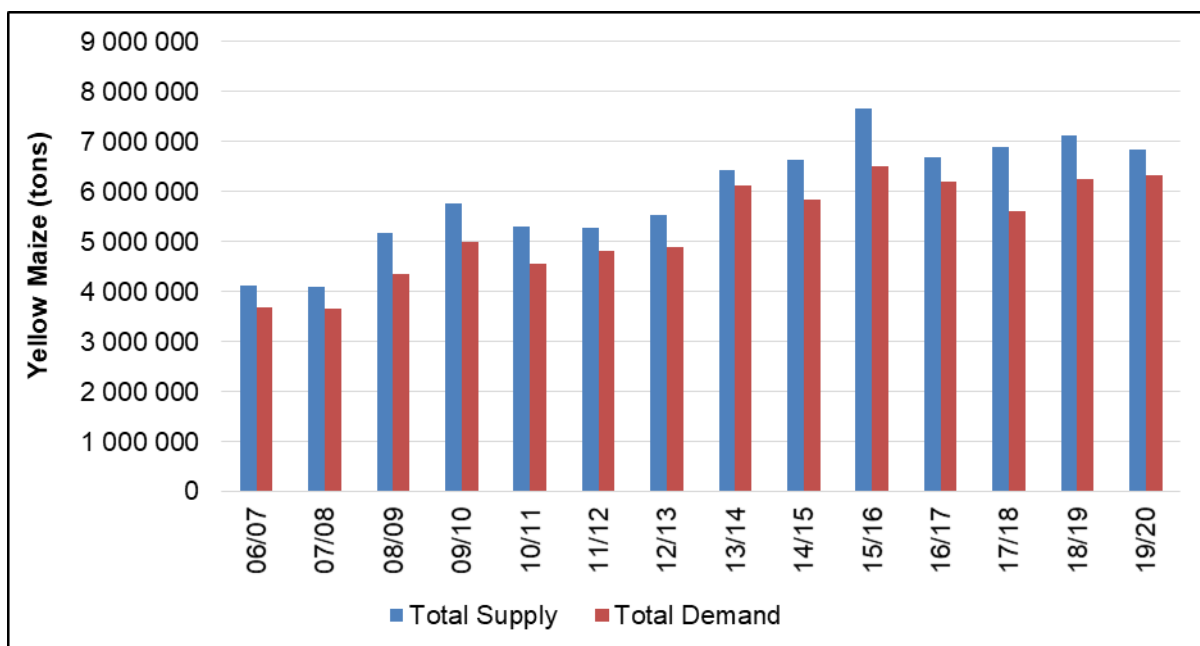


Figure 47: Domestic maize production, consumption and area harvested (yellow maize)

Sources: SAGIS (2021), Grain SA (2021a) and own calculations

Figure 48 illustrates the carryover stocks of yellow maize required in the pipeline (consumption for 45 days) of 697 438 tons. Ending stock levels of yellow maize were lower than in the previous season, while exports decreased from 1 667 407 tons to 534 127 tons in the 2019/20 marketing season. Tight supplies resulted in 509 684 tons of imports from Argentina and Brazil for the season under review.

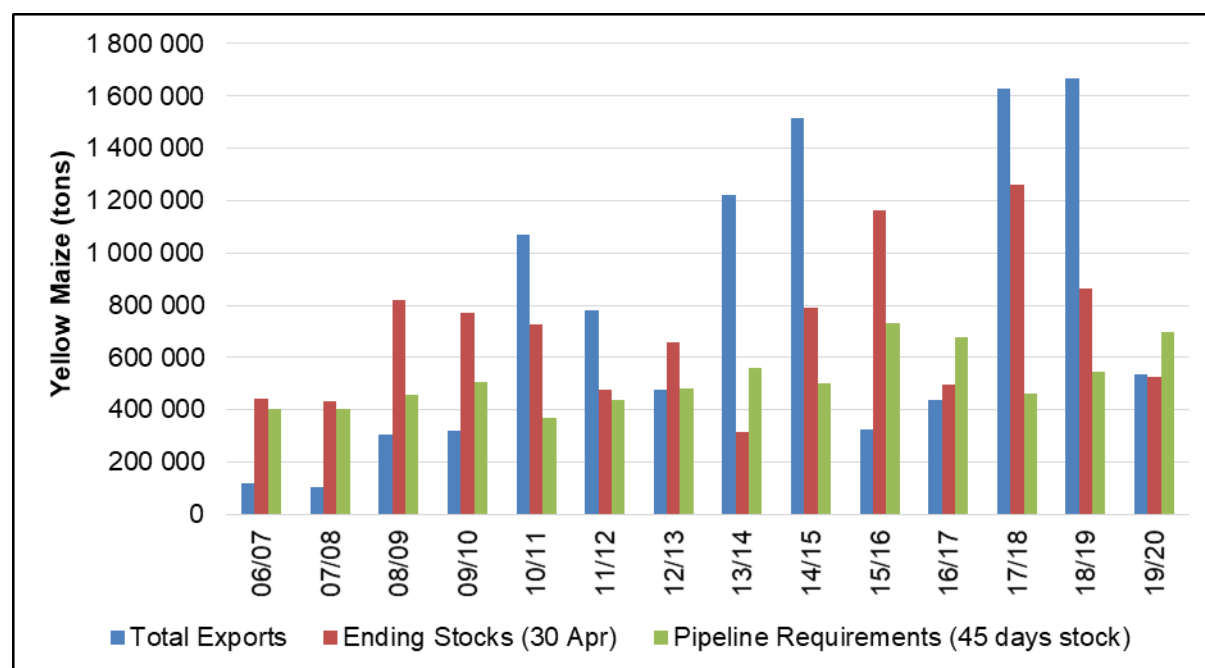


Figure 48: Total exports, pipeline requirements, carryout as a % of total domestic demand (Yellow maize)

Sources: SAGIS (2021)

Table 17: South African maize balance sheet for the 2018/19 season

	White Maize	Yellow Maize	Total Maize
Marketing season	2019/20	2019/20	2019/20
	tons	tons	tons
CEC (Crop Estimate)	5 545 000	5 730 000	11 275 000
CEC (Retention)	160 000	354 000	514 000
SUPPLY			
Opening stock (1 May)	1 798 998	864 088	2 663 086
Producer deliveries	5 442 474	5 444 579	10 887 053
Imports	0	509 684	509 684
Early deliveries (Net)*	0	0	0
Surplus	0	27 941	22 336
Total Supply	7 241 472	6 846 292	14 082 159
DEMAND			
Processed for the local market	5 449 415	5 656 997	11 106 412
- human	4 809 569	578 003	5 387 572
- animal and industrial	629 076	5 069 241	5 698 317
- gristing	10 770	9 753	20 523

	White Maize	Yellow Maize	Total Maize
Marketing season	2019/20	2019/20	2019/20
	tons	tons	tons
Withdrawn by producers	13 111	43 993	57 104
Released to end-consumers	17 649	82 166	99 815
Net receipts (-)/disp (+)	6 282	2 372	8 654
Deficit	5 605	0	0
Local demand	5 492 062	5 785 528	11 271 985
Exports	1 275 446	534 127	1 809 573
- products	236 537	124 275	360 812
- whole maize	1 038 909	409 852	1 448 761
Total Demand	6 767 508	6 319 655	13 081 558
Closing Stock (30 Apr)	473 964	526 637	1 000 601
- processed p/month	454 118	471 416	925 534
- months' stock	1.0	1.1	1.1
- days' stock	32	34	33

Source: NAMC (2021a)

* Note: Crop Estimates Committee (CEC)

5.4.3. White maize price trends

Figure 49 illustrates the trends of white maize's spot price in South Africa from May 2016 to 30 April 2021. The average spot price for white maize started to decrease in March 2017 due to a very favourable season. On average, the local price in 2019 was R2 806/ton, while in 2020, it improved to R3 041/ton.

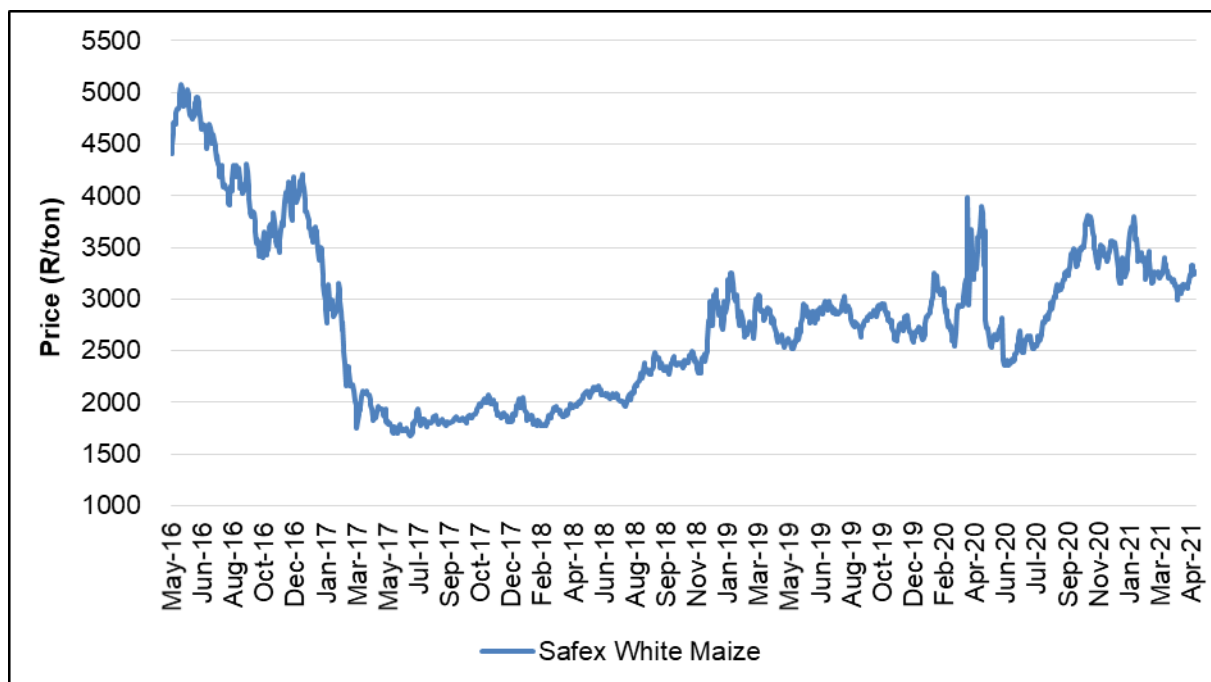


Figure 49: South African Futures Exchange (SAFEX) white maize price

Sources: Grain SA (2021a)

5.4.4. Yellow maize price trends

Figure 50 illustrates the trends of the South African spot price of yellow maize for the 2016/17 to 2020/21 marketing year, against import and export parity prices from the Gulf of Mexico to Randfontein. It is also notable that if yellow maize was imported from Argentina, the average price difference for the 2019/20 marketing season was R204, with a maximum of R529/ton. Sometimes it is cheaper to import from the Gulf of Mexico than from Argentina.

The average spot price for yellow maize closely followed the trend of white maize and started to decrease in March 2017 to export parity levels. The spot prices traded slightly above export levels, as depicted in **Figure 50** below, and eased lower towards the end of April 2021. The average spot price for 2020 was R2 919/ton, with the highest price on 26 October 2020 of R3 659/ton and the lowest price on 28 February 2020 at R2 448/ton.

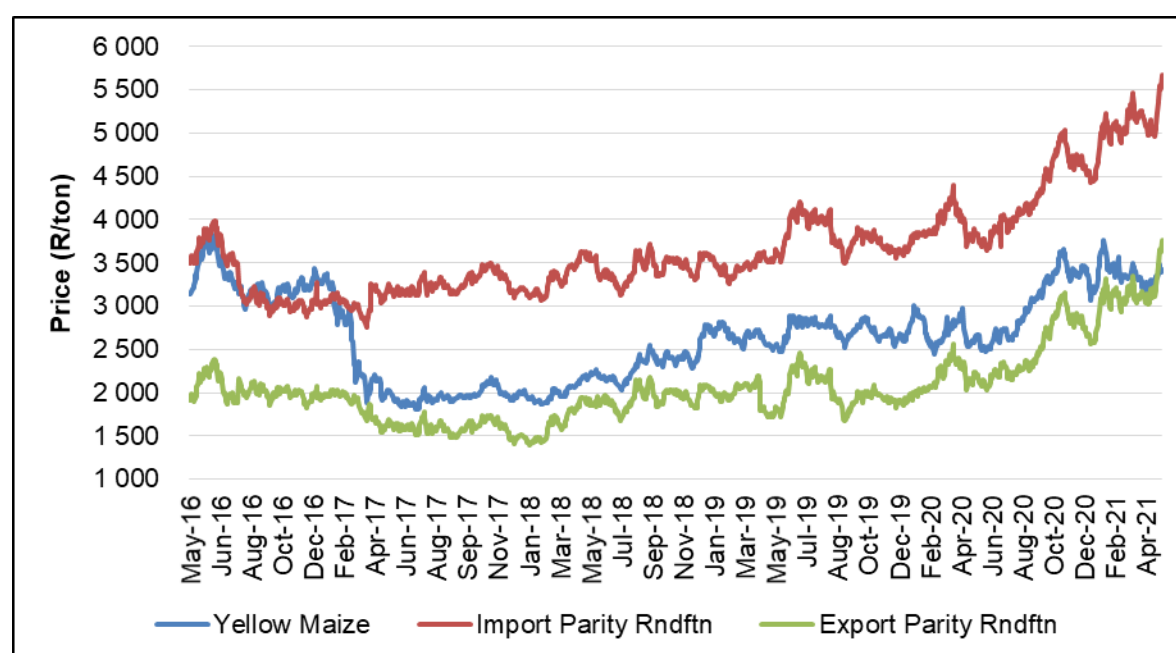


Figure 50: Import parity, export parity and SAFEX yellow maize price

Source: Grain SA (2021a)

5.4.5. Real farm value of super maize meal

Due to the data limitation for monitoring an average retail price for special maize meal (5kg) by Stats SA for the period February 2015 to December 2018, this section will only include the spread for super maize meal (5kg).

Figure 51 shows the trend in the real farm value and real retail value of super maize meal between January 2017 and July 2021. The real farm value of super maize meal decreased from R5 661/ton in January 2017 to R2 798/ton in July 2017 and further decreased to R2 543/ton in October 2018, showing a much higher volatile growth to R3 771 towards July 2021.

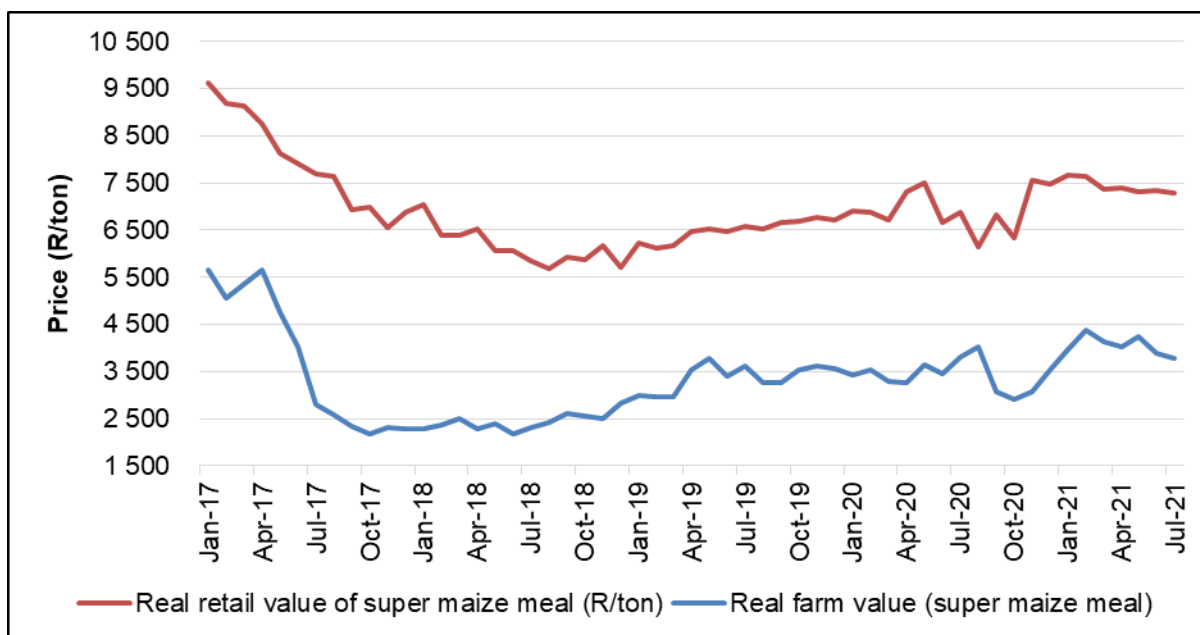


Figure 51: Real retail value and farm value of super maize meal

Sources: SAFEX (2021), Stats SA (2021a) and own calculations

Figure 52 illustrates the difference between the real retail value and real farm value of super maize meal and white maize. When stock levels become low and white maize prices increase, the differences between the real retail value of super maize meal and the real value of white maize get smaller, i.e., the percentage of the real value of white maize against the real value of super maize meal is much higher.

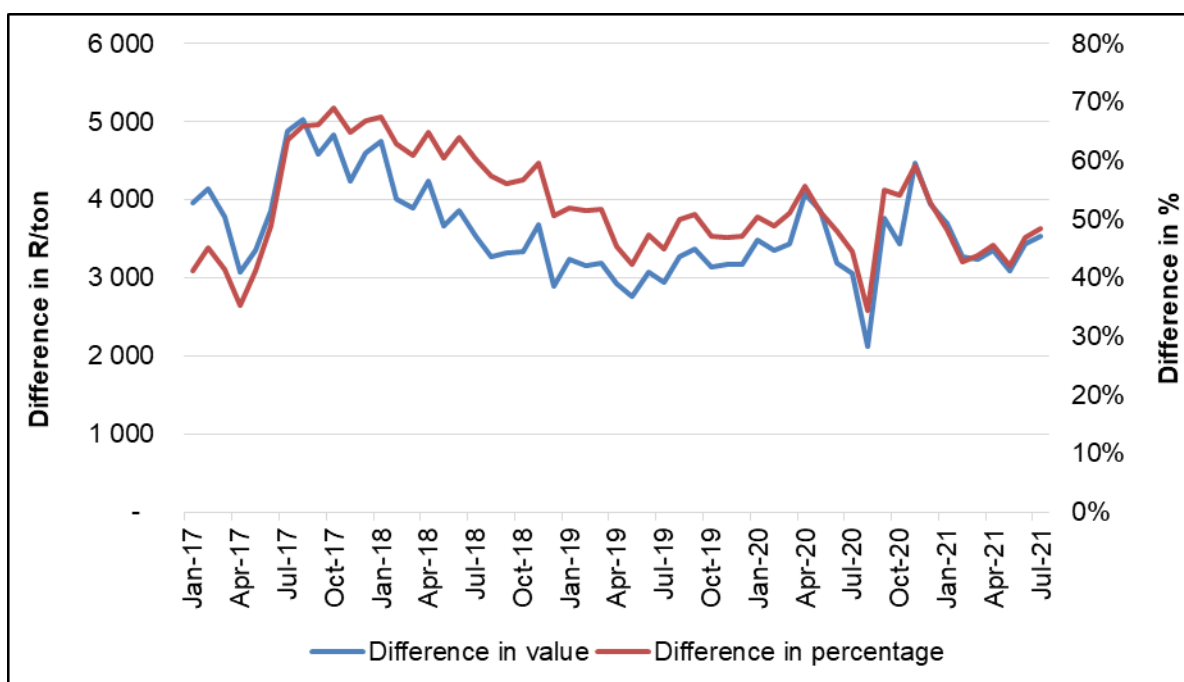


Figure 52: Difference in the real farm value of white maize and the real retail value of super maize meal

Sources: SAFEX (2021) and own calculations

Figure 53 shows the trends in the farm value shares for super maize meal from January 2017. In July 2017, the farm value share of super maize decreased to 36%. In October 2018, the farm value share

reached 43%, then progressively increased to 49% by May 2020, and further increased to 52% towards July 2021.

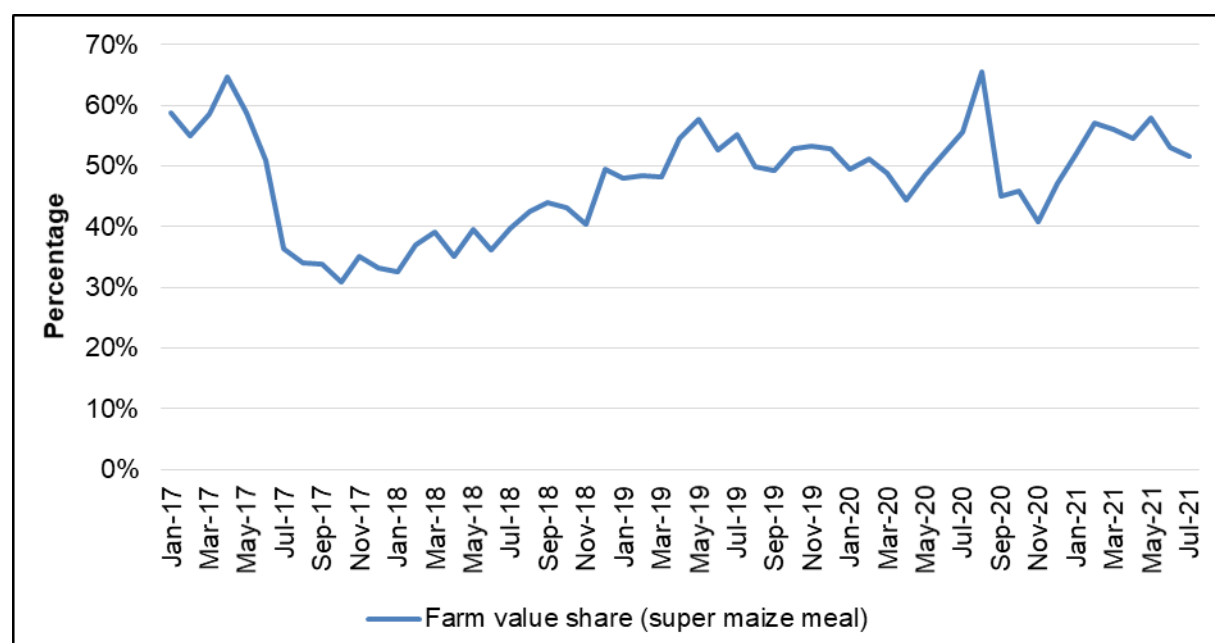


Figure 53: Real farm value share of super maize meal

Source: SAFEX (2021), Stats SA (2021a) and own calculations

Figure 54 shows the FTRPS for super maize meal between January 2017 and July 2021. The FTRPS showed high instability because 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 2017 and 2020 fluctuated between R4 200/ton and R3 515/ton.

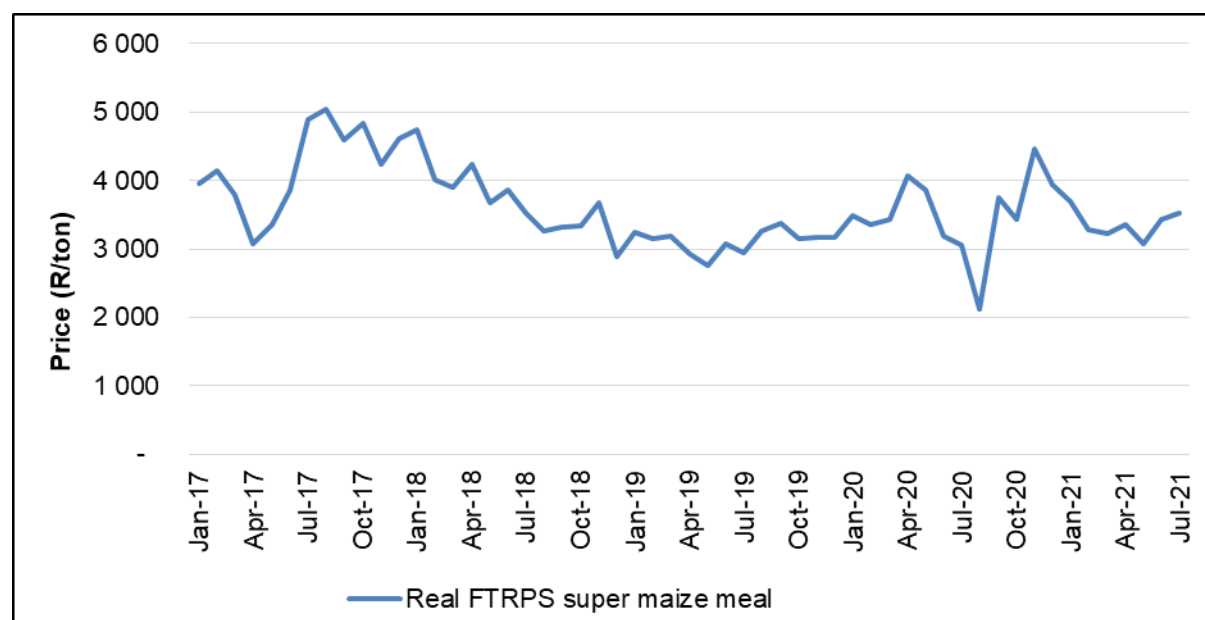


Figure 54: Real FTRPS of super maize meal

Sources: SAFEX (2021), Stats SA (2021a) and own calculations

5.5. Wheat sector

5.5.1. Production and imports

The Western Cape Province is the dominant wheat production area in the Republic of South Africa (RSA), with an average crop production of 1 753 582 tons being realised over the past 10 years. During the 2019/20 marketing season (October to September), 1 513 300 tons were produced. Wheat imports for RSA increased from 1 368 097 tons in 2018/19 to 1 889 868 tons in 2019/20. Please see **Figure 55** for illustration purposes.

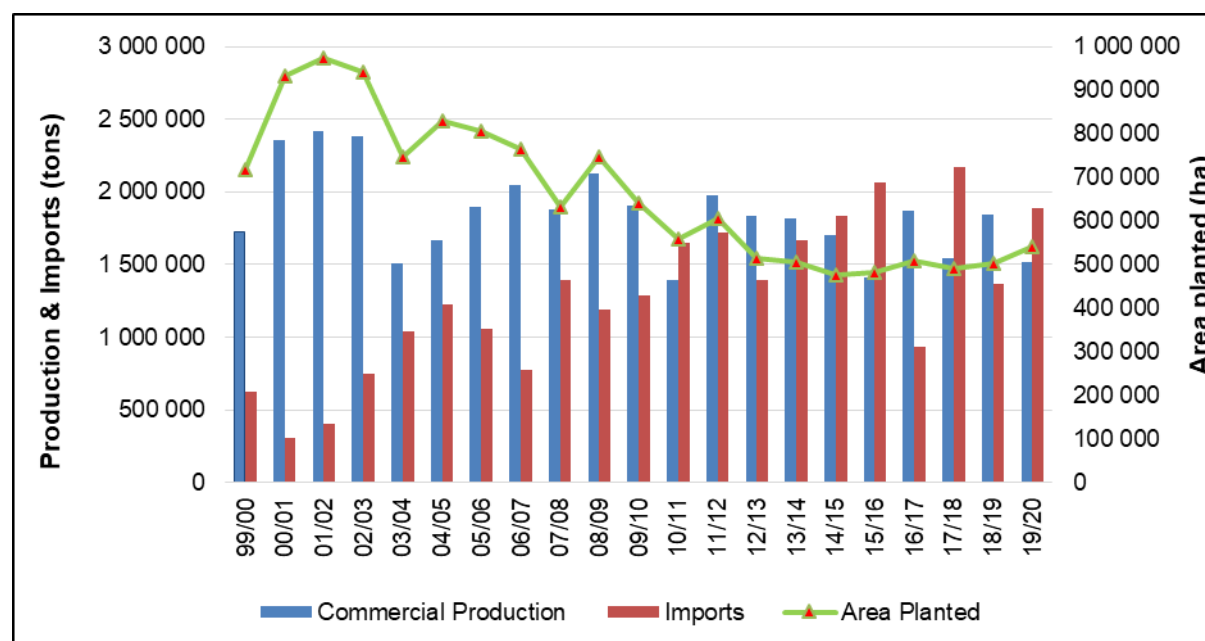


Figure 55: Area planted, production and imports of wheat (tons)

Sources: CEC (2021), SAGIS (2021)

5.5.2. Consumption

Figure 56 illustrates domestic wheat consumption and production for the past 20 years. 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. In the 2019/20 marketing season, South Africa's wheat consumption was 3 587 151 tons, an increase compared to the 3 409 717 tons for the 2018/19 marketing season. This increase was due to a substitution effect from bread to maize meal and other starches.

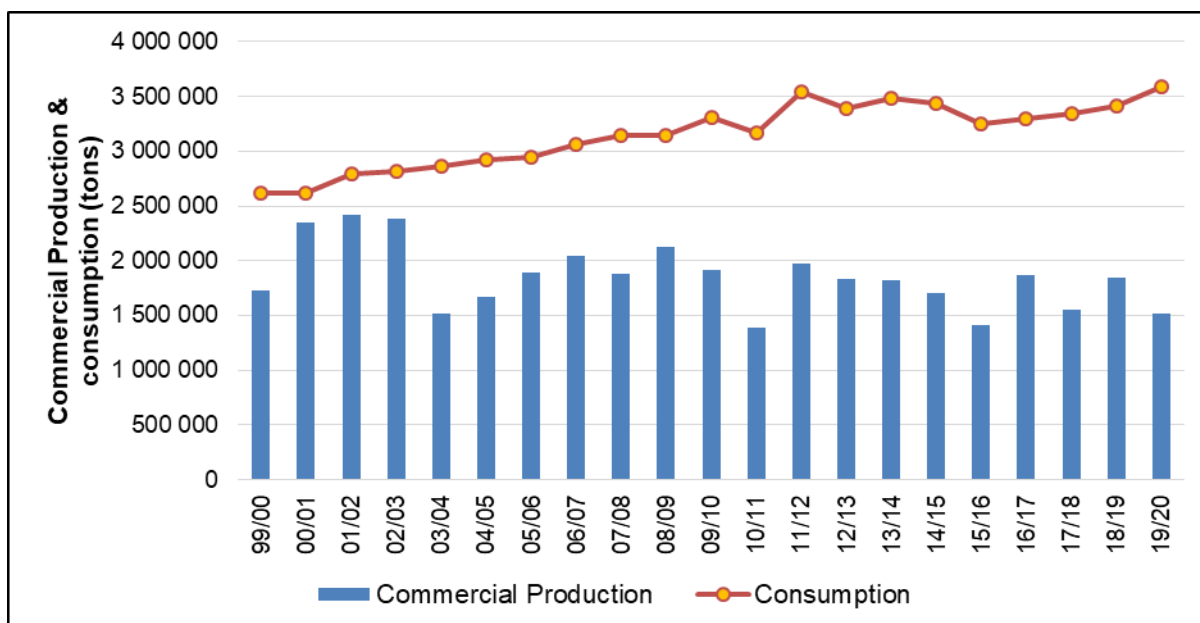


Figure 56: Wheat consumption and production

Source: SAGIS (2021)

5.5.3. Price trends

Figure 57 shows domestic wheat prices with import and export parity. From the trends below, the domestic wheat price trades closely to import parity, which implies that South Africa is a net importer of wheat, as local production does not meet local demand. Therefore, changes 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 R4 322/ton and R6 131/ton in the 2019/20 or (Oct 2019 – Sep 2020) marketing season.

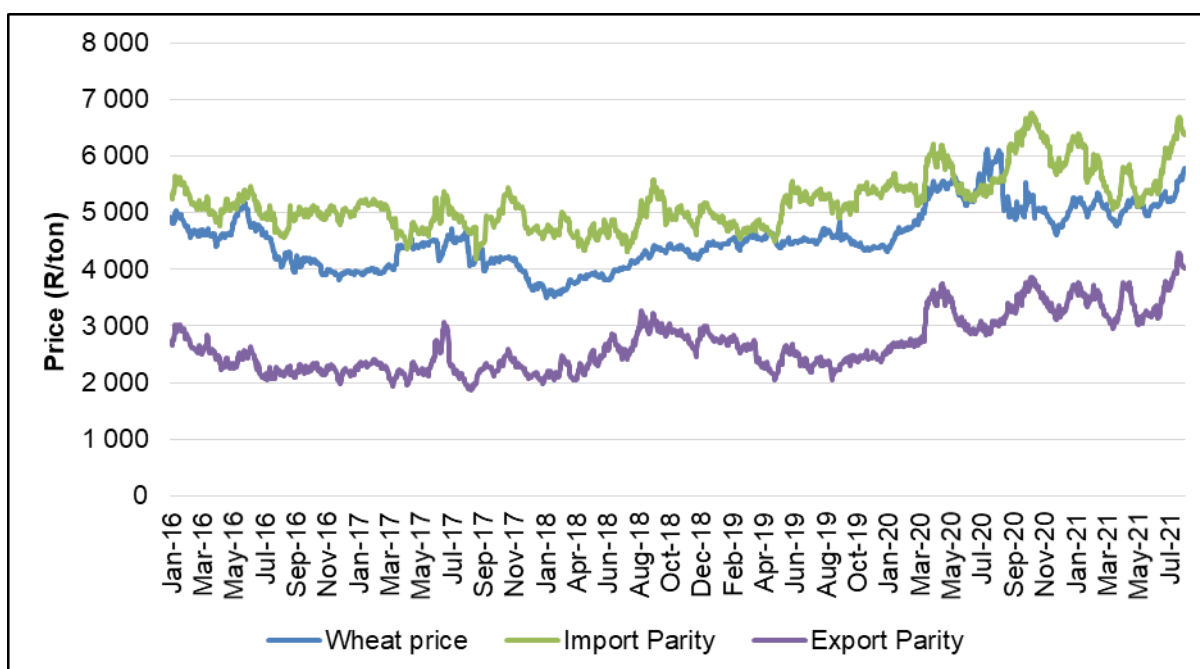


Figure 57: Import parity, export parity and SAFEX wheat price

Source: Grain SA (2021a)

5.5.4. Real farm-gate and retail prices of brown and white bread⁵

Figure 58 represents the real farm-gate price of wheat per ton, lagged by four months compared with brown and white bread retail prices. The average real farm-gate price of wheat (lagged by four months) increased by 9% from R3 552/ton in 2019 to R3 888/ton in 2020. The retail price of white bread sliced increased by 3.52%, while brown bread sliced increased by 3.12% from 2019 to 2020. Total supply, including production, imports and carry-over stocks, was at 3 952 059 tons, while total demand was at 3 587 151 tons.

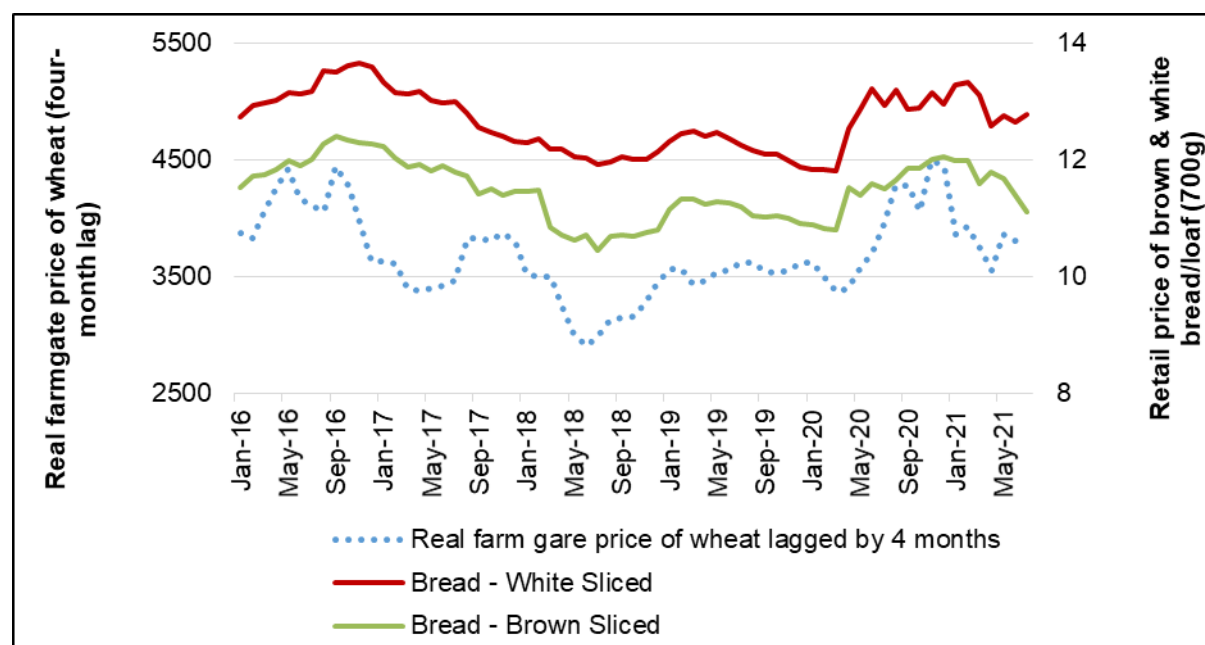


Figure 58: Real farm-gate price of wheat and real retail prices of brown and white bread

Sources: Grain SA (2021s), Stats SA (2021) and own calculations

Figure 59 illustrates the percentage of differences in real prices between white and brown bread from 2016. On average, during 2020, white bread was 10.3% more expensive than brown bread. Brown bread is zero-rated for value-added tax (VAT), while 15% was charged on white bread in 2020.

⁵ 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 one 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.

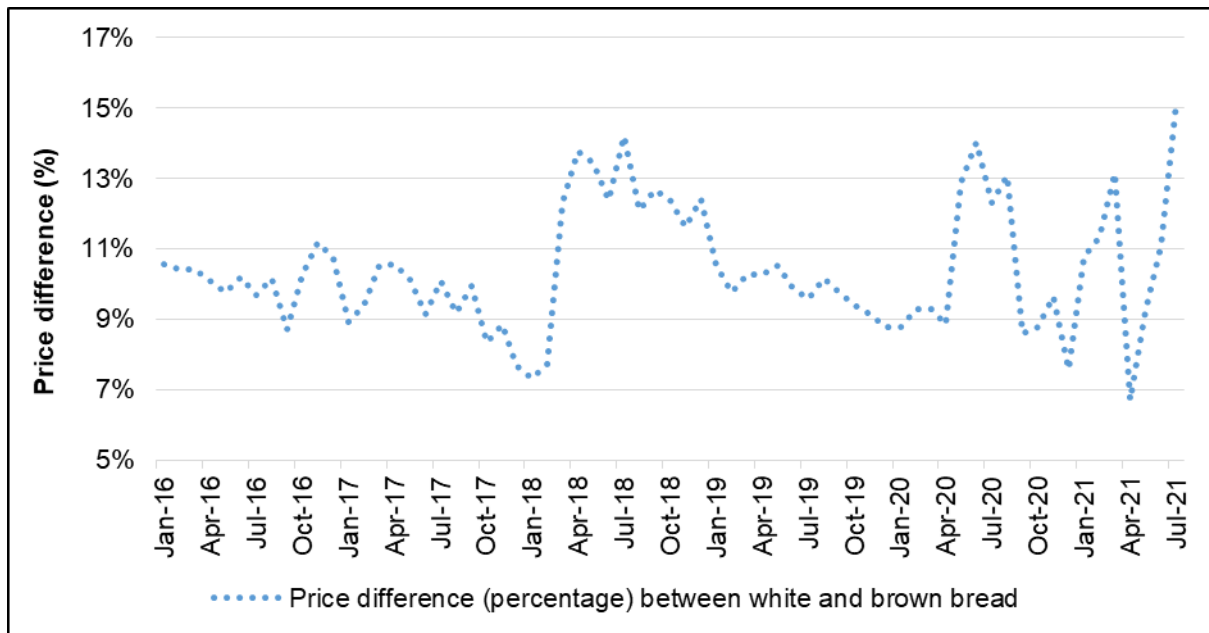


Figure 59: Price difference between white and brown bread

Source: Stats SA (2021) and own calculations

5.5.5. Real farm value share of brown and white bread

Figure 60 shows that the average real farm value shares for brown and white bread were 17% and 18%, respectively, during 2019. The average in 2020 was 19% for both brown and white bread.

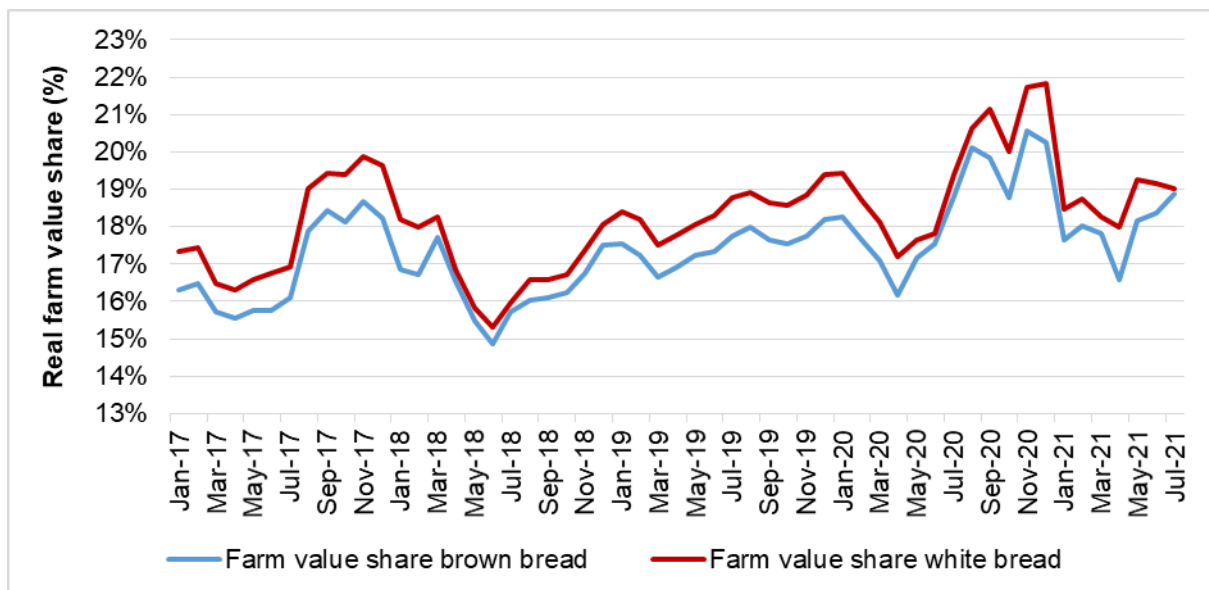


Figure 60: Real farm value share of brown and white bread

Sources: Grain SA (2021a), Stats SA (2021) and own calculations

5.5.6. Real Farm-to-Retail Price Spread (FTRPS) of white and brown bread⁶

Figure 61 shows the real FTRPS for brown and white bread. On average, the FTRPS for brown bread was R21 357/ton of flour in 2020, while the white bread average FTRPS was R21 951/ton of flour in 2020.

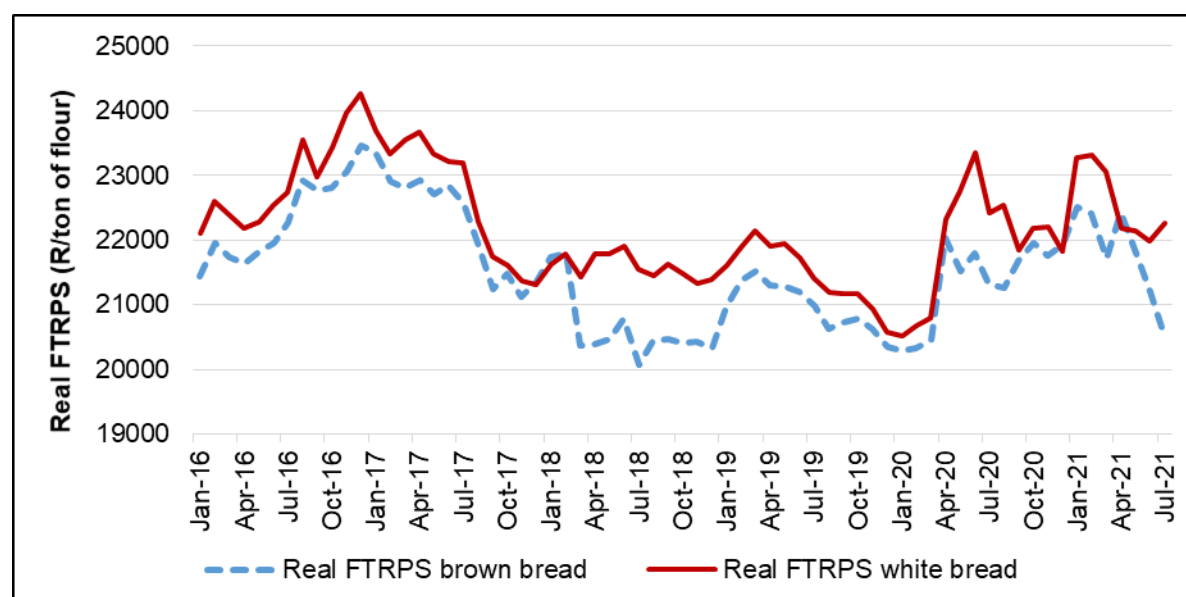


Figure 61: Real FTRPS of brown and white bread

Sources: Grain SA (2021a), Stats SA (2021) and own calculations

5.6. Sunflower seed

Sunflower seed is a summer grain that is usually planted around October to mid-January. Sunflower is mainly produced in the Free State and North West provinces. Sunflower seed constitutes about 5% of the total grains produced in South Africa. Sunflower oil is one of the products manufactured from processed sunflower seed. The by-product of sunflower seed is oilcake which is mainly 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 year for sunflower seed runs from 1 March – 28/29 February.

5.6.1. Production and consumption of sunflower seed

Figure 62 indicates area planted, producer deliveries and processed sunflower seed for consumption. Sunflower area planted between the years 2003 and 2020 decreased from 606 450 ha to 500 300 ha. A farmer's decision to plant sunflower is generally dependent on various factors, including the price of substitute products such as maize and the climatic conditions for that specific planting season. Sunflower adapts well under South African climatic conditions. Sunflower has the advantage of being produced when planting conditions are not suitable for other crops, especially maize. Over the past 10 years, average yields (tons/ha) have varied between 1.05 tons and 1.58 tons per ha. Producer deliveries and processed sunflower seeds (for human and animal consumption and crushed for oil & oilcake) have fluctuated over the past years with high crops and low harvested crops, especially during drought-stricken years. Processed sunflower seeds increased by 30% from December 2019 (664 027 tons) to December 2020 (861 295 tons), supported by a 16% increase in production from the previous year. Between 2019 and 2020, the sunflower area planted declined by 3%, from 515 350 ha to 500 300 ha.

⁶ Note: The real farm-to-retail-price spread 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.

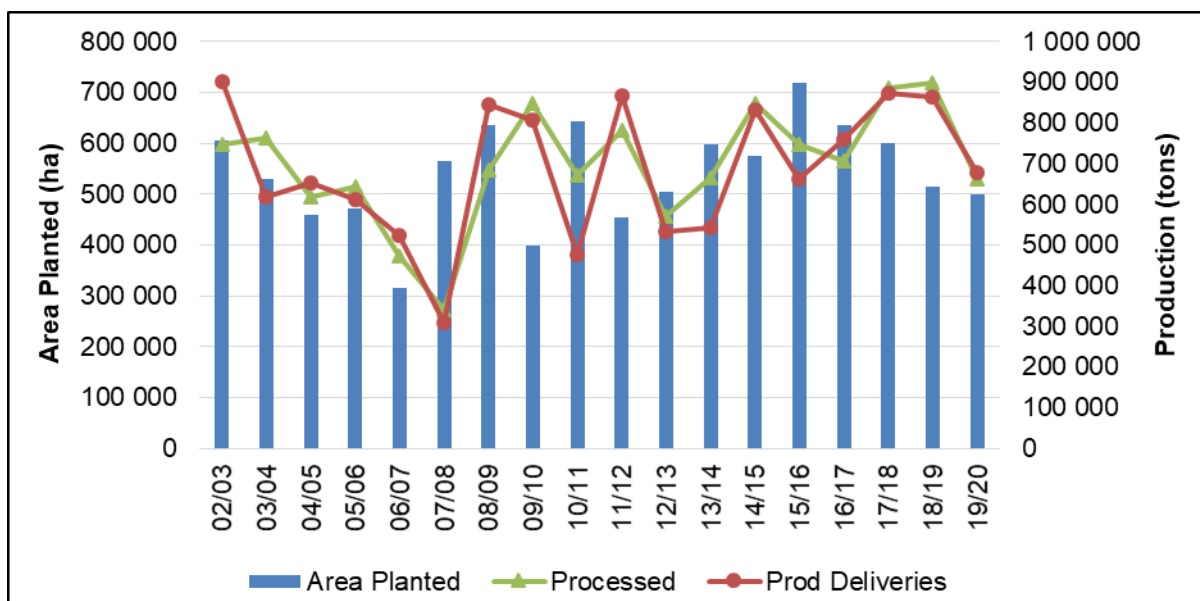


Figure 62: Area planted, production deliveries and processed sunflower seeds for consumption

Source: SAGIS (2021) and own calculations

5.6.2. Price trends for sunflower seed

Figure 63 illustrates domestic SAFEX sunflower prices. The average domestic sunflower price increased by 50% from December 2019 (R5 728/ton) to December 2020 (R8 616/ton). This increase in the domestic price of sunflower seed can be attributed to increased demand and a decline in local production. The retail price of sunflower oil (750ml) increased by 16% from December 2019 (R21.87/750ml) to December 2020 (R25.37/750ml) due to tight supplies.

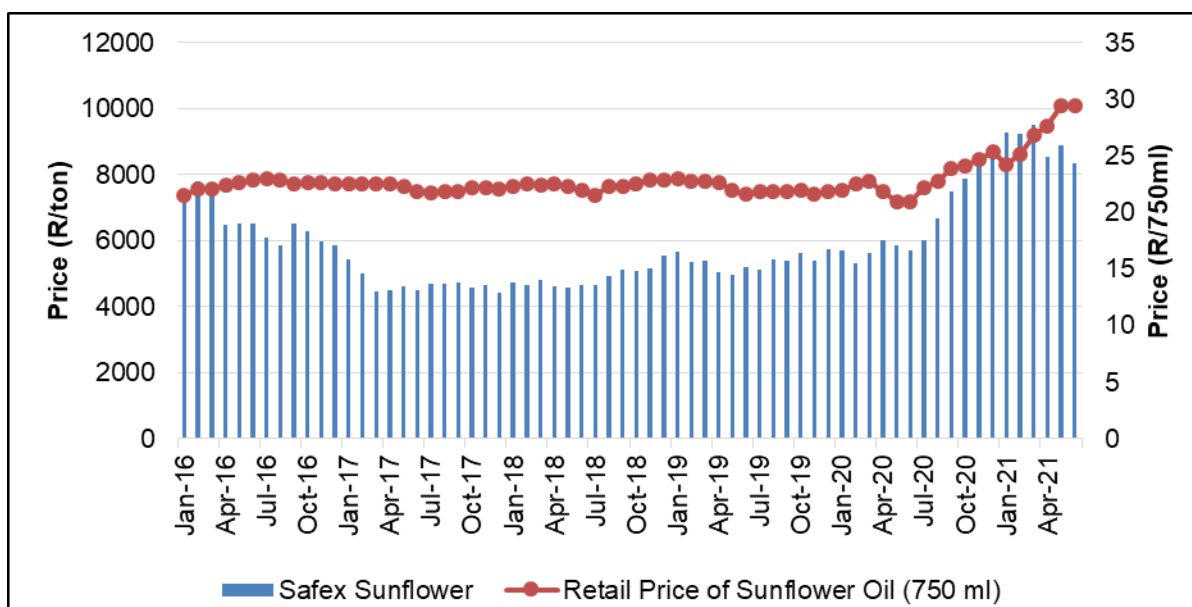


Figure 63: Domestic sunflower seed and retail price of sunflower oil (750ml)

Sources: SAGIS (2021), Stats SA (2021)

5.7. Soybean

Soybean is also a summer crop mainly produced in the Free State, Kwa-Zulu Natal and Mpumalanga provinces under dry-land and irrigation systems. These provinces account for approximately 85% of soybeans produced in the country, with a recent growth 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 2019/20 marketing season was estimated at 1 135 145 tons, as indicated in **Figure 64**, a 24% decrease from the previous season of 2018/19. The total area planted in 2019/20 decreased by 3.5% from 2018/19 (730 500 ha) to 2019/20 (705 000 ha).

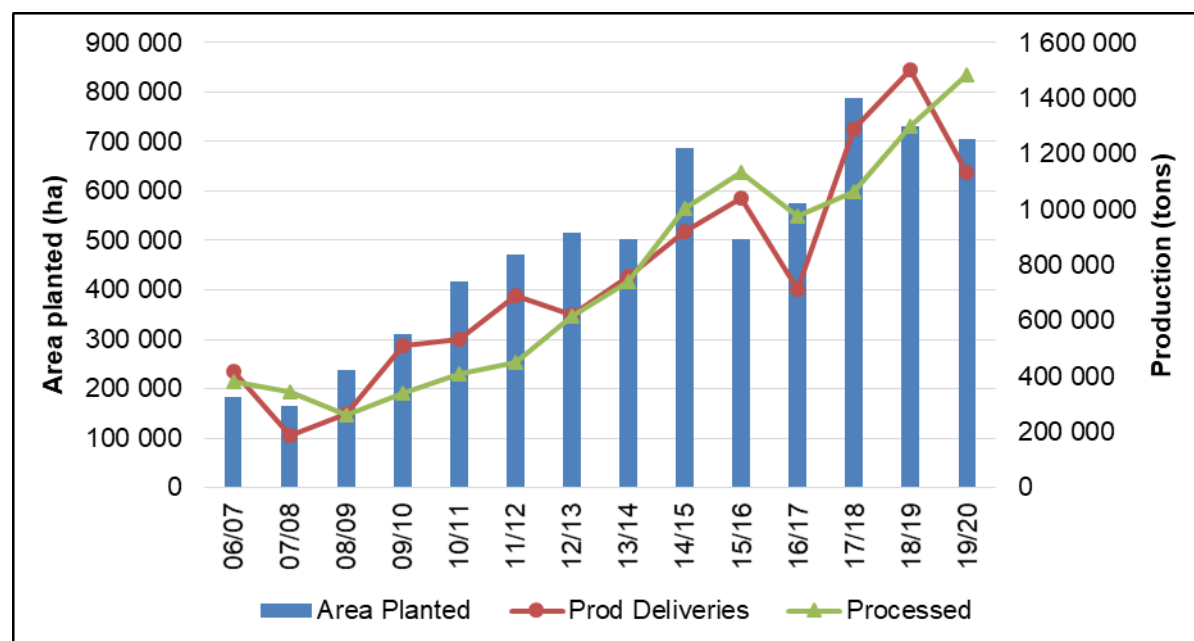


Figure 64: Area planted, production deliveries and processed soybean seed for consumption

Source: SAGIS (2021) and own calculations

5.7.2. Soybean consumption

In the 2019/20 marketing year, domestic soybean demand was approximately 1 507 915 tons. About 191 323 tons were processed as feed and full-fat soybean meal, a 13% decrease from the previous 2018/19 season. In 2019/20, soybean processed as oil/oilcake increased by 20% from 2018/19, as illustrated in **Figure 65**.

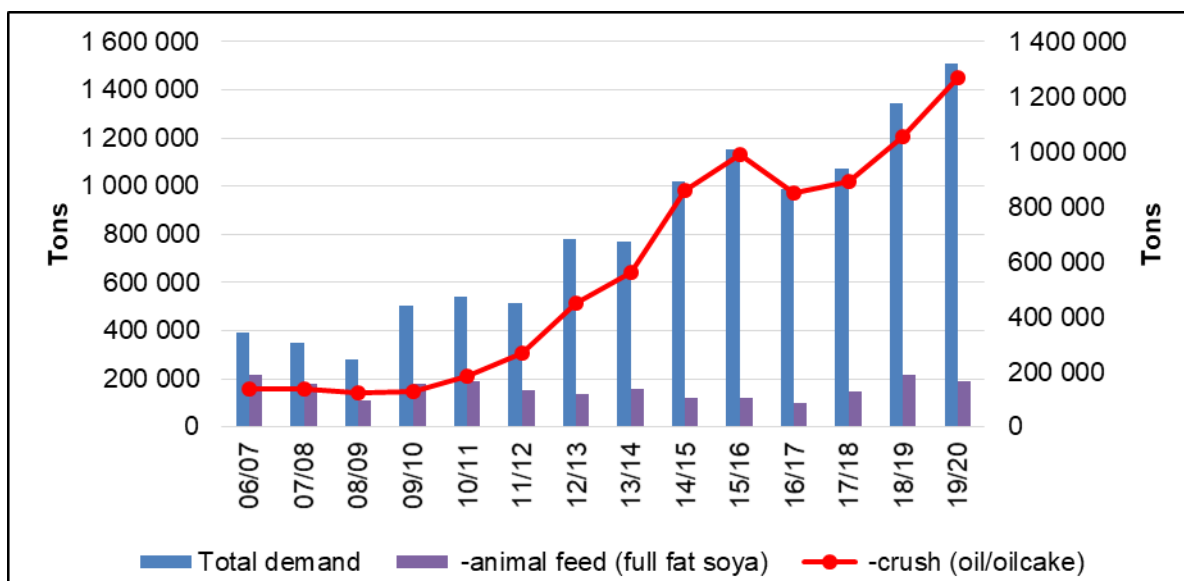


Figure 65: Feed and full-fat soya, crushed for oil and oilcake, total domestic demand and consumption of soybean seed

Source: SAGIS (2021) and own calculations

5.7.3. Price trends for soybeans

Figure 66 illustrates the domestic (SAFEX), import and export parity prices at Randfontein for soybeans. The average domestic price increased by 38% from December 2019 (R6 157/ton) to December 2020 (R8501/ton). The import parity price increased by 34% over the same period, while export parity increased by 45%.

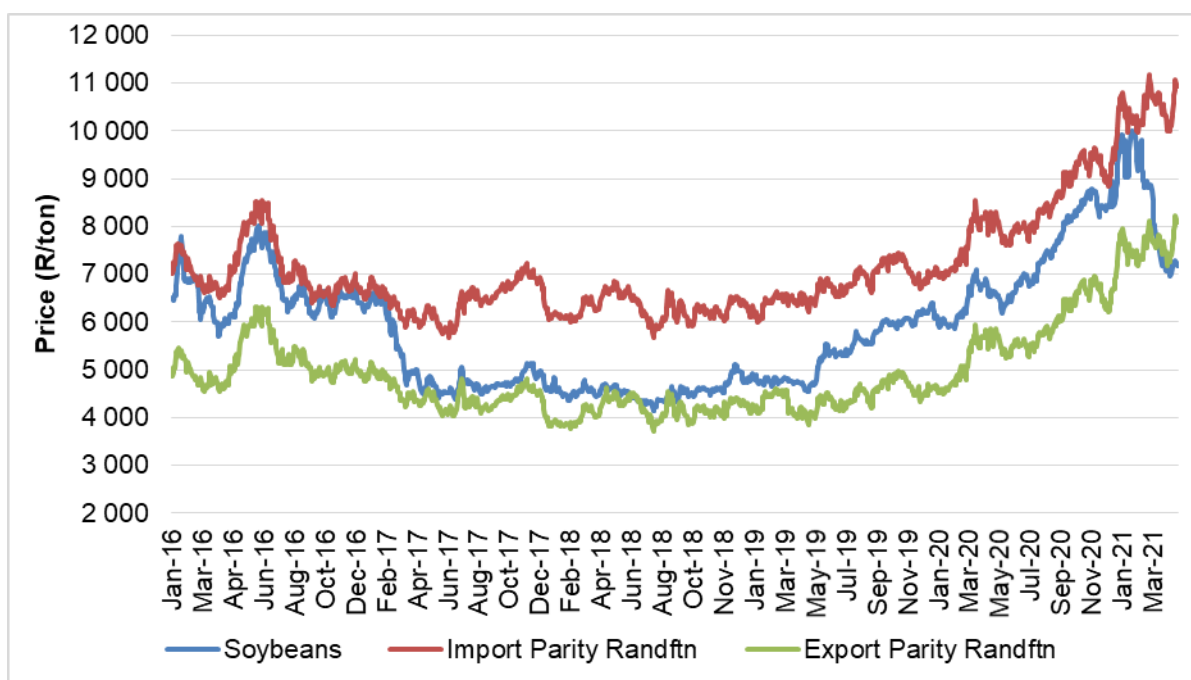


Figure 66: Soybean SAFEX, import and export parity prices in SA

Source: Grain SA (2021a) and own calculations

5.8. Vegetable sector

Figure 67 depicts the volumes of selected fresh vegetables sold at the national fresh produce markets from May 2015 to May 2021. Between 2019 and 2020, the total volumes of tomatoes sold increased by 0.1%, while potato, onion and cabbage volumes decreased by 7.1%, 2.0%, and 0.89%, respectively.

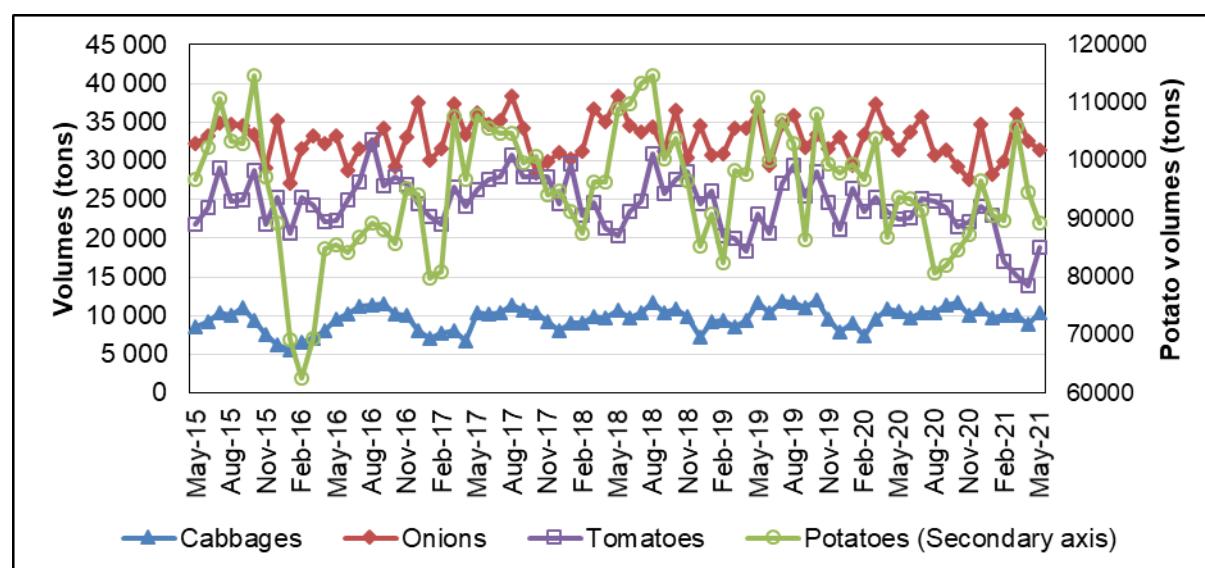


Figure 67: Volume of selected vegetables sold at fresh produce markets

Source: DALRRD (2021) and own calculations

The market price trends for selected fresh vegetables from May 2015 to May 2021 are shown in **Figure 68**. In nominal terms, the average market prices, per ton, of onions, cabbages, potatoes and tomatoes increased by 20.4%, 17.6%, 15.5% and 6.1%, respectively, in 2020, as compared with 2019.

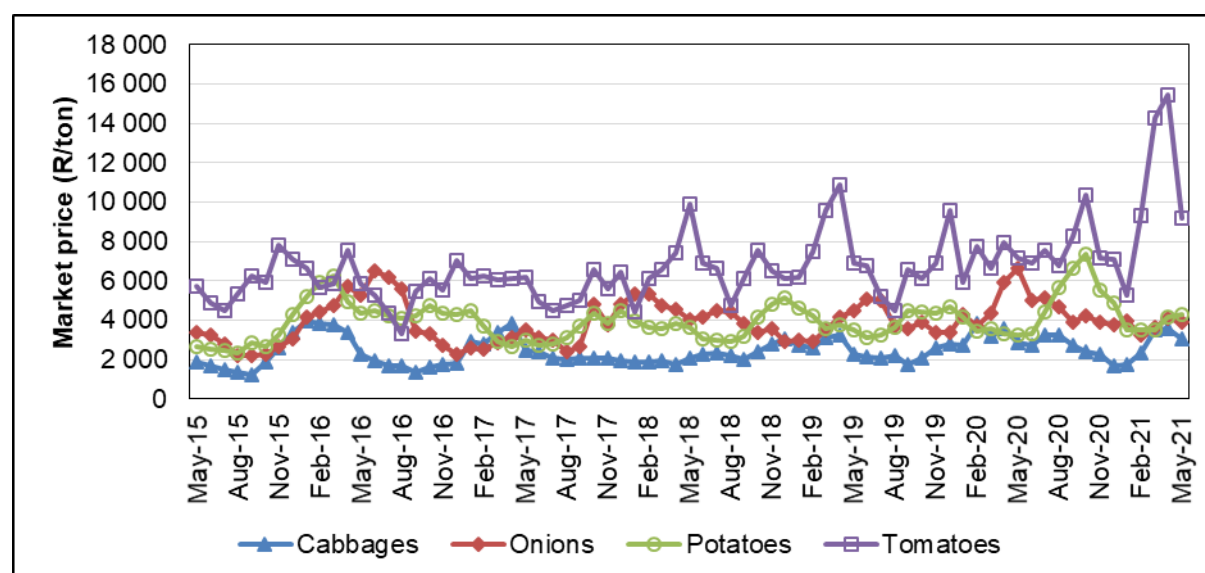


Figure 68: Market price trends for selected fresh vegetables

Source: DALRRD (2021) and own calculations

Figure 69 illustrates the nominal retail price trends for selected fresh vegetables from May 2015 to May 2021. The prices of fresh onions, potatoes and cabbages per kg increased by 17.5%, 13.4% and 7.9%, respectively, while the price of fresh tomatoes per kg decreased by 3.3% between 2019 and 2020.

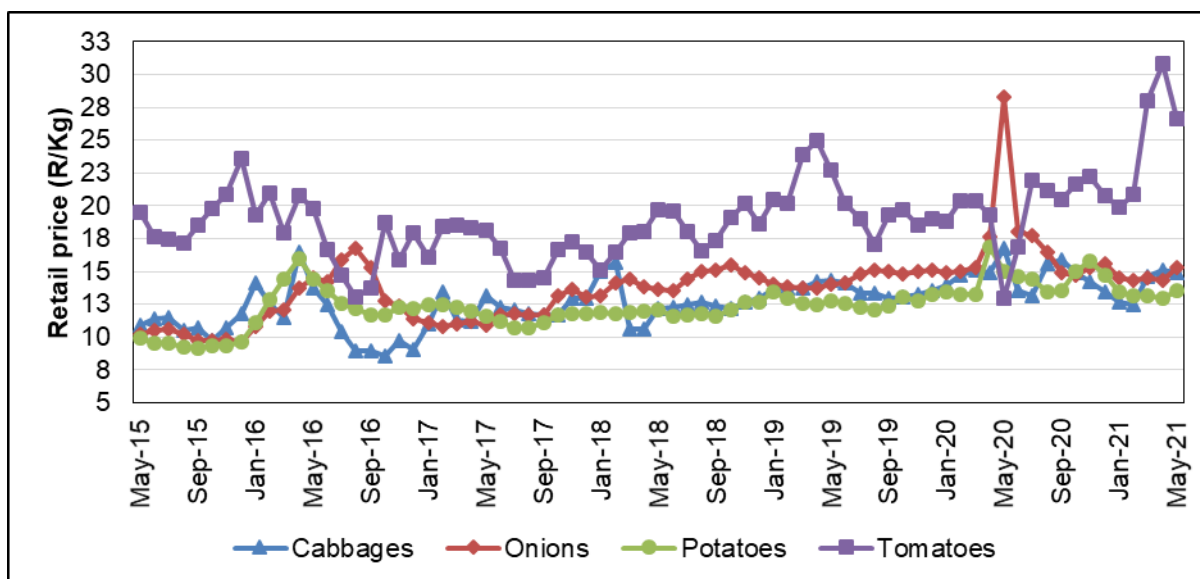


Figure 69: Retail price trends for selected fresh vegetables

Sources: Stats SA (2021) and own calculations

5.9. Fruit sector

Figure 70 depicts the volumes of selected fresh fruits sold at the national fresh produce markets from May 2015 to May 2021. Between 2019 and 2020, the total volumes of bananas, oranges and apples sold decreased by 22.6%, 12.1% and 3.9%, respectively. The total volumes of bananas, apples and oranges sold were recorded at 187 799 tons, 144 009 tons and 83 102 tons respectively in 2020.

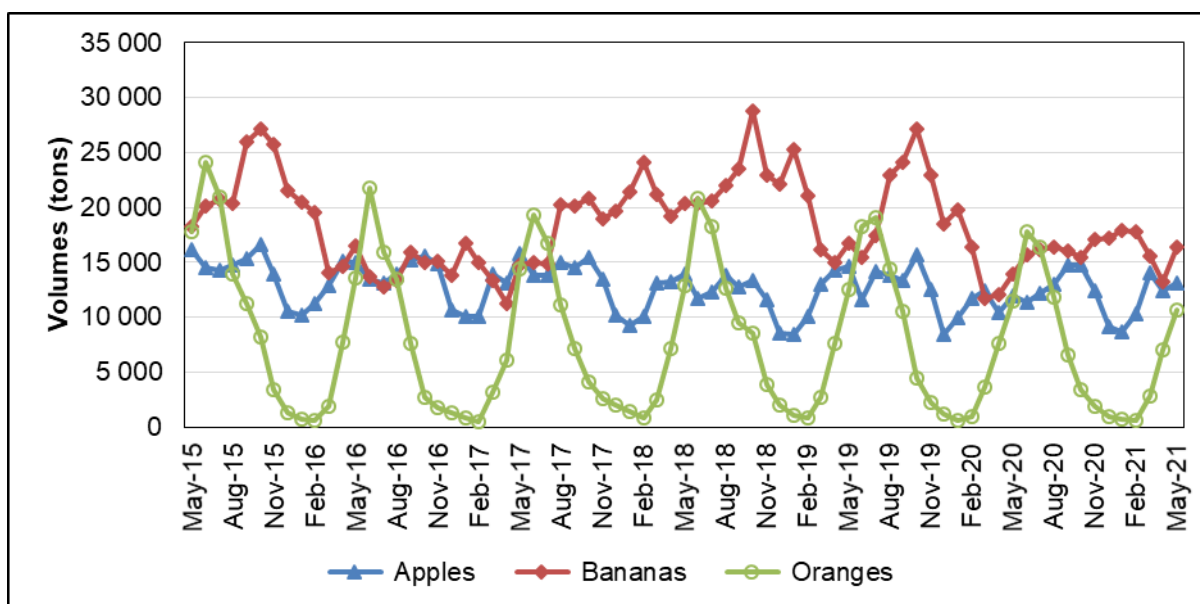


Figure 70: Volume of selected fruits sold at fresh produce markets

Source: DALRRD (2021) and own calculations

The market price trends for selected fresh vegetables from May 2015 to May 2021 are shown in **Figure 71**. The average market price per ton of oranges and bananas increased by 34.5% and 23.4%, respectively, while the average market price per ton of apples decreased by 2.6% in 2020, as compared with 2019.

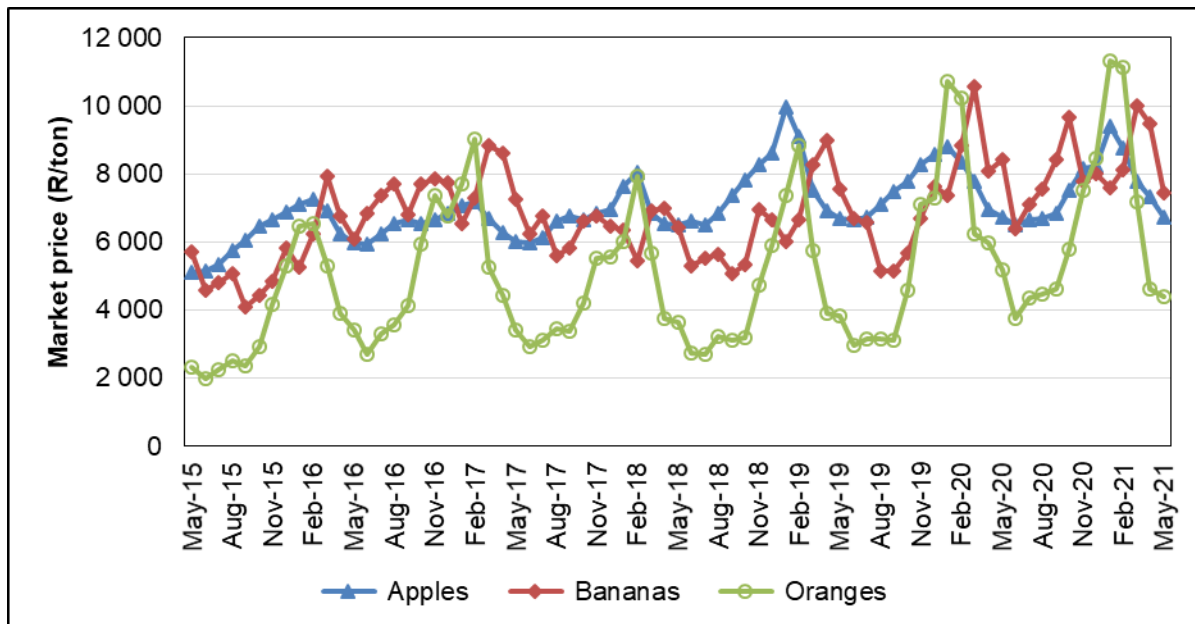


Figure 71: Market price trends for selected fresh fruits

Source: DALRRD (2021) and own calculations

Figure 72 depicts the retail price trends for selected fruits from May 2015 to May 2021. The average prices, per kg, of oranges and bananas were 23.2% and 15.5% higher, respectively, while the retail price of apples decreased by 16.6% in 2020, as compared with 2019.

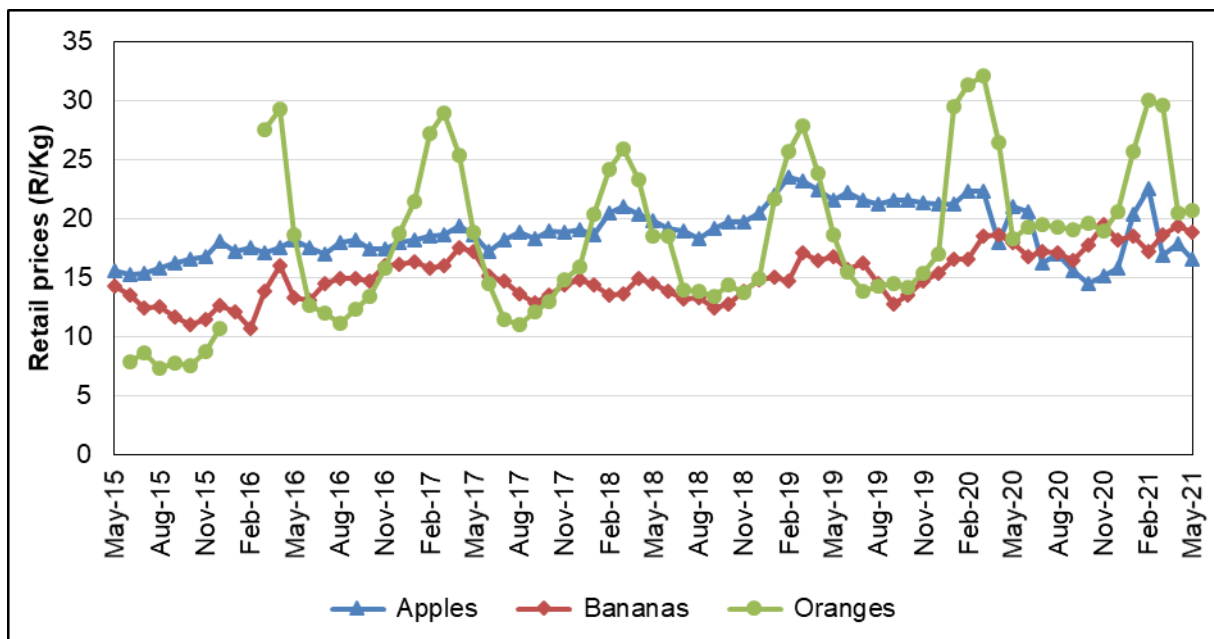


Figure 72: Retail price trends for selected fresh fruits

Source: Stats SA (2021) and own calculations

6. SELECTED TOPICS

6.1. COVID-19 response measures affecting agricultural trade

6.1.1. Introduction

Following the outbreak of the COVID-19 pandemic in 2019, countries responded in numerous ways, including imposing lockdowns as well as effecting temporary trade measures. Although these interventions were intended to curb the further spread of the virus that causes the disease, while also ensuring that people were food secure, some countries have encountered far-reaching detrimental effects – especially regarding agricultural trade. Agricultural trade is of critical importance given that food systems in some regions of the globe largely rely on food imports. At the same time, other economies thrive on revenue generated through agricultural exports. As such, any shocks that disrupt global value chains would have an impact on such economies. In this article, we provide an overview of the temporary trade measures relating to the agricultural sector that have been imposed globally, and provide an insight into any implications reported so far.

6.1.2. Temporary trade measures affecting agricultural trade

These measures are broadly categorised into two types of measures: trade-restrictive measures and trade-liberalising measures. Trade-restrictive measures aim to limit exports of agricultural products, while trade-liberalising measures aim to enhance imports of products of critical importance. For instance, a certain product may be regarded as essential, especially if a given country largely depends on that particular product yet it does not produce it in sufficient quantities. As of mid-June 2021, thirty (30) measures affecting agricultural trade had been enacted since early 2020, of which nineteen (19) were restrictive in nature (ITC, 2021). Except for Algeria, China, Kuwait, Kyrgyzstan, Mali, Philippines, Seychelles and Tajikistan, temporary trade-restrictive measures imposed in other countries were inactive when writing this article. Agricultural products that were of much focus across several countries while enacting restrictive measures include rice, wheat, garlic, onions, sugar, vegetable oils, soybean, sunflower seed, milk, potatoes and poultry products, depending on a given country's products of keen interest. Unlike other countries that imposed various trade-restrictive remedies such as export prohibition and export quotas, China's and Seychelles' restrictive measures were imposed on agricultural imports. For instance, China imposed an import ban on frozen meat, fish and seafood from certain countries that the pandemic had hard-hit. Although the ban on such imports was short-lived for some countries, it was still applicable by late June 2021. On the other hand, Seychelles imposed additional import tariffs on pork and poultry products in May 2020 with a claim that this would bolster local farmers to produce more of these products in a bid to ensure that their economy is food secure (Ministry of Finance, Trade, Investment and Economic Planning, 2020). By the end of June 2021, investigations into the validity of the claims advanced as motivation to impose additional tariffs were still ongoing.

Temporary trade-liberalising measures imposed as a result of the COVID-19 outbreak were subjected to agricultural imports. The measures took three forms, i.e., tariff reductions on certain food items, suspension of import duties on foods of strategic importance such as rice, and increased import quotas. Some of the measures are still in effect in many countries, including Chad, Samoa, and the Eurasian Economic Union (EEU). For South Africa, all products that were classified as essential (food inclusive) were exempted from Value Added Tax (VAT) as stipulated in the Government Gazette No. 43148. As of June 30, 2021, this trade-liberalising measure was still in force.

Moreover, the South African government also temporarily relaxed the certification requirements that must be met while importing livestock and animal products. So far, no trade-restrictive measures have been imposed by South Africa on food products. Although alcoholic beverages, wine, tobacco, and derived products are manufactured from primary agricultural products, they were not categorised as essential products and were subjected to some temporary restrictive measures.

6.1.3. Implications of the COVID-19 response measures on agricultural trade

Temporary trade measures on their own may not have had a significant impact on agricultural trade, given that most measures were in effect for a relatively short period of time. However, to a great extent, the impact arose from a collection of other measures not directly linked to the agricultural sector. For instance, the imposition of lockdowns as well as the grounding of passenger flights in many countries had indirect effects on consumption trends of agricultural products (perishable fruits and vegetables), especially in tourism-driven economies. Thus, insights presented in this section are drawn from existing studies not limited to temporary trade measures. This article takes cognisance of the fact that the full economic and social impacts are still unfolding as the pandemic continues to ravage economies.

The pandemic is affecting consumer demand and disrupting agro-food trade and downstream food processing. The Food and Agriculture Organisation (FAO, 2021a) notes that food insecurity is expected to rise because of COVID-19-related slower economic activities. A recent report by the Organisation of Economic Co-operation and Development (OECD, 2020b) suggests that the impact of the pandemic on agricultural markets is expected to continue affecting agricultural markets for a decade. The impact of the outbreak is manifesting itself in form of reduced overall food consumption, largely due to lower economic growth across a few countries as many jobs have been and continue to be shed. As a result, global per capita calorie demand is projected to drop by 1% between 2020/21 and 2029, and Least Developed Countries (LDCs) shall be the most affected. Due to the lower consumer demand, prices of agricultural products are anticipated to decline, thereby leading to a decline in agricultural production (FAO, 2021c). In the short run, the contrary has so far happened given that prices of major staple food items have been soaring (FAO, 2021d; Lubinga *et al.*, 2021; NAMC, 2021b; HSRC, 2020) because of increased demand for food amidst much uncertainty about the extent to which COVID-19 would ravage economies. Globally, prices are anticipated to recover and stabilise from 2022 as the supply side responds to the demand (OECD, 2020a). However, animal production is expected to be the most affected, unlike cereals, as consumers are likely to switch to less high-value products. The supply of fruits and vegetables was also projected to be strongly affected (FAO, 2021).

The carbon footprint embodied in agricultural trade is also projected to decrease, largely due to a decline in animal production (OECD, 2020b), a major contributor to greenhouse gas (GHG) emissions in the agricultural sector. Between 2019 and 2020, global agricultural exports declined by about 1%, an equivalent of approximately US\$ 9.1 billion in value terms. Animal-derived products, including wool (HS 51) and rawhides (HS 41), were the most negatively affected from the livestock sub-sector. In contrast, oilseeds (HS 12) registered an increase in global exports (Trade Map, 2021a). The OECD (2020a) projected that agricultural exports would have recovered by the end of 2022 and resumed growing at a rate prior to the COVID-19 outbreak.

Due to COVID-19-related movement restrictions across borders, countries registered disruptions in the flow of purchased agricultural inputs and food products. Moreover, it was also noted that the pandemic slowed down the structural transition of agricultural production from food to feed crops and livestock production, which was attributable to the focus on the production of staple food items rather than feed production. However, it is anticipated that the trend will resume soon. Furthermore, movement restrictions have been associated with labour shortages at farm and food processing facilities, thus rendering firms to operate at a lower capacity and implement partial closures to comply with COVID-19 regulations.

In conclusion, despite all COVID-19-related bottlenecks, agricultural trade has proved to be resilient, which is key in saving lives and livelihoods, given that it enables communities to have access to food. There is thus a need at all costs to keep trade flowing across regions (within and beyond South Africa). For instance, agricultural commodity markets should continue to operate to ensure the continuous supply of food items. Supply chains for items relating to the agricultural sector and other essentials

should be kept constantly flowing while limiting trade barriers that could exacerbate the situation. Economies should put in place measures to ensure that household incomes remain stable so as not to compromise the overall demand for household consumables, a basis upon which agricultural markets operate. Countries should also consider minimising border closures that restrict the movement of people and agricultural products. The emergence of new variants presents further complications and uncertainty as to how food systems will be affected. Countries are reimposing restrictive measures that are bound to have spill-over effects on the demand and supply of food and agricultural products. This situation inevitably affects the operations of agricultural markets.

6.2. Smallholder farmers: Are they contributing to the availability and affordability of food?

As an occupation, agriculture generally occurs on a large commercial scale as well as on a small subsistence scale, where approximately 95% of agricultural output is produced by commercial farmers, with about 250 000 smallholder farmers producing the remainder (DAFF, 2013). According to the former Ministry of Agriculture, Land Reform and Rural Development, smallholder farming is categorised into three categories based on their dependence on production for income and their integration with commercial markets, namely: (i) vulnerable households that produce primarily for their own consumption; (ii) subsistence farmers who typically focus on production for their own consumption and sell the surplus (characterised by an annual turnover of less than R50 000); and (iii) smallholder farmers who are farmers who aspire to produce for the markets (characterised by a maximum annual turnover of R5 million) (DAFF, 2018). This categorisation implies that smallholder farmers are not homogeneous and therefore should not receive the same support. In South Africa, smallholder farming contributes significantly to the national economy while reducing the country's high levels of inequality through income increases and employment opportunities to the rural poor, in particular (Ministry of Agriculture and Land Affairs, 1998).

Nonetheless, the smallholder farmers' contribution to the sustainable development goals of poverty eradication, ending hunger, industry innovation, provision of decent work and responsible production is critical. It has long been argued that increased productivity of smallholder farmers improves food availability, reduces food inflation and ultimately leads to low vulnerability to food insecurity (Baiphethi & Jacobs, 2009). However, it has been a challenge to measure this contribution of smallholder farmers in South Africa due to a lack of databases at various levels (national, provincial, district and local) of the country. This situation suggests that, so far, no consensus has been reached on the contribution of these farmers to food availability and affordability at the aforesaid levels. Some studies have confirmed Baiphethi and Jacob's (2009) findings at the individual household level. However, these findings are still very doubtful or small, given that access to food at household level remains a challenge for 14.3 million South Africans. Hence Mvelase (2017) maintains that smallholder agricultural production alone is insufficient to propel households out of poverty and food insecurity.

Collectively, this suggests that a meaningful contribution of South Africa's smallholder farmers to the availability and affordability of food can be realised through a significant transformation of their farm production systems and access to markets. This transformation should include increasing the use of improved seeds, applying the correct fertiliser rates per hectare, adopting technology (mechanical tools and equipment) while investing in climate-smart agricultural practices, as well as reducing the barriers to market access (AGRA, 2020). Government should honour its commitment to the Comprehensive Africa Agriculture Development Programme (CAADP), which involves allocating 10% of the budget to reach a 6% annual productivity growth (CAADP, 2006). Public-private partnerships that unlock financial investment in smallholder farmers are also crucial to unleash the potential contribution of these farmers to food security, availability and affordability.

Table 18 shows the potential of smallholder farmers by presenting the estimated share of smallholder farmers' contribution to fresh produce markets over a four-month period in 2021. These estimates are

based on 30% of the total volumes traded in the system and are measured in Rands and metric tons (MT), respectively. It is clear from the table that the total turnover for smallholder farmers was estimated at R1.64 billion, matched by 283 999MT. The highest turnover (28%) and mass (27%) were realised in March 2021, coinciding with the end of the fiscal year when bonuses are paid and thereby influence food consumption. On the other hand, the lowest turnover and mass were recorded in February 2021. Over that period, the Gauteng Province led with a turnover of R1.11 billion generated from 188 924 metric tons, followed by KwaZulu -Natal (R216 million, 35 780MT), Free State (R152 million, 26 393MT) and Eastern Cape (R72 million, 14 6664MT). The leading markets were Johannesburg, Tshwane and Durban.

Table 18: Estimated share of smallholder farmers in fresh produce markets, Jan-April 2021

Month	Turnover	Mass
Total	R1 644 050 551	283 999
January	R388 758 643	70 652
February	R378 098 029	68 018
March	R462 298 564	76 562
April	R414 895 313	68 767

Source: SAUFM (2021)

In conclusion, despite the mixed findings on the contribution of smallholder farmers to food security, the existing evidence highlights the great potential of these farmers in respect of food availability and affordability, employment creation and economic growth for the country. However, this requires that the production systems be improved to meet the general market requirements and greater competitiveness of the smallholder output in the market. Furthermore, the barriers to market access must be reduced to allow for greater participation of smallholder farmers in formal markets if they wish to do so.

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