BFAP BASELINE

AGRICULTURAL OUTLOOK

2020 - 2029

BFAP
DATA
DRIVEN
INSIGHT

BFAP team

Board of Directors
Dr. Mmatlou Kalaba
Prof. Ferdinand Meyer
Ms. Lulama Ndibongo-Traub
Adv. Annamarie Van Der Merwe

BFAP Group

Dr. Tracy Davids (Exco)	Manager: Commodity Markets & Foresight
Dr. Marnus Gouse (Exco)	Manager: Operations
Ms. Sandy Jackson (Exco)	Manager: Agri-socio Economics
Mr. Divan van der Westhuizen (Exco)	Manager: Farm and Production Analytics
Mr. Gerhard van der Burgh (Exco)	Manager: IVIS
Ms. Dipuo Boshomane	Analyst: Commodity Markets
Ms. Kandas Cloete	Senior Analyst: Horticulture
Ms. Marion Delport	Manager: Data Science
Ms. Wiltrud Durand	Senior Analyst: GIS & Crop Modelling
Dr. Dalene Flynn	Manager: Office and Administration
Ms. Jodie Hattingh	Product Specialist – IVIS
Ms. Khanimamba Hlungwani	Analyst: Commodity Markets
Dr. Tinashe Kapuya	Manager: Value Chains
Ms. Lianda Louw	Product Specialist - IVIS
Ms. Taaibah Miller	Junior Analyst: Consumer & Food Economics
Mr. Tatenda Mutungira	Product Specialist - IVIS
Ms. Helga Otterman	Analyst: Data Science
Mr. Pieter Smit	Junior Analyst: Horticulture
Mr. Albert Van Niekerk	Systems Manager - IVIS
Dr. Hester Vermeulen	Manager: Consumer & Food Economics
Ms. Carla Wehrle Strachan	Office and Administration

Company Secretary:
L & L Agricultural Services

BFAP Collaborators:

University of Pretoria
Dr. Marlene Louw
Prof. Hettie Schönfeldt

University of Stellenbosch
Dr. Cecilia Punt
Prof. Johan Van Rooyen
Prof. Nick Vink

Department of Agriculture Western Cape
Ms. Bongiswa Matoti
Mr. Andrew Partridge
Mr. Louw Pienaar
Dr. Dirk Troskie

Bureau for Economic Research, University of Stellenbosch
Ms. Christelle Grobler
Prof. Johann Kirsten
Mr. Hugo Pienaar

Others

Prof. Julian Binfield	FAPRI – University of Missouri, USA
Dr. Erhard Briedenhann	Consultant, Value Chains
Dr. Thomas Funke	South African Cane Growers' Association
Mr. Christopher Knye	Consultant – Namibia
Dr. Holger Matthey	FAO – Rome, Italy
Prof. Tom Reardon	Michigan State University, USA
Mr. Wandile Sihlobo	Agricultural Business Chamber
Mr. Damon Stamp	Consultant: Farm & Production Analytics
Prof. Patrick Westhoff	FAPRI – University of Missouri, USA

Acknowledgements

Main Sponsors of the BFAP Baseline
ABSA Agribusiness
Department of Agriculture, Western Cape
National Department of Agriculture, Land Reform and Rural Development

Other collaborators
agri benchmark, Thünen Institute
Agricultural Business Chamber (Agbiz)
Bill and Melinda Gates Foundation (BMGF)
Bureau for Economic Research (BER), University of Stellenbosch
Cotton SA
DST-NRF Center of Excellence in Food Security
Food and Agricultural Policy Research Institute (FAPRI), University of Missouri
Food and Agricultural Organization of the United Nations (FAO)
GWK Ltd.
Grain SA
Hortgro Services (SAAPPA & SASPA)
International Food Policy Research Institute (IFPRI)
John Deere
Macadamias South Africa
Maize Trust
Milk Producers Organisation (MPO)
National Agricultural Marketing Council (NAMC)
NWK Ltd.
Overberg Agri
Potatoes SA (PSA)
Protein Research Foundation (PRF)
Red Meat Producers' Organisation (RPO)
Senwes Ltd.
South African Cane Growers' Association
South African Feedlot Association (SAFA)
South African Grain Information Service (SAGIS)
South African Milk Processors Association (SAMPRO)
South African Poultry Association (SAPA)
South African Pork Producers Organisation (SAPPO)
South African Sugar Research Institute (SASRI)
South African Sugar Association (SASA)
South African Table Grape Industry (SATI)
South African Wine Industry Information & Systems (SAWIS)
Subtrop
University of Fort Hare
University of Pretoria
University of Stellenbosch
VKB
Water Research Commission (WRC)

Foreword

The Bureau for Food and Agricultural Policy (BFAP), founded in 2004, serves the agro-food, fibre and beverage sectors in South Africa and Africa. Our purpose is to inform better decision-making by providing unique insights gained through rigorous analyses, supported by credible databases, a combination of integrated models and considerable experience. Over more than 15 years, the Bureau has developed a very distinct value proposition to deliver a holistic solution to public sector and private clients active in the agricultural sector and related value chains. This offering is complemented through BFAP's investment in the Integrated Value Information System (IVIS), a geo-spatial platform, which further enhances BFAP's product offering by providing enhanced systems-solutions to the integration of data and insights visualisation to support strategic decision making along multi-dimensional value chains.

The BFAP Group consists of a team of experienced private and public sector experts with a range of multi-disciplinary skills including agricultural economics, food science, mathematics and data science, engineering, supply chain management, socio-economic impact assessment, systems technology, and geo-informatics. In addition, we fundamentally believe that a competitive and thriving agricultural sector with its related value chains is built on long-run partnerships. Hence, BFAP has developed a well-established network of local and international collaborators and partners in the public and private sector. This includes long-standing partnerships with private sector clients for more than a decade, and research partners like the Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri, the Food and Agricultural Organization of the United Nations (FAO) and the International Food Policy Research institute (IFPRI). BFAP is also one of the founding members and partners of the Regional Network of Agricultural Policy Research Institutes (ReNAPRI) in Eastern and Southern Africa. As a team and as a network, we pool our knowledge and experience to offer the best possible insights and access to a unique high value network.

BFAP's vision and mission is to:

- undertake unbiased, scientifically rigorous and industry relevant research;
- generate research outputs and solutions guided by market based requirements and scenarios in order to drive sustainable commodity and food production and improve food security;
- support capacity development through postgraduate research at associated Universities and other; and
- publish research outputs with associated Universities in peer reviewed journals as well as respected popular media.

BFAP acknowledges and appreciates the tremendous insight of numerous industry specialists and collaborators over the past years. The financial support from the Western Cape Department of Agriculture, the National Department of Agriculture, Land Reform and Rural Development and ABSA Agribusiness towards the development and publishing of this Baseline is also gratefully acknowledged.

Although all industry partners' comments and suggestions are taken into consideration, BFAP's own views are presented in this Baseline publication.

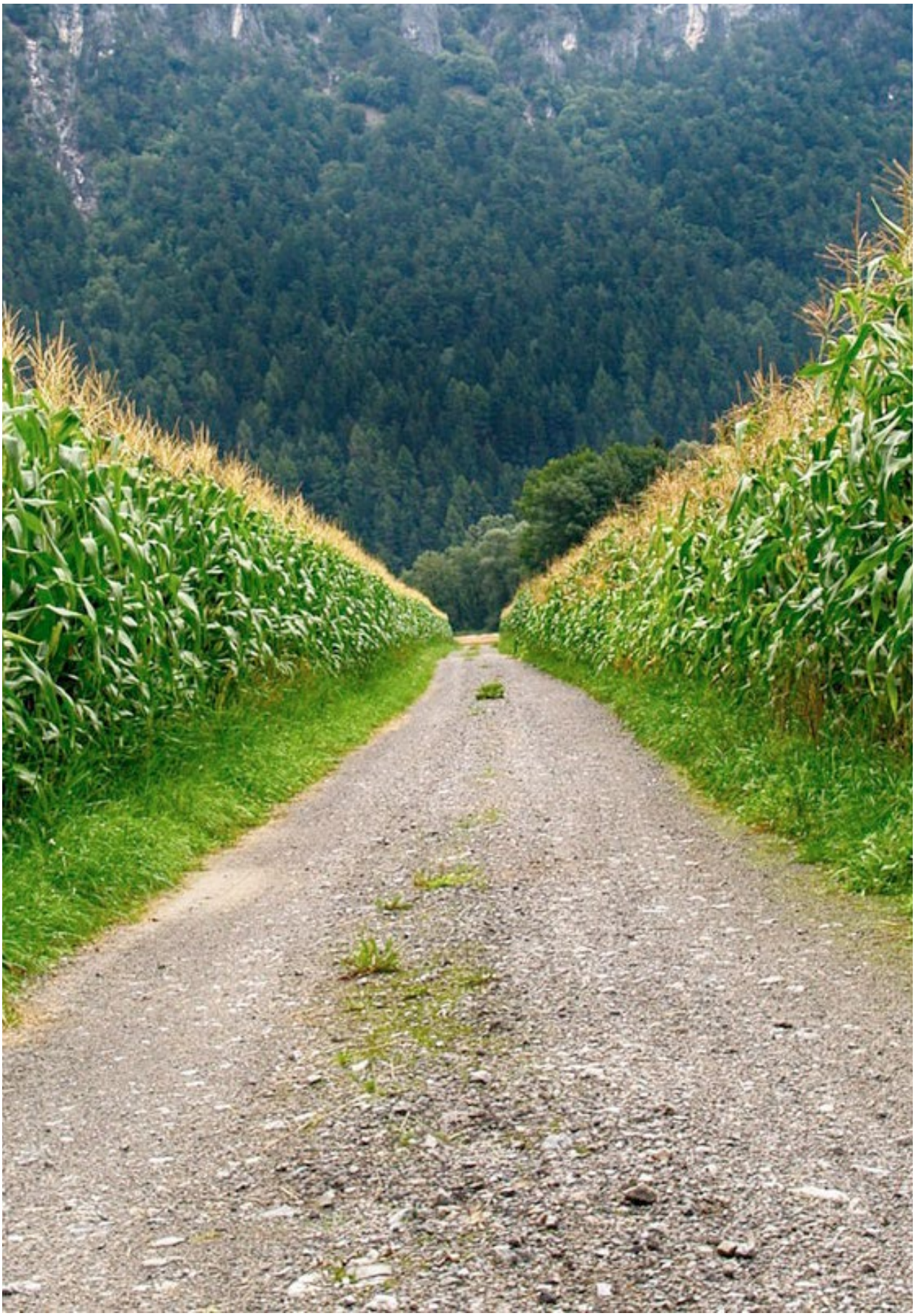


Table of contents

Context and Purpose of the Baseline

The 2020 edition of the BFAP South African Baseline presents an outlook of agricultural production, consumption, prices and trade in South Africa for the period 2020 to 2029. The outlook is generated by the BFAP system of models, and considers the performance of South African agriculture and its contribution to inclusive growth and economic prosperity in the South African economy as a whole in the post-COVID era. The information presented is based on assumptions about a range of economic, technological, environmental, political, institutional, and social factors. One of the most important assumptions is that normal weather conditions will prevail in Southern Africa and around the world; therefore, yields grow constantly over the baseline as technology improves. Assumptions regarding the outlook of macroeconomic conditions are based on a combination of projections developed by the International Monetary Fund (IMF), the World Bank and the Bureau for Economic Research (BER) at Stellenbosch University. Baseline projections for world commodity markets were generated by FAPRI at the University of Missouri. Once the critical assumptions are captured in the BFAP system of models, the Outlook for all commodities is simulated within a closed system of equations. This implies that, for example, any shocks in the grain sector are transmitted to the livestock sector and vice versa. Therefore, for each commodity, important components of supply and demand are identified, after which an equilibrium is established through balance sheet principles by equating total demand to total supply.

This year's baseline takes the latest trends, policies and market information into consideration and is constructed in such a way that the decision maker can form a picture of equilibrium in agricultural markets given the assumptions made. However, markets are extremely volatile and the probability that future prices will not match baseline projections is therefore high. Given this uncertainty, the baseline projections should be interpreted as only one possible scenario that could unfold, where temporary factors play out over the short run and permanent factors cause structural shifts in agricultural commodity markets over the long run. The baseline, therefore, serves as a benchmark against which alternative exogenous shocks can be tested and interpreted. In addition, the baseline serves as an early-warning system to inform role-players in the agricultural industry about the potential effects of long-term structural changes on agricultural commodity markets, such as the impact of a sharp increase in input prices or the impact of improvements in technology on the supply response. The 2020 edition captures, to the best extent possible at this early stage and based on the information available to date, the impact of the COVID-19 pandemic and the measures imposed to contain it. As the pandemic plays out, the situation can change very quickly.

To summarise, the baseline does NOT constitute a forecast, but rather represents a benchmark of what COULD happen under a particular set of assumptions. Inherent uncertainties, including policy changes, weather, and other market variations ensure that the future is highly unlikely to match baseline projections. Recognising this fact, BFAP incorporates scenario planning and risk analyses in the process of attempting to understand the underlying risks and uncertainties of agricultural markets. Farm-level implications are included in the commodity specific sections and the scenarios and risk analyses illustrate the volatile outcome of future projections. Additional stochastic (risk) analyses are not published in the Baseline, but prepared independently on request for clients. The BFAP Baseline 2020 should thus be regarded as only one of the tools in the decision-making process of the agricultural sector, and other sources of information, experience, and planning and decision-making techniques have to be taken into consideration.

Executive summary and implications

COVID-19 has caused widespread turmoil and volatility since the start of 2020, and the measures implemented to contain it have sent shockwaves throughout the global economy. The outbreak is a prime example of what has been called a "black swan" phenomenon: entirely unexpected, and completely unpredictable. Its impacts have affected all of us in almost every way imaginable and implies that the 2020 edition of the BFAP baseline is set within a highly uncertain environment.

While the pandemic continues to spread, the lockdown actions imposed around the globe has decimated economic performance. Waning risk appetite amongst investors resulted in an initial sell-off in financial markets, as well as a drastic depreciation in many emerging market currencies. At the same time, reduced economic activity, especially in mining and manufacturing output, the grounding of commercial airliners and the on-going price war in major oil-producing countries, caused the largest oil price crash in decades. The latest projections from the International Monetary Fund (IMF) and the Organisation for Economic Cooperation and Development (OECD) are bleak, with the global economy projected to contract by 5 to 6 percent, with a more gradual recovery than initially suggested.

In South Africa, the economy has been plagued by systemic and structural challenges for some time, most of which will only be further exacerbated by the pandemic, as well as consecutive downgrades to the country's sovereign credit rating. The Bureau for Economic Research (BER) expects a contraction in GDP of 9.5 percent in 2020, with a modest rebound of just 3.1 percent in 2021. Structural challenges pre-COVID-19 suggests that the recovery will be prolonged, with real GDP only projected to exceed 2019 levels by 2026. Limited consumer spending power, rising debt and lagging unemployment are but some of the challenges to overcome. Stats SA's survey on the impact of the COVID-19 pandemic on employment and income, done at week 6 of the national lockdown, found that 9.5 percent of respondents became unemployed and 19.1 percent of employees experienced reduced income. Similarly, initial information from the South African national payment system shows a 20 percent decline in monthly take home pay in June compared to a year ago.

Despite the support package provided by government, lower income households have been hardest hit. According to the National Income Dynamics (NIDS) - Coronavirus Rapid Mobile Survey (CRAM) conducted in May and June 2020, 47 percent of people surveyed indicated that they ran out of money for food in April. This is in comparison to 21 percent of respondents surveyed in the 2018 General Household survey. While lower income households have been hit the hardest, the negative employment and income impacts of the COVID-19 pandemic will have a significant effect on household incomes across all SEM™ segments, most likely causing a slow-down and reversal in some of the progress made in class mobility over the last two decades.

Amidst all of these negative impacts and projections, the South African agricultural sector has emerged as a shining light in the economy. As a provider of essential goods, the agricultural sector was exempt from the lockdown in quarter 2 and the BFAP Baseline projects that the sector will grow by 13 percent this year. Growth is underpinned by a bumper maize crop of 15.5 million tonnes (the second largest in history), surging export prices of major fruits (further supported by the weak exchange rate) and strong overall sales of agricultural produce in the first 4 months of the COVID-19 pandemic. The exceptions are wine and tobacco, where trade has been restricted through various stages of the lockdown.

While the weaker exchange rate combined with above average harvests supported the rebound in performance in 2020, the outlook beyond that remains under pressure. Many structural challenges, (such as infrastructure maintenance, reliable electricity supplies, capacity of critical public services and municipalities) have now been exacerbated by the pandemic, and low economic growth over the next few

years does not provide the demand base conducive to rapid growth in the sector. In fact, sustained growth is only expected to return over the second half of the outlook period.

The strong performance of South Africa's agricultural sector in 2020 contrasts with the lacklustre experience in most global markets. The effects of lockdown action on agricultural markets is threefold. Firstly, it proliferates the risk for supply chain interruptions, often increasing short term price volatility. Secondly, while interruptions across the value chain could result in short term spikes, the fundamentally weak demand environment, combined with persistently high stock levels for most commodities, suggests that prices of most products will remain under pressure for some time. Thirdly, the COVID-19 pandemic has triggered policy responses that influenced trade flow patterns. Prior to COVID-19, factors such as the US-China trade war and Brexit provided early indications of a shift in the global trade environment. This will likely be accelerated: many countries have acted to protect domestic food security by imposing restrictions on export volumes and at the same time, the disruptions in terms of logistics flagged the potential vulnerability and risks associated with global trade and supply chains. This trend does not portray the end of global food and agricultural trade, but a tougher trade environment with stricter protocols, competition and non-tariff trade barriers will require effective and well capacitated government departments working in close collaboration with private sector to grow access in regional and global markets.

In South Africa, much of the decline in global crop prices was offset by the sharp depreciation in the exchange rate. While South Africa's bumper maize crop will push prices to export parity, these parity levels have increased as a result of the weaker Rand and hence prices will not decline to the same extent that would normally be expected in a bumper year. Oilseed prices are expected to increase substantially, supported by high import parity prices for products such as vegetable oil and protein meal. The success of the 2020 summer crop should however not detract from the fact that many producers, particularly in more marginal areas in the Western production regions, have experienced severe financial strain over the past 5 years. However, while the revenue generated in 2020 provides some respite, the long term prospects for the more marginal growing areas remain a challenge, with increased diversification into livestock enterprises likely to occur to ensure long term sustainability.

In the weak economic environment, the long term decline in per capita maize consumption is expected to turn around, yielding an increase in per capita consumption levels over the coming decade. This trend is further supported by relative price movements, as maize prices decline to export parity levels, with import parity based wheat and rice prices increasing on the back of the weaker exchange rate. In 2020, the value of the bumper maize crop cannot be over emphasised, as it keeps maize meal prices fairly affordable, despite the weakness of the Rand. While the demand for maize meal is set to increase in 2020, the lockdown's severe impact on the livestock sector is expected to result in a marginal decline in the demand for animal feeds.
Furthermore, the weight of the economic downturn in 2020 and the prolonged recovery suggest that some of the improvements in dietary diversification over the past decade may be reversed. Over the course of the outlook, demand growth is projected to slow drastically from the past decade and emanates from population growth more than per capita gains. Despite this slowdown in consumption, there are still opportunities to grow production for sectors able to compete effectively in the global market and drive an export led strategy, or alternatively improve their competitive position sufficiently to replace imports.

Projected growth in beef production is under pinned by the drive to increase exports. Despite challenges from the FMD outbreak in 2019, exports have resumed successfully under bilateral agreements and play a key role in balancing carcass value. The premium obtained for high value cuts in the export market also allows the industry to sell the rest of the carcass at more affordable levels domestically. Acceleration of export growth through improved animal health management and wider market access remains a significant opportunity to accelerate inclusive growth in the agricultural space. Be it through exports or imports, most meat sectors are well integrated in global markets and prices will find support from the weaker exchange rate. In the case of poultry, the competitiveness of domestically produced meat relative to imports will benefit further from recent tariff increases, and the combination of actions under the recently signed poultry Masterplan aimed at ensuring fair competition with imported products. Consequently, the trend of rising imports is expected to

slow, with domestic production accounting for a larger share of total consumption by 2029 relative to current levels.

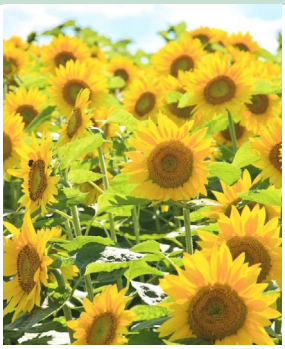
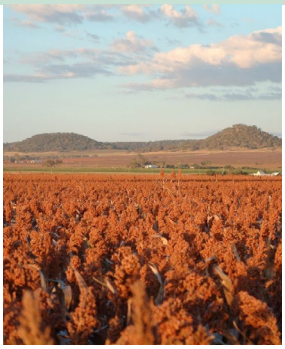
The predominantly export orientated horticultural sector also stands to gain from the price support provided by the weaker exchange rate with citrus exports expected to gain the most, due to the absolute volumes being exported, firm international prices and timing of its peak season. Over the next few years however, prices are expected to come under pressure, as rapid orchard expansion from recent years reaches full bearing capacity, bringing substantial additional volumes into production. In this respect, expanded market access will be critical to absorb these additional volumes and limit price declines. The combination of price pressure and increasing competition for resources, particularly water, results in a slowdown of further expansion for large fruit sectors such as citrus, pome fruit and grapes over the coming decade, though expansion is still expected in smaller sectors such as avocadoes, blueberries and nuts.

While South Africa remains a net exporter of agricultural products, a substantial share of the inputs required to produce this surplus is imported. The risks associated with the high dependence on imports for critical inputs are twofold: Firstly, it relates to short term availability – while many economies have started to open up, others continue to restrict operations in an effort to contain the disease. Secondly, there are also risks related to affordability, which is influenced by the macroeconomic environment and the relative weakness of the exchange rate.

While agriculture has risen to the occasion to ensure food availability in a challenging year and looks set to contribute positively to the economy in 2020, the reality is that reductions in consumer income and increases in unemployment still resulted in food being unaffordable to many. Furthermore, progress with respect to transformation remains too slow. To compete effectively in this new global environment and harness the full potential of the agriculture and food value chain to ignite inclusive growth throughout the value chain and thereby drive broader economic prosperity, a continuation of business as usual will be insufficient.

The vision contained in the National Development Plan of an inclusive and thriving agricultural and agro-processing sector is now just as applicable as it was during its launch in 2011. Recent simulations, where the basic principles of the NDP are incorporated in the BFAP modelling systems, presents an alternative scenario of the future, with 12% growth in real terms above the baseline by 2030. However, this growth can only be achieved with very specific targeted interventions that are implemented, monitored and adjusted as required.

The agricultural sector is currently in another planning phase with the development of an Agriculture and Agro-Processing Master Plan (AAMP), which has the potential to provide a solid basis for inclusive growth going forward. It is envisioned that the AAMP's 'social compact' will bind the partners into a set of agreed targets and commitments, but only time will tell if this process will be robust enough to drive effective implementation of key interventions that has been lacking in the past. Negotiations amongst the social partners will have to carefully assess the basic principles of sustainable value chains. Practical solutions need to be researched, debated and implemented rather than spending more time on the old debates of large versus small, and industry concentration issues that really should be dealt with through the effective operations of the Competition Commission. It will be tragic if this sorely needed opportunity for inclusive growth is missed due to a lack of alignment and unity between government, labour and private sector.

OVERVIEW OF THE SOUTH AFRICAN AGRICULTURAL LANDSCAPE

"COVID-19, lockdown, economic recession and unemployment" have become synonymous with 2020 and there is not a newspaper, radio or television broadcast that does not speak to these topics. The widespread impacts of COVID-19 and measures to contain its spread have affected all of us in almost every way imaginable. The timing of the outbreak is a prime example of what has been called a "black swan" phenomenon: entirely unexpected, and completely unpredictable. The latest macro-economic projections by the International Monetary Fund (IMF) and the Organisation for Economic Cooperation and Development (OECD) are bleak, with the global economy projected to contract by 6 percent and the South African economy by 9.5 percent in 2020. As the crisis progresses, initial economic recovery projections have had to be adjusted towards a more gradual rebound than previously expected. Low income households are hardest hit and, according to the National Income Dynamics (NIDS) - Coronavirus Rapid Mobile Survey (CRAM) conducted in May and June 2020, 47 percent of people surveyed indicated that they ran out of money for food in April. This is in comparison to 21% of respondents surveyed in the 2018 General Household survey. This points to a more than doubling in the number of people that were unable to afford a monthly supply of food during April 2020.

Amidst these negative projections, the South African agricultural sector has emerged as the shining light of the economy, growing by 27.8 percent in the first quarter of 2020. BFAP's Baseline 2020 projects that the sector will grow by 13 percent this year, driven by a bumper maize crop of 15.5 million tonnes (the second largest in history by volume and the largest by value), surging export prices of major fruits and strong overall sales of agricultural produce in the first 4 months of the COVID-19 pandemic. The exceptions are wine and tobacco, where trade has been restricted through various stages of the lockdown. Furthermore, citrus export volumes are projected to reach record levels despite the impact of the initial lockdown regulations. This year's citrus exports serve as a prime example of how government and industry are working together to address bottlenecks caused by national and global lockdown regulations.

The agricultural performance of 2020 represents a significant rebound from 2018 and 2019, when the sector contracted by 1.86 and 9.86 percent respectively (Figure 1). Apart from low global commodity prices and pressure on the disposable incomes of consumers, sector performance has been subject to exogenous shocks such as Avian Influenza, Listeria and severe drought conditions in many parts of the country over the past five years. In some areas, the worst drought conditions in more than 100 years were recorded, which has caused great financial strain to those producers. This makes the performance of the agricultural sector in the current season so much more impactful during times where food security, employment and growth are under severe pressure.

Nevertheless, beyond the rebound in 2020, the outlook for the sector remains under pressure (Figure 1). In fact, in 2017 BFAP already hinted to the underlying challenges facing the industry, stating, "growth will not be handed on a tray". Under the baseline conditions, the low economic growth over the next few years and the resultant weak demand is

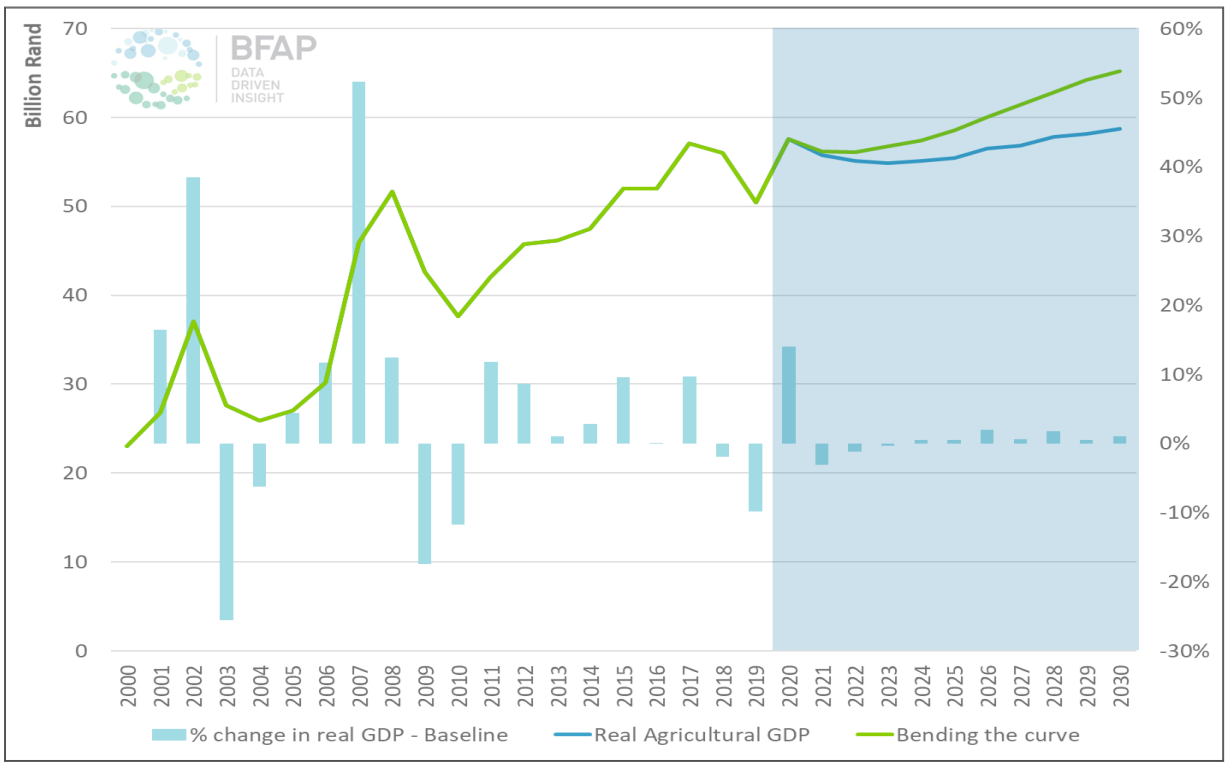


Figure 1: Real Agricultural GDP in South Africa: 2000-2029

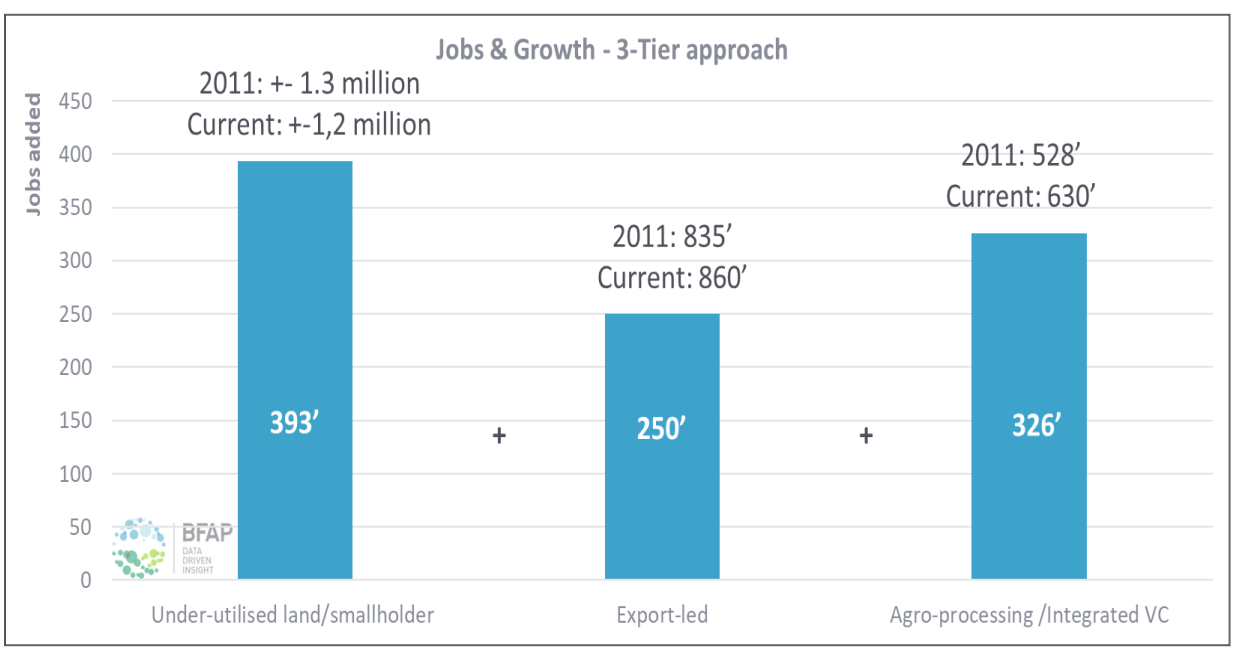


Figure 2: NDP 2030 review

not conducive to rapid growth in farm output. Apart from the initial recovery in 2020, which is supported by above average harvests and a particularly weak exchange rate, growth is only expected to return over the second half of the outlook period. At this point, global stock levels start to normalise, global and local economic growth rates pick up and the livestock industry recovers from the drought and outbreaks of diseases that have caused longer-term strain in recent years.

In essence, a "bending of the curve" is required. Recent simulations, where the basic principles of the National Development Plan (NDP) are incorporated in the BFAP modelling systems, present an alternative scenario of the future, with 12 percent growth in real terms above the baseline by 2030. The key focus of the NDP lies on access to better opportunities by rural communities to participate fully in the economic and social life of the country. In other words, although the performance of the industry is typically measured as its contribution to GDP, the principle that agriculture has a much broader footprint in the economy and society, and therefore plays a critical role in the country's future, is generally accepted. The vision of an inclusive and thriving agricultural and agro-processing sector contained in the National Development Plan is now just as applicable as it was during its launch in 2011.

However, in evaluating performance relative to the NDP, it is critical to mention right from the start that the NDP targets were set in the context of an ideal state. It represents a target that South Africa could reach based on its human capacity, natural resource potential and future markets (local, regional and global). These idealised conditions include:

- A stable and conducive policy and investment environment,
- Comprehensive infrastructure development and services including electricity and water,
- Comprehensive and effective farmer support programmes,
- Full and effective state services (e.g. trade affairs, port authorities, veterinary services, plant health, agricultural research council etc.)

The target of one million new jobs set by the NDP is generally misinterpreted as referring only to on-farms jobs coming from export-led industries, with a 500 000 hectare expansion in irrigation, but this is not the case. There are clearly three categories targeted in the NDP (Figure 2) to drive inclusive growth and job creation in the industry. The total potential expansion under irrigation amounts to 145 000 hectares by 2030, which is essentially based on the assumption of a 10 percent efficiency gain on the existing irrigation area of almost 1.5 million hectares.

The first category focuses on the revitalisation of smallholder and land reform farms as well as under-utilised farmland. This category was targeted to deliver the largest impact on jobs and livelihoods (393 000). However, general lack of farmer support services, such as access to finance, farm inputs, product markets, extension services, and infrastructure, etc. has left this sector under-developed and the opportunity for growth remains idle. Various reports (e.g. the High Level Panel Report on Land Reform and Rural Development and the Presidential Panel on Land and Agriculture) have alluded to the challenges in this sector. The general lack of data also remains a major stumbling block in the measuring, monitoring and support of this sector. The latest agricultural census by STATS SA also missed most activities in this sector since only VAT registered farmers were included in the survey sample. The lack of accurate information hampers effective planning and decision-making on investments.

For the second category, 250 000 jobs where targeted from the expansion of high-value export orientated subsectors and non-labour intensive industries with integrated value chains. As previously mentioned, the extensive field crop and livestock industries have in recent years been challenged by external factors, which has increased the drive towards mechanisation and consolidation of farms. Despite this, the rapid expansion in export-orientated high-value crops has offset the decline in employment in non-labour intensive industries and overall this category's employment has expanded by 25 000 jobs since 2011. BFAP's initial projections and prioritisation of potential high-growth industries has also materialised and a number of these industries have already exceed the original NDP targets (Table 1).

The third category refers to the investment in agro-food value chains with upstream and downstream linkages. Under the NDP ideal growth projections, 326 000 jobs were targeted for this category, of which 196 000 where linked to the up- and downstream multipliers in informal agro-food chains. Taking a wide definition of all workers linked to agro-processing and

Table 1: Industry specific comparison of NDP targets by 2030 and performance to date

		Target expansion NDP 2030	Actual expansion 2012-2018
Citrus	ha	15 000	23 448
Macadamias	ha	12 000	14 600
Apples	ha	2 500	2 256
Table grapes	ha	4 700	3 773
Avocadoes	ha	9 000	3 700
Soyabeans	ha	370 000	312 000
Poultry	tons	660 000	270 000
Dairy	tons	520 000	655 000
Pork	tons	25 000	53 000

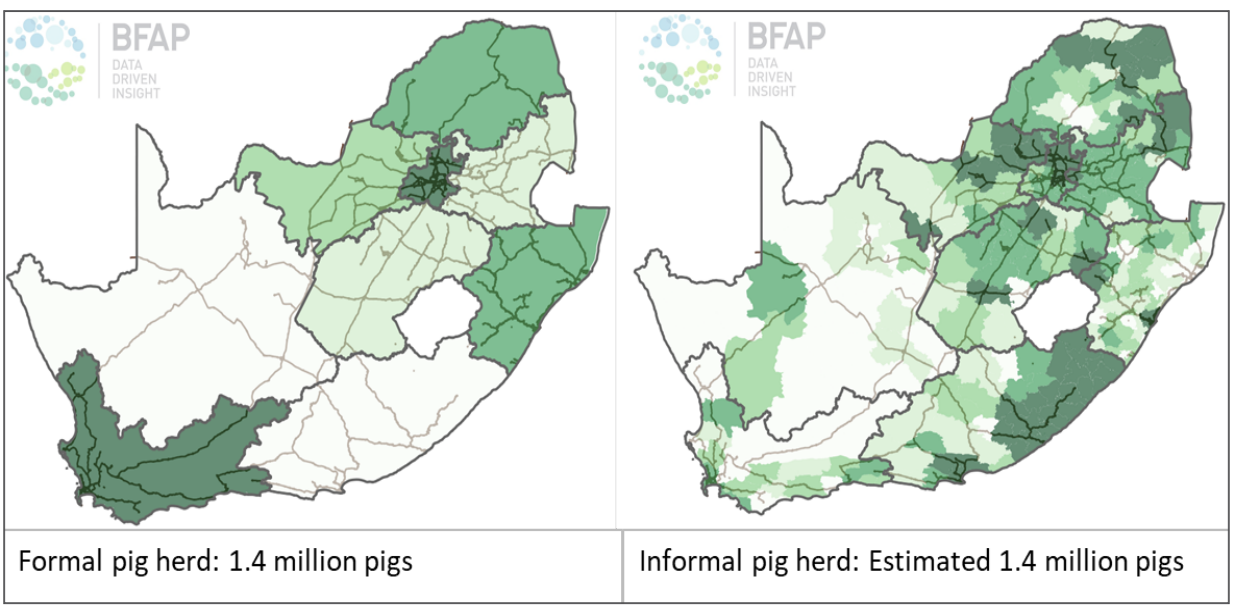


Figure 3: Distribution of South Africa's pig herd

Source: BFAP 2019

preparation of food, the formal sector has expanded significantly, adding more than 100 000 jobs since 2011. Due to their scale of operation, these value chains are less labour intensive, but make a larger contribution to the gross domestic product than their informal counterparts. For example, a R2 billion investment by the private sector in soybean crushing facilities in the past 8 years has provided South Africa with sufficient crushing capacity to meet the local demand for soybean meal at least until 2024 under current baseline projections. While a lack of official statistics on the informal sector limits assessment, anecdotal evidence and high-level surveys suggest that the "hidden-middle" has expanded - with the number of actors and the size of operation in this space increasing significantly.

Over the years BFAP has engaged in various initiatives to provide an improved measure of the value and impact of the informal agro-food sector from farm to fork, but a much broader and well-coordinated collaborative effort by the state, public sector, industry and researchers is required to unpack and truly understand the detail of the informal sector. In most of the research that BFAP has undertaken, the evidence points to a major contribution. For example, in a recent study for the South African Pork Producers Organisation (SAPPO), it was estimated that the total informal pig herd accounts for approximately 893 000 pigs (see Box 4 for more detail). Figure 3 provides the spatial context of the herd distribution. Under conservative reproduction estimates, the estimated stock value of the informal herd is R1.2 billion, generating an income equivalent to 29 550 livelihoods. Previous studies have also attempted to

estimate the contribution of the informal agriculture sector to the economy. In a study by Aliber et al. in 2011, the value of production in the informal sector was estimated at R13 billion based on the 2010/11 Income and Expenditure Survey, which equated to approximately 10 percent of the commercial sector's gross value of production, higher than the 5 percent that has traditionally been assumed.

The agricultural sector is currently in another planning phase with the development of an Agriculture and Agro-Processing Master Plan (AAMP), the success of which is based on a partnership between government, labour and industry, referred to as the 'social compact'. No silver bullet will provide a "bending of the curve" scenario, and there is no need to reinvent the wheel to boost inclusive growth and transformation in agriculture and agro-processing. Numerous reports have been published in recent years (including the annual BFAP Baselines) that have unpacked the extent of the required interventions. The sector will only grow above baseline expectations and bring new entrants into the market space through dedicated and well-coordinated implementation of very specific actions and plans, executed through a combined effort of the public and private sector, with real people and real capital to drive sustainable solutions.

From a market led perspective, there are a number of key elements to consider during the development of the AAMP, especially in a post-COVID 19 economy:

- South Africa's recovery will most likely not be V-shaped, and the agro-food sector will be facing weaker local demand for an extended period. Pre-existing structural problems will deepen and with government budgets that are severely stretched, commercially viable profit and tax generating operations will be even more critical.
- South Africa is rapidly urbanising, with more than 66 percent of the population already living in urban areas. This requires highly effective food value chains to offer a consistent supply of affordable and safe food.
- In the post-COVID-19 period, it is even more important for idle/unproductive assets and resources to contribute positively to the economy. In the case of agriculture, this specifically refers to state lands that are under-utilised and irrigation schemes (estimated at more than 20 000 hectares) that are not operational due to lack of maintenance, allocation of water rights, etc.
- Over the past two decades a significant number of successful public-private partnerships (PPP) have been established to increase smallholder productivity and profit, support new entrants in the market and drive inclusive business models. Successful PPPs need to be expanded with all possible means as lessons have already been learnt and these projects' blueprints provide the best guide to delivering commercially sustainable operations.
- The weaker exchange rate supports South Africa's relative competitiveness in export markets, but it also drives up the cost of many inputs and technologies. Consequently, the industry's competitiveness cannot rely on the depreciation of the exchange rate alone. Exports are important, often supporting prices and margins, whilst creating market space and opportunities in the local value chain for SMMEs to be linked through an effective implementation system.
- The dynamics of the African continent are shifting, with rapid expansion in the production of maize, soybeans and sunflower. This has already affected South Africa's traditional export markets for maize to South and East Africa. The opportunity for South African exports into the continent will mainly be driven by higher-valued exports of fruit and wine and, in some markets, meat and other processed food items.
- The disruptions caused by COVID-19 have flagged the potential vulnerability and risks of global trade and supply chains, and countries have generally sharpened their focus on supporting local production and processing capacity. This trend will not mean the end of global food and agricultural trade, as global interdependence will continue, yet a tougher trade environment with stricter protocols, competition and non-tariff trade barriers will require effective and well capacitated government departments working in close collaboration with private sector to grow access in regional and global markets.

In this environment, the principle of matching farming systems with food systems remains a basic building block of poverty alleviation and at the same time agricultural growth and development. This approach also lends itself to targeted and appropriate

Table 2: Number of farmers in South Africa, 2017

Number of farms and households	Large	Medium-small	Micro	Market-oriented smallholders	Total	Householders using farm resources
Growing of cereals and other crops	387	2 474	5 698		8559	
Mixed farming (crops and animals)	812	4 409	7 237	162 583	175041	975 776
Farming of animals	703	3 431	9 505	123 443	137082	1 174 696
Horticulture	649	1 966	2 028	15 054	19697	176 829
Agricultural services and fertiliser production	59	290	474		823	
South Africa	**2 610**	**12 570**	**24 942**	**301 080**	**341 202[1]**	**2 327 301**
Employment/households	389 421	284 111	84 097	301 080	1 058 709	**2 327 301**

Note: [1]These farmers also employ wage workers, but the extent is not known, thus this is an underestimate of the livelihoods in this segment.

interventions to fast-track transformation in the industry by increasing the output and participation of previously disadvantaged groups, where a full spectrum of separate and interlinked value chains and farming systems are taken into consideration. A serious effort is now required to reduce the persistent dualism in the sector where the majority of output is produced by the traditional white farming sector, and drive development in rural areas, allowing a diverse range of producers to flourish. According to the 2017 Agricultural Census presented by StatsSA, commercial agriculture consists of 40 122 farms. However, his excludes more than 300 000 smaller scale farming operations that are not VAT registered. Furthermore, the General Household Survey reports a further 2.3 million households that are engaged in some form of agricultural production activity (Table 2).

Figure 4 provides a schematic representation of the different farmer categories and farming systems coexisting in South Africa. The farmer categories are (loosely) paired against their target markets and the examples of specific support services required for these farmers to thrive are identified. Successful transformation will result in an increased number of smallholder farmers able to produce for local markets, and ensure regional food security, and where possible and viable, link into formal or tailor-made value chains and grow their businesses. Nevertheless, South Africa's large urbanised population and economically important international trade balance will still largely depend on the large scale commercial farming operations of both white and black commercial farmers and corporate agribusinesses such as the fruits, poultry and egg producers. The sustainable existence of a strong and healthy commercial sector is also vital for the bourgeoning smallholder sector, as the larger farmers create the critical mass of demand for research and technologies, input supply networks and value chains that will incorporate, expand and adjust to also better serve the smallholder sector if properly targeted. Transformation of the commercial farming sector and the establishment and support of increased numbers of black commercial farmers are key for the continued existence of the sector. To this end, government should a) prioritise the provision of farmer support services so that people who wish to farm can do so and successfully create their own livelihoods; b) provide tenure security and support the sale and rental of land to ensure it is put to best use; c) ensure that farmers in remote areas are also able to access farming inputs; d) and support PPPs and the deepening of value chains to accommodate smaller operators.

BFAP applies this principle in its deep-dive value chain approach, which is currently also being utilised in the development of the AAMP. In practice, this implies that all areas of potential growth in demand are considered in order to develop a set of commodity specific value chains and prioritised interventions that will provide the highest impact towards inclusive agricultural transformation. This includes increased access to export markets, the potential for import

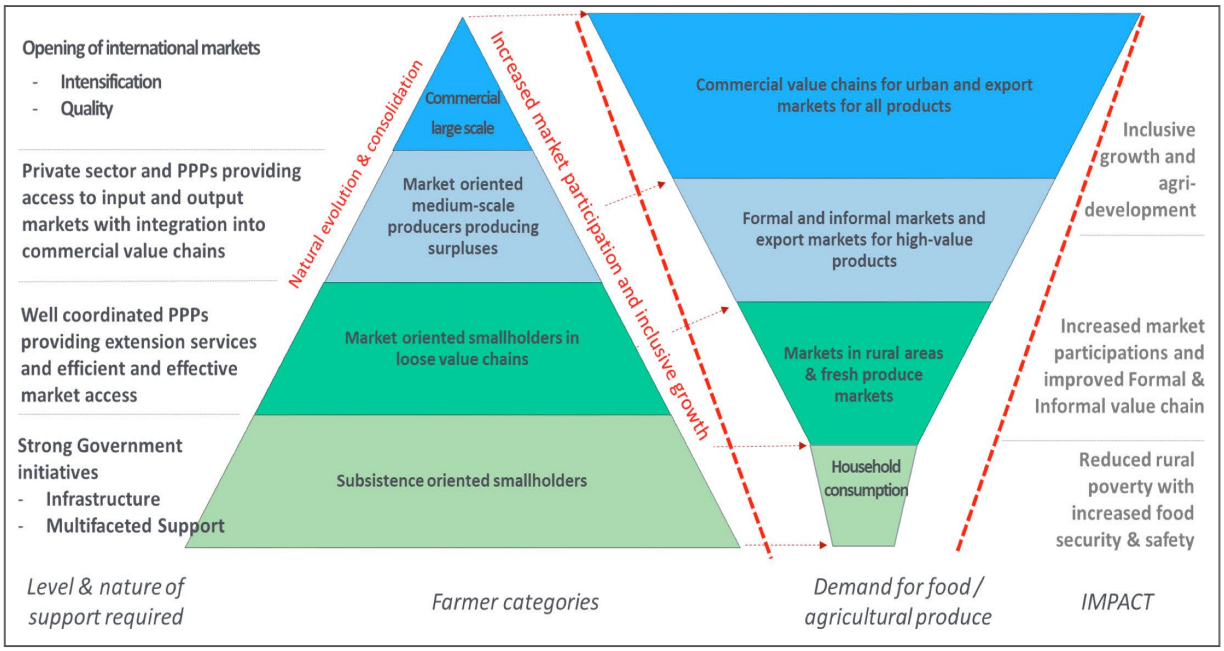


Figure 4: Potential architecture of a redesigned Land Reform and producer support framework

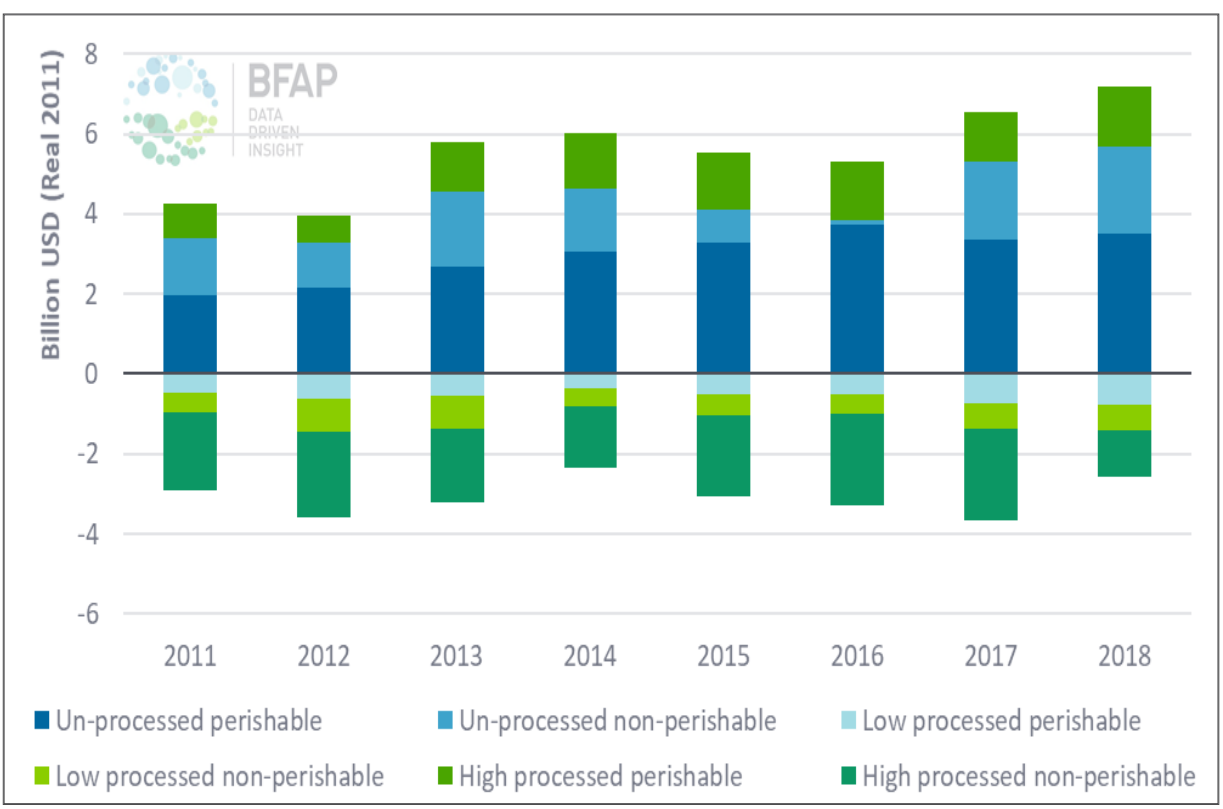


Figure 5: South Africa's net trade in agriculture and food products

Source: Compiled from ITC Trademap, 2019

replacement and the expansion in local formal and informal markets for agriculture and food products. Figure 5 presents South Africa's net trade position in agriculture and food products over the past decade. Whereas net imports have fluctuated around $3 billion in real terms, net exports have increased from $4 billion to $7 billion in real terms. Highly processed non-perishable items (e.g. vegetable oil, coffee, tea, chocolate) account for the largest share of imported food items, followed by low-processed perishable items (e.g. chicken meat). Exports are mainly driven by unprocessed perishable (e.g. fruits) products followed by unprocessed non-perishables (e.g. maize).

For any import replacement (or export expansion) initiative to be economically sustainable, a detailed analysis is required to show which interventions are required at each node and to assess if the potential benefits justify the costs. Examples of these types of initiatives include the replacement of imported soybean cake, increased exports of high-value beef cuts to markets in the Middle East, and the increase in wool exports to China. It is critical that black farmers and entrepreneurs benefit from these opportunities. In the case of wool exports, this concept has already been proven with smallholder farmers in the Eastern Cape who are producing and selling an ever-increasing fleece of high quality into these competitive export markets. Again, transformation should not only be linked to the expansion of smallholder operations, but rather to participation at all nodes in a broad spectrum of value chains.

The broad spectrum of value chains is not a new concept. A study of formal and informal poultry value chains by BFAP in 2015 illustrated that smaller chicken producers have higher production costs per bird, yet the market prices in the informal fresh markets are much higher than in the formal integrated value chains. As a result, small-scale poultry production in rural areas can be quite profitable. At the other end of the spectrum are the large-scale broiler operations that are operating at much lower production costs per unit, but also selling at much lower farm-gate prices as this product flows into highly-commercialised competitive value chains servicing the largest portion of the South African consumption base in urban and semi-urban centres.

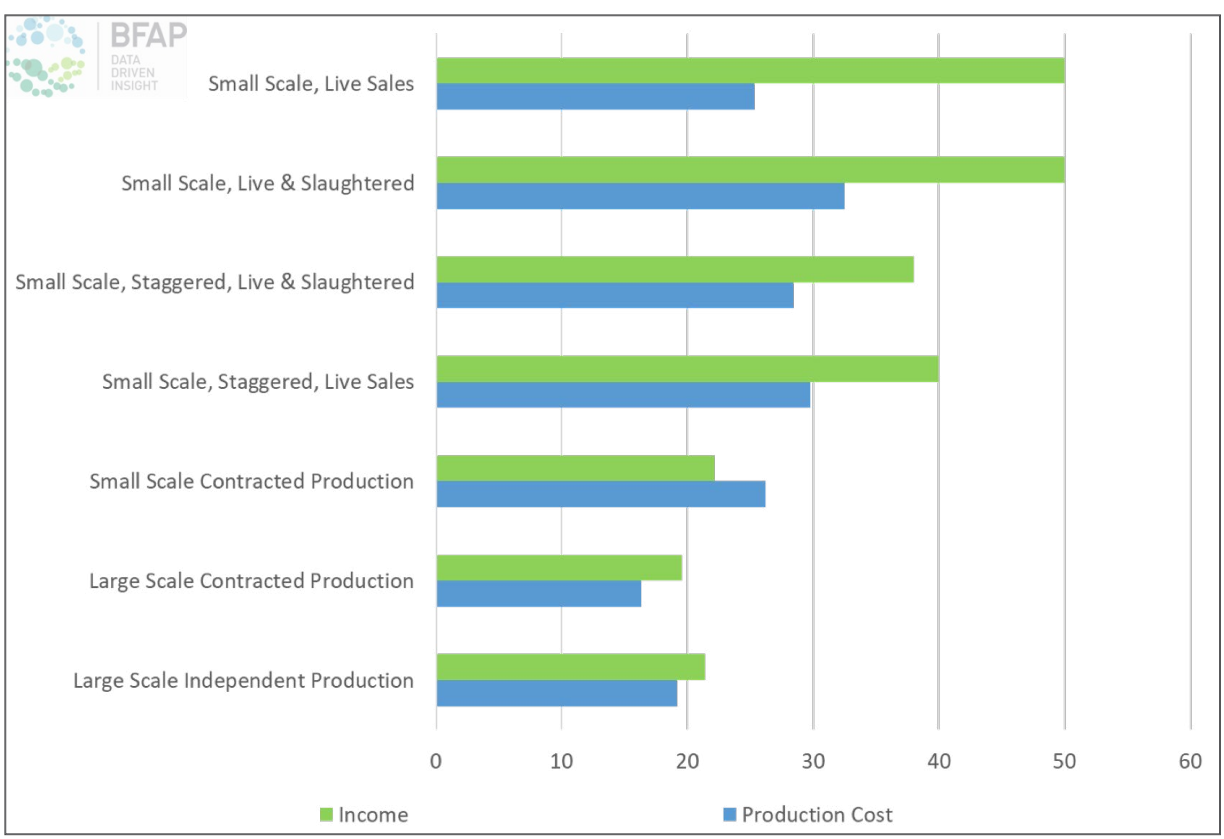


Figure 6: South African broiler production cost and income for different scale producers

Source: BFAP, 2015

These are also the value chains that are competing head-on with highly competitive and in some instances heavily subsidised imported chicken meat (Figure 6).

The former homeland areas of South Africa have not developed with the rest of the country and are effectively stuck in a time warp characterised by a lack of structural transformation where agricultural productivity is low, infrastructure is lacking, but labour has already migrated to the cities. In this regard, South Africa has a unique opportunity to leapfrog the longer term structural transformation process of these areas, by linking the informal agricultural system to existing commercialised value chains.

What now needs to be done is the practical implementation of government policy frameworks. Lack of progress in this regard, has reinforced the lack of access to viable farming opportunities for black farmers, and even fewer opportunities within the input supply and agro-processing sectors. The underlying factors behind this lack of implementation can be categorized into three broad streams. First, the limited capacity to execute government programmes together with a misalignment of functions and priorities between the three spheres of government. Second, the misallocation of the budget by the national and provincial governments. Third, the poor and uncoordinated transformation programmes between government, private sector and civil society.

In addition to the much-needed focus on these three critical aspects, consideration should also be given to the standard tasks of the State in all spheres of government and the role of private sector in driving inclusive transformation:

- First, successful and productive agriculture depends on well-designed, well-built and good and well-maintained infrastructure (rail, roads, harbours, water, electricity, and telecommunications). Prioritising investment in and maintenance of these aspects will go a long way in promoting market access and improving profitability of all farmers. Naturally, it requires the engagement of many government departments, and provincial and local municipalities, and for them to understand their role in infrastructure investment and maintenance as a critical support to the agricultural and agro-processing industries.
- Second, much of agriculture depends on the effective (and timely) execution of the administrative and regulatory tasks of government: licenses, permits, regulations, enforcement, land administration, deeds office, support measures, etc. These aspects have been constraining the growth and transformation of the sector for many years and require serious attention. This also includes the effective implementation of the Competition Act, which has been designed to regulate and monitor the behaviour of big businesses to allow for market space of small and medium enterprises.
- Thirdly, agriculture also requires good institutions. Agricultural markets cannot function without institutions, or what is commonly known as the 'rules of the game'. The state therefore has an important duty to ensure that institutions (the rules) are in place. These include the important elements such as the entire research, development and extension nexus without which new entrants to the sector cannot thrive, and the provision of financial services. In fresh produce and food products in general the most important 'institutions' include grading systems, food safety legislation, and sanitary and phytosanitary systems. Other examples include the bylaws and rules on municipal markets, information systems in agricultural markets in general and the futures markets in particular. At the same time the rules ensuring fair competition are also important.
- Fourth, in a post COVID-19 era, extreme budgetary constraints can be overcome through innovative structuring of value chains where government provides a stable policy environment with key catalysts that will drive the development of an enabling and inclusive environment where private sector (small, medium and large-scale), can invest to grow the economy and create jobs. These value chains can be structured in such way that most of the initial equity as well as the consequent financing is created through incentivised off-take agreements that offer market access and consistent supply of product that is underwritten by comprehensive support, training and extension services.

In conclusion, the AAMP process could provide a solid basis for this transformation. It is envisioned that the AAMP's 'social compact' will bind the partners into

a set of agreed targets and commitments, but only time will tell if this process will be robust enough to drive effective implementation of key interventions that has been lacking in the past. Negotiations amongst the social partners will have to carefully assess the basic principles of sustainable value chains. Practical solutions need to be researched, debated and implemented rather than spending more time on the old debates of large versus small, who is leading whom in terms of agriculture or agro-processing and concentration issues that really should be dealt with through the effective operations of the Competition Commission. It will be a tragedy if this opportunity is missed due to a lack of alignment and unity between government, labour and private sector.

Key baseline assumptions

Policies

The baseline assumes that current international as well as domestic agricultural policies will be maintained throughout the period under review (2020 – 2029). In a global setting, this implies that all countries adhere to bilateral and multilateral trade obligations, including WTO commitments, as well as stated objectives related to biofuel blending mandates. Current domestic policies are assumed constant, unless an implementation period has been specified.

With the deregulation of agricultural markets in the mid-nineties, many non-tariff trade barriers and some direct trade subsidies to agriculture were replaced by tariff barriers. In the case of maize and wheat, variable import tariffs were introduced. The variable import tariff for wheat was replaced by a 2% *ad valorem* tariff in 2006. However, in December 2008, the original variable import levy was re-introduced, and the reference price that triggered the variable import levy was adjusted upwards from $157/tonne to $215/tonne. Following the sharp increase in world price levels in 2012, the industry submitted a request for a further increase in the reference price, which was accepted in 2013, increasing the reference price to $294/tonne. Having initiated a review of the tariff structure in April 2016, ITAC adjusted the reference price downward to $279 in 2017. The annual quota of 300 000 tonnes of wheat that can be imported duty free from the EU from 2017 onwards has also been incorporated into the Baseline.

Global maize prices have traded significantly higher than the reference price in recent years and international prices are not projected to fall below the reference price of $110 per tonne over the next decade. Consequently, no maize tariff is applied over the Outlook. In contrast, wheat prices have fallen well below the reference price and consequently the import duty on wheat was already triggered in 2015, and remains in place over the course of the Outlook as the projected world price for wheat remains below $279/tonne. *Ad valorem* tariffs are applied in the case of oilseeds. In the case of meat and dairy products, a combination of fixed rate tariffs and/or ad valorem tariffs are implemented.

General duties on imported chicken were increased substantially in October 2013, however a significant share of total imports originate from the European Union and therefore carry no duty under the original Trade, Development and Cooperation Agreement (TDCA), which was later replaced by the new Economic Partnership Agreement (EPA). Furthermore, South Africa applies anti-dumping duties of R9.40 per kilogram on bone-in chicken pieces originating from the United States. In June 2015, it was announced that this anti-dumping duty would be removed for a quota of 65 000 tonnes of bone-in portions. On bone-in portions originating from the EU, South Africa applies a safeguard duty, which was introduced in 2018 at 35.3%. The safeguard will decline annually and be phased out completely by March 2022. In early 2020, the general duty on bone in portions was increased from 37% to 62%, while the general duty on boneless cuts was increased from 12% to 42%.

The projected tariff levels, as derived from the FAPRI projections of world commodity prices, are presented in Table 3.

Macro-economic assumptions

The baseline simulations are partially driven by the outlook for a number of key macroeconomic indicators. Projections for these indicators are mostly, but not exclusively, based on information provided by the OECD, the IMF and the Bureau for Economic Research (BER). COVID-19 has caused widespread turmoil and volatility since the start of 2020 and the measures implemented to contain it have sent shockwaves throughout the global economy. Investor appetite for risk has declined drastically, resulting in a major initial sell-off in financial markets, as well as a drastic depreciation in many emerging market currencies. At the same time, reduced economic activity, especially in mining and manufacturing output, the grounding of commercial airliners and the on-going price war in major oil-producing countries have caused the largest oil price crash in decades. On the 6th of April 2020, the cost of Brent crude oil reflected a decline of 60 percent from January 2020, trading at US$27.60 per barrel. By mid-July, it had recovered to US$43 per barrel.

In South Africa, the economy has been plagued by systemic and structural challenges for some time, most of which will only be further exacerbated by the

Table 3: Policy Assumptions

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
R/tonne										
Maize tariff: (Ref. price = US$ 110)	0	0	0	0	0	0	0	0	0	0
Wheat tariff (Ref price = US$ 279)	997	616	593	620	638	661	686	712	746	787
Wheat tariff (300 000 tonne quota:										
EU Origin)	0	0	0	0	0	0	0	0	0	0
Sunflower seed tariff: 9.4 % of fob	618	605	602	568	572	581	592	612	635	653
Sunflower cake tariff: 6.6 % of fob (4.95% for MERCUSOR origin)	256	252	250	239	242	246	252	261	272	277
Sorghum tariff: 3 % of fob	100	97	99	93	94	95	98	104	104	106
Soya bean tariff: 8 % of fob	461	498	499	470	473	477	489	504	521	534
Soya bean cake tariff: 6.6 % of fob (4.95% for MERCUSOR origin)	346	370	371	354	359	364	373	385	399	407
Tonnes										
Cheese, TRQ quantity	1199	1199	1199	1199	1199	1199	1199	1199	1199	1199
Butter, TRQ quantity	1167	1167	1167	1167	1167	1167	1167	1167	1167	1167
SMP, TRQ quantity	4470	4470	4470	4470	4470	4470	4470	4470	4470	4470
WMP, TRQ quantity	213	213	213	213	213	213	213	213	213	213
Percentage										
Cheese, in-TRQ	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Butter, in-TRQ	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8
SMP, in-TRQ	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2
WMP, in-TRQ	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2
c/kg										
Cheese, above TRQ rate	500	500	500	500	500	500	500	500	500	500
Butter, above TRQ rate	500	500	500	500	500	500	500	500	500	500
SMP, above TRQ rate	450	450	450	450	450	450	450	450	450	450
WMP, above TRQ rate	450	450	450	450	450	450	450	450	450	450
Beef tariff: max (40 %*fob,240c/kg)	1852	2008	2137	2082	2159	2214	2306	2402	2507	2612
Lamb tariff: max(40 %* fob,200c/kg)	2676	2619	2676	2545	2598	2618	2689	2763	2842	2924
Chicken tariff (Whole frozen): 82%	2233	2332	2421	2295	2332	2361	2444	2540	2648	2739
Chicken Tariff (Carcass): 31%	114	122	125	126	126	126	126	128	129	130
Chicken Tariff (Boneless Cuts): 42%	1310	1367	1420	1346	1367	1385	1433	1490	1553	1606
Chicken Tariff (Offal): 30%	220	230	239	226	230	233	241	251	261	270
Chicken Tariff (Bone in portions): 62%	802	838	870	825	838	848	878	913	951	984
Chicken tariff: EU Origin	497	335	52	0	0	0	0	0	0	0
Pork tariff: max (15 %* fob, 130c/kg)	244	261	290	280	284	284	286	290	298	307

Table 4: Key Macro-Economic Assumptions

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Millions										
Total population of SA	59.1	59.7	60.3	61.0	61.6	62.1	62.7	63.3	63.8	64.3
SA cents per foreign currency										
Exchange rate (SA cents/US$)	1722	1678	1706	1727	1754	1774	1827	1882	1938	1996
Exchange rate (SA cents/Euro)	1917	1835	1910	1984	2019	2080	2142	2207	2273	2341
Percentage change										
Real GDP per capita	-9.92	1.98	0.34	0.47	0.61	0.64	0.88	0.91	1.14	1.17
GDP deflator	3.30	4.20	4.70	4.40	4.30	4.40	4.30	4.30	4.3	4.30
Percentage										
Weighted prime interest rate	7.9	7.0	7.5	7.8	7.8	7.8	7.8	7.8	7.8	7.8

pandemic. The latest projections suggest that South Africa's economy could contract by 9.5 percent in 2020, with only a modest recovery of 3.1 percent from this lower base in 2021. Consecutive downgrades to the sovereign credit rating of the country added to the challenges brought about by COVID-19 and the resultant lockdown action. Moody's downgraded to sub-investment level for the first time while Fitch moved further into sub-investment territory. This combination of factors led to severe depreciation of the Rand through March and April – by 3 April 2020, the Rand was trading at R19.35 against the US dollar, a depreciation of nearly 40 percent or R5.36 since the beginning of 2020. Some recovery has been forthcoming since, as global markets start to open and investor appetite returns, but on average for 2020, the Rand is projected to trade at R17.22 – a depreciation of 18 percent relative to 2019 levels.

Under the Baseline assumption, restrictions on economic activity emanating from the continued spread of COVID-19 are not expected to last beyond the end of 2020. Nevertheless, lagging unemployment, which was already a challenge before the pandemic and the substantial increase in debt levels, are but a few of the factors pointing to a prolonged recovery. In fact, projections indicate that it will take 5 years for the real GDP in South Africa to reach 2019 levels once more and per capita income levels will only surpass 2019 levels towards the end of the projection period. While growth is expected to improve over the second half of the outlook, the rate of 2 percent per annum is nowhere near the levels achieved through the early 2000's, or those targeted in the NDP (Table 4).

The exchange rate represents one of the most important assumptions affecting agricultural markets, both through the cost of inputs as well as the pricing of several outputs. It has also shown exceptional volatility in recent years, influenced among others by poor economic performance, political sentiment, perceived country risk, and a range of global factors, where the Rand remains one of the most traded emerging market currencies. Following the sharp depreciation in 2020, a modest recovery is projected in 2021, before the resumption of a steadily depreciating trend over the course of the projection period. By 2029, it is projected to approach R20 to the dollar. Should the depreciation be more severe, it would result in higher price levels, as well as an increase in the cost of major inputs relative to the baseline.

Another factor with significant influence on producer input cost structure is the price of Brent Crude oil. This typically influences the cost of both fuel and fertiliser but can also influence international commodity market prices through biofuel markets. The significant slowdown in economic activity globally is expected to weigh on oil prices throughout the outlook period. Prices are often influenced by political tension in oil producing regions, but under the baseline oil is expected to trade largely sideways to 2020, before turning upwards once more from 2021 onwards. By 2028, it is expected to again exceed 80 USD per barrel (Figure 7). Under this assumption, combined with consistent depreciation in the exchange rate, key inputs such as fuel and fertiliser prices are expected to increase consistently over the baseline period (Figure 7).

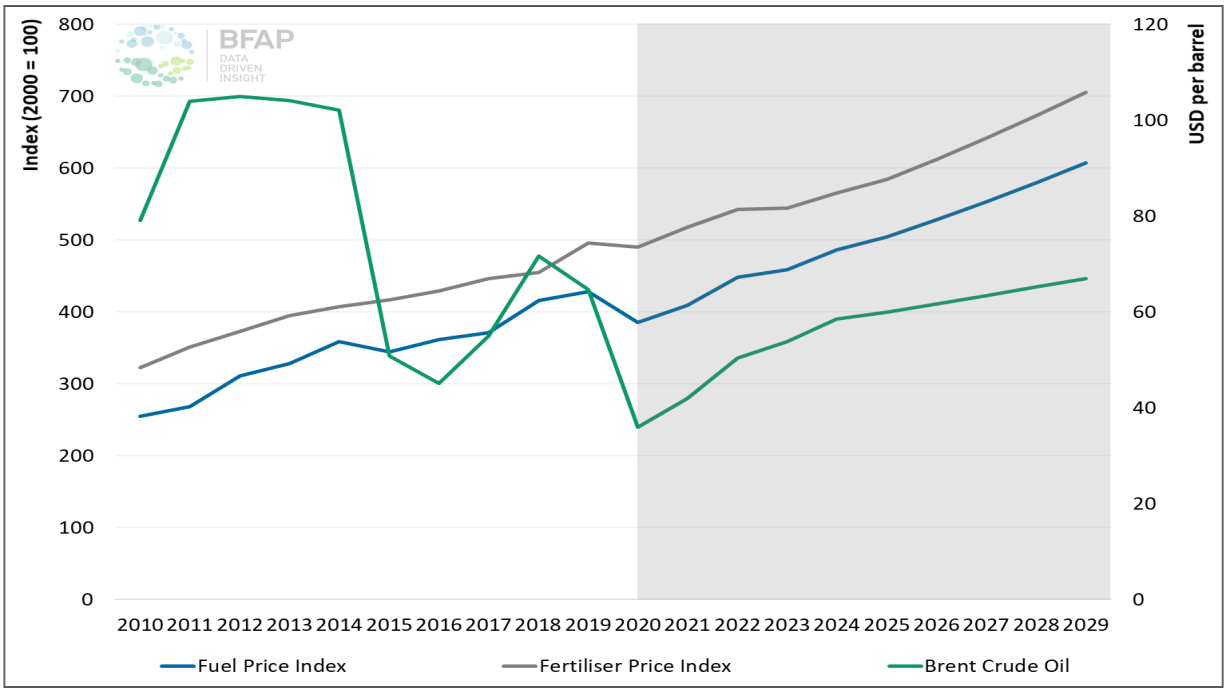


Figure 7: Oil price assumption and input cost implication

Source: OECD, IMF, BER and BFAP (2019)

Box 1: Agricultural inputs in South Africa

South Africa is a net exporter of agricultural products, however it imports a substantial share of the inputs required to produce this surplus. COVID-19 and the associated lockdown action has reminded many stakeholders in the agricultural sector of the importance of fully functional supply chains to ensure continuity in food production. It also reiterates South Africa's vulnerability with respect to input costs in an environment where the Rand is rapidly depreciating.

South Africa sources multiple agricultural inputs in the global market. The relative value of different categories of input imports, on average between 2017 and 2019, is presented in Figure 8. Products related to mechanisation, such as tractors, implements, machinery and parts account for the greatest share, followed by fertilisers, animal feeds and plant protection chemicals. For mechanisation related products, tractors with a size exceeding 130kW constituted the largest share of imports at 32 percent. Machinery parts comprised 20 percent of this category with an average imported value of R826 million per annum. With regard to the value of fertiliser imports, Urea comprises 42 percent, followed by mono-ammonium phosphates (18%) and potassium chloride (17%). Imports of plant protection products, which spans multiple tariff lines, were separated into herbicides (41%), insecticides (34%), fungicides (17%) and others (8%). Within the animal feeds category, oilcake related products and preparations used in animal feeds constituted 68 percent. Considering a broad category of inputs related to crop production, which includes mechanisation, fertiliser, plant protection and seed imports, the EU is South Africa's main source of imports (contrary to the more popular belief that most agricultural imports are from China), accounting for 30 percent of the total value. A further 16 percent (mainly fertilisers) is attributed to the Middle-Eastern region, followed by the USA and China, which accounted for 14 and 12 percent respectively.

The risks associated with the high dependence on imports for critical inputs are twofold: Firstly, it relates to availability where the COVID-19 pandemic has revealed many weaknesses in domestic and international supply chains. Secondly, there are also risks related to affordability, which is linked to availability but also influenced by the macroeconomic environment, where the relative weakness of the exchange rate, for instance, has the potential to cause substantial price volatility.

Box 1: Agricultural inputs in South Africa (Continued)

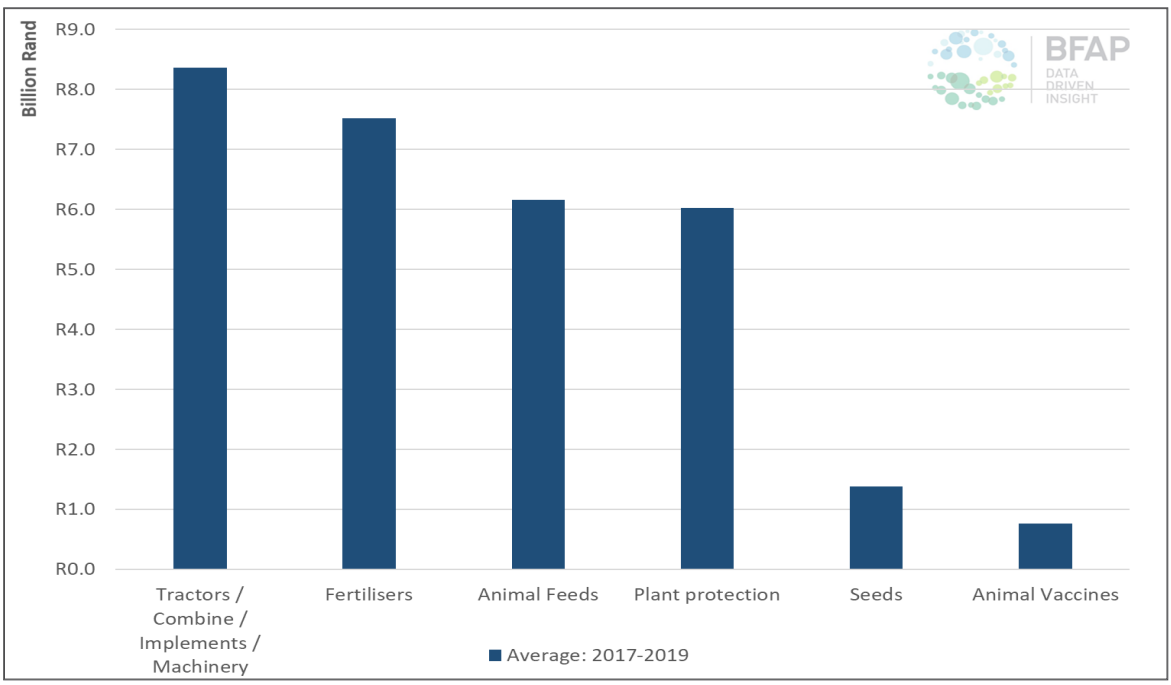


Figure 8: Value of South African imports of key agricultural inputs: Average: 2017-2019

Source: Compiled from ITC Trademap, 2020

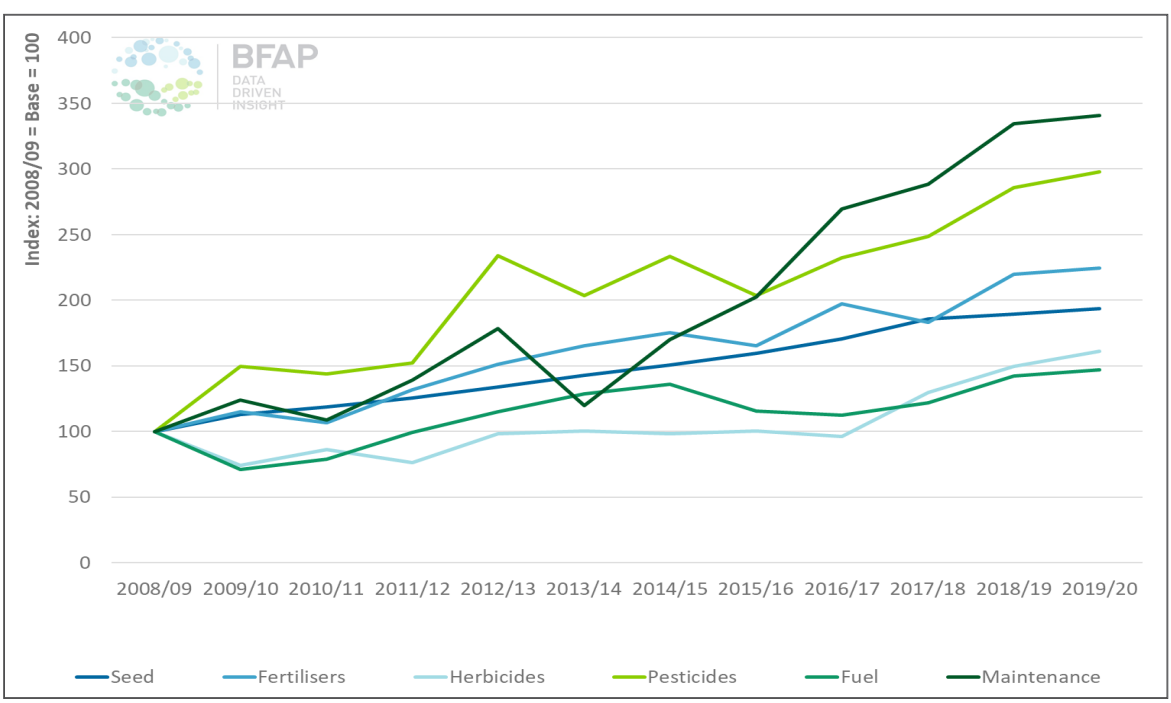


Figure 9: Nominal input cost trends in South Africa: 2008/09 to 2019/20

Source: Grain SA, 2019

From an affordability perspective, the two biggest factors influencing the cost of fertiliser is the Rand – USD exchange rate, and the price of crude oil. Oil price movements influence the cost of all imported inputs indirectly through sea freight and other distribution costs. It further influences the cost of inputs such as fuel and fertiliser directly and could also affect costs of manufactured inputs such as chemicals, plant protection and machinery. Over the past decade, the combined impact of these two factors, as well as rising labour costs, have already led to substantial increases in the input cost structure of the sector (Figure 9).

While the depreciation in the exchange rate supports commodity prices, particularly for field and horticultural crops, it does also result in higher input costs. 2020 and beyond therefore presents a mixed bag in terms of prices. The decline in global oil prices will lower the cost of fuel and fertiliser in the international market. It should also lower the cost of moving the products. Some of this decline will however be offset by exchange rate depreciation. For goods such as machinery and vaccines, where international prices do not decline, domestic prices will increase as a result of the weaker exchange rate. From a livestock perspective, higher feed grain prices, while supporting revenue from field crops, will also cause substantial increases in feed costs. Feed represents by far the largest input cost contributor for livestock production.

The supply of agricultural inputs is therefore dependent on the effective functioning of value chains, whether formal or informal, and disruptions in any node could risk food security and/or loss in income and jobs. South Africa's agricultural input supply chains face a number of challenges in the midst of the COVID-19 crisis amidst significant volatility and the poor economic prospects. Although several factors are beyond the control of agribusinesses, producers and decision-makers, it will be key to ensure that proper planning, management of supply chains and policy decisions regarding access to and distribution of inputs are prioritised and executed in a manner that minimises disruptions. Throughout the complex and integrated value chain, continuous and frequent planning and communication will be essential to mitigate the risk of product unavailability and major price hikes. It is therefore vital that supply chains of agricultural inputs are functioning at efficient and effective levels. This includes all nodes from international procurement and shipping, handling equipment/off-loading facilities at harbours, inland transportation, distribution, warehousing and all related support services.




SOUTH AFRICAN CONSUMER PROFILE

This chapter presents an overview of the dynamic South African consumer landscape that underpins the modelling projections presented in this BFAP Baseline. It sheds light on the demographic characteristics of South African consumers (on an aggregate level and from a socio-economically disaggregated perspective), as well as the dynamic changes in the socio-economic environment.

Profile of socio-economic sub-segments amongst South African consumers

The socio-economically disaggregated view of South African consumers presented in this section is based on three main lifestyle clusters or segments: Low-income consumers, middle-income consumers and affluent consumers (Figure 10 and Figure 11). These three lifestyle clusters are profiled according to two main data sources: Household-level food and non-food expenditure data from the Statistics South Africa (Stats SA) Living Conditions Survey (LCS) 2014/2015[1] [inflated to March 2020 levels] and the Socio-Economic Measurement (SEM™) segmentation tool, based on the Establishment Survey 2019[2]. Rooted in methodological differences, the household income levels reported in the Establishment Survey are generally higher than values reported in recent Stats SA household-level income and expenditure studies for lower income brackets, while being lower for more affluent income brackets.

In general, rising socio-economic status is associated with higher education levels, more urbanisation, improved access to basic amenities, lower unemployment levels and more complex food purchasing behaviour. An overview of the three main lifestyle clusters is presented below:

- The low-income lifestyle cluster consists of approximately 40 percent of South African households (ED 1 to ED 4, roughly overlapping with SEM™ segments 1 to 3). These consumers typically have very limited access to amenities such as a built-in kitchen sink (less than 15% of households), hot running water (1% or less) and a flushing toilet (10% or less), while having a strong rural component (up to 68%). Even though low-income households are found in all provinces of South Africa, this segment is more concentrated in KwaZulu-Natal, Eastern Cape, Limpopo and Gauteng (Figure 12).
- The middle-income lifestyle cluster consists of approximately 40 percent of South African households (ED 5 to ED 8, roughly overlapping with SEM™ segments 4 to 7). This cluster typically has improved access to amenities such as a built-in kitchen sink (±75% of households within this cluster), hot running water (±24%) and a flushing toilet (±66%), while having a strong urban

[1] In the Stats SA LCS 2014/2015, the socio-economic spectrum is presented in terms of Expenditure Deciles (ED's), where each ED represents 10% of households in South Africa.

[2] The SEM™ segmentation tool is published by the Broadcast Research Council of South Africa (BRC SA). The Establishment Survey is an annual nationally representative survey of 25,000 South Africans aged 15 years and older, conducted since 2016. The SEM™ segmentation tool is a socio-economic measure that differentiates how people live, along a spectrum from low to high socio-economic living standards, based on what they have access to in and near their homes. For more detail, refer to the 2017, 2018 and 2019 versions of the BFAP outlook and the BRC web page (www.brcsa.org.za).

component (±83%). Even though middle-income households are found in all provinces of South Africa, this segment is more concentrated in Gauteng, KwaZulu-Natal, Eastern Cape, Limpopo and the Western Cape (Figure 12).

- The affluent lifestyle cluster consists of approximately 20 percent of the total population and are the most prosperous South African households (ED 9 to ED 10, roughly overlapping with SEM™ segments 8 to 10). Most households in this group live in urban areas with access to the basic amenities mentioned above. Even though affluent households are found in all provinces of South Africa, this segment is more concentrated in Gauteng, Western Cape and KwaZulu-Natal (Figure 12).

Figure 10: An overview of the South African consumer spectrum based on Expenditure Deciles within the Stats SA Living Conditions Survey 2014/2015 – inflation adjusted to March 2020 levels

Source: BFAP calculations, based on the Stats SA LCS 2014/2015

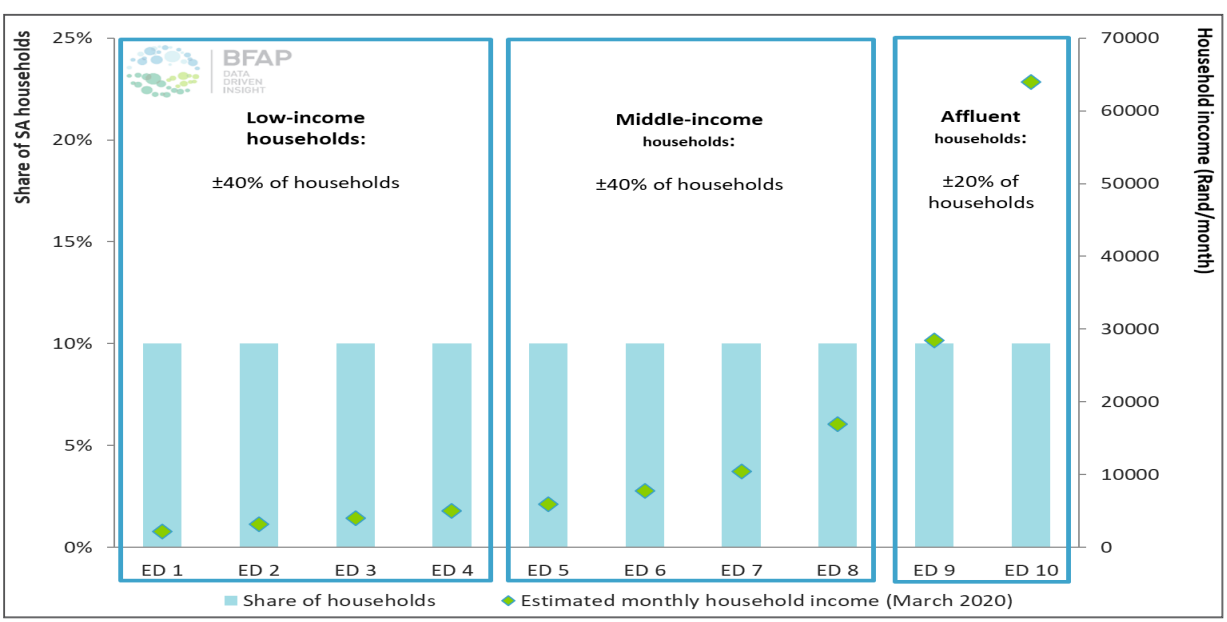


Figure 11: An overview of the South African consumer spectrum based on the SEM™ segments of the Establishment Survey 2019

Source: BFAP calculations, based on data published by the BRC on the Establishment Survey 2019

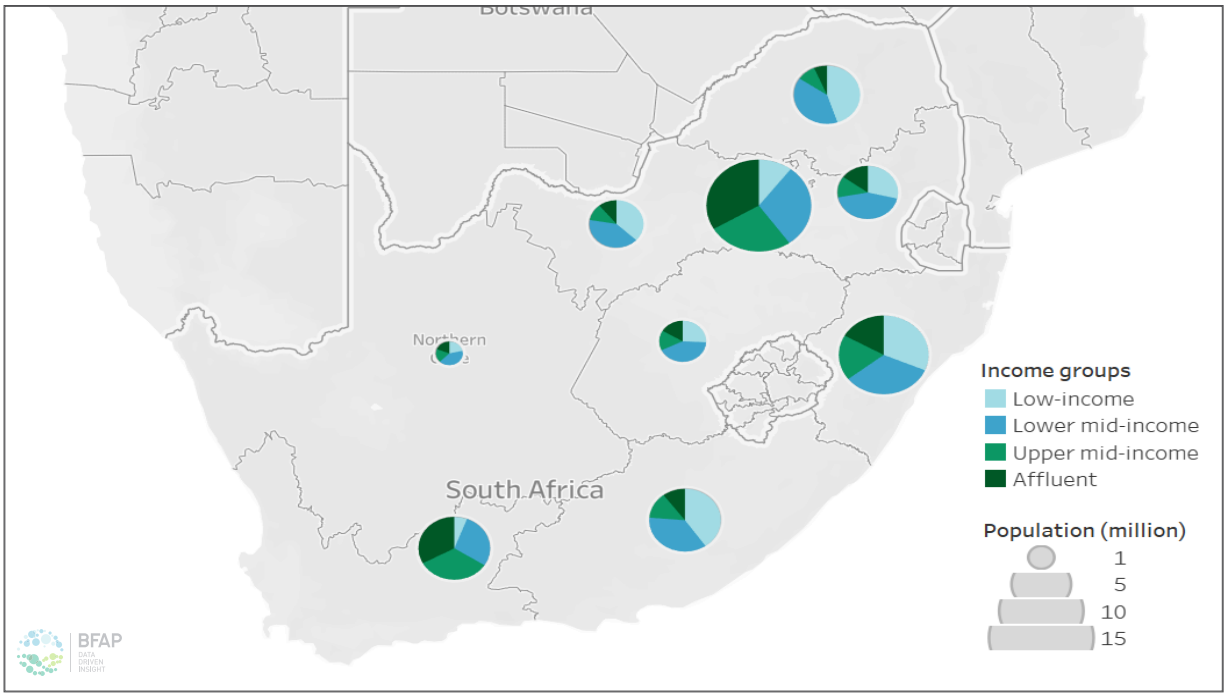


Figure 12: A spatial view of the socio-economic spectrum in South Africa
Source: BFAP estimation, based on Stats SA and Establishment Survey data

Table 5 presents an overview of the typical food expenditure behaviour of the three main lifestyle clusters in South Africa, based on the Stats SA LCS 2014/2015. It illustrates that rising socio-economic status is associated with:

- A decreasing share of total expenditure allocated to food;
- A decreasing share of food expenditure allocated to starch-rich staple foods, fats / oils and legumes;
- An increasing share of food expenditure allocated to animal protein foods and fruit / vegetables;
- Increased dietary diversity.

Table 5: Typical food expenditure behaviour of the three main lifestyle clusters in South Africa

Characteristic:		Low-income households:	Middle-income households:	Affluent households:
Estimated share of total expenditure allocated to food and non-alcoholic beverages:		32% (Range ±33%-31%)	23% (Range ±29%-16%)	8% (Range ±11%-6%)
Estimated contribution of group to total food expenditure in South Africa:		20%	44%	36%
Estimated share of total food expenditure allocated to specific food groups:	**Starch-rich (staple) foods:**	36%	28%	18%
	Chicken, red meat, fish and eggs:	26%	32%	37%
	Dairy foods:	5%	6%	7%
	Fruit and vegetables:	7%	6%	10%
	Fats / oils:	5%	4%	4%
	Legumes:	2%	1%	1%

Table 5: Typical food expenditure behaviour of the three main lifestyle clusters in South Africa (Continued)

Characteristic:	Low-income households:	Middle-income households:	Affluent households:
Top ten food expenditure items: (Percentage in brackets: share of within-group food expenditure allocated to the particular food item)	Chicken (13.5%) Maize meal (11.4%) Brown bread (7.8%) Beef (4.7%) Rice (4.7%) Granular sugar (4.4%) White bread (3.4%) Edible oil (3.4%) Milk (2.9%) Potato (2.8%) Cumulative food expenditure contribution of top ten food expenditure items: 59%	Chicken (13.0%) Beef (8.0%) Maize meal (6.4%) Brown bread (6.0%) White bread (4.1%) Milk (3.9%) Rice (3.4%) Granular sugar (3.3%) Edible oil (2.4%) Eggs (2.3%) Cumulative food expenditure contribution of top ten food expenditure items: 53%	Beef (11.2%) Chicken (8.6%) Milk (5.2%) Mutton, lamb (3.1%) High-sugar foods (3.1%) Brown bread (3.0%) Fish (2.9%) White bread (2.6%) Cheese (2.4%) Pork (2.1%) Cumulative food expenditure contribution of top ten food expenditure items: 44%
BFAP dietary diversity indicator - Number of food items accounting for 80% of food expenditure:	30 (Lowest dietary diversity)	49	> 80 (Highest dietary diversity)

Source: BFAP Calculation based on household level expenditure data obtained from Stats SA LCS 2014/2015

Dynamics in the South African consumer environment: HOUSEHOLD INCOME

According to data from the South African Reserve Bank, the per capita disposable income of households (the amount of money available to a household after accounting for income taxes) increased by 80.9 percent in nominal terms and 10.8 percent in real terms (accounting for inflation) from 2009 to 2019 (Figure 13). Following real increases of 2.5 percent in 2009/2010 and 3.5 percent in 2010/2011, household disposable income has been under pressure in recent years with real growth rates varying between 1.8 percent and negative growth of 0.9 percent. From 2018 to 2019, the per capita disposable income of households increased by 3.1 percent in nominal terms, not keeping up with inflation and thereby implying a decrease of 0.5 percent in real terms.

According to the Establishment Survey (2017/2018 to 2019), the average household income in South Africa increased by 4.8 percent in nominal terms (thus -3.3% in real terms), reflecting similar trends illustrated in Figure 13, with lower growth values in general.

From a socio-economically disaggregated perspective (comparing values from the 2017/2018 and 2019 Establishment Surveys) the following changes occurred:

- The monthly household income of SEM™ 'Supergroup' 1 and 2 (least affluent 37% of individuals aged 15 years and older), increased by 15.7 percent in nominal terms (i.e. 7.6% in real terms);
- The monthly household income of SEM™ 'Supergroup' 3 ('middle-income' 36% of individuals aged 15 years and older), increased by 10.6 percent in nominal terms (i.e. 2.5% in real terms);
- The monthly household income of SEM™ 'Supergroup' 4 and 5 (most affluent 27% of individuals aged 15 years and older), decreased by 9.0 percent in nominal terms (i.e. -17.1% in real terms).

Thus, according to these values lower-income households followed by middle-income households experienced the most significant positive nominal and real income growth from 2017/2018 to 2019.

According to the 2018 Stats General Household Survey, the dominant income sources of households in South Africa were salaries / wages (applying to 64.8% of households), followed by grants (45.2%), remittances (13.6%), income from business (13.6%) and pensions (4.2%). Salaries/wages were particularly important in Gauteng and the Western Cape provinces.

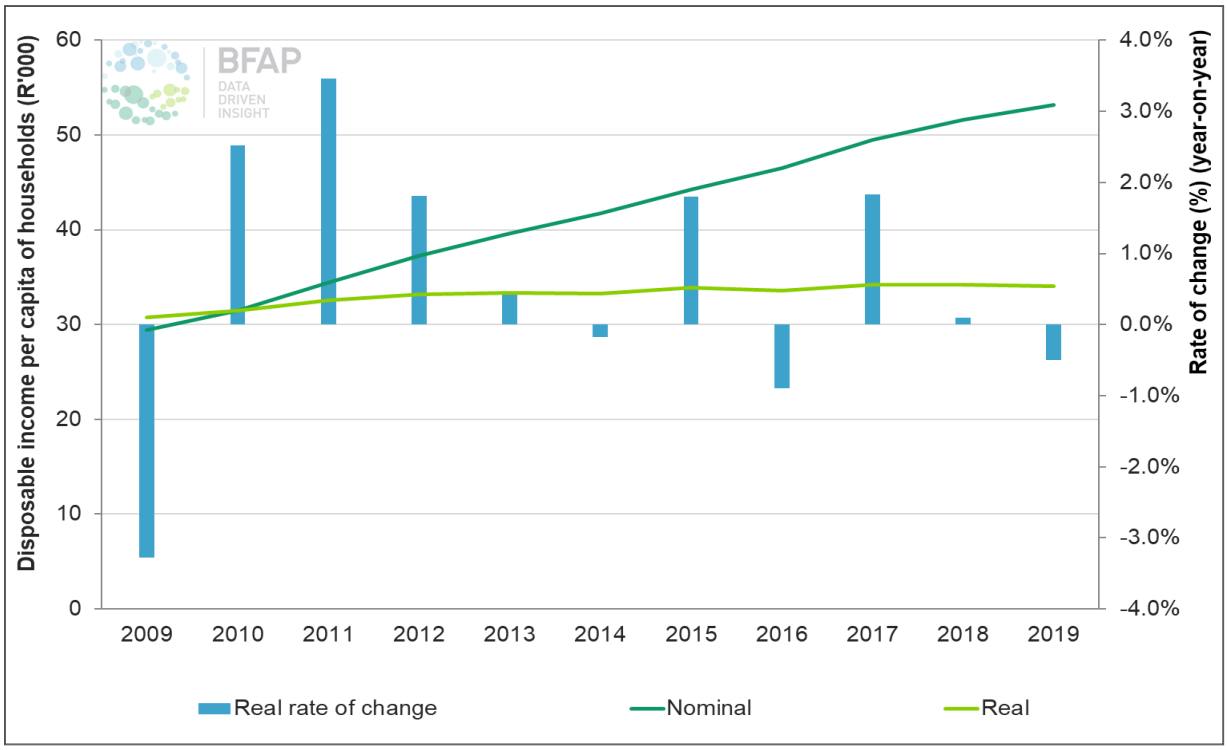


Figure 13: Disposable income per capita of household in South Africa from 2009 to 2019

Source: South African Reserve Bank, 2019

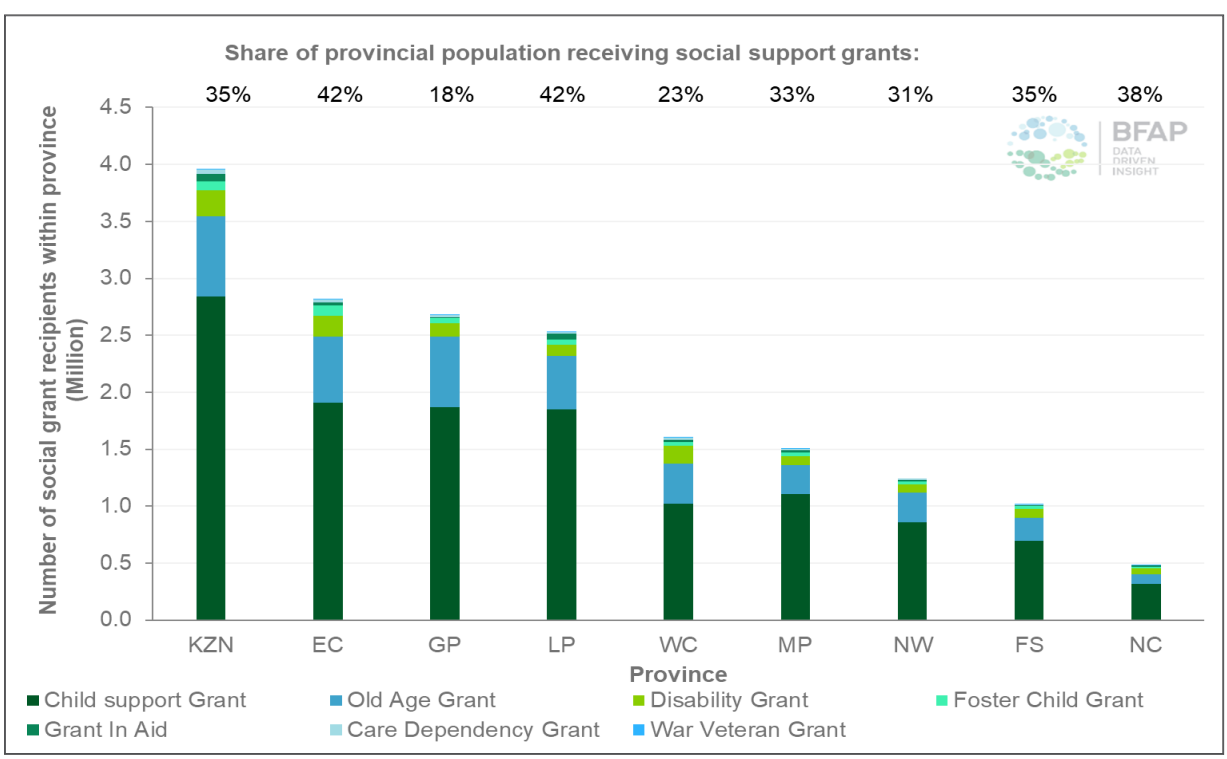


Figure 14: Provincial distribution of social grants in 2019

Source: SASSA, 2019

From a provincial perspective, the largest number of grant recipients reside in KwaZulu-Natal, Eastern Cape, Gauteng and Limpopo (Figure 14). However, the largest provincial population share that receives a social support grant is found in the Eastern Cape, Limpopo and the Northern Cape.

Dynamics in the South African consumer environment: CLASS MOBILITY

Class mobility, defined as the movement of consumers towards higher socio-economic groups, has been a key feature of the South African consumer landscape for many years[3]. Historical data for 2017 to 2019 from the SEM™ classification reveals the movement of consumers to higher socio-economic groups (Figure 15):

- SEM™ segments 1 to 3 (lower end of socio-economic spectrum) represented 44 percent of the adult population in 2017, decreasing to 37 percent in 2019;
- SEM™ segments 4 to 7 (middle section of socioeconomic spectrum) increased from 37 percent in 2017 to 41 percent in 2019;
- SEM™ segments 8 to 10 (upper end of socio-economic spectrum) increased from 19 percent in 2017 to 21 percent in 2019.

The negative employment and income impacts of the COVID-19 pandemic will have a significant effect on household incomes across all SEM™ segments, most likely causing a slow-down and reversal in some of the progress made in class mobility over the last two decades.

Dynamics in the South African consumer environment: HOUSEHOLD SIZE

The average household size in South Africa has decreased from 4.5 members in 1996 (Census 1996) to 3.4 members in 2018 (Stats SA General Household Survey 2018) – a reduction of approximately one household member over two decades. At a provincial level the average household size is largest in the Eastern Cape (3.9 members), KwaZulu-Natal (3.9) and Limpopo (3.7), and the lowest in Gauteng (3.0), Free State (3.2) and North-West (3.2) (Stats SA General Household Survey 2018).

Children occur in approximately 57 percent of all South African households (Figure 16). The share of within-province households with children varied between some 64 percent of households in the Free State to 51 percent in North-West Province. Unfortunately, the disruption of school feeding

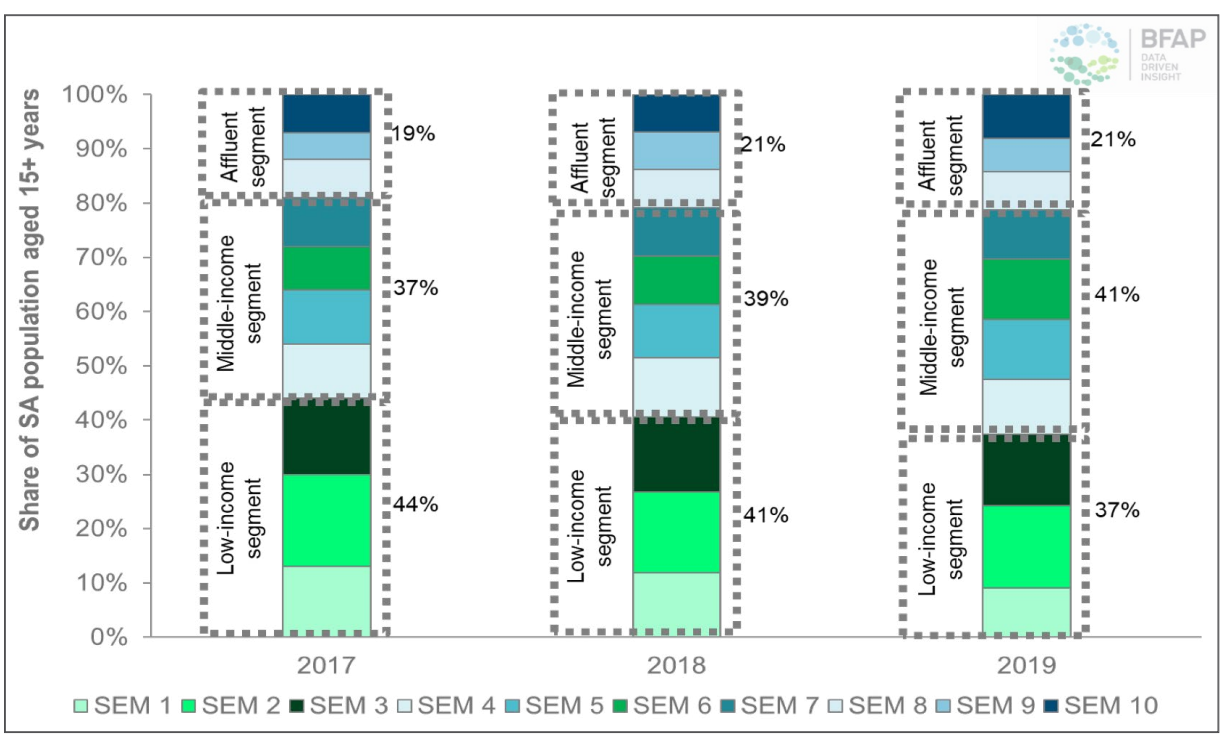


Figure 15: An example of class mobility in South Africa from 2017 to 2019

Source: Estimates based on Establishment Survey data for 2017, 2018 and 2019

[3] Up to 2016 BFAP measured class mobility based on the Living Standard Measure (LSM) segments, which were discontinued in 2016. For more details on historical LSM-based class mobility, refer to past BFAP Baseline Agricultural Outlook publications.

schemes during COVID-19 lockdown, coupled with associated income pressure due to temporary and/or permanent job losses has affected the food security status of millions of children across all provinces in South Africa.

Dynamics in the South African consumer environment: EDUCATION LEVELS

Education levels in South Africa have been improving over time (Figure 17). From 2008 to 2018 the share of individuals aged older than 19 years with at least a Grade 12 qualification increased from 35.6 to 45.2 percent (Stats SA General Household Survey, 2018), with decreasing shares observed for individuals who attained education levels of 'some primary schooling completed' and lower. The share of individuals with no schooling decreased by 48.3 percent, to a level of 4.5 percent in 2018.

The share of school attending children (aged 5 years and older) who attended schools but did not pay tuition fees increased significantly from 33.4 percent in 2008 to 67.2 percent in 2018 according to the Stats SA General Household Survey 2018. This emphasises the impact of a young age structure on the fiscal resources of a country where the improvement of education levels is a priority.

From a provincial perspective, the Stats SA General Household Survey (2018) revealed the following:

- Individuals with no formal education were most prominent in Limpopo (8.7%), Mpumalanga (7.6%) and the Northern Cape (7.5%);
- Individuals with a Grade 12 qualification were most prominent in Gauteng (35.9%), KwaZulu-Natal (33.8%) and Free State (30.9%), while being least prominent in Limpopo (21.9%) and Eastern Cape (23.0%);
- Post-school education was more prominent in Gauteng (21.0%) and the Western Cape (17.7%), while being least prominent in the Northern Cape (8.8%) and North-West (9.1%).

From a socio-economically disaggregated perspective, education levels generally improved towards higher socio-economic segments, with the following general education levels observed:

- Low-income consumers: Some high schooling;
- Middle-income consumers: Grade 12 / Matric;
- Affluent consumers: Some post-matric qualification.

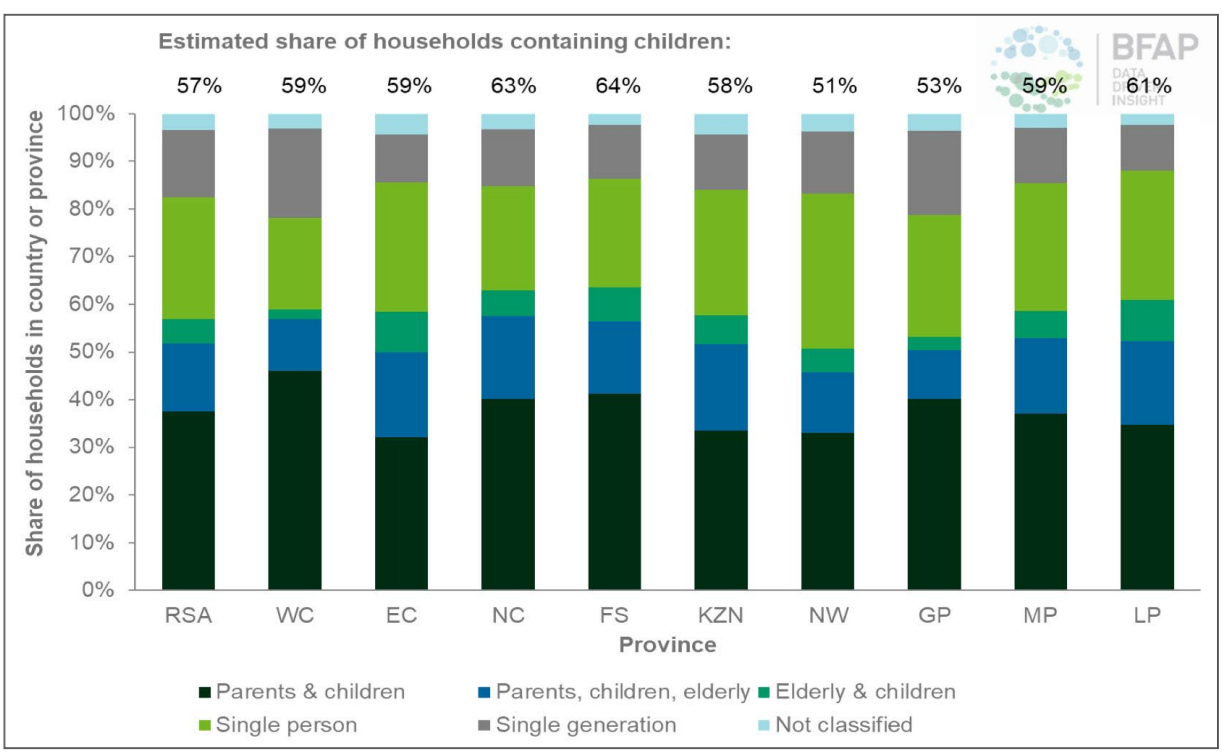


Figure 16: An overview of household structure at a provincial level in South Africa

Source: General Household Survey, 2018

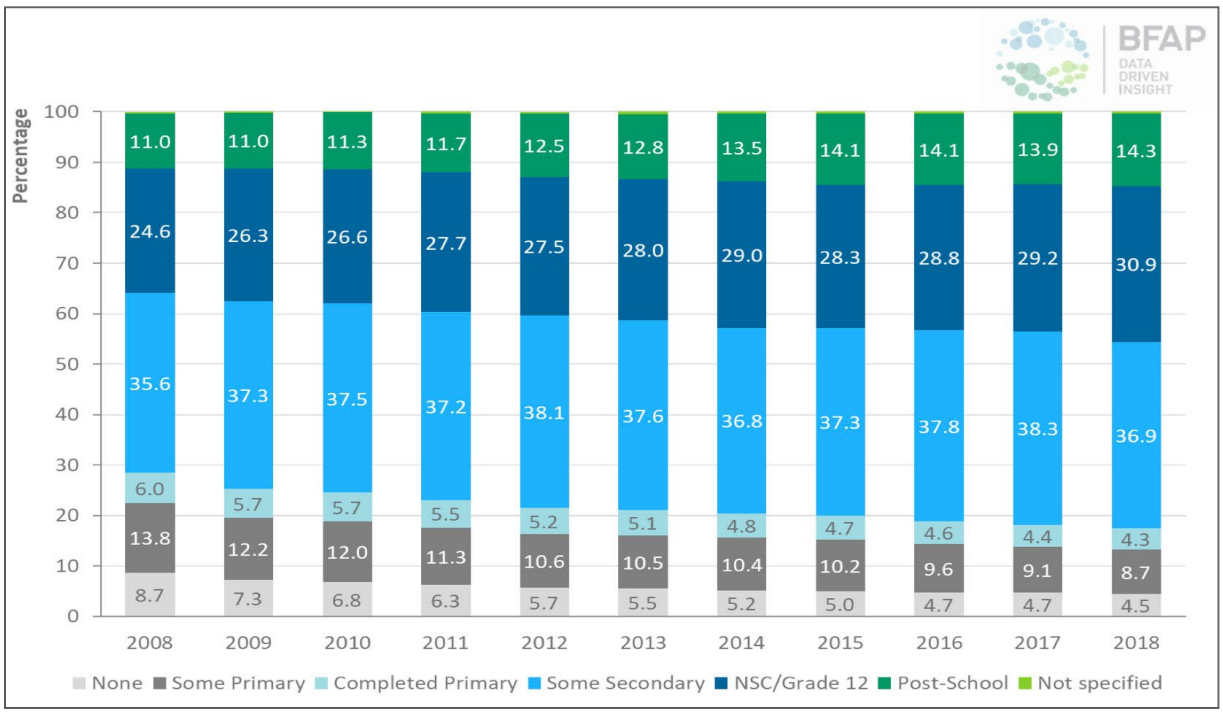


Figure 17: Percentage distribution of achieved education levels for individuals aged 20 years and older (2008 to 2018)

Source: Stats SA General Household Survey, 2018

Dynamics in the South African consumer environment: URBANISATION

Increasing urbanisation is a key feature of the South Africa consumer landscape, with the share of the population residing in urban areas increasing from 58 percent in 2001 (Stats SA Census 2001) to about 66 percent in 2019 (Stats SA, 2019). According to the Stats SA mid-year population estimates (2019), the more urban provinces in South Africa (Gauteng and Western Cape) exhibited the largest positive net in-migration from 2008 to 2018, while the largest negative net out-migration was observed for the four more rural provinces (Eastern Cape, Free State, Mpumalanga and Limpopo). These observations underpin the reality of urbanisation in South Africa and are projected to continue towards 2029.

An upward movement along the socio-economic spectrum is generally associated with an increase in urbanisation level, being in the range of approximately 32 percent for low-income households, 50 percent to 83 percent for middle-income households and as high as 99 percent for affluent households (Establishment Survey 2019).

Dynamics in the South African consumer environment: AGE DISTRIBUTION

The South African population has a large youth cluster, with 45 percent of the population below 25 years of age in 2019 (Stats SA mid-year population estimates 2019) (Figure 18). In more detail:

- Individuals younger than 15 years of age represented 28.8 percent of the population in 2019 (compared to a higher 31.4% in 2009) – with the size of this age segment increasing by 9.0 percent from 2009.
- Individuals aged 15 to 24 years represented 16.3% of the population in 2019 (compared to 20.5% in 2009). From 2009 to 2019 the number of individuals in this age segment decreased by 5.5 percent.
- According to the South African Social Security Agency (SASSA, 2019), 12.45 million child support grants were given in March 2019, with a total fiscal cost of approximately R60.6 billion in 2018/2019. Child grant recipients represent approximately 60 percent of the population younger than 18 years of age – implying a significant fiscal commitment for the government.

By contrast, the working age population (aged 25 to 64 years) represented 49.0 percent of the population in 2019 (compared to a lower 43.1 percent in 2009) – with the number of individuals in the working age population increasing by 35.2 percent from 2009 to 2019.

The retired…

Individuals aged 65 years and older represented 6.0 percent of the population in 2019 (compared to 4.9% in 2009), increasing by 1.1 million individuals over the ten year period. They are particularly vulnerable to COVID-19. On 30 May 2020 57.2 percent of all COVID-19-related fatalities in South Africa were among individuals aged 60 years and older. Also, with 3.553 million elderly people receiving old age grants in March 2019 (SASSA, 2019), old age grant recipients represented more than two thirds of the population aged 64 years and older – once again stressing the significant fiscal commitment for the government. Under current policies, this commitment will have to increase, as the South African population is starting to age, as is evident from the positive growth in the segments containing individuals aged 25 years and older up to retirement ages.

Dynamics in the South African consumer environment: UNEMPLOYMENT

From the fourth quarter of 2009 to the fourth quarter of 2019 the South African labour force increased by 4.75 million individuals (+25.7%), while the number of employed increased by only 2.45 million (+17.5%). The unemployment rate for South Africa reported by Stats SA in the fourth Quarterly Labour Force Survey of 2019 was 29.1 percent higher than the previous high of 27.7 percent in the first three quarters of 2017. Table 6 presents further trends on unemployment in South Africa.

Dynamics in the South African consumer environment: DEBT

South African consumers have consistently been increasing debt levels toward the fourth quarter of 2019, with the following changes occurring over the last ten years (from the first quarter of 2010 to the fourth quarter of 2019) (National Credit Regulator, 2019):

- The nominal value of the gross debtor book increased by 71.6 percent from Q1 2010 to Q4 2019, to reach R1 965 billion. This represents the highest value since the Q1 2010 (Figure 19). The annual rate at which the value of the gross debtor book increased over the last decade has been consistently higher than the South African

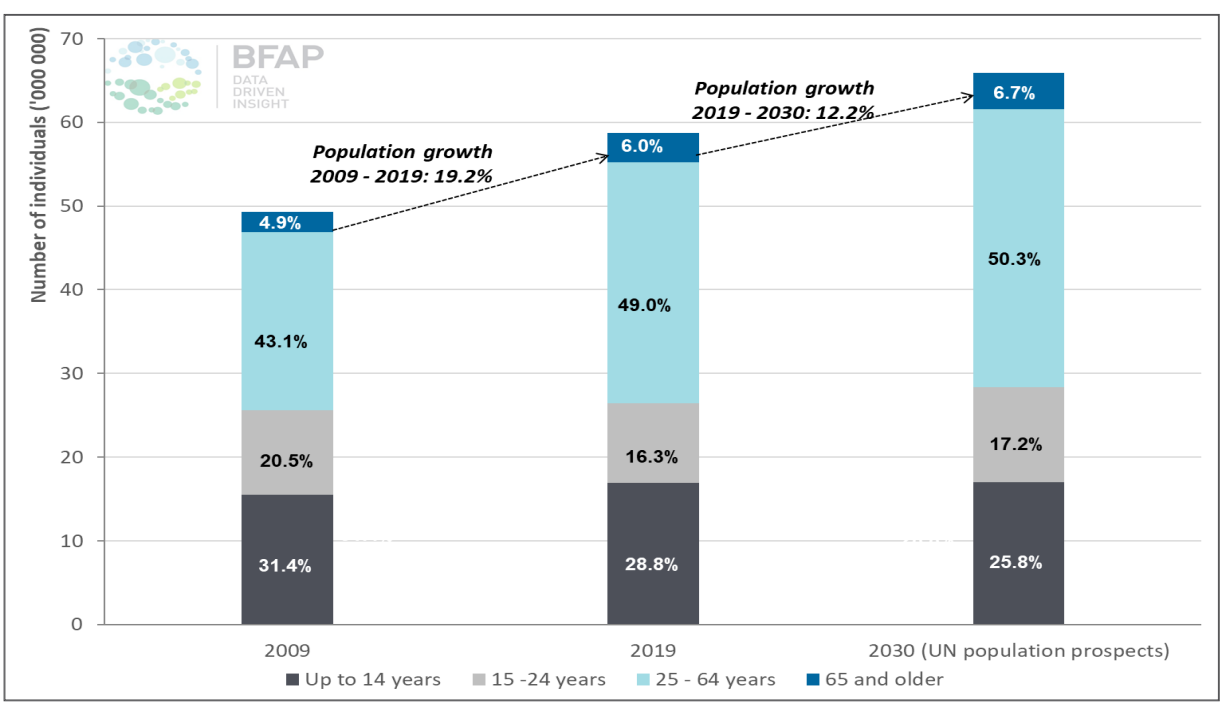


Figure 18: Age structure dynamics in South Africa – comparing 2009 to 2019

Source: Stats SA Mid-year Population Estimates, 2009 & 2019; UN Population Prospects, 2020

Table 6: Disaggregated trends in South African unemployment – comparing Q4 2009 to Q4 2019

Category:	Variable	Unemployment rate in Q4 2019		Ten year increase in unemployment	
		Highest	Lowest	Highest	Lowest
Age	Unemployment rate among active working age population	25-34 years (35.6%) 35-44 years (23.0%)	55-64 years (9.2%) 45-54 years (17.5%)	45-54 years (+54.9%) 55-64 years (+39.4%)	25-34 years (+23.2%) 35-44 years (+32.9%)
Province	Provincial unemployment rate	EC (39.5%) FS (35.0%) MP (33.6%)	WC (20.9%) LP (23.1%) KZN (25.0%)	EC (+48.5%) FS (+41.1%) KZN (+31.6%)	LP (-12.2%) WC (-0.9%) NW (+7.1%)
Socio-economic spectrum	Self-reported unemployment rate per socio-economic group in 2017[1]	Low-income consumers (±30%)	Affluent consumers (as low as 2%)	Not available	Not available

Source: Stats SA Quarterly Labour Force Survey – Q4:2019 & Establishment Survey 2017

population growth rate (Figure 20), with an increasing growth rate observed from 2015/2016 towards 2018/2019. This confirms rising consumer debt from a per capita perspective.

- The number of accounts in the gross debtor book increased by 15.7 percent over the ten year period to 39.5 million, representing a lower level (8% lower) than the highest level of 41.6 million in Q1 2015 (Figure 19). Following a declining phase from Q1 2015 to Q1 2018, this indicator has again been increasing towards Q4 2019.
- The number of credit applications received increased by 97.8 percent to 11.9 million.
- The credit application rejection rate increased

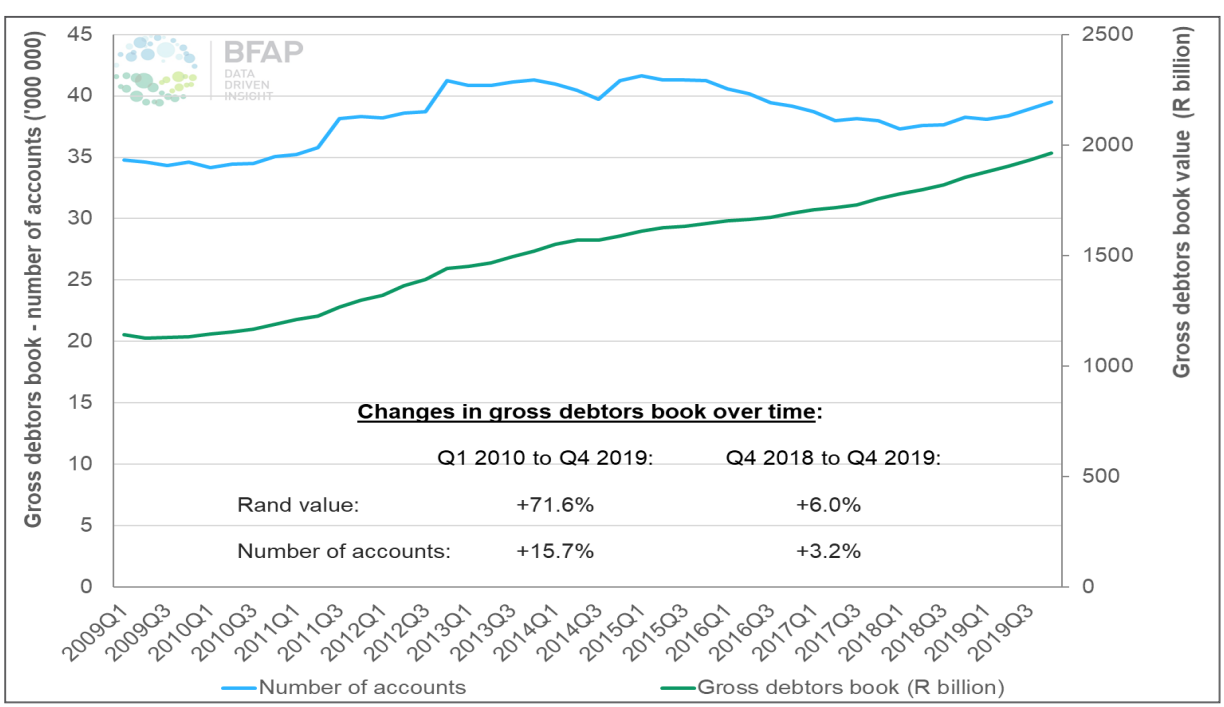


Figure 19: Consumer debt in South Africa from a gross debtor's book perspective

Source: National Credit Regulator Statistics

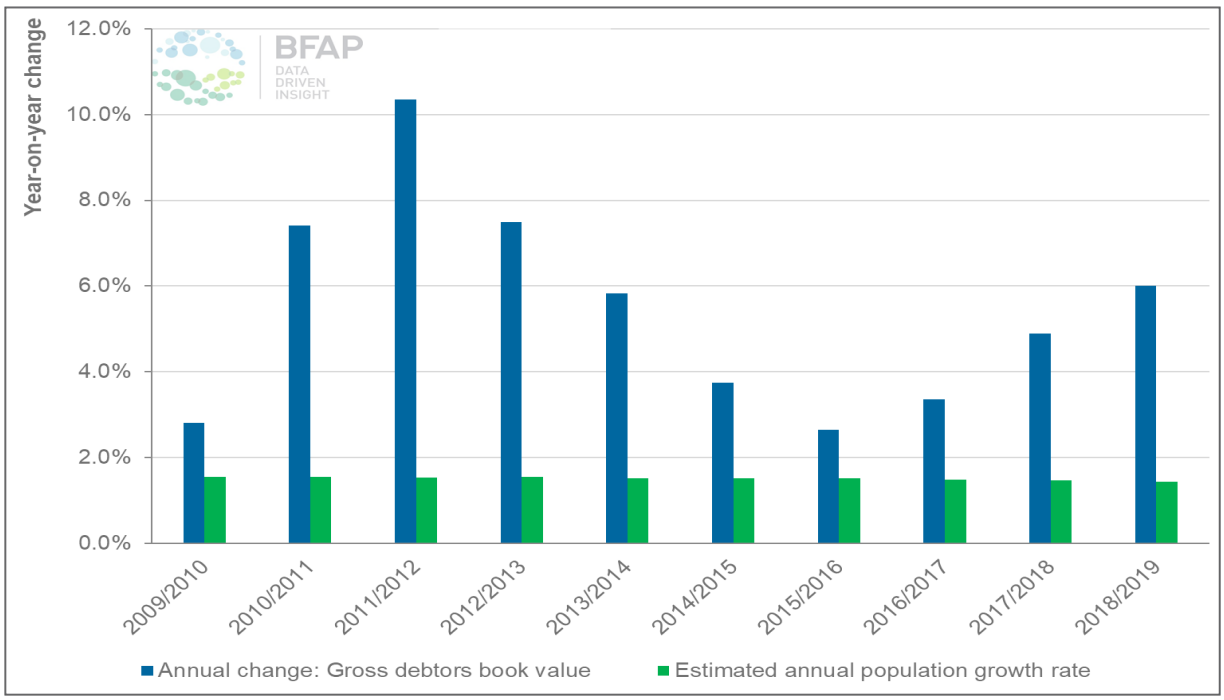


Figure 20: Annual change in the value of the gross debtors book compared to population growth rates in South Africa for the period 2009/2010 to 2018/2019

Source: National Credit Regulator Statistics & Stats SA mid-year population estimates 2019

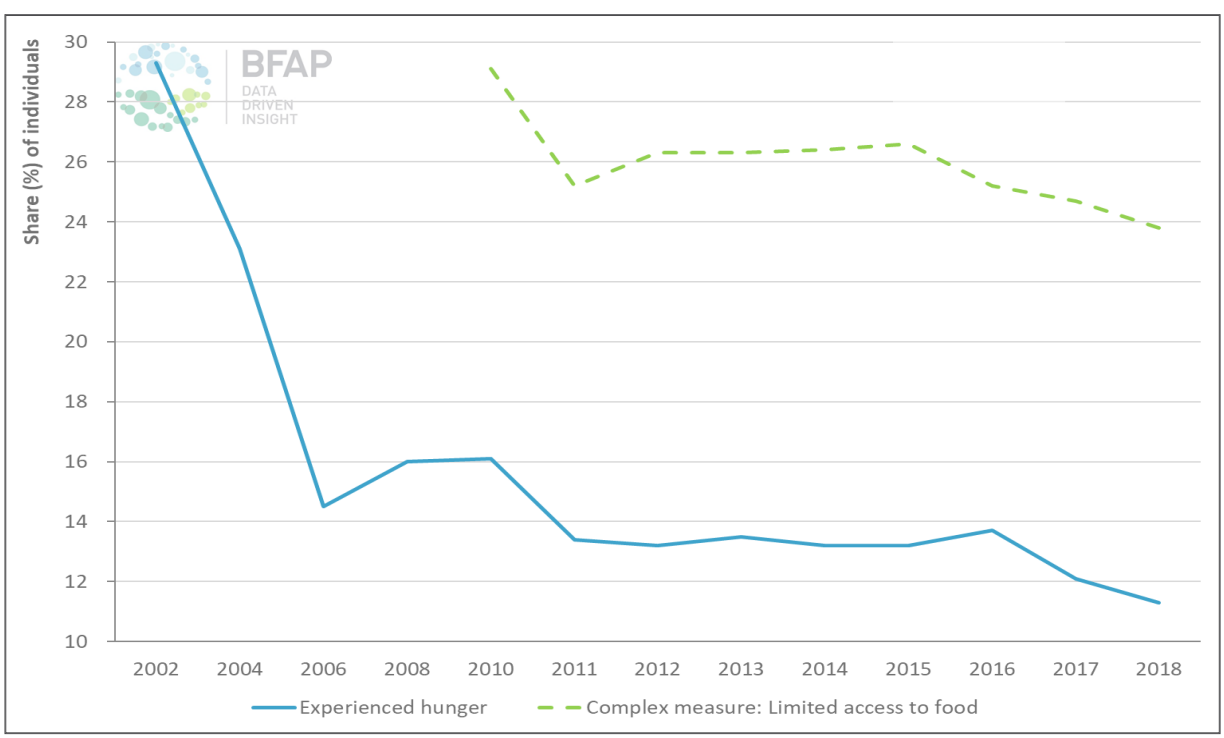


Figure 21: Individuals' vulnerability to hunger and access to food (2002 to 2018)

Source: Stats SA General Household Survey, 2018

from 40.3 to 59.0 percent in 2019, equal to the high level reported for Q1 2014.

- In Q4 2019, credit granted to consumers with an income of less than R5500 per month made up 11.5 percent of total credit granted in value terms (compared to 24.3% in 2010), but 44.2 percent in terms of total number of credit facilities granted (compared to 57.4% in 2010).

Dynamics in the South African consumer environment: FOOD ACCESS

The share of persons that experienced hunger over the preceding 12 month period declined from 29.3 percent in 2002 to a thirteen year low of 11.3 percent in 2018 (Figure 21). Between 2010 and 2018, the share of people with limited food access was consistently higher than the share of people experiencing hunger, and also shows a decreasing trend over time from 29.1 percent in 2010 to 23.8 percent in 2018. In 2018, severely inadequate food access was reported for 5.2 percent of households.

On a provincial level, in 2018, food access problems were most prevalent in North West (36.3% of households experiencing inadequate food access), followed by Eastern Cape (25.4%) and KwaZulu-Natal (24.5%).

Box 2: Examples of the potential impact of the COVID-19 pandemic on South African consumers from a socio-economic perspective:

Household income and unemployment:

According to the second wave of the Stats SA survey on the impact of the COVID-19 pandemic on employment and income, done at week 6 of the national lockdown, 9.5 percent of respondents became unemployed and 19.1 percent experienced reduced income despite being employed. Thus, about 29 percent of all respondents reported some level of income loss due to the pandemic.

The longer-term impact of the COVID-19 pandemic on household income and the distribution of wealth, income and especially disposable income in South Africa remains to be seen. However, it is evident, in the midst of the crisis, that many households are facing the hard realities of job loss, reduced household income and increased grant dependency.

Education:

- The temporary closure of schools and tertiary education facilities due to the COVID-19 national lockdown caused a huge and growing gap in the available time to finish educational curriculums by the end of 2020.
- A more permanent consequence could include a continued growing focus on online learning at both the school and tertiary education levels.
- The inability of many households to access online learning materials during the national lockdown could potentially increase inequality from an educational perspective.

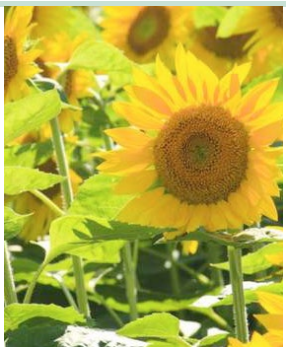
Debt:

- Reduced ability to fulfil debt repayment obligations, with 'payment holidays' offered by financial institutions only offering temporary relief.
- Loss of debt-funded assets.
- Using debt to purchase day-to-day essentials such as food. This outcome is already evident from the Stats SA survey mentioned above showing that "approximately 41.0 percent of the respondents with reduced income incurred new debt to cover their living expenses during the national lockdown".

Food access:

According to the same above mentioned Stats SA survey, approximately one out of every ten respondents with reduced income during the lockdown experienced higher levels of hunger. The widespread distribution of food aid parcels and the additional social assistance grants that were rolled out helped to alleviate this. However, the general food access situation in South Africa could deteriorate in future along with the lingering economic and food security impacts of the pandemic, thereby eliminating some of the steady progress made over time, as illustrated in Figure 21.



OUTLOOK FOR FIELD CROPS SUMMER GRAINS AND OILSEEDS

International market situation

Over the first 6 months of 2020, the International Grains Council's (IGC) maize price index declined by 3.3 percent relative to the same period in 2019. This comes despite a 1 percent year on year reduction in output, mainly because of lower yields in the USA, which is expected to drop stock levels to a 6 season low. Amidst global lockdown action to curb the spread of the COVID-19 pandemic, industrial demand (such as ethanol and starch) in particular remains very weak. The IGC expects an almost 4 percent year on year decline in industrial demand and, despite rising food and feed consumption, total global utilisation is expected to decline by 1 percent relative to 2018/19. The impact of the lockdown on soybean prices has been less pronounced, following a 7 percent year on year reduction in output from the peaks of 2019. This stems from a marked reduction in the US and to a lesser extent Argentina, partially offset by gains in Brazil.

Early estimates for 2020/21 are positive in terms of maize output, with area expansions across Europe and in the Black Sea region, combined with substantial improvements in yield levels in the USA underpinning a projected 5 percent year on year increase in production. This represents the fastest growth in four seasons and results in a new record for global maize production. Crop conditions in the US are looking favourable, with the share of "good and excellent" indications exceeding the 5-year average to date. With demand prospects still uncertain as COVID-19 continues to spread, this could result in further pressure on prices in the short term. Under the baseline, which assumes that the spread of the pandemic is curbed successfully over the second half of 2020, the IGC expect a 3 percent recovery in demand. Soybean production is also expected to bounce back strongly, with early projections from the IGC indicative of an 8 percent year on year expansion in production in 2021, much of which hinges on a greatly improved US crop. Demand prospects in China continue to improve, as it rebuilds it pig herd following African Swine Fever (ASF) induced reductions in 2018, and continues to recover economically from the impact of the COVID-19 lockdown.

Medium term projections, based on the assumption of stable weather conditions, reflect an equilibrium for maize prices at levels similar to 2018 – trading largely sideways around 160 USD per tonne post 2024. Similarly, oilseed prices are projected to stabilise around the 370 USD per tonne mark (Figure 22). The projected price path reflects a slow recovery in most global economies following the 2020 recession, with unemployment effects expected to linger, but assumes no further disruptions of global supply chains beyond 2020.

In line with oilseed prices, oilcake prices are expected to increase only marginally over the medium term, despite growing livestock production. Soybean meal prices reach an equilibrium at around 400 USD per tonne post 2024, a level similar to 2015 and 2018. In the case of vegetable oil, a modest increase is projected for 2020, as palm oil production was disrupted to some extent by the spread of COVID-19 in Malaysia. In the medium term, the slow prolonged recovery from the 2020 recession is not conducive to rapid demand growth and petroleum prices are not expected to increase to levels that would induce a substantial switch into biofuels. Consequently, prices stabilise in line with the underlying oilseed prices (Figure 23).

Global cotton production expanded by 3.6 percent in 2019, attributed mainly to increased output from India and the USA. Consequently, 2020 started with significantly higher stock levels, which combined with a weak demand environment associated with the global recession and lockdown actions, results in a sharp decline in prices. Early estimates for 2021 suggest that production levels could decline, due mostly to a reduction in the area planted to cotton globally. Despite some recovery from 2020 levels, the prolonged

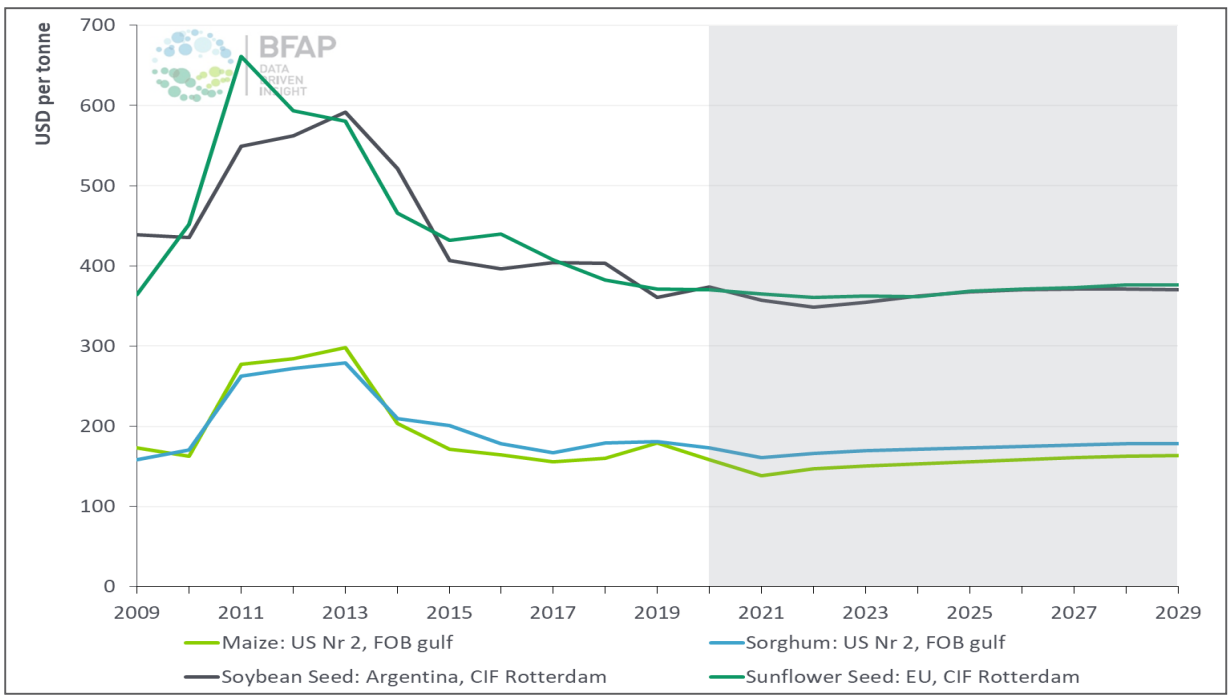


Figure 22: World prices for major summer grains and oilseeds

Source: FAPRI & BFAP, 2020

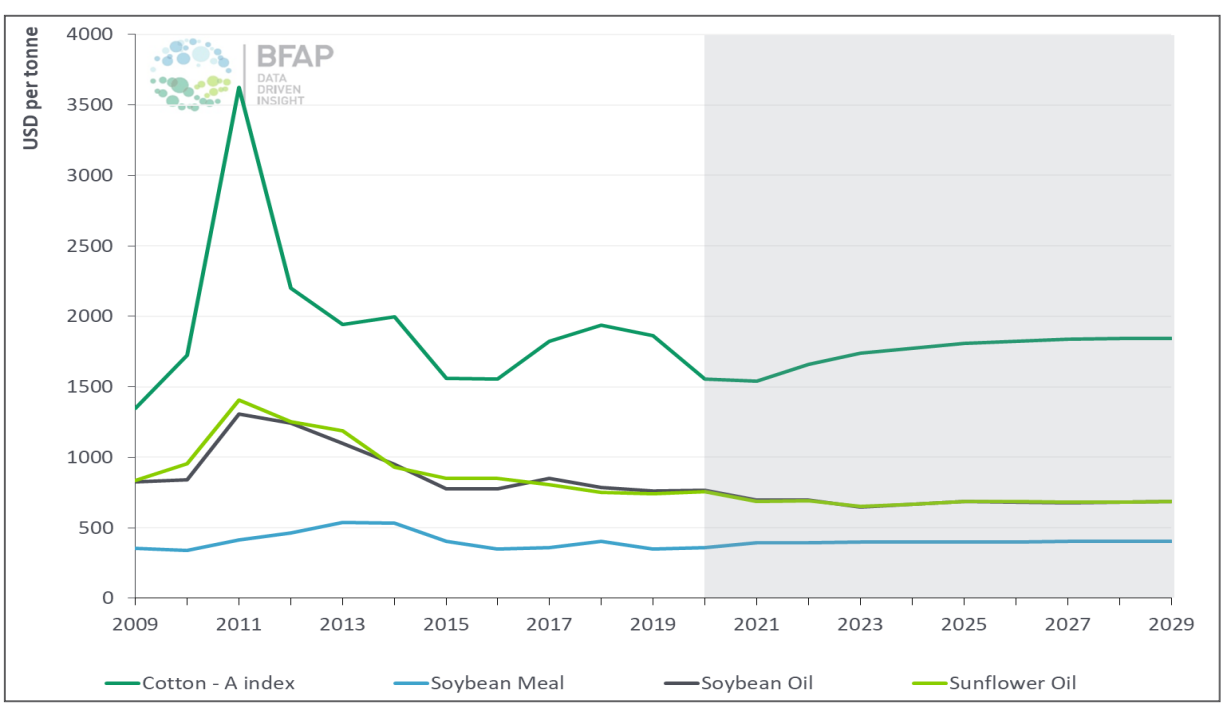


Figure 23: World prices for major secondary products

Source: FAPRI & BFAP, 2020

economic recovery also suggests that demand growth would remain slow in 2021, thus keeping prices depressed, with significant price recovery only commencing from 2022 onwards. The OECD-FAO projects production growth of 1.5 percent per annum over the course of the 10-year projection period, with yield gains contributing more to the increase than area expansion. Post 2024, cotton prices are expected to reach an equilibrium at around 1800 USD per tonne, similar to 2019 levels. While cotton prices have traded at a premium of approximately 40 percent above polyester in recent years, the OECD-FAO projects some convergence over the projection period as markets reach an equilibrium.

Domestic market situation

Despite the impact of COVID-19 and the measures imposed to 'flatten the curve', 2020 is set to be a very good year for summer crops. By the time the lockdown measures were imposed, the crop was almost ready for harvest and weather conditions had been favourable, particularly in the western production regions. Combined with a 14 percent increase in area cultivated to maize, this resulted in an expected maize crop of 15.5 million tonnes - the second largest in history and a 38 percent year on year increase in production volume (67% for white maize and 10% for yellow maize). This enabled stocks to be replenished following consecutive years of below average harvests in 2018 and 2019, and pushed prices to export parity levels. Consequently, despite the drastic depreciation in the exchange rate, which has supported export parity prices at a time when global markets came under pressure, annual average prices for white maize and yellow maize are projected to decline by 9.7 and 3 percent respectively in 2020 relative to 2019. This will also ensure that maize meal – the core staple to the bulk of South Africa's population - remains affordable. This is critical at a time when disposable incomes are under pressure and many consumers are switching back to maize meal at the expense of wheat and rice, where import parity based prices have increased substantially – almost 16 percent year on year for wheat. Sorghum prices are also projected to increase 11 percent year on year, as prices continue to trade close to import parity following a 4 percent year on year reduction in output.

For oilseeds produced in the summer rainfall regions, the year on year gain in output has been lower than maize but still substantial, at 10 percent for sunflower and 8 percent for soybeans. Nevertheless, with meal and oil prices still largely derived from import parity levels, annual average price levels are projected to increase by 20 percent and 9 percent respectively for soybeans and sunflower. Consequently, the gross production value (GPV) from soybeans is projected to increase by almost 30 percent year on year, despite a 25 000 hectare reduction in area planted, while the GPV from sunflowers is set to increase by 20 percent (Figure 25), despite a 15 000 hectare reduction in area planted.

The summer crop most challenged by the lockdown was cotton, with harvesting and ginning activities halted for the first three weeks of lockdown and some delays on exports for most of the initial 5-week lockdown period. Furthermore, it is anticipated that global lockdown regulations will result in lower cotton consumption in 2020. Domestic production is projected to decline by a staggering 43 percent year-on-year, driven by a decline of 32 percent in area under production (Cotton SA, 2020). The availability of seed, restructuring of gin capacity and unfavourable growing conditions at the beginning of the season were key factors that drove the decline in area under production.

While the demand for maize meal is set to increase in 2020, the lockdown's severe impact on the livestock sector is expected to result in a marginal decline in the demand for animal feeds. Soybean meal consumption is expected to decline by 6 percent year on year, while maize utilized as animal feed is expected to decline by almost 100 000 tonnes. Consequently, BFAP is projecting an exportable maize surplus of 2.8 million tonnes in 2020. This includes 1.6 million tonnes of yellow maize, predominantly destined for the global market and 1.2 million tonnes of white maize into the Southern African region. In the case of the latter, however, substantial delays were experienced at border posts through the early export season as a result of lockdown measures and short term closures following positive COVID tests among officials at border posts. Such delays represent a risk to exporters, but the non-perishable nature of the grain limits losses relative to those incurred by fresh produce exporters.

Under the baseline, it is assumed that South Africa continues to successfully phase out of lockdown restrictions over the coming months, with limited further delays at ports and border posts. In the event of a prolonged outbreak, further and possibly harder lockdown regulations, or infection amongst officials and employees, could cause prolonged delays in port. In such a scenario, the 2020/2021 planting season could face a risk of delays in the availability of imported inputs.

Domestic market outlook

Clear and substantial differences in the demand growth prospects for different summer crops over the coming decade are underpinned by fundamental differences in use and the underlying consumer trends related to these different products. Staple grains such as white maize and sorghum are predominantly consumed as food. Conversely, the bulk of yellow maize consumption is attributed to the animal feed industry, where it provides the primary energy source in most feed rations. The bulk of oilseeds such as soybeans and sunflowers are crushed, producing both vegetable oil for human consumption and protein meal for inclusion in animal feed rations. Sunflower seed is a higher oil yielding seed, therefore more orientated to human consumption, whereas soybean seed has a higher protein content, with protein meal the main product.

The weight of the economic downturn in 2020 and the projection of a slow, prolonged recovery suggest that some of the increase in dietary diversification evident over the past decade may be reversed over the next few years, before recovering somewhat over the second half of the outlook period. Over the course of the next ten years, per capita consumption of white maize is projected to increase by 0.5 percent per annum, having declined by an annual average of 0.7 percent per annum over the past 10 years. In conjunction with a growing population, this supports growth of 14 percent in white maize for human consumption by 2029 relative to the 2017-2019 base period. Relative prices dictate that a smaller share of white maize will be consumed as animal feed by 2029 compared to the base period.

Despite slower growth in the demand for animal protein in South Africa, the commitments made in the poultry Masterplan, which underpins the projected decline in the share of imported products in domestic consumption, combined with export led expansion in the beef sector, still imply substantial growth in the demand for animal feed over the coming decade. Consequently, yellow maize consumption as animal feed is projected to rise by 22 percent over the next 10 years. Similarly, soybean processing volumes are projected to increase by 63 percent over the same period (Figure 27).

Area trends over the coming decade also reflect the demand prospects, with white maize area continuing to decline, contracting 12 percent by 2029 relative to the 2017-2019 base period. With less marginal land in production, yield gains of 25 percent over the same period are sufficient to meet projected demand growth. By contrast, the area cultivated to yellow maize and soybeans continues to increase, expanding by 9 percent and 47 percent respectively over the 10-year period to 2029 (Figure 28).

Area projections for sorghum and sunflower reflect consolidation. Both are mature and finely balanced markets. When prices increase towards import parity, some expansion occurs, but this typically causes a correction; as prices decline to export parity levels, profitability deteriorates to the extent that producers cut back on area planted. Consequently, sunflower area trends largely sideways over the outlook, reaching 590 000 hectares by 2029, from an average of 584 000 between 2017 and 2019. Over the same period, yields are expected to increase by 21 percent, reflecting technology gains and continuous improvement of farming practices. This is sufficient to supply the growth in domestic demand, and in the long term, equilibrium prices trade between import parity and export parity levels, based on the derived value from oil and meal. Sorghum area is projected to expand by 28 percent, but most of this gain is achieved over the next 3 years, as it reaches an equilibrium above the record lows of 2018 (29 000 hectares), but at 52 000 hectares, still well below the 79 000 hectares cultivated as recently as 2014. Thus in the long term, area stabilises with sorghum prices trading at a premium of 20-30 percent over yellow maize.

Despite a substantial decline in the area under cotton production from the 2018/19 season, cotton area is expected to continue trending upwards, though at a slower rate than was evident over the past 3 years. The increase over the baseline period is underpinned by the assumption that short term supply chain challenges such as seed availability and ginning capacity will be resolved.

Figure 29 presents the percentage change in area and yield from the 2017-2019 base period to 2029. It points to fairly consistent yield growth, based on the assumption of stable rainfall and continuous improvements in cultivars. The largest gain projected for white maize, where area is expected to contract further. This reflects the removal of a further 230 000 hectares of marginal area in the western production regions, which, together with further gains in technology, enables a higher national average yield level. Similarly, the consistent area under sunflower allows for yield gains of 21 percent, due largely to improvements in technology.

For crops where area expands, the yield gains at national level are more subdued. This is clearly

Box 3: Relative affordability of grain-based staple foods

Maize meal remained the most affordable staple food option in South Africa in April 2020, followed by rice (11% more expensive than maize meal) and wheat flour (30% more expensive than maize meal) (Figure 24). From 2018 to April 2020, the affordability gap between maize meal and rice has decreased. However, COVID-19 related trade limitations on rice could once again expand this affordability gap in favour of maize meal.

Brown bread, white bread and pasta occupy the next level on the staple food affordability spectrum, with single serving unit (SSU) costs of R0.74, R0.79 and R0.78 respectively in April 2020. In April 2020, a single serving of brown and white bread was 183 and 203 percent more expensive than maize meal respectively (Figure 24).

Year-on-year grain-based staple food inflation rates for April 2020 were the highest for maize meal (+12.1%), wheat flour (+7.8%) and brown bread (+3.2%), while being low for the other options in this category. Severe financial pressure on households due to the COVID-19 pandemic could favour the demand for affordable staple food options, with the down side of reduced dietary diversity. With their extended shelf life, cake flour and pasta were amongst the popular 'panic buying' food items during the Level 5 national lockdown.

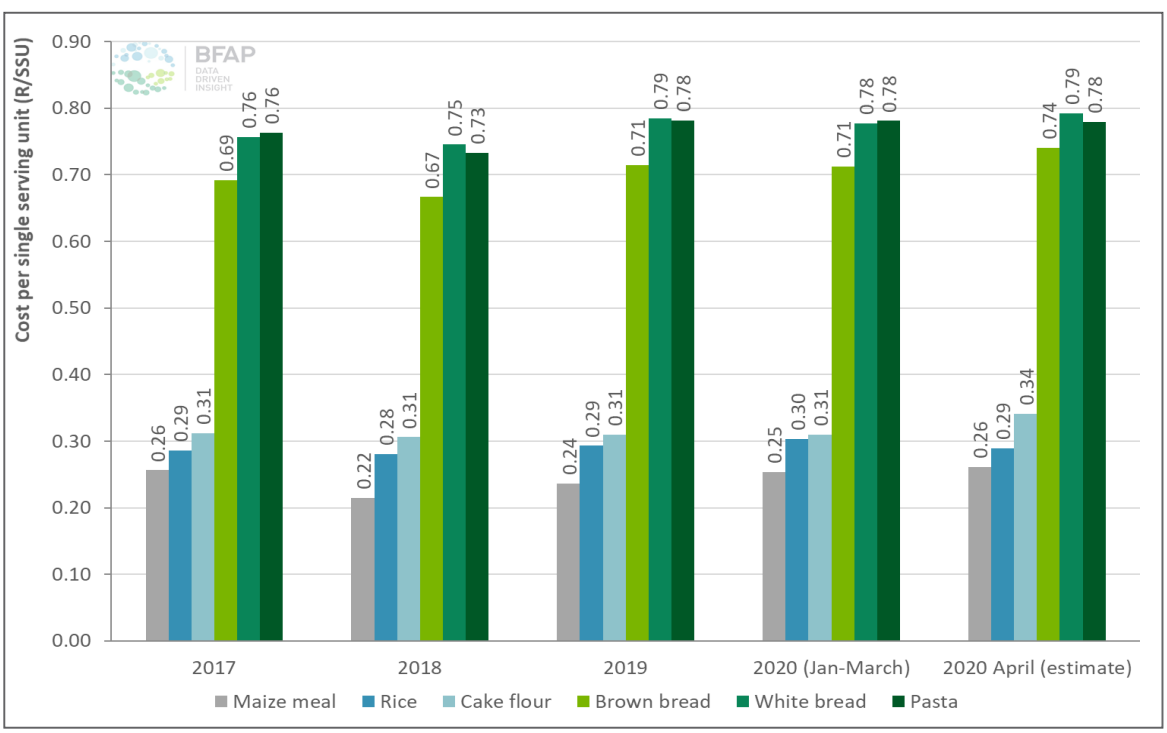


Figure 24: Comparing the affordability of staple foods based on average monthly values for 2018, 2019 and 2020 (January to April)

Source: BFAP calculations based on StatsSA monitored urban food retail prices & Single serving units as defined by the South African Food-based Dietary Guidelines

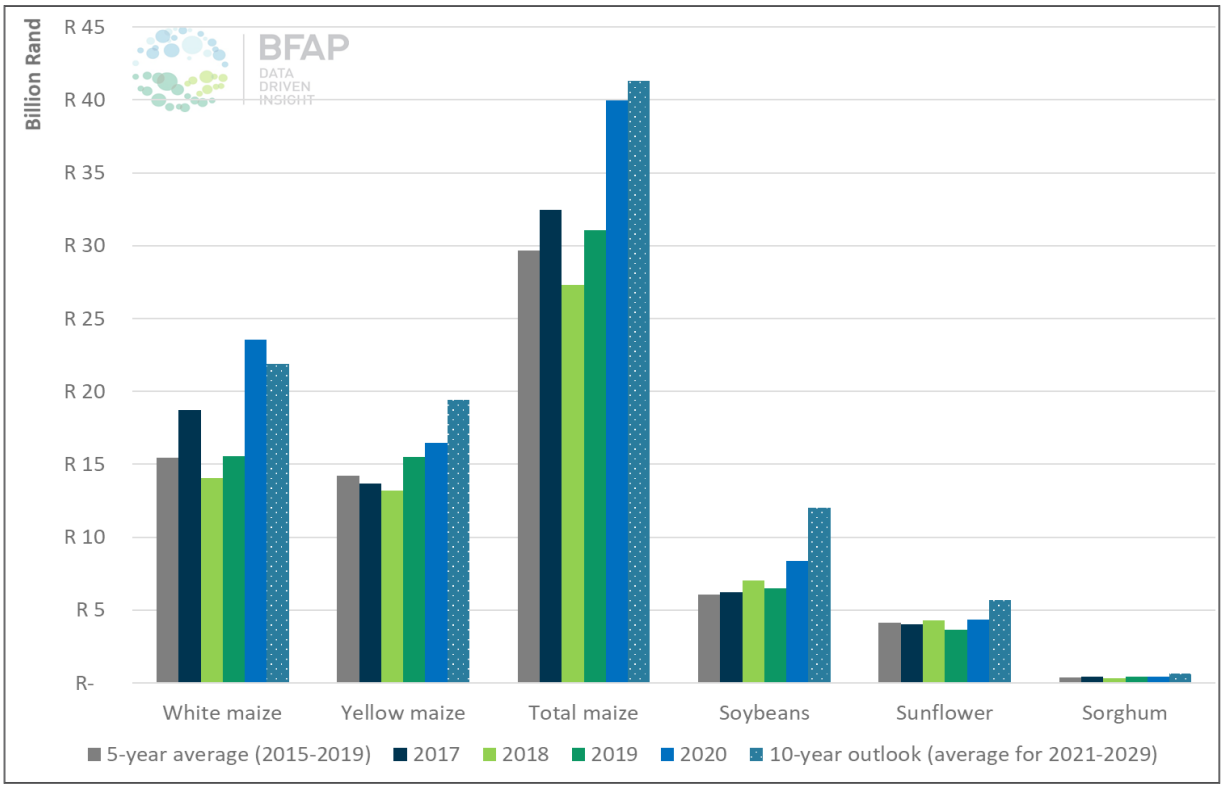


Figure 25: Gross value of production for selected summer crops in South Africa

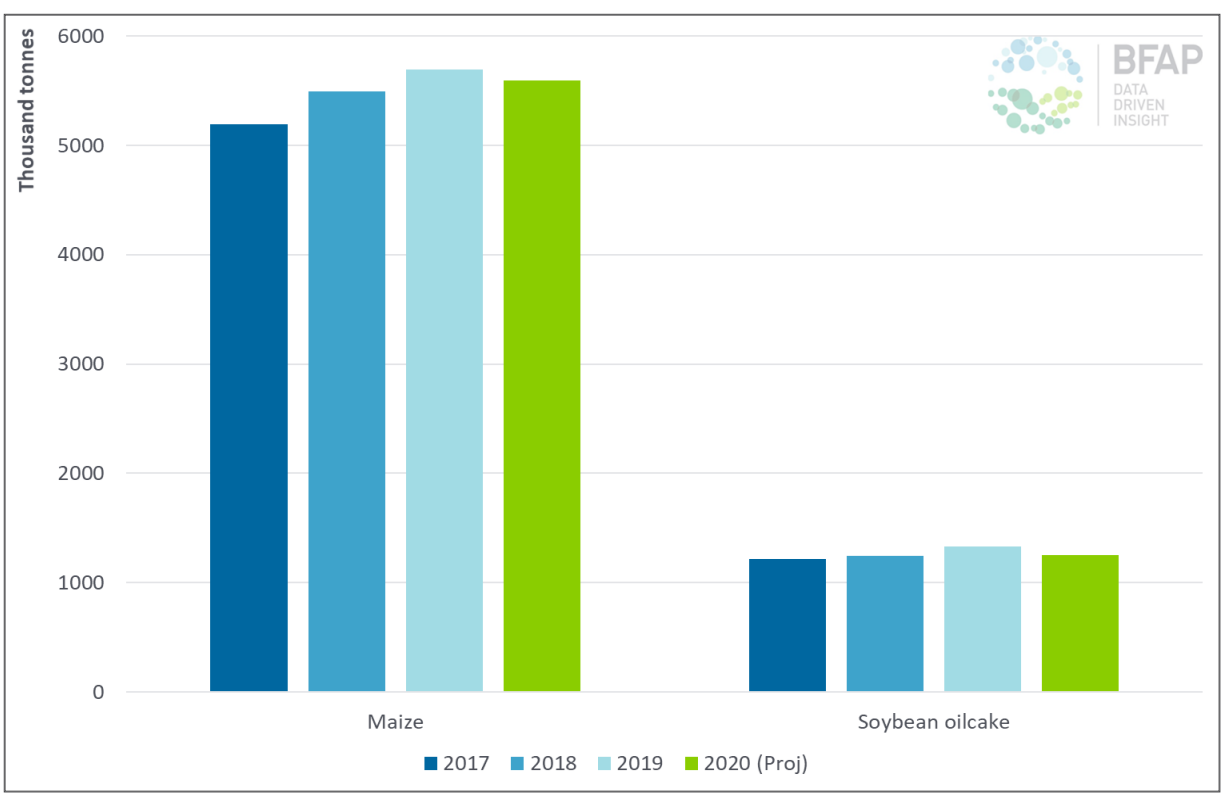


Figure 26: Projected changes in the demand for feed products in 2020

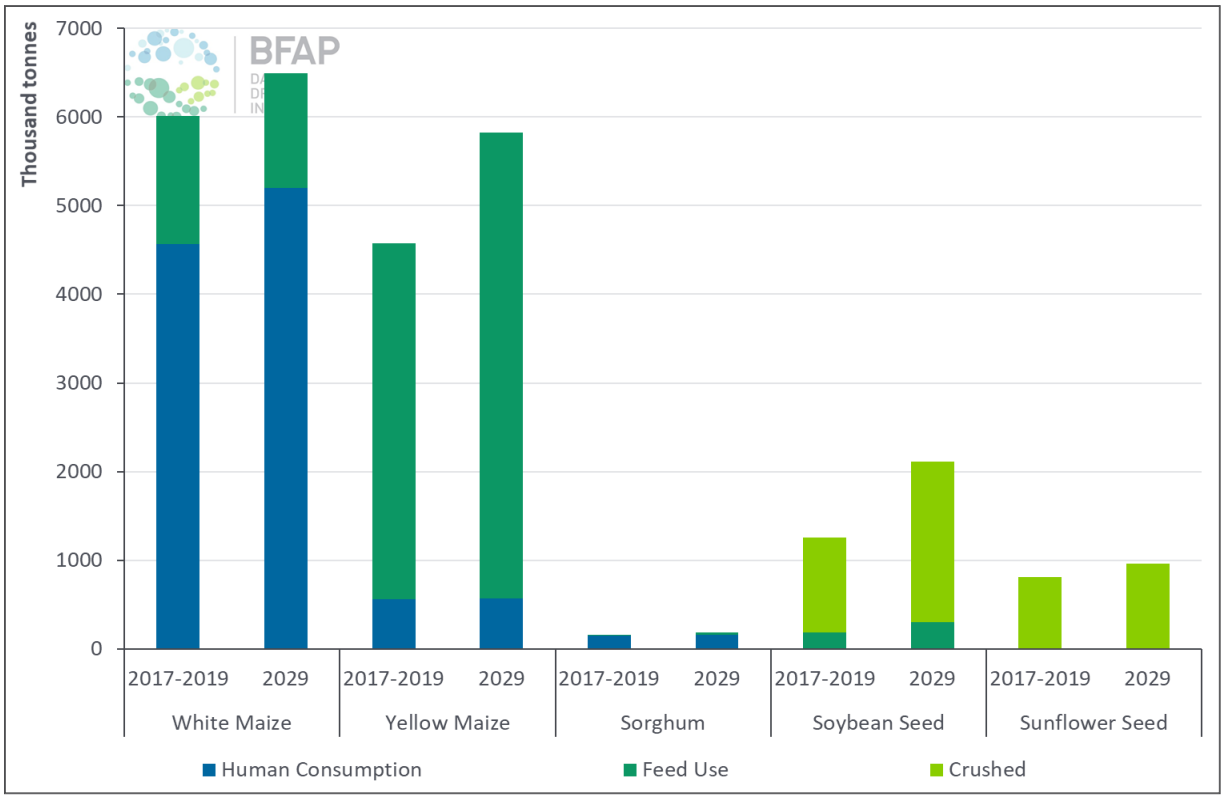


Figure 27: Demand for summer grains in South Africa: 2029 vs. 2017-2019 base period

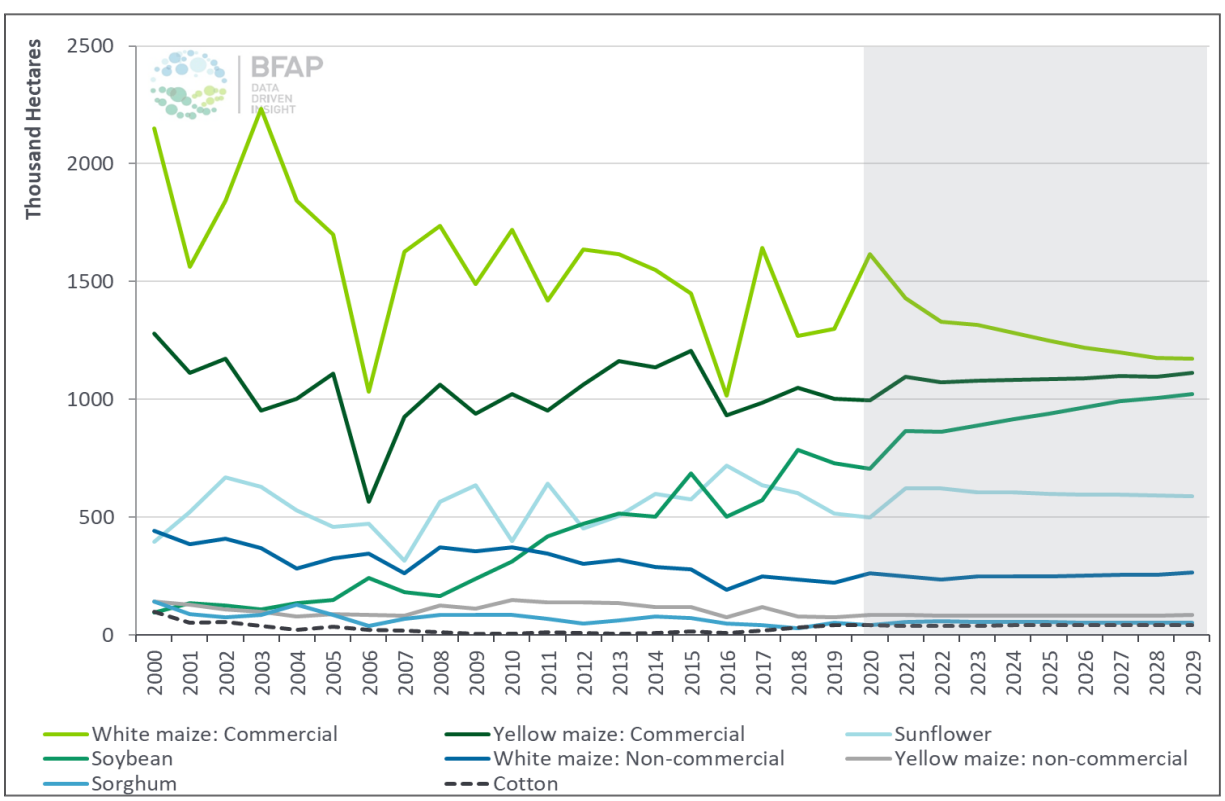


Figure 28: Area under major summer crops in South Africa: 2000 - 2029

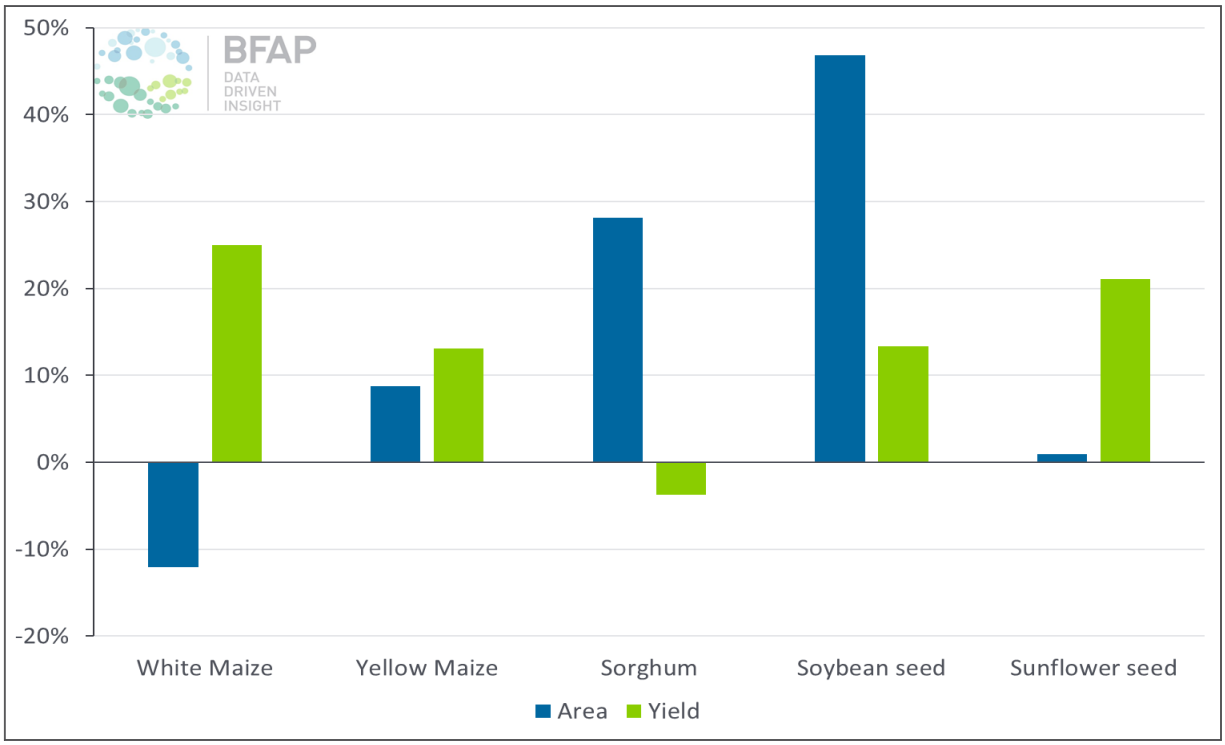


Figure 29: Percentage change in area and yield for major summer crops: 2029 vs. 2017-2019 base period

evident in the soybean sector, where a substantial share of further area expansion is expected in the western regions, which are traditionally considered more marginal for soybean production. Nevertheless, the national average area is still projected to increase by 13 percent relative to the base period, as the introduction of the breeding technology levy is expected to incentivise seed companies to make the latest technology available to South African producers. A similar rate of improvement is projected for yellow maize, despite the slower area expansion relative to soybeans. In line with past trends, sorghum yields remain under pressure, with the national average yield declining marginally from the base period of 2017-2019. This is skewed somewhat by the high yields achieved in 2017, when ideal climatic conditions yielded record levels for most summer crops, and 2018, when area reached an historic low. Thus base period yields were higher than normal, resulting in some correction in the short term as area reaches an equilibrium level. From the level expected by the Crop Estimates Committee in 2020 (3.14 tonnes per hectare), yields improve by 6 percent over the ten year period to 2029, still reflecting the historic failure of sorghum yield growth to keep up with alternative crops such as yellow maize, which has been one of the reasons for consistent area decline in the past.

Further to the domestic demand dynamics presented in Figure 27, the continued decline in white maize area emanates from a number of structural challenges. Traditionally, white maize prices have been more volatile than those of yellow maize, which is more frequently traded in the global market. These differences have been more pronounced in recent years, owing to extreme weather volatility in white maize production regions. White maize is mostly exported into the Southern African region, where South Africa is facing increasing competition. Zambia for instance produces non-GM white maize and faces a favourable transport differential into Harare compared to South Africa. In the short term, the damage from locusts in East Africa will provide additional demand for Zambian maize, and therefore also the possibility of additional market space into Zimbabwe for South African maize, but this situation is expected to normalise in the long-run. Therefore, while South Africa is expected to remain a net exporter, supplying more favourably located markets such as Mozambique, growing Zambian exports to countries such as Zimbabwe, Malawi and Kenya results in exports accounting for an ever-smaller share of white maize production over the outlook. Consequently, annual average prices also move away

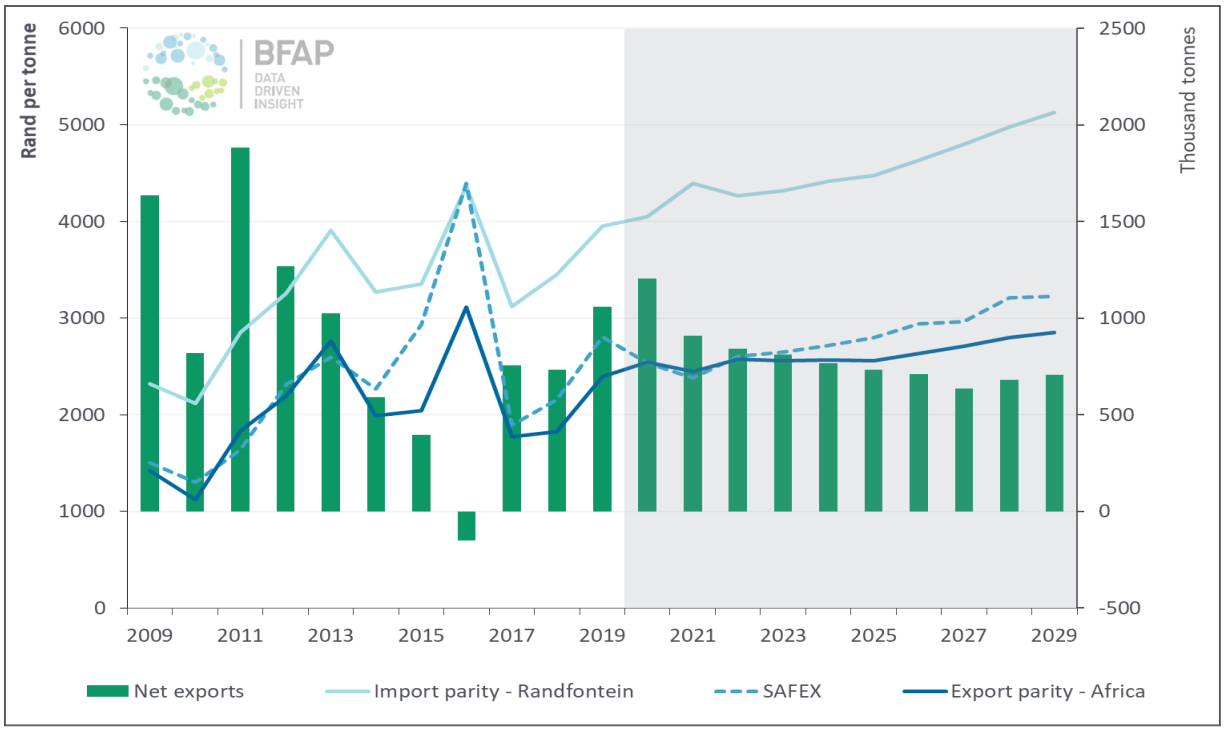


Figure 30: White maize net exports and prices: 2009 - 2029

from export parity levels in the long run.

While 2020 is expected to be highly profitable for white maize producers, it is unusual in the sense that exchange rate depreciation shortly before the harvest cushioned much of the decline that would normally be expected in a year when prices fall to export parity levels. Therefore, while it provides a chance for cash flow to recover, it should not detract from the fact that challenging weather conditions in the western production regions resulted in poor returns in marginal regions in four of the past five years. For the decline in white maize area to be halted, commercially viable crop insurance will need to be made available to producers in these regions. This is unlikely to occur in the absence of some government support.

Producers in North West and various parts of the Free State have suffered severe financial losses because of droughts in 2013, 2015, 2016 and 2019. In these years, the magnitude of carry-over debt pressed many farmers to restructure financial losses into medium- and long-term loans, therefore affecting the cash flow position in subsequent years as a result of annual repayment obligations.

BFAP's Farm and Production Analytics division has been tracking the performance of various prototype farms in key summer and winter producing regions in South Africa, collecting actual farm and financial data for more than a decade. The data is analysed in an integrated modelling framework where the financial performance of the farm is simulated to generate a future view on key financial and risk metrics such as crop gross margins, net farm income and cash flow.

A practical example is provided in Figure 31, which represents the deterministic cash flow projections for selected North West prototype farms, based on prevailing agro-ecological resources and yield potential. The prototype farms consists of 1 200 hectares, with white maize and sunflower constituting the main enterprises[4]. The categories of producers represents (1) marginal or lower potential regions, (2) a proxy for an average or normal potential North West producer and (3) higher potential regions given higher agro-

[4] The North West prototype farm consists of white maize, sunflower, a winter fallow period and a livestock component. It is acknowledged that variations with respect to cultivated land size, enterprise coverage, production system performance and financial wealth will occur. The financial model follows a whole-farm planning approach with enterprise and overhead data formulating the base of the projections. The overhead section includes key assumptions on debt-levels, asset replacement strategies and standard debt-repayment calculations. The model is set up stochastically, to account for actual historic variations in commodity prices, yields and key input costs such as fuel and fertilisers. Through statistical techniques, the farm model is simulated 500 times to account for alternative outcomes over the outlook period.

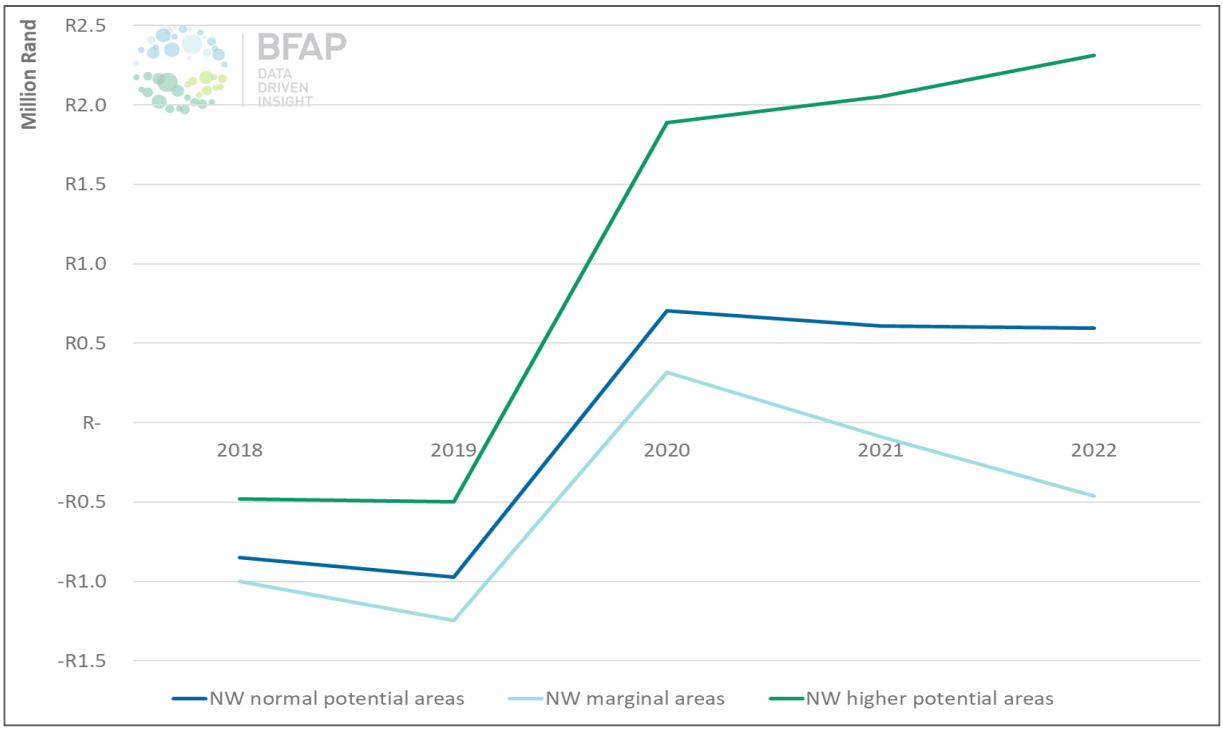


Figure 31: Cash flow trend for North West prototype farm: 2018-2022
Source: BFAP & NWK, 2020

ecological suitability. Given the model assumptions, cash flow remains under pressure for marginal and normal potential regions, however, the recent price support provided by the weaker exchange rate as well as the lower interest rate has improved the financial position significantly compared to previous simulations prior to COVID-19. Going forward, it is likely that marginal areas will continue to face financial pressure due to annual principle and interest payments on outstanding debt. Regions with maize yields below 4.3 tonnes per hectare in a normal rainfall season, are at higher risk.

The baseline outlook reflects the assumption of stable weather conditions, but in reality yields will fluctuate from year to year in line with rainfall quantity and distribution through the season. Therefore risk simulation models are becoming more powerful tools to account for volatility in price and production output. Figure 32 represents a cash flow probability for the three categories of North West producers. The positive and negative probabilities represent the outcome of 500 alternative scenarios given historic variability in yield, price and input costs – as imposed around the projected average levels. For marginal producing areas, the probability of generating a negative cash flow in 2021 remains high at 57 percent, which means that from the 500 simulations, 285 of the outcomes represented a negative cash flow for the 2021 production season. For normal and higher potential producing regions, the probability of generating a positive cash flow has exceeded a scenario were available farm cash dips below zero. Pre-COVID simulations at the start of 2020 suggested a more bearish financial performance for these producers. Post COVID-19, the weaker exchange rate outlook has lent support to prices that are projected to trade at export parity levels for the near future.

While profitability in the western parts of the country has clearly been under severe pressure, the margins associated with soybean production have been more favourable. This was further accentuated in 2020, when soybean stocks had declined following two consecutive years of weaker production and the prices of soybean products, and resultantly also soybeans, increased sharply following the rapid exchange rate depreciation. This is expected to support a substantial shift into soybeans in 2021, but in the long run, for expansion to be sustained in the western production regions, it will be critical to reduce year on year yield volatility to lower the relative production risk of soybeans against alternative crops. The sustainability in certain producing regions will further depend on competitiveness at farm-level

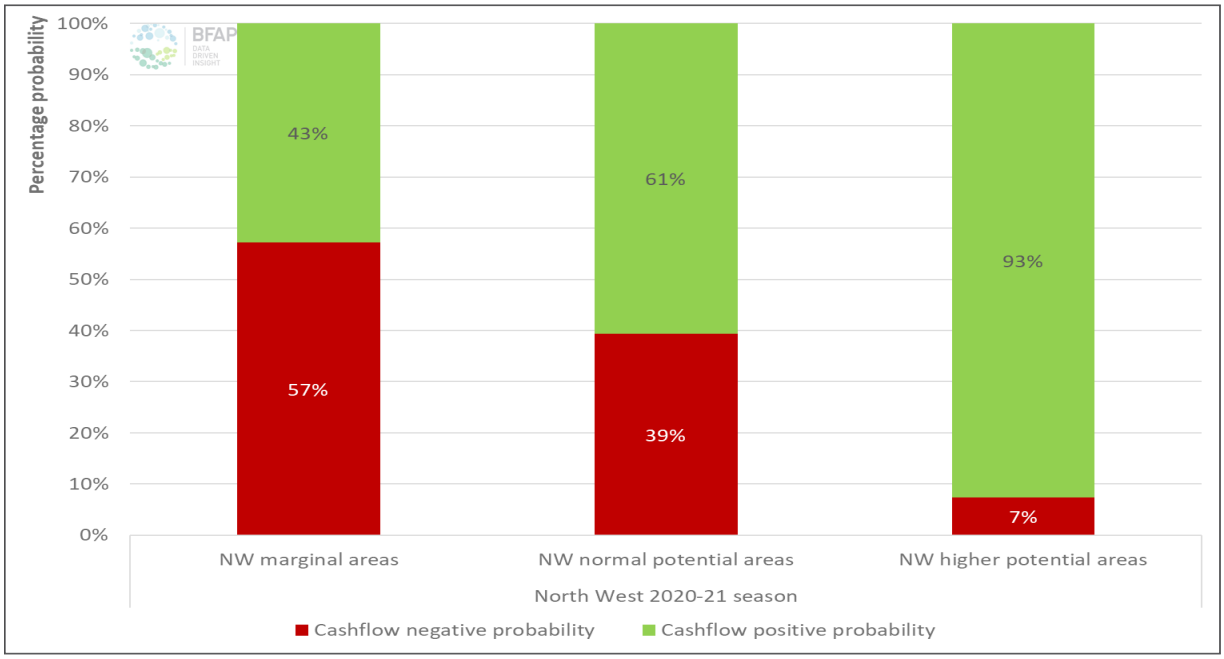


Figure 32: Stoplight chart for North West: Probability of generating a positive cash flow in the 2021 production season

Source: BFAP & NWK, 2020

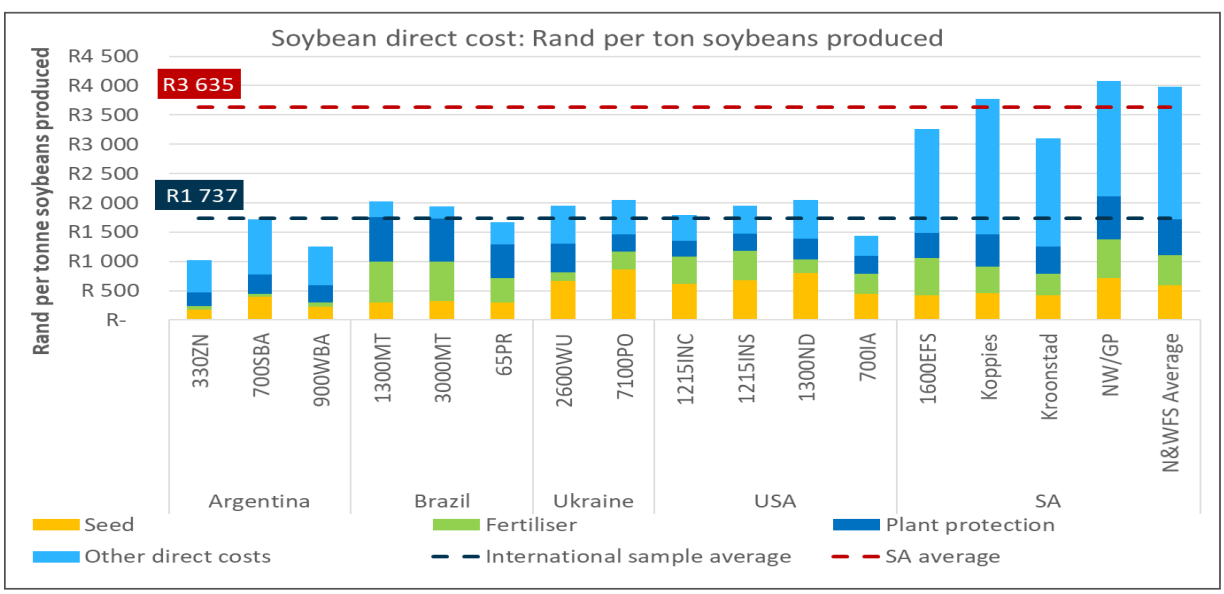
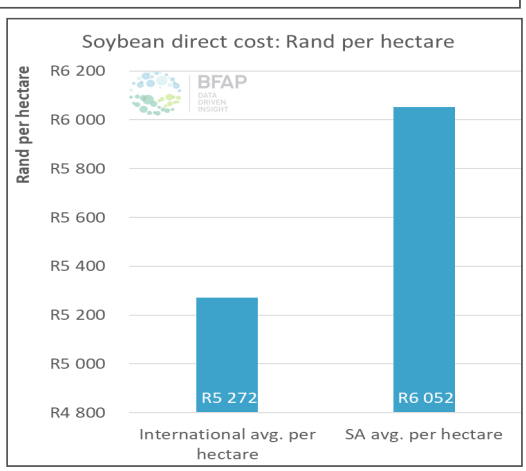


Figure 33: Soybeans: Direct costs competitiveness across the globe

Source: BFAP, Senwes & agri benchmark, 2020



with respect to yield, costs and gross margins. Figure 33 compares the cost of production in South Africa against key international producers of soybeans. The stacked bar chart represents the cost to produce a ton of soybeans (cost per hectare divided by yield) where the regular bar chart shows the cost per hectare. It is evident that there exists an opportunity to increase South Africa's competitiveness by either achieving higher yield levels or reducing the cost to produce a tonne of soybeans. For instance, in Argentina and Brazil where yields between 3.1 to 3.5 tonnes per hectare are achieved, the cost to produce a tonne of soybean is roughly 56 percent less compared to South Africa. On a per hectare basis, the cost of soybean production in South Africa was R780 per hectare well above (15%) the international sample average.

The rapid expansion in soybean crush capacity since 2014 increased the demand for soybeans significantly. Despite the rapid expansion in area, soybean imports remained necessary for processors to attain acceptable utilisation rates. This situation was exacerbated by the 2016 drought. In 2018, this changed however as an all-time record soybean harvest combined with a fire at one of the large crushing plants, resulting in reduced capacity for the season, combined to create a surplus of soybeans and ample stocks in the market. With stock levels at record highs, prices declined almost to export parity levels. Combined with volatile weather conditions, this resulted in consecutive declines in the area planted to soybeans in 2019 and 2020. With the damaged plant's capacity restored and expanded, crush demand has exceeded the supply of beans, pushing prices closer to import parity levels. Following a projected area expansion of just over 150 000 hectares in 2021, South Africa is expected to trade close to self-sufficiency over the course of the outlook period, with a sensitive balance being maintained between supply and demand (Figure 34). Equilibrium prices are therefore expected to trade between export parity and the derived value of soybean products such as oil and meal.

From being one of the most dynamic sectors in South African agriculture over the past decade, the soybean industry is now maturing, and further expansion is expected to occur at a much slower rate. Total soybean processing capacity in South Africa (crush and full fat) is derived from a combination of dedicated soybean processing facilities, as well as plants with the ability to switch between soybeans and sunflowers. A return to longer-term trend yields and the substantial area expansion projected in 2021 is expected to be sufficient for dedicated soybean crushing facilities to reach a benchmark utilisation rate of 80 percent. Combined with dual plants however,

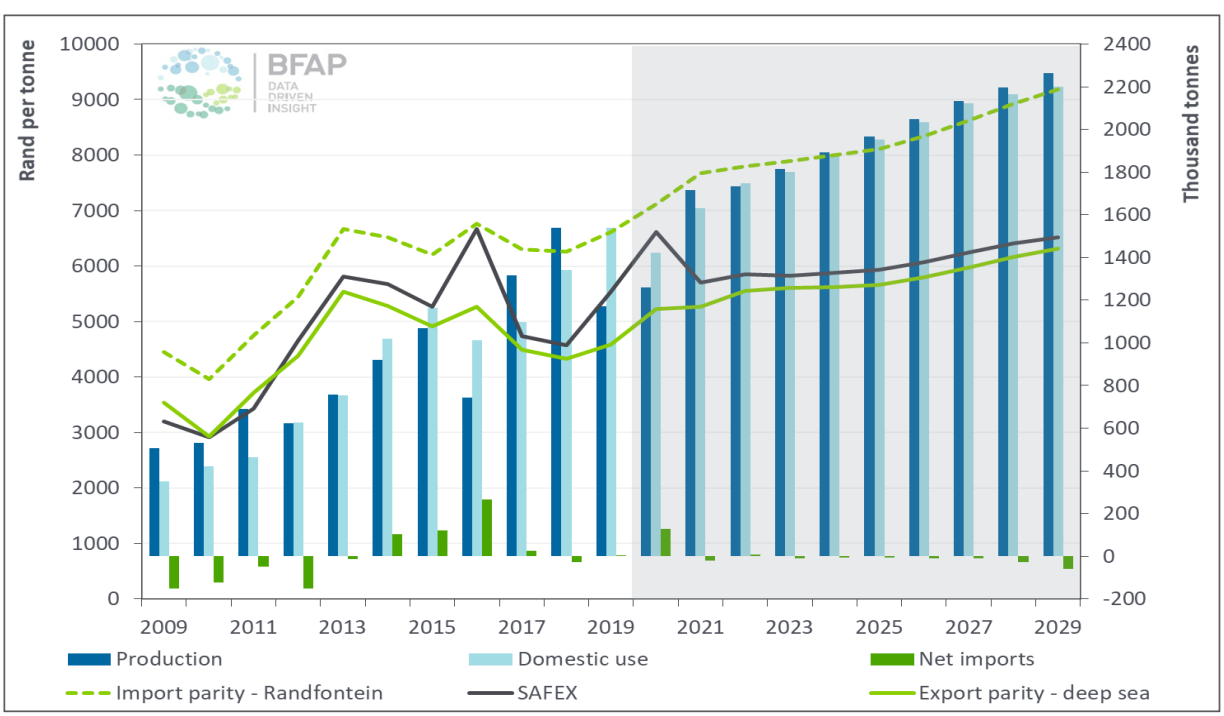


Figure 34: Soybean production, consumption, trade and prices: 2009 - 2029

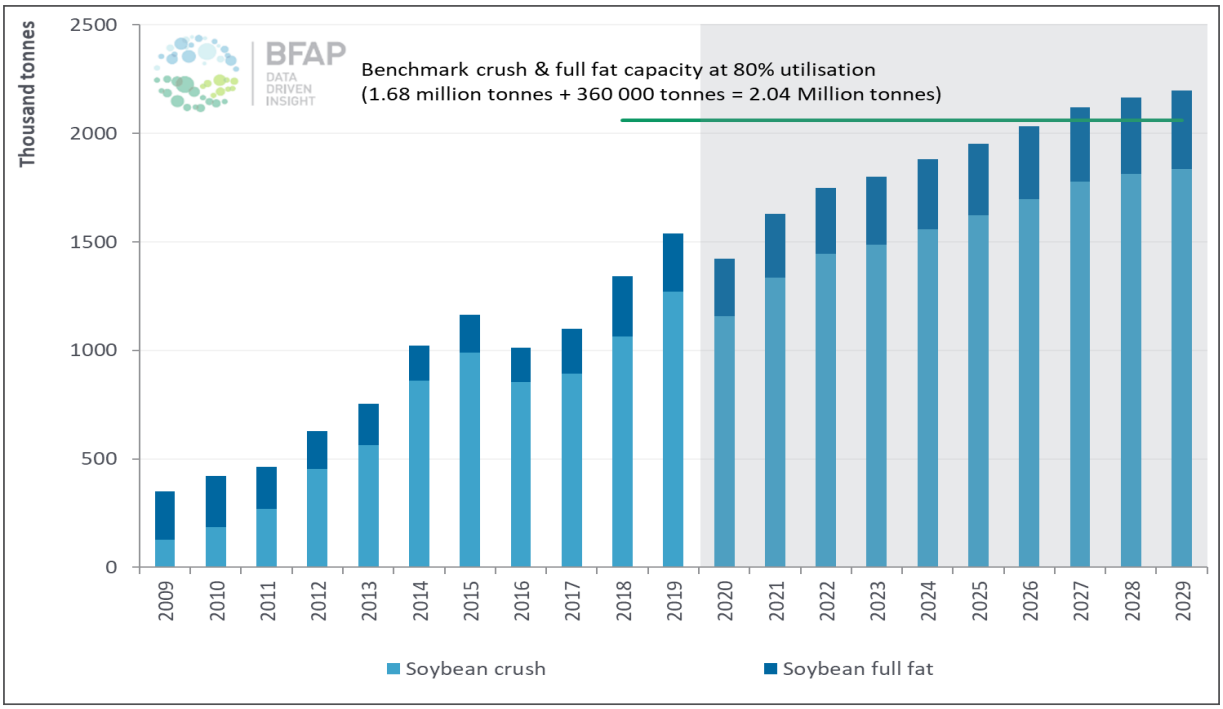


Figure 35: Soybean utilisation and crush capacity: 2009 - 2029

total capacity is more than 2 million tonnes (Figure 35), suggesting that South Africa has ample capacity to process the projected volumes until 2026, provided that crush margins are sufficient to induce a switch of dual plants into soybean crushing.

Increased crush volumes have resulted in South Africa replacing almost 350 000 tonnes of imported oilcake over the past decade. Figure 36 provides a summary of oilcake supply and demand in 2009, 2019 and 2029 – the sum of domestic production and net imports account for the total oilcake demand. It illustrates that net imports account for a declining share of total oilcake consumption, from 64 percent in 2009, to 28 percent in 2019 and projected at a mere 8 percent in 2029.

Soybeans have grown to dominate the oilseed complex, with utilisation expanding from approximately 870 000 tonnes in 2009 to 1.3 million tonnes by 2019. This demand growth is expected to slow in the coming decade after declining in the short term, owing to pressure on intensive livestock production, before expanding again from 2022 onwards to reach 1.5 million tonnes by 2029. In addition to livestock production trends, this also reflects favourable long-term price ratios relative to alternative proteins such as fishmeal. Despite sufficient soybean production to supply an exportable surplus by the end of the projection period (Figure 34), the high cost of transportation from South Africa's summer rainfall regions to the Western Cape in particular implies that South Africa will continue to import some soybean oilcake into the coastal regions. Investment in rail infrastructure to reduce this cost would enable South Africa to become self-sufficient.

The weak income growth projections over the coming decade are also projected to result in substantially slower growth in demand for vegetable oil. Having increased by 43 percent over the past 10 years, vegetable oil consumption is projected to increase by only 10 percent over the coming decade. As a higher value food product, the demand for edible oils is sensitive to changes in consumer spending power and in the short term consumption is projected to decline, before recovering from 2022 onwards. Figure 37 indicates that palm oil imports continue to play an important role in the South African vegetable oil consumption mix. Since 2009, palm oil imports have increased from 325 000 tonnes to 500 000 tonnes – an increase of 54 percent. Despite this substantial increase, the share of palm oil in total vegetable oil consumption decreased marginally from 42 percent on average between 2007 and 2009, to 39 percent in 2019. Over the same period, sunflower oil consumption increased by 41 percent and soybean oil by 17 percent. This is projected to slow to 17 and 9

percent respectively by 2029 relative to the 2017-2019 base period. With domestic soybean crush volumes still increasing, the share of domestically produced vegetable oil in the total non-palm oil consumption mix is projected to increase from 64 percent in 2019 to 87 percent in 2029. While sunflower oil and soybean oil compete with palm oil in the consumption basket, palm oil is not produced in South Africa and as an affordable alternative, imports are expected to remain significant.

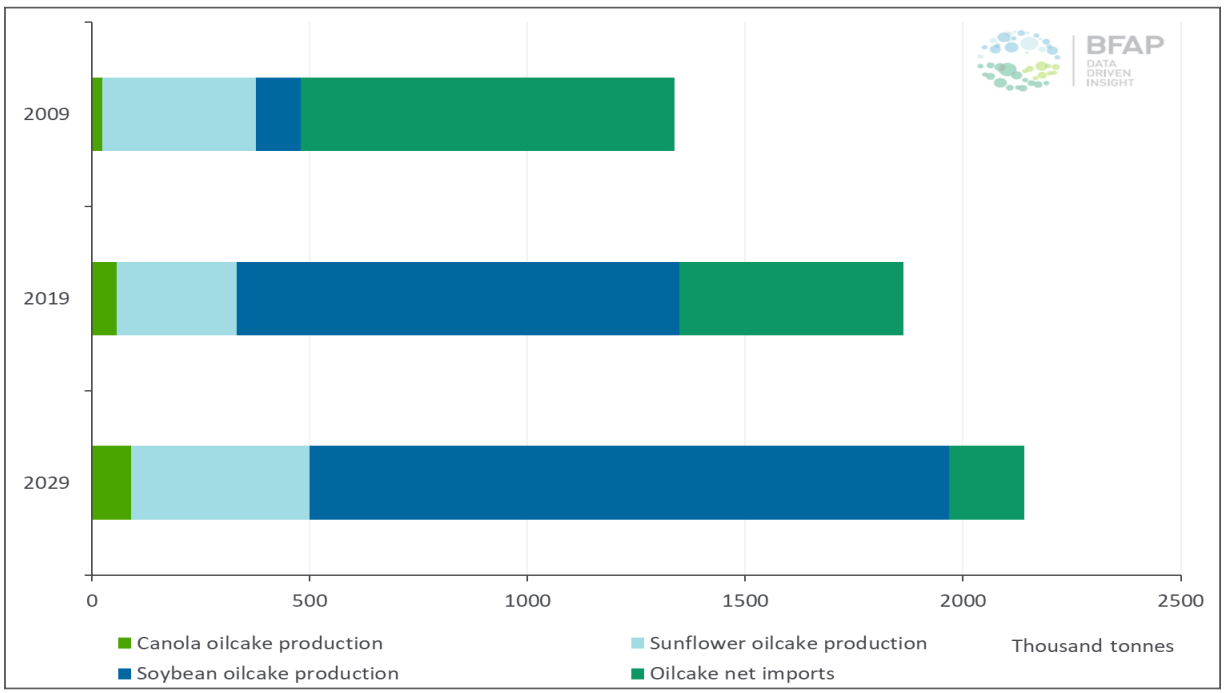


Figure 36: Oilcake supply and demand in South Africa: 2009 - 2029

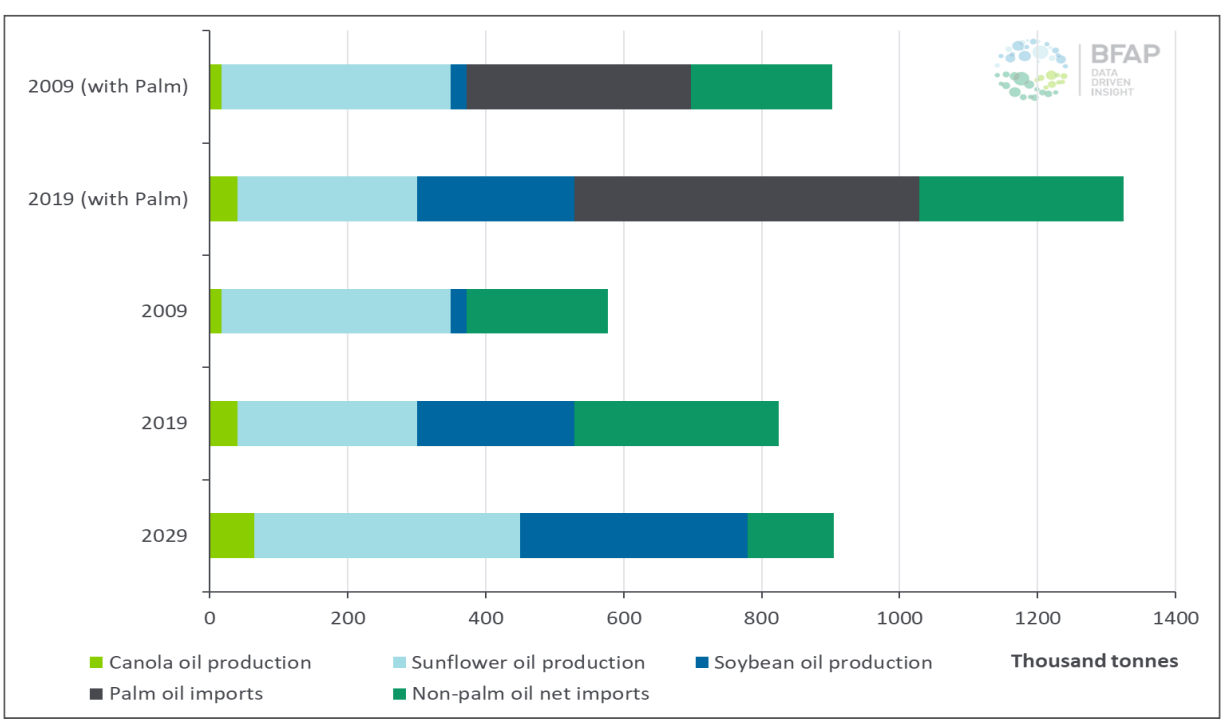


Figure 37: Vegetable oil supply and demand in South Africa: 2009 - 2029




OUTLOOK FOR FIELD CROPS WINTER GRAINS AND OILSEEDS

International market situation

The 2019/20 wheat crop was the largest ever produced, reflecting an increase of 4 percent from 2018/19 levels. Production increased in most major producing countries, but the bulk of the increase globally was attributed to the EU. At the same time, the COVID-19 pandemic has dampened demand, resulting in an expected increase of 5 percent year on year in carry over stock. With the exception of 2019, global wheat production has exceeded demand every year since 2014. Despite high stocks, the IGC's wheat price index traded at similar levels to 2019 over the first 6 months of 2020 – reflecting the imposition of export quotas by Russia and Kazakhstan in March 2020 to ensure domestic supply amid the pandemic. Early estimates by the IGC suggest that global output will increase further in 2021, underpinned by increased production in Russia, Canada, Australia and Argentina. In a still weak demand environment, this causes further stock build-up, with prices set to come under pressure. Over the course of the next 10 years, prices stabilise at around 200 USD per tonne (Figure 38).

A record global barley crop is also expected in 2020, reflecting an 11 percent year on year increase from 2019 levels. A 2 percent contraction is expected to follow in 2021, as lower prices curtail plantings, resulting in lower production in the EU, Russia, Canada and Ukraine. Nevertheless, with consumption still subdued and alternative grains plentiful, stocks are expected to increase in 2020 and 2021, resulting in a further price decline. This correction will bring malting barley prices closer to wheat, after having traded at a substantial premium to wheat since 2016. In the long term, barley prices are projected to reach an equilibrium marginally higher than wheat, as has been the historic norm, but following a similar trend.

Canola production declined by 5 percent in 2020, yielding the smallest crop in 7 years. With demand subdued in the EU and China, consumption is also expected to decline by 5 percent year on year. Early expectations from the IGC point to a modest improvement in output in 2021, owing to expansion in Australia and China, but at a global level the increase remains insufficient for output to surpass 2019 levels. In light of high soybean stocks and a slow economic recovery, the demand for canola is expected to remain weak. After an initial reduction in 2021, prices are projected to trend largely sideways, in line with alternative oilseeds.

Domestic market situation

South Africa typically imports around half of its domestic wheat requirement, resulting in prices that are largely based on import parity levels. The impact of COVID-19 globally has influenced the wheat market in multiple ways. Firstly, in order to ensure sufficient domestic supply, large global exporters such as Russia, Ukraine and Kazakhstan have imposed export quotas, influencing South Africa's procurement options. Fortunately, global stocks remain high and both Europe and Canada remained consistent suppliers. Secondly, and perhaps more importantly, the rapid depreciation in the exchange rate provided substantial price impetus. South Africa's variable import tariff is triggered when the world reference price (US HRW) falls below 279 USD. Despite the export restrictions applied in the Black Sea region, prices remain well below this level, and

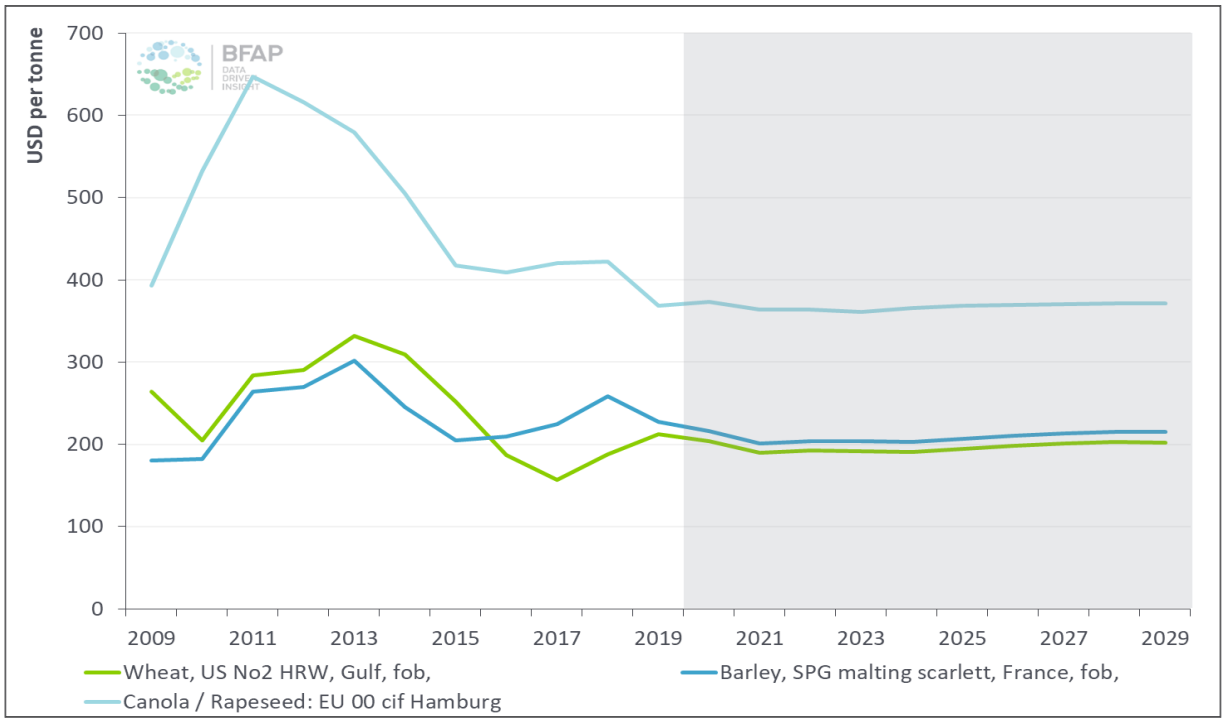


Figure 38: World prices for major winter grains and oilseeds
Source: FAPRI & BFAP, 2020

consequently domestic prices are almost exclusively based on exchange rate movements. Wheat prices are therefore projected to increase by almost 16 percent from 2019 levels.

Barley prices remain derived from wheat prices and are therefore projected to increase, but with malting activities prohibited during the stage 4 and 5 of COVID-19 lockdown, stock levels have increased dramatically. Consequently, BFAP projects that some producers who had intended to plant barley will instead opt for wheat, as a lower risk option given lack of malting activity, resulting in a 4.8 percent increase in the area planted to wheat in the Western Cape. Combined with a return to trend yields, this is sufficient to induce a projected 22 percent increase in wheat production, which will reduce import volumes, but have little impact on prices. Accordingly, the gross value of wheat production is expected to increase by 42 percent year on year. Despite the 14 percent year on year reduction in area under barley in the Western Cape, a return to trend yields, combined with a modest expansion in the irrigated regions is projected to support a 16 percent year on year increase in output. Combined with the 24 percent increase in prices, the gross value of barley production is set to expand by almost 44 percent in 2020 relative to 2019. It must be noted that these increases come from well below average yield levels in the Western Cape in 2019, following challenging weather conditions. Import parity based pricing implies that prices do not respond to lower output levels and hence producer profitability came under severe pressure in 2019.

Canola prices are also expected to find support from the weaker exchange rate in 2020, increasing by 13.5 percent relative to 2019 levels. With area planted to canola expected to decline only marginally (1.1%), a return to trend yields, combined with the expected price gains, is set to support a year on year increase of 29 percent in the gross value of canola production (Figure 39).

Domestic market outlook

Having stabilised in recent years, the area planted to wheat is projected to increase in the short term, supported by high 2020 prices and the above mentioned uncertainty in the barley sector. This increase is attributed to the Western Cape, as wheat production in the Free State has progressively become less competitive and riskier compared to alternatives such as maize and soybeans. Consequently, the share of wheat area attributed to the winter rainfall region is projected to peak at 65 percent in 2020.

Over the course of the next ten years, the

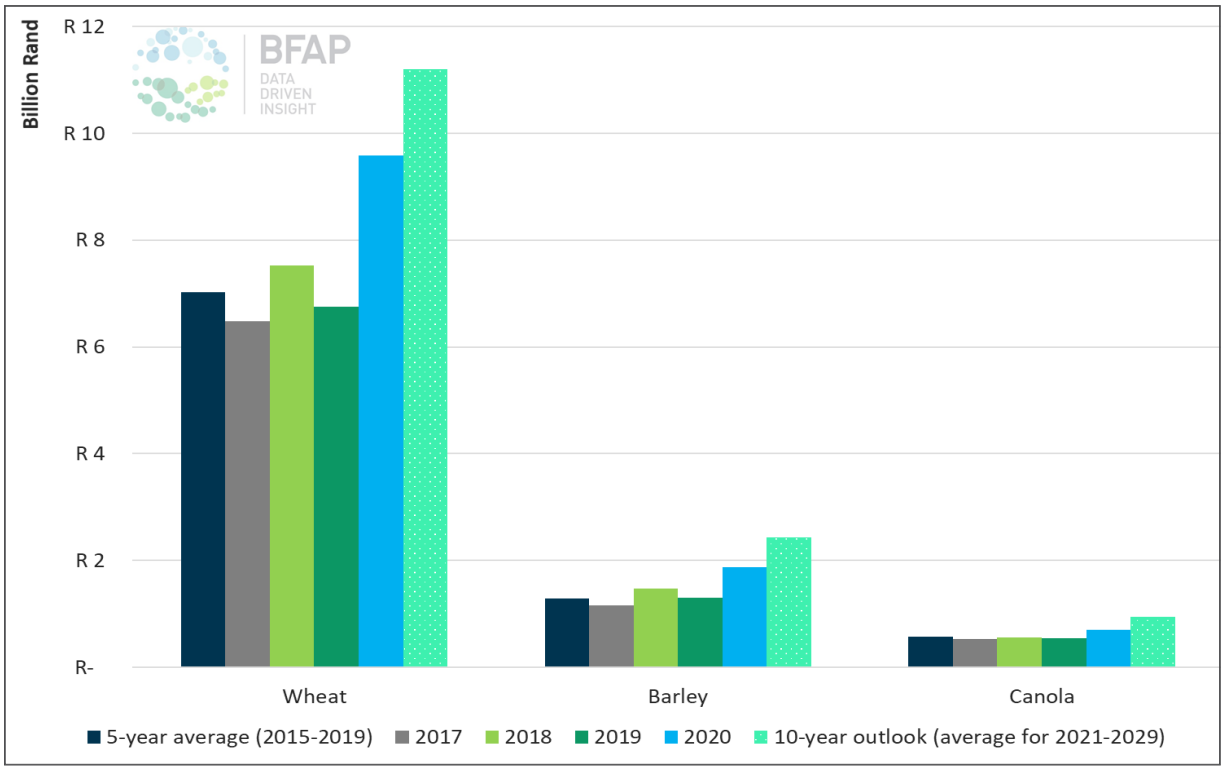


Figure 39: Gross value of production for selected winter crops in South Africa

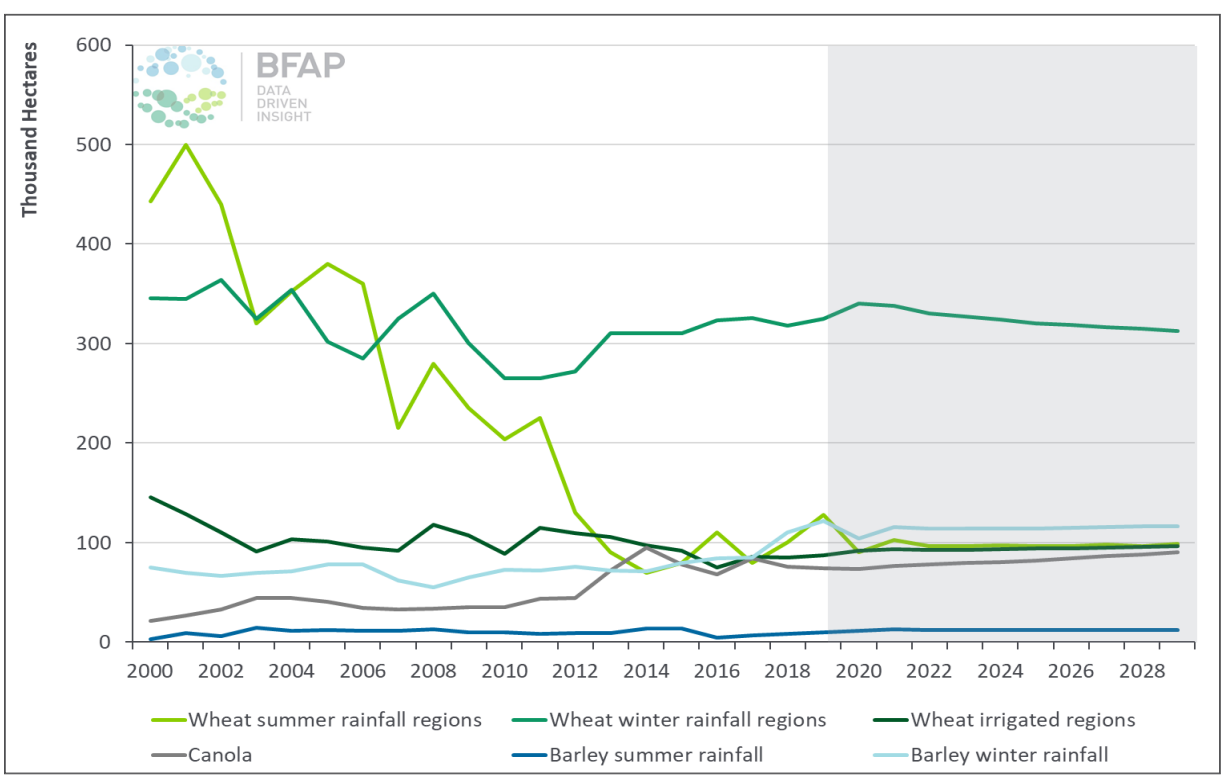


Figure 40: Area under major winter crops in South Africa: 2000 - 2029

wheat area in the Western Cape is projected to contract marginally, to reach approximately 310 000 hectares by 2029. This contraction is a consequence of further expansion in both barley and canola, which are projected to reach 117 000 and 91 000 hectares respectively by 2029. In the Free State, the area planted to wheat is projected to stabilise at around 100 000 hectares by 2029 – almost 20 percent of the national total. In irrigated regions, wheat and barley area expansions remain modest at 12 percent and 10 percent respectively for the 10-year period. Despite price support from the continued imposition of the variable import tariff and the persistently weaker exchange rate, further expansion faces strong competition for resources from a number of alternative crops such as pecan nuts (Figure 40).

Figure 41 presents the percentage change in both area and yield for wheat, barley and canola in the different production regions. It illustrates fairly consistent yield growth under the assumption of stable weather conditions and continuous improvements in technology. The fastest yield growth is projected for wheat in the Western Cape, where a 38 percent improvement in yield levels is projected by 2029 relative to the 2017-2019 base period. This is a consequence of technological gains, the contraction in area and a low base given that 2 of the past 3 years (2017 and 2019) were faced with exceptionally challenging weather conditions and yield levels well below the long term average. In the summer rainfall and irrigated regions, the projected yield gains are more modest, at 14 and 7 percent respectively.

Despite the 16 percent expansion in area, projected yield gains for canola, at 35 percent are only marginally lower than that of wheat in the Western Cape. In a sector that has been challenged by low yields for a number of years, this optimistic growth path is based on increasing availability of higher yielding cultivars, which have proven successful in recent years. It is also influenced by the small base, as current yield levels are low and the improvement of 35 percent by 2029 relative to the 2017-2019 base period requires an absolute gain of only 0.5 tonnes per hectare, to reach 1.7 tonnes per hectare by 2029. Considering the substantial yield gap between SA and key international canola producers, there exists considerable potential to create additional turnover at farm level (Figure 42). In the Overberg (Caledon) region in South Africa, canola yields have averaged around 1.60 tonnes per hectare from 2015 to 2018, approximately 1.35 tonnes per hectare lower than the international sample average of 2.97 tonnes per hectare. Canola yields are often expressed as a ratio of wheat yields, where the relationship is indicative of

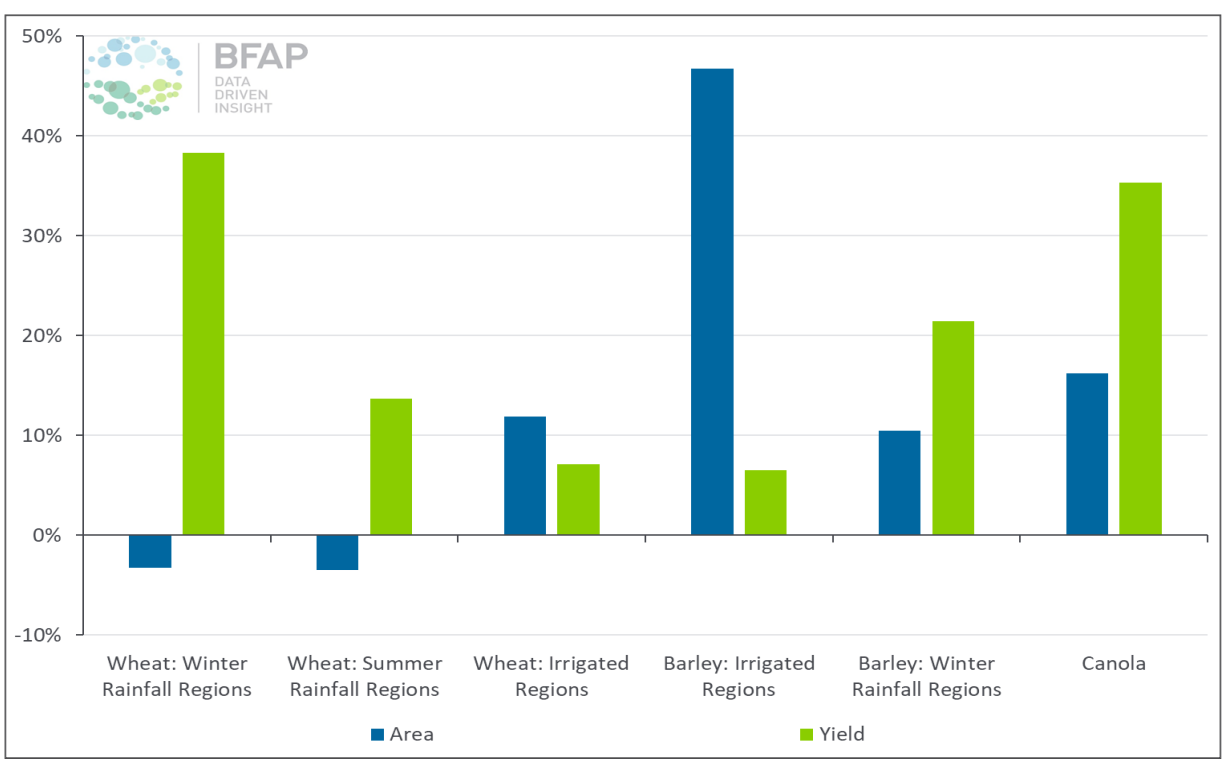


Figure 41: Percentage change in area and yield for major winter crops: 2029 vs. 2017-2019 base period

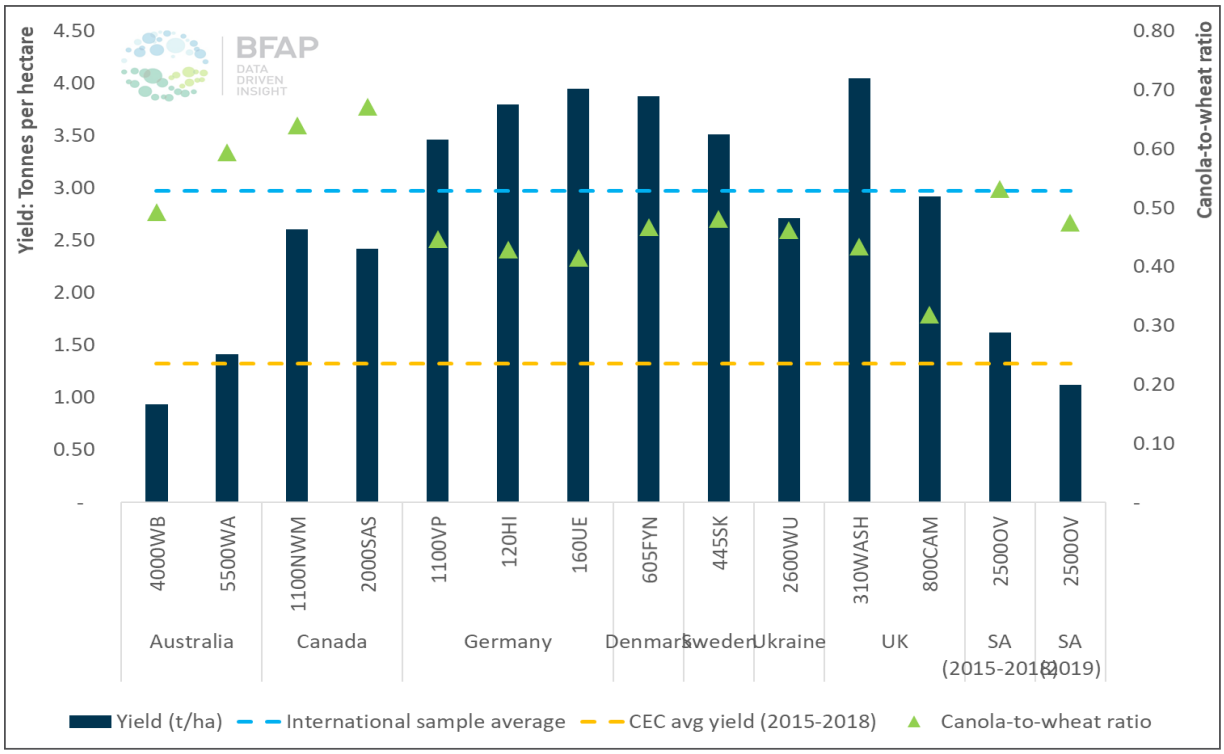


Figure 42: Domestic canola yields compared to international counterparts: 2015-2018
Source: BFAP, Overberg Agri & agri benchmark, 2020

the relative performance of these alternative winter crops. South Africa has reported a higher canola-to-wheat ratio (0.53) compared to European producers (0.43), however lower compared to Australia (0.54) and Canada (0.66).

By 2029, the combination of area and yield dynamics reflected in Figure 41 induces an expansion of 25 percent relative to the 2017-2019 base period. In the short term, the relative price dynamics between wheat and maize, combined with constraints in consumer spending power under the weak economic environment, result in reduced domestic wheat consumption in favour of maize. In light of the slow recovery in spending power, wheat consumption is only projected to exceed 2019 levels again by 2023 and by 2029 is expected to increase by 11 percent relative to the 2017-2019 base period (Figure 43 and Figure 44). Consequently, although net imports are projected to expand from 2020 levels, they fail to reach the levels observed in 2019 and their share in total consumption declines over the course of the outlook period to 46 percent in 2029, compared to an average of 52 percent from 2017 to 2019.

In the case of barley, production has increased to the extent that South Africa is almost completely self-sufficient in barley production; in fact exporting small volumes between 2017 and 2019. Presently, both malting barley and canola markets are characterised by a single buyer, but in light of commitments made by ABInBev to procure domestically, and barley's relative competitiveness against wheat production, further growth in consumption should be met with domestic production. This will be challenging in the short term, as the lack of malting through lockdown has not only placed ABInBev under financial pressure, but also reduced the annual malting capacity for 2020. Nevertheless, with capacity utilisation expected to normalise from 2021 onwards, South Africa will essentially be self-sufficient in barley production over the course of the next 10 years (Figure 44).

The current estimated canola crushing capacity of 175 000 tonnes is sufficient to process projected volumes until 2029, with growth in demand for canola oil slowing substantially relative to the past decade, in line with other vegetable oils (Figure 37). Similar to barley, South Africa has been close to self-sufficient in canola production in recent years and is expected to remain so. In order to incentivise this production, canola

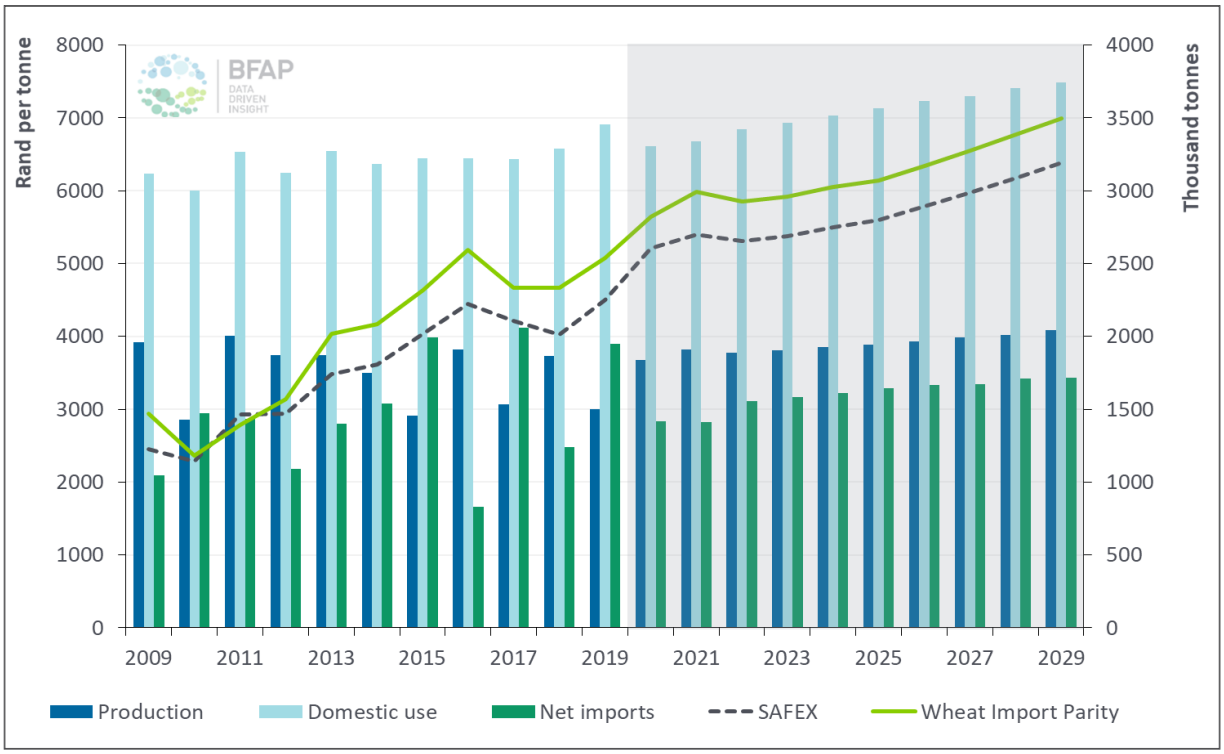


Figure 43: Wheat production, consumption, trade and prices: 2009 - 2029

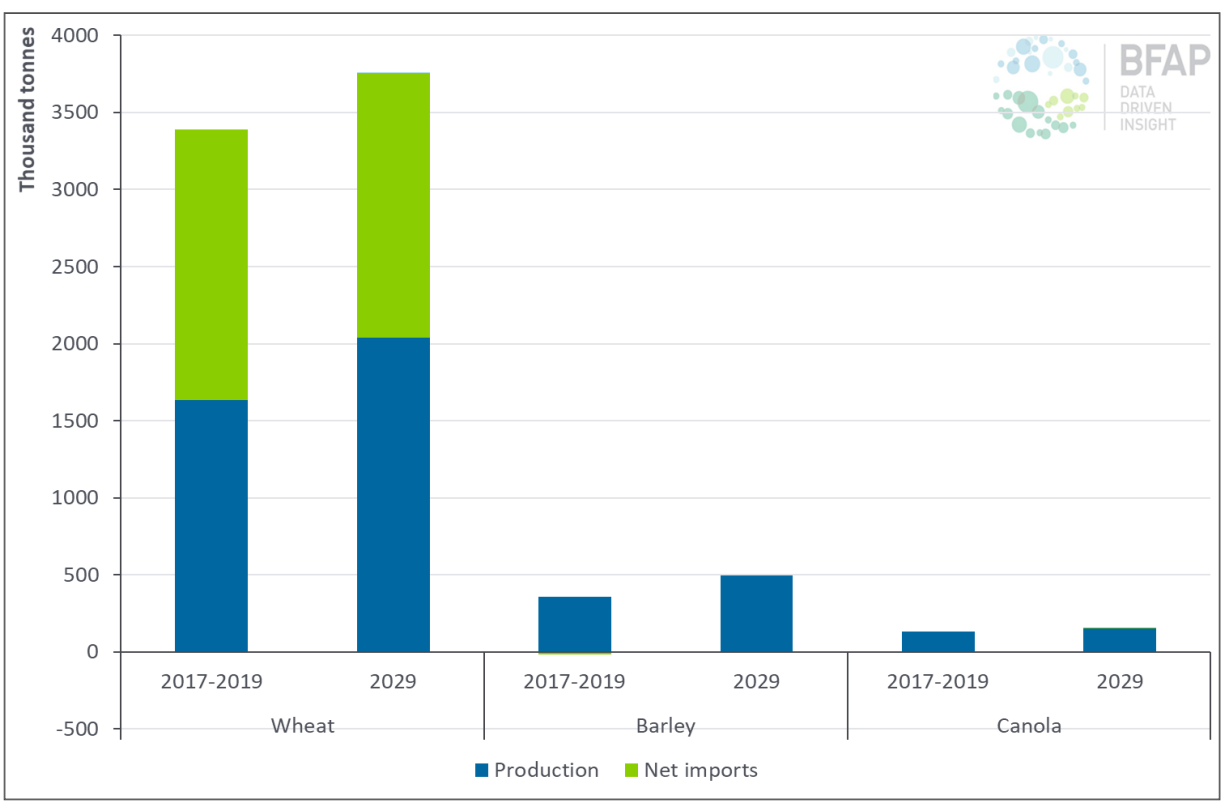


Figure 44: Demand wheat, barley and canola: 2029 vs. 2017-2019 base period

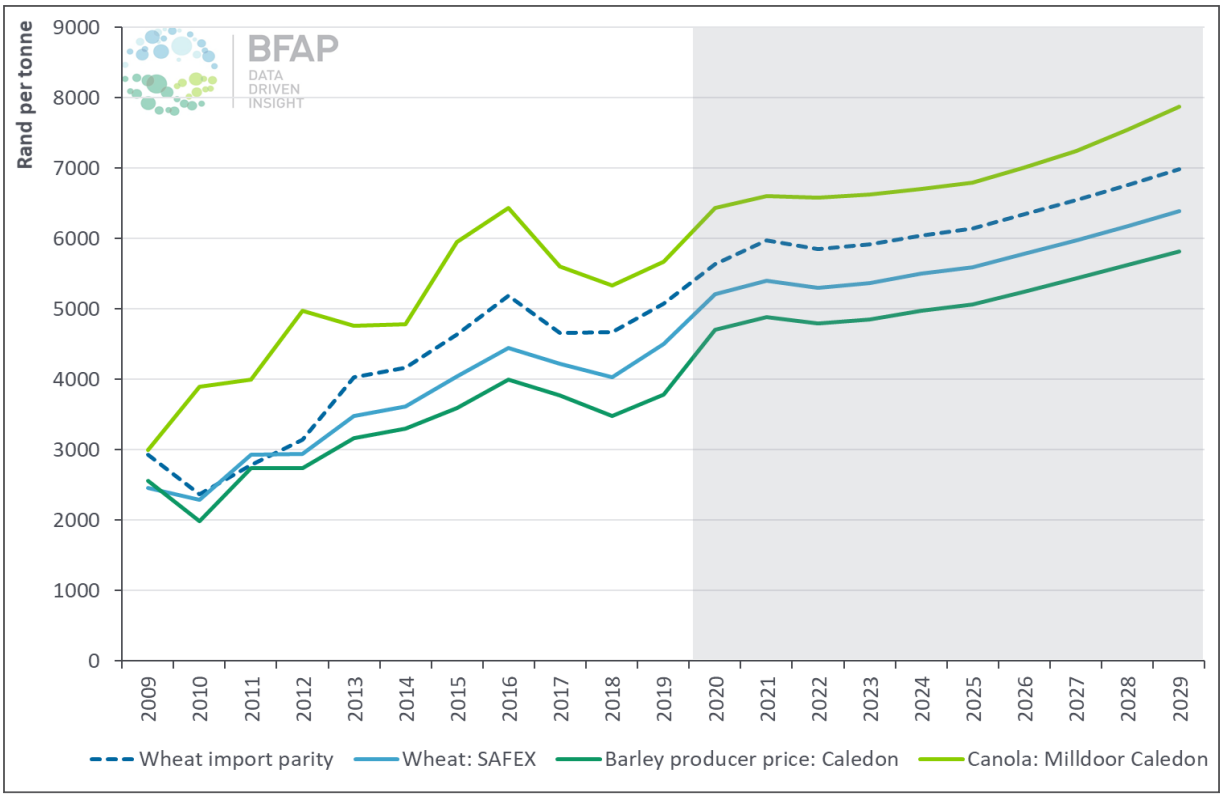


Figure 45: Winter crop prices: 2009 - 2029

prices are expected to continue trading between import parity and export parity levels, increasing by an annual average of 2.5 percent over the next decade. This is less than general inflation and entails a modest decline in real terms. By comparison, wheat and barley prices are projected to increase by an annual average of 2.7 and 3.1 percent respectively over the 10-year period. This is also insufficient to match general inflation.

The projected price path for wheat and barley is dependent on a number of policy assumptions. Firstly, it is assumed that the variable import tariff currently applied in the wheat sector remains in place. The support provided to domestic producers has declined in recent years, firstly through the reduction in the reference price that triggers the variable import tariff from 294 USD per tonne to 279 USD per tonne in mid-2017. Support was further eroded by the introduction of the quota of 300 000 tonnes that can be imported free of this duty from the European Union under the Economic Partnership Agreement (EPA). Under the assumption that the size of the quota remains unchanged and the reference price remains at 279 USD per tonne, the main factor influencing the price path of wheat over the next ten years is an initial currency appreciation, followed by a more gradual increase in line with exchange rate depreciation towards 2029. The projected price of barley over the coming decade is based on the assumption that the price link to wheat is retained in its current form (Figure 45).




OUTLOOK FOR FIELD CROPS SUGARCANE AND SUGAR

The South African sugar industry has lost 20.6 percent of its cane area since 2000, and while the area under cane has been relatively stable at around 360 000 hectares since 2016, there is consensus amongst industry role-players that the current situation may not be sustainable, and there could be further contraction over the next ten years. The major concern is not that the cane area will contract, but that alternative crops replacing cane will not be as labour intensive, thus displacing the many rural jobs that cane provides. Over the next three years the notional price will increase in line with the inflation rate, but this will likely not be enough to prevent further contraction, and over the baseline period, and based on current economic conditions and industry structure, the industry could lose a further 10 percent or 36 000 hectares from 2022 to 2029 (Figure 46).

The industry's contraction is driven by mainly four issues:

- Long term challenges with productivity due to changing weather patterns and limited investment in soil and cane health given land ownership uncertainties.
- A distorted world price, below production cost in most cane producing countries, because of production surpluses from subsidised production in large cane producing countries. For example, in India, which overtook Brazil as the world's leading cane producer in 2019, the Government will spend $880 million on sugar export subsidies in the 2019/20 year, while the Brazilian sugar industry (which produces nearly 50 percent of internationally traded sugar) benefits from direct and indirect Government incentives to the value of $2.5 billion per annum.
- Eswatini's loss of preferential export quotas to the EU in 2017 has resulted in increased SACU tariff-free exports into the SA market.
- Implementation of the Health Promotion Levy in 2018 that resulted in beverage producers formulating away from cane sugar toward more no-, low-calorie and alternative sweeteners. Before the implementation of the tax, the beverage industry made up 30 percent of the South African sugar market.

The more sugar is imported into South Africa from Eswatini and the less South African sugar is consumed locally, the more sugar needs to be exported into the world market at a price lower than production cost, reducing the realised price that cane producers are paid for their cane. While the import tariff allows for a higher domestic price and generally discourages deep-sea imports, the higher domestic price motivates increased tariff-free exports from Eswatini where production costs (labour) are lower.

This conundrum has been developing over a number of years and has motivated development of the South African Sugar Masterplan. The Master Plan partners (retailers and wholesalers, industrial sugar users, sugar industry, Government, and Labour) have committed to a phased approach, with Phase 1 focused on setting the foundations for Vision 2030. Over the next 3 year period, Phase 1 will see actions being put in place to develop and ensure "A diversified and globally competitive, stainable and transformed sugarcane-based value chain..". These actions include:

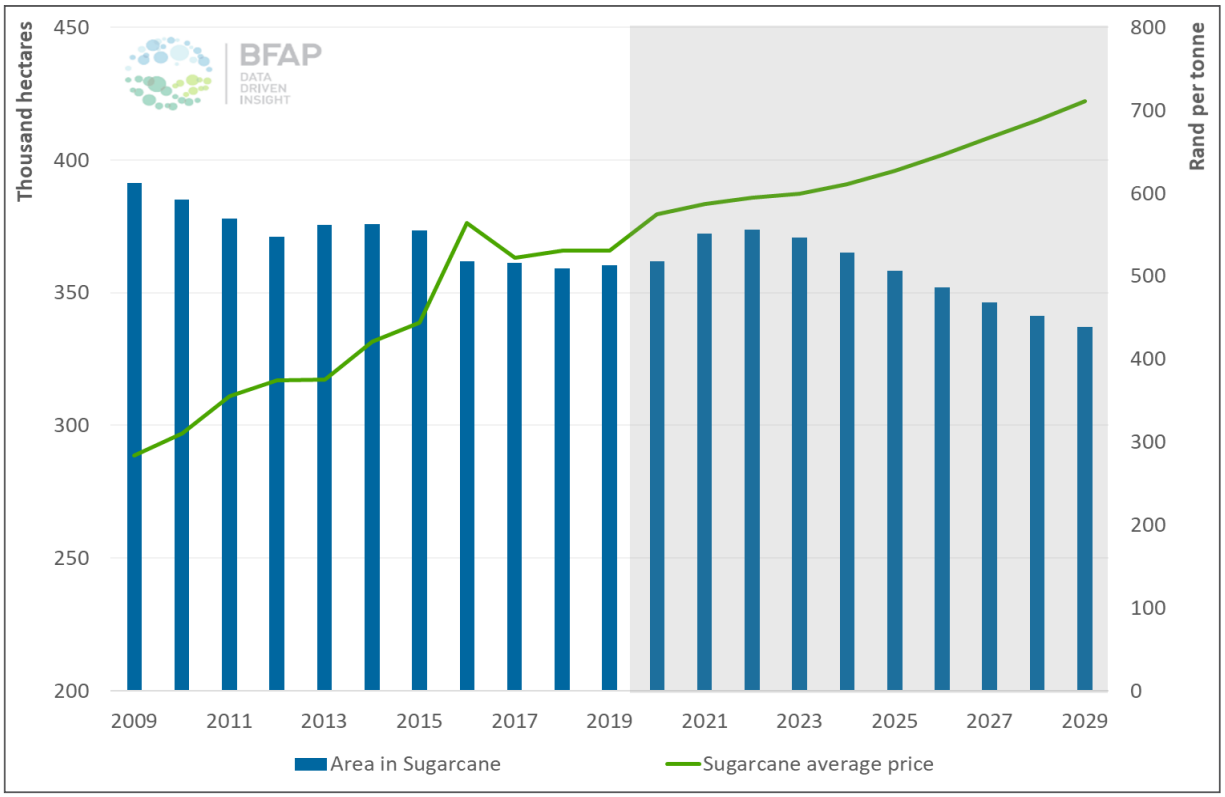


Figure 46: South African area in sugarcane

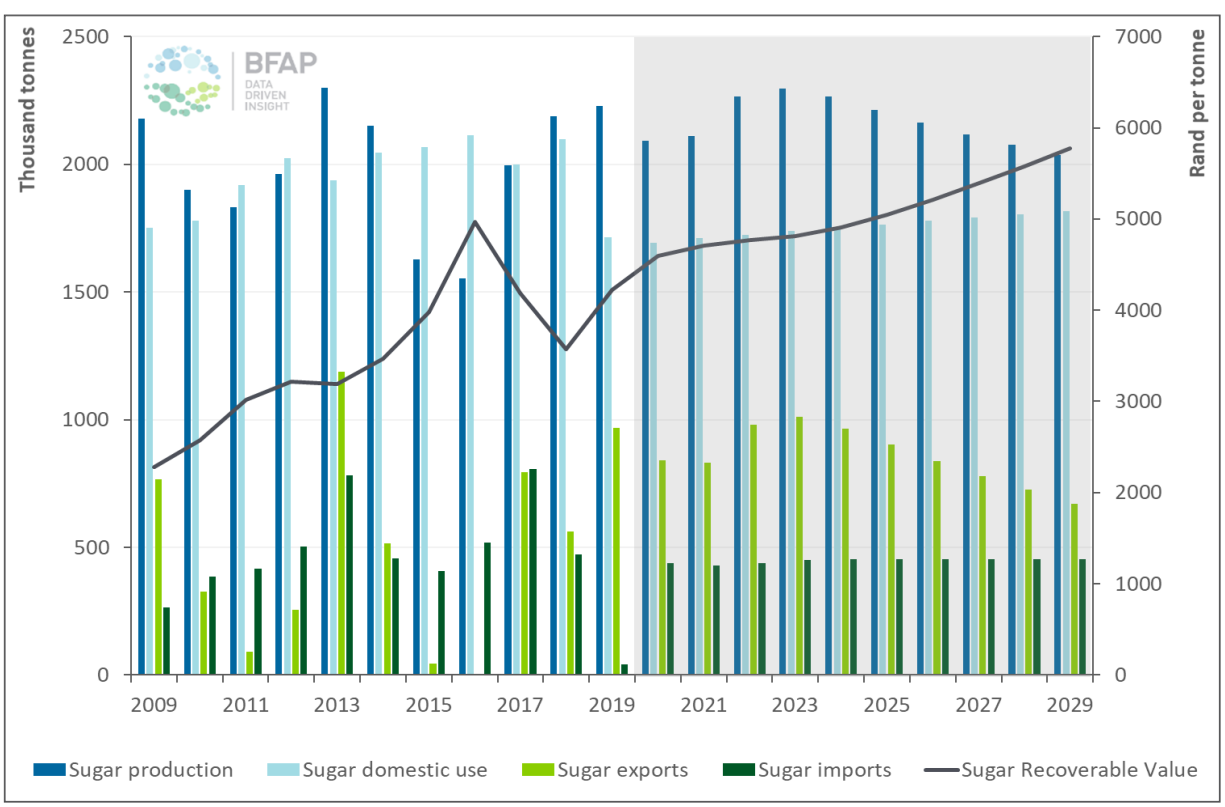


Figure 47: South African sugar production, consumption and RV price

- Restore the local market and offtake agreements *- restore an initial 150,000 tonnes of sugar offtake to the local sugar industry with the goal of increasing this to at least 300,000 tonnes in year three.*
- Producer price restraint and certainty – *increase sugar producer prices in line with inflation and provide pricing certainty to retail and industrial customers.*
- Strategic trade protection – *provide appropriate trade protection to the local sugar industry from low priced and dumped deep-sea imports.*
- Job retention and mitigation - *ensure that through the industry transition and restructuring, jobs are protected and preserved as far as possible, and that appropriate steps are taken to mitigate the effects of any job losses that do occur.*
- Small-scale grower retention and support - *ensure that the foundational role of small- scale growers in the sugarcane value-chain is preserved and extended, and that urgent short-term measures are taken to ensure the viability of small-scale growers.*
- Transformation - *ensure that ownership and participation in the sugarcane-based value chain by black farmers, black industrialists, black-owned SMEs, and workers, including women, young people and the disabled, is significantly advanced through the stabilisation and restructuring plan.*
- Managed industry restructuring plan - *re-balance industry capacity, improve efficiency and restore profitability through exemption of the sugar industry for a period of one year under Section 10 of the Competition Act to enable the industry to collaborate and develop the industry restructuring plan.*

Whether these actions would be sufficient to prevent the shedding of more hectares is not clear, but the objective of a managed consolidation for increased efficiency and a more optimised industry seems to be a step in the right direction. These steps however do come at a cost, and the closure of the Darnall and Umzimkulu mills for the 2020 crushing season might be a step towards more optimal use of milling capacity at other mills. However, this has a number of consequences and costs that need to be factored into the overall plan i.e. potential job losses (at the mill and in the supply chain), longer transport distances, and logistical challenges that impact on cane quality, i.e. farmer income. Some hard decisions will have to be made, and the lower domestic demand levels for sugar, with the continued drive for reduced human consumption, will not make restructuring or transforming the industry any easier.




OUTLOOK FOR ANIMAL PRODUCTS MEAT

Meat: Global market situation

Global meat production declined by almost 2 percent in 2019 to 325 million tonnes. Despite increased production in Argentina, the USA, the EU and Turkey, the global decline was primarily attributed to China, where the outbreak of African Swine Fever (ASF) decimated the national pig herd. China's pork production is estimated to have declined by 21 percent, but due to some offsetting increases in other meats, its total meat production decreased by only 10 percent. ASF also spread to a number of countries across Asia, Europe and Africa, but its impact on production was most severe in China and Viet Nam.

In light of China's production shortfall, its demand for imports increased and hence global trade volumes increased by 4 percent year on year from 2018 levels. Across all meat types, China's overall meat imports increased by around 2 million tonnes. This strong import demand also reflected in prices, with the FAO international meat price index increasing by 5.6 percent in 2019 relative to 2018. Unsurprisingly, frozen pork recorded the sharpest increase, but poultry and beef prices also benefitted from strong Asian demand, while supply constraints in Oceania supported persistently high sheep meat prices.

In 2020, the global impact of the COVID-19 pandemic and the subsequent measures to contain its spread weakened the demand for imports and prices have decreased across the board. Measured by the FAO meat price indices, from January to June 2020, poultry prices have declined by 16 percent, pork prices by 7.5 percent, bovine prices by 5 percent and sheep meat prices by 1.3 percent. While some risks associated with disease outbreaks and concomitant interruptions in supply do exist, demand remains fundamentally weak and on average for the year, prices are expected to be weaker in 2020 relative to 2019 levels. In South Africa, the sharp depreciation in the exchange rate has however offset the effect of the decline in global prices.

Over the course of the next 10 years, the OECD-FAO projects that global meat consumption will increase by 12 percent relative to the 2017-2019 base period. In many developed regions, consumption has reached saturation levels, and in per capita terms, further gains may relate to value (quality) rather than volume. In the short term, the reduction in spending power emanating from the economic recession will constrain growth in developing regions that might otherwise have increased more rapidly. The supply response is expected to combine herd expansion in regions such as the Americas, where land is less of a limiting factor, combined with substantial productivity gains. Developing regions are expected to account for the bulk of additional supply.

Domestic market situation: Meat

The impact of the COVID-19 pandemic and subsequent measures imposed to curb its spread has had a severe impact on meat markets in South Africa. While demand spiked for the few days before lockdown commenced on 26 March, demand for meat products plummeted in subsequent weeks due to severe constraints in consumer buying power, further exacerbated by the prolonged closure of the food service sector. The food service industry is estimated to contribute between 10 percent and 20 percent of total demand, depending on meat type. After

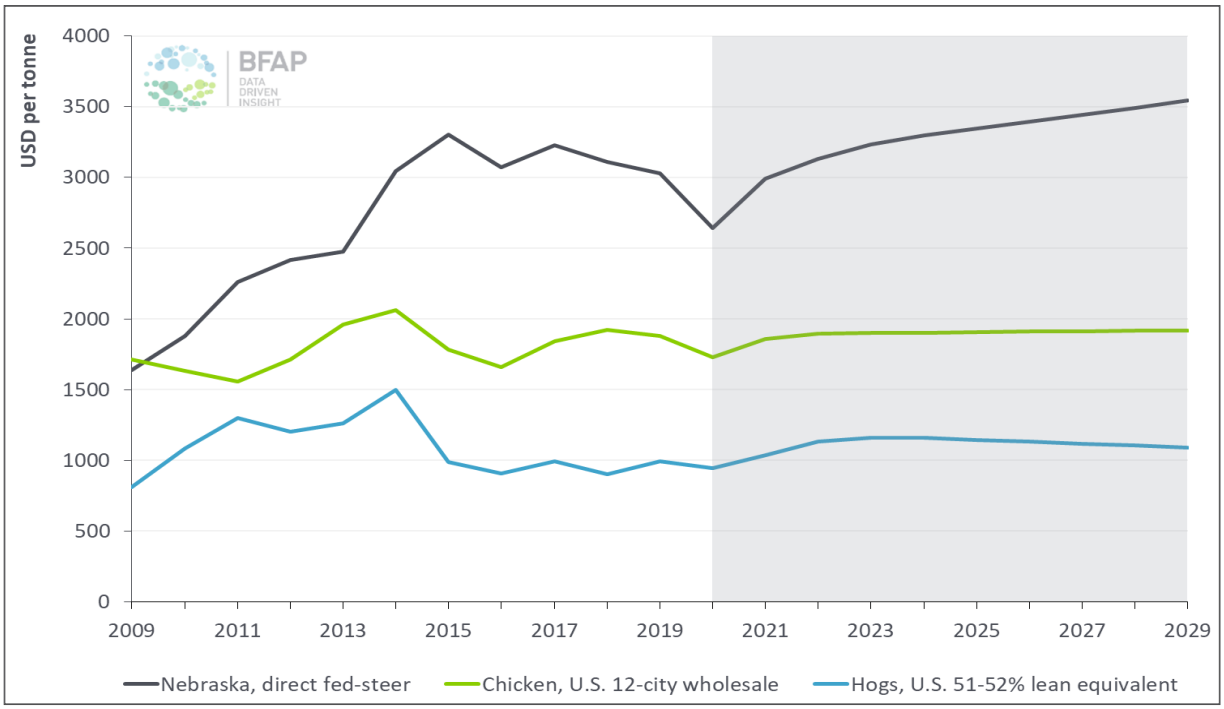


Figure 48: World meat prices: 2009 - 2029
Source: FAPRI & BFAP updates

forced closure through the first 5 weeks of lockdown, restaurants were able to open for delivery under level 4, with take away and limited eat in options only opening under different stages of level 3 of lockdown.

The price effects emanating from weak demand differ significantly across meat types, owing to inherent differences in price formation, as well as consumer preferences and own price elasticity. In the case of poultry, and to a lesser extent lamb, the dependence on imported products implies that prices tend towards import parity. Consequently, the sharp depreciation in the exchange rate offset weak prices in the global market, resulting in limited price declines domestically. In the case of beef, South Africa is a net exporter and while exports of high value cuts play an important role in optimising carcass value, domestic supply and demand remain the core determinant of price levels. Similarly, while South Africa is a net importer of pork, imports comprise mainly ribs and domestic supply and demand levels, as well as other meat prices, have a substantial impact on pork price levels. Accordingly, beef and pork prices declined substantially through April and May, trading 5 and 17 percent respectively below January to March levels. Beef price decreases were mitigated to some extent by a sharp reduction in slaughter volumes through April and May, which reduced oversupply in the market (Figure 49).

The blow from COVID-19 follows a period of immense volatility for livestock producers. Following multiple years of drought and high feed prices, 2017 represented a return to profitability and while the beef sector entered a period of herd rebuilding, those with a shorter production cycle such as poultry and pork, expanded sooner. In 2018, the listeriosis outbreak, which resulted in temporary closure of certain processing facilities, reduced the demand for pork carcasses and prices tumbled. Substitution effects amongst meat types also resulted in some spill-over to other meat markets, where prices tended to increase on the back of stronger demand. In 2019, just as cattle herd rebuilding efforts started to reflect in the market (Figure 49), the outbreak of Foot and Mouth Disease (FMD) outside of the recognised FMD free zone resulted in suspension of South Africa's FMD free status and a sudden loss of export market access. While exports did resume through the second half of the year based on bilateral agreements, supporting a price recovery, annual average beef carcass prices still declined by 3 percent relative to 2018 levels.

Animal disease impacts beyond South Africa's borders also influenced markets. Domestic chicken and pork prices benefited from high international prices – the result of ASF induced herd reductions in China, and in 2019, annual average prices increased by

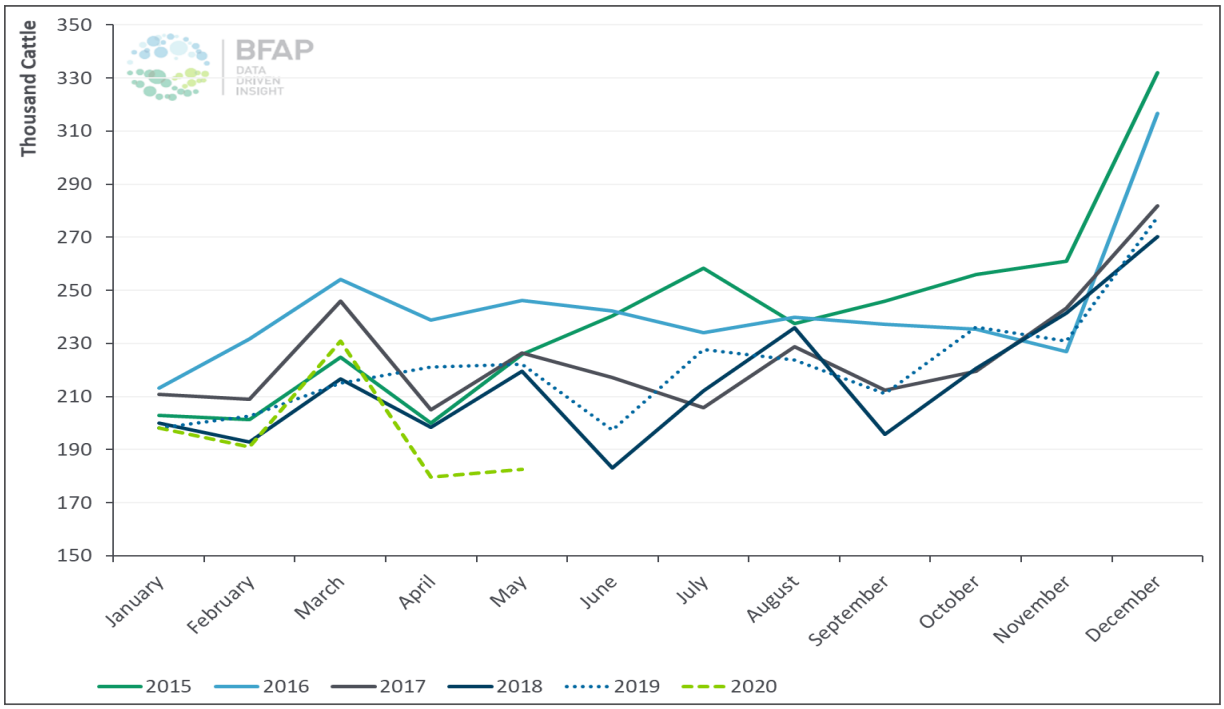


Figure 49: Beef slaughter volumes: 2015 - 2020
Source: South African Levy Administration, 2020

7 and 3 percent respectively from 2018 levels. Despite this increase, margins came under pressure in both of these feed intensive industries, as the below average summer crop resulted in higher feed grain prices.

Domestic market Outlook: Meat and Eggs

The fundamental factors that underpin meat consumption are income levels and the resultant changes in spending power, population growth, and urbanisation. With income growth stagnating in recent years, growth in meat consumption has also slowed substantially relative to the early 2000's. The prolonged impact of the measures imposed to curb COVID-19 and the resultant increase in unemployment will likely result in markedly slower meat consumption growth in the coming decade. Poultry remains the cheapest source of animal protein, but for many lower income consumers, it has few alternatives and when disposable income declines, it becomes unaffordable, leading to a reduction in meat consumption and a switch back to a more starch rich diet. Conversely, its relative affordability within the total meat basket implies that mid-income consumers who had been able to afford a more diverse meat basket may end up consuming more poultry. After an initial sharp decline in 2020, the total meat consumption levels are projected to recover steadily over the 10-year period, but the total projected consumption growth of 12 percent by 2029 relative to the 2017-2019 base period pales in comparison to the 25 percent achieved over the past decade (Figure 50).

Despite the decline in 2019, the chicken to maize price ratio, which serves as a basic indicator of profitability in the sector, remains well above the lows experienced from 2012 to 2016. Despite weak demand and limited price increases in 2020, the large summer crop is expected to keep feed price increases in check, yielding a modest improvement in the chicken to maize price ratio, with further gains in 2021 (Figure 51). These improvements, combined with commitments made under the chicken Masterplan that was signed in November 2019, are projected to support expansion in production over the next 3 years. Combined with the weaker exchange rate, which increases the cost of imported products, this is expected to result in reduced imports in the short term. With the safeguard duties on bone-in portions of EU origin set to be phased out by 2022, imports are projected to rise again over the second half of the outlook period, but not to the levels observed in 2018. Over the course of the projection period, the chicken to maize price ratio is projected to reach an equilibrium at a level well above the average

for the past decade. While production growth slows over the second half of the projection period, it remains positive and over the 10-year period, expands by an annual average of 1.6 percent. In light of recent tariff increases and further trade related commitments in the poultry masterplan, such as the review of regulations regarding labelling and traceability requirements, the share of imports in the domestic market is projected to decline to 25 percent by 2029, from an average of 29 percent in the 2017-2019 base period (Figure 50).

From an affordability perspective, beef offers a variety of options at retail level. Products such as mince compete at similar price points to fresh chicken, while offal provides options in the affordable cluster, but the bulk of beef products fall in mid to higher priced categories. Consequently, consumers tend to be sensitive to price changes. This is reflected in the past decade, when consumption grew by an annual average of 1.3 percent, but declined sharply in 2017 and 2018 when availability constraints resulted in a 20 percent year on year increase in prices. As the effects of recent herd rebuilding start to show, additional supply is expected in 2020 and 2021. This results in a second consecutive year on year decline in prices in 2020, and an average annual price increase of just 4 percent over the coming decade – marginally less than general inflation. This real price decline lends some support to consumption growth, which equates to 12 percent by 2029 relative to the base period of 2017-2019 (Figure 50).

Despite the decline in real prices, the beef to maize price ratio continues to trend upwards over the outlook period, as maize prices decline more in real terms than beef. Consequently, over the course of the next 10 years, beef production is projected to increase by an annual average of 1.3 percent. The industry moved successfully from a net importing to a net exporting position over the past decade, broadening its market beyond the limited domestic growth. Its competitiveness in the export market will benefit further from the persistently weak exchange rate, but the constant risk of disease outbreak and the implications that this can have for market access reduces the incentive to invest in large scale export driven expansion (Figure 52). The impact of disease outbreak and resultant loss of market access was evident through the first quarter of 2019.

If a system of identification and traceability can be introduced successfully in the national herd, as (again) proposed in the Agriculture and Agro-processing Masterplan (2020), export growth can be accelerated substantially, which would enable greater

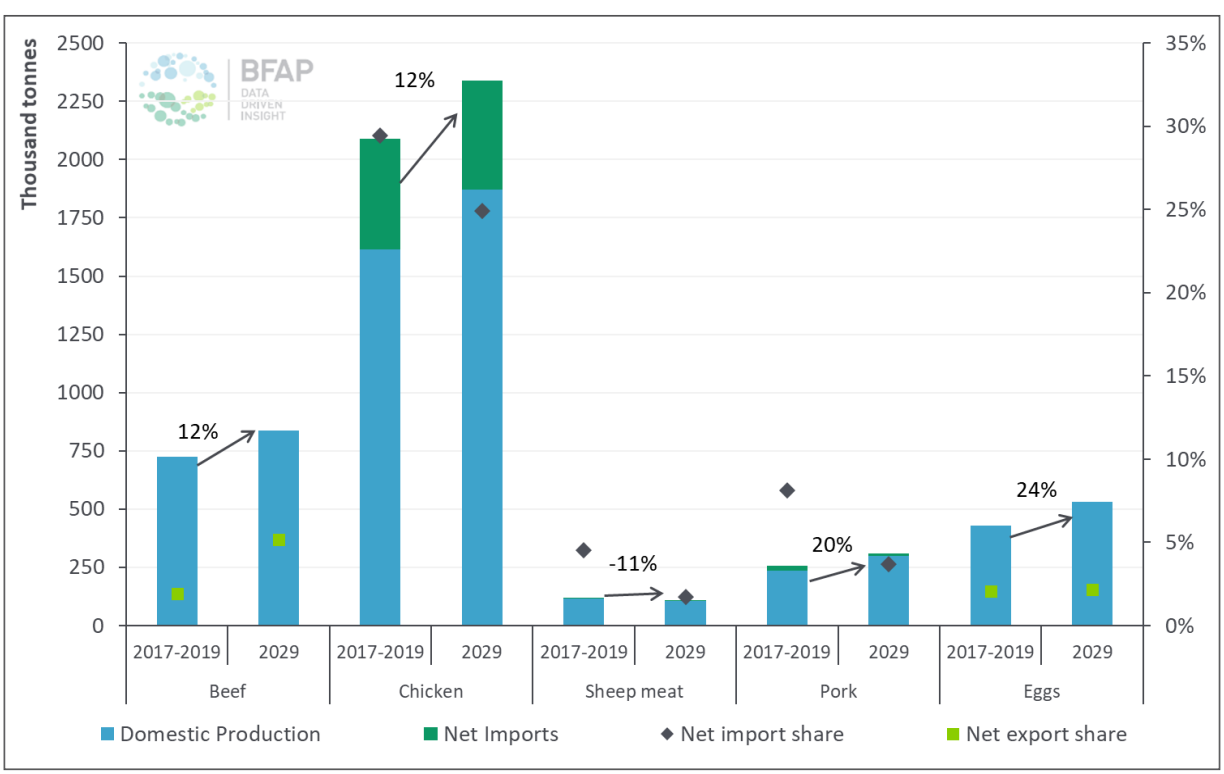


Figure 50: Meat consumption in South Africa: 2029 vs 2017-2019

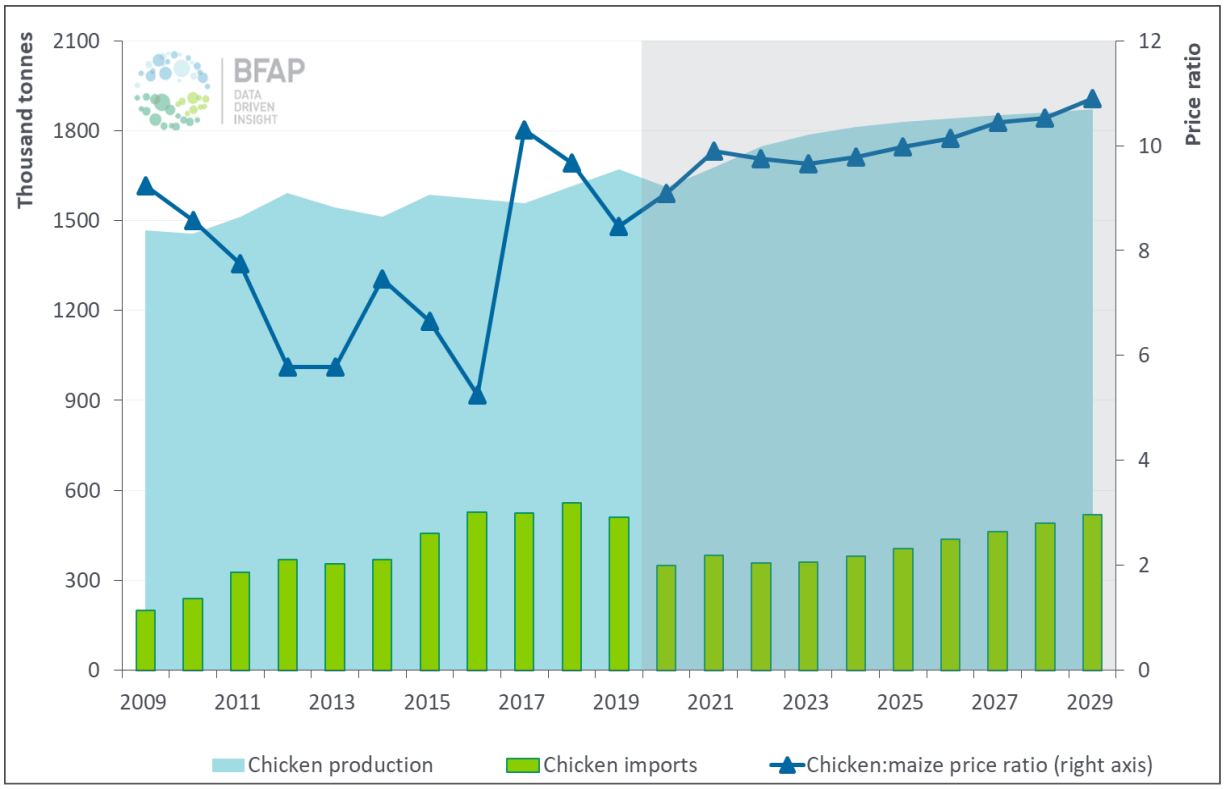


Figure 51: Chicken production, consumption, imports and profitability: 2009 – 2029

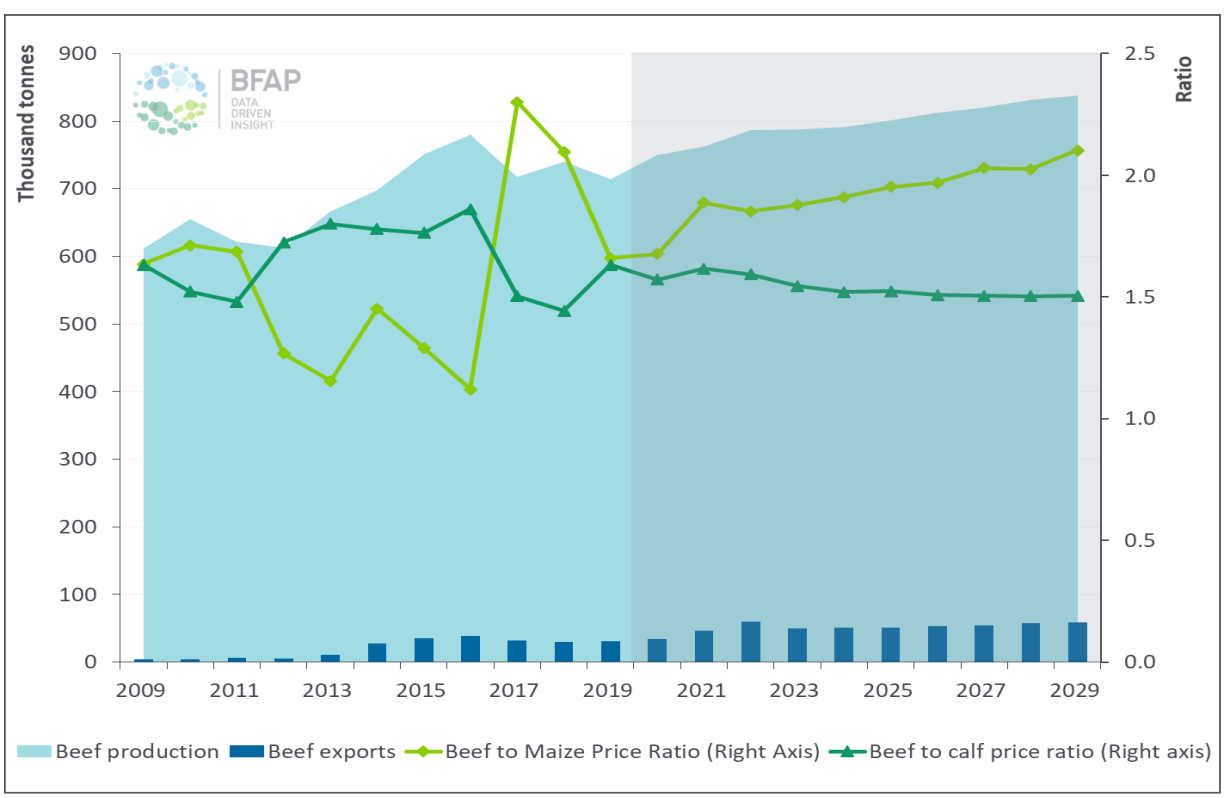


Figure 52: SA beef production, consumption, trade and prices: 2009 – 2029

participation from developing producers in suppling additional weaner calves. To date, the bulk of export growth has been attributed to high value cuts destined for the Middle East and Asia (Figure 53). While the strategy of exporting high value cuts optimises the value of the carcass, enabling competitively priced domestic sales, it also limits the share of total production that can realistically be exported. Apart from the fact that only A2 and A3 carcasses are typically utilised for exports (+-80% of total slaughters), discussions with industry stakeholders suggest that primal cuts typically included under tariff lines associated with fresh and frozen bovine meat account for roughly 15-25 percent of a beef carcass. This can be expanded to 50-60 percent if trimmings are considered as well. While trimmings can yield viable export products, the value of such products is typically lower than that of primal cuts. It would therefore be expected that South Africa would not likely export more than 30 percent of total production in any given year. Even a major exporter such as Brazil only exports 24 percent of total production and the USA only 11 percent. For South Africa to reach in excess of 20 percent, exports would likely need to diversify, with high value cuts still destined for the Middle East and Asia, and remaining parts of the carcass sold both in South Africa and exported into the rest of Africa, where the demand structure is similar to South Africa's domestic market.

Figure 54 presents an accelerated growth scenario for the beef industry, assuming that a successful national identification and traceability system is implemented, combined with strict biosecurity measures to reduce the risk associated with animal disease. The scenario also incorporates expanded market access for exports, enabled by the traceability system, and improved productivity for developing producers to supply 450 000 additional weaners by 2030, relative to the baseline. Under this scenario, by 2030 the gross value of beef production, in nominal terms, can be increased by approximately R12.3 billion. This represents an increase from R57.8 billion by 2030 under the baseline, to R70 billion by 2030 as a result of the interventions. Cumulatively, the total gains over the baseline for the 10-year period equates to R54 billion. Under this scenario, South Africa would export 24 percent of beef production by 2030.

Relative to poultry and beef, pork is a small industry in South Africa, but it has been one of the most dynamic, with consumption growing by 42 percent over the past decade. Pork production increased by 48 percent over the same period, successfully reducing the share of imports in total consumption from 13 percent to 8 percent. The industry has already more than exceeded the growth that was targeted till 2030 under the NDP.

As a small industry, pork prices are sensitive to changes in supply and demand, as well as to the prices of other meat products. The substitutability between

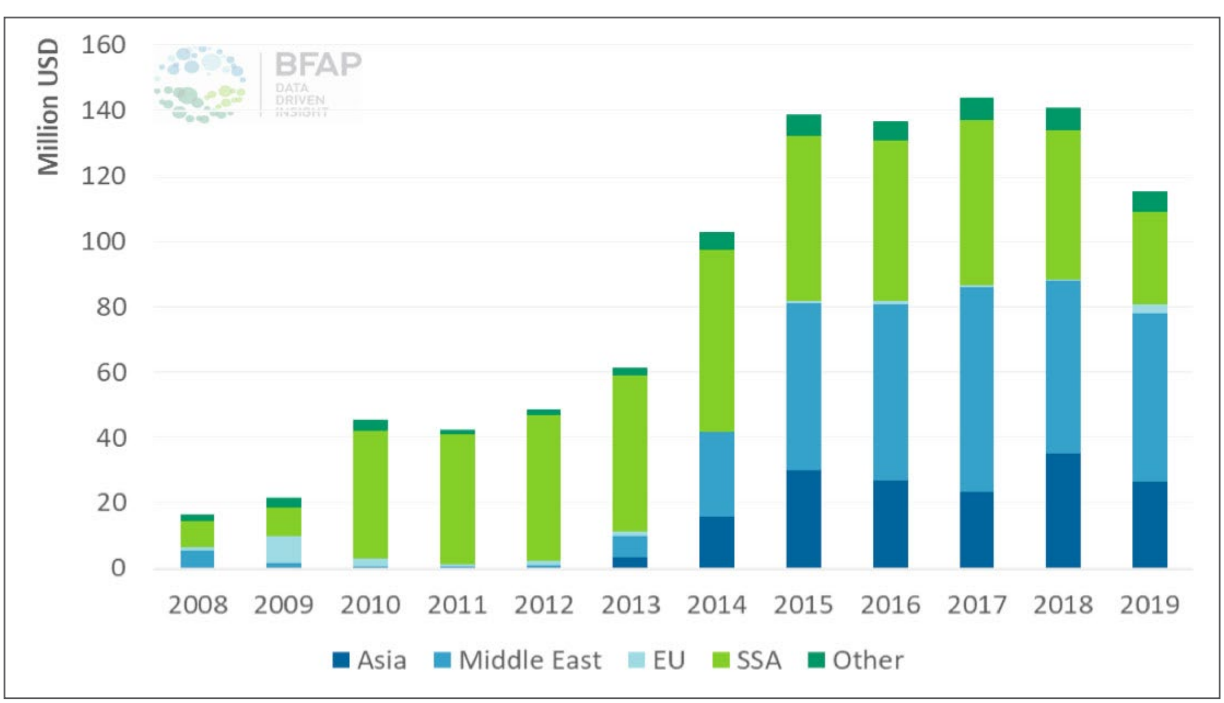


Figure 53: South African beef exports by region: 2008 - 2019

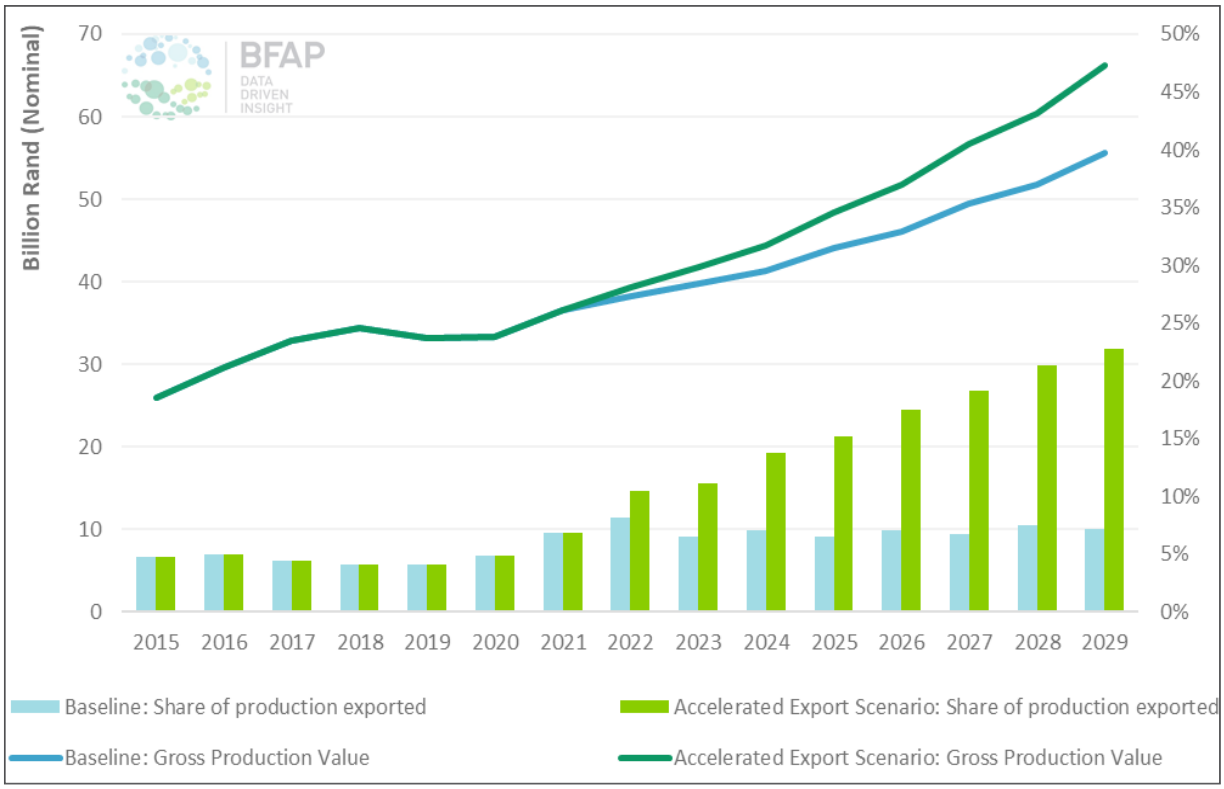


Figure 54: Gross Value of Beef Production under an Accelerated growth scenario

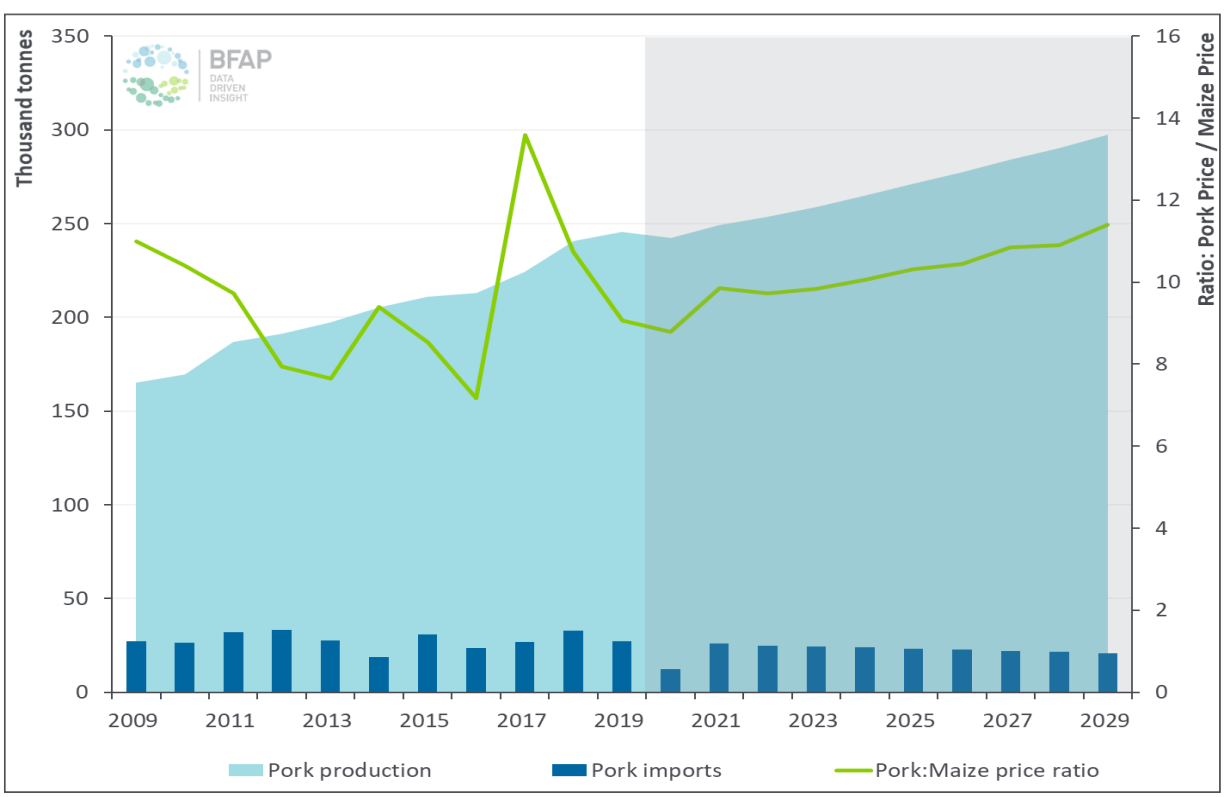


Figure 55: SA pork production, consumption, imports and profitability: 2009 - 2029

meat types and resultant price impacts was evident in 2019, as pork prices also declined sharply following the FMD outbreak. This followed the impact of Listeriosis on pork markets in 2018 and consequently, 2020 is the third year in a row when disease impacts exacerbate the typical seasonal decline in pork prices. The global impact of COVID-19 and resultantly weak demand has offset continued supply constraints in China due to ASF induced herd reductions and therefore, international pork prices are expected to trade weaker in 2020. While the weaker exchange rate will increase the cost of imported products, the domestic demand shock is larger and, given that supply had been in an expansionary cycle, annual average pork prices are expected to decline by 7 percent year on year in 2020.

In the medium term, the pork to maize price ratio settles at an equilibrium higher than the 2012 to 2016 period, but well below the peaks of 2017. The improvement is sufficient to induce an average annual expansion of 2.2 percent from 2021 onwards, with pork production set to reach 300 000 tonnes by 2029 (Figure 55). This is sufficient to reduce the share of imports in total consumption to 4 percent, consisting predominantly of ribs, for which domestic demand continues to outstrip supply.

Figure 55 presents official production figures, as recorded by the levy administrator. However, Box 4 illustrates that this fails to account for a substantial production volume contributed by the informal sector, which is not typically marketed through an abattoir. Within this segment of production, where biosecurity measures are not as advanced as on large commercial units, the risk of animal disease, particularly ASF, is ever present. The virus does not pose any risk to pork consumers, but with culling the most effective means of controlling the spread of the virus, the effect of an extended outbreak on production levels can be significant. While ASF is endemic to South Africa, stringent biosecurity measures help producers curb the threat associated with it. The stringent biosecurity measures applied by large commercial units mitigates the risk for these producers, but within the informal sector, the first step to managing the risk more efficiently would be the implementation of an identification system, that will also enable traceability throughout the value chain.

As the most expensive meat type, weak economic conditions are also negatively affecting the consumption of lamb and mutton. At the same time, the persistently weak exchange rate has resulted in higher prices over the first part of the year, further deterring consumers with limited spending power.

Box 4: Quantification of informal pork production

Poultry and cattle may represent the biggest livestock sectors in South Africa, but pigs are a valuable contributor to food security. While the formal sector has grown very rapidly over the past decade, much less is known about the informal sector, where pigs' superior ability to convert food of any quality into pork distinguishes them from ruminants and exemplifies their contribution to food security in these regions.

The latest census of commercial agricultural focussed on VAT registered farmers and so does not yield information on small scale producers, but according to Stats SA's Community Survey (2016), 210 504 households in South Africa were engaged in pig farming in 2015 – an increase of 87 percent from the 112 678 reported in 2011.

Amongst these households, 91 percent kept 10 pigs or less, with 28 percent keeping only a single pig and 36 percent keeping 2-3 pigs. In addition to the information contained in the community survey, a 2013 study by Gcumisa surveyed 533 small pig farmers in the uThukela (Ladysmith) district in KwaZulu-Natal. It found that respondents kept pigs for a number of reasons, including home consumption (63%), a source of income (33%) and manure (3%). It can be assumed that households keeping 3 pigs or less, likely do so for own consumption. When considered as a source of income, 76 percent of households sold live pigs, either to neighbouring households in the community, or at pension pay points.

As a first step in quantifying the possible contribution of these smaller pig producers to total national production and consumption, the informal pig sector was defined as households or producers who are responsible for 50 pigs or less, as contained in Stats SA's Community Survey (2016). The spatial distribution of the informal pig herd is presented in Figure 56. It suggests that 46 percent of the pigs in the informal herd are situated in the Eastern Cape, with a further 13 percent in Limpopo.

Box 4: Quantification of informal pork production (Continue)

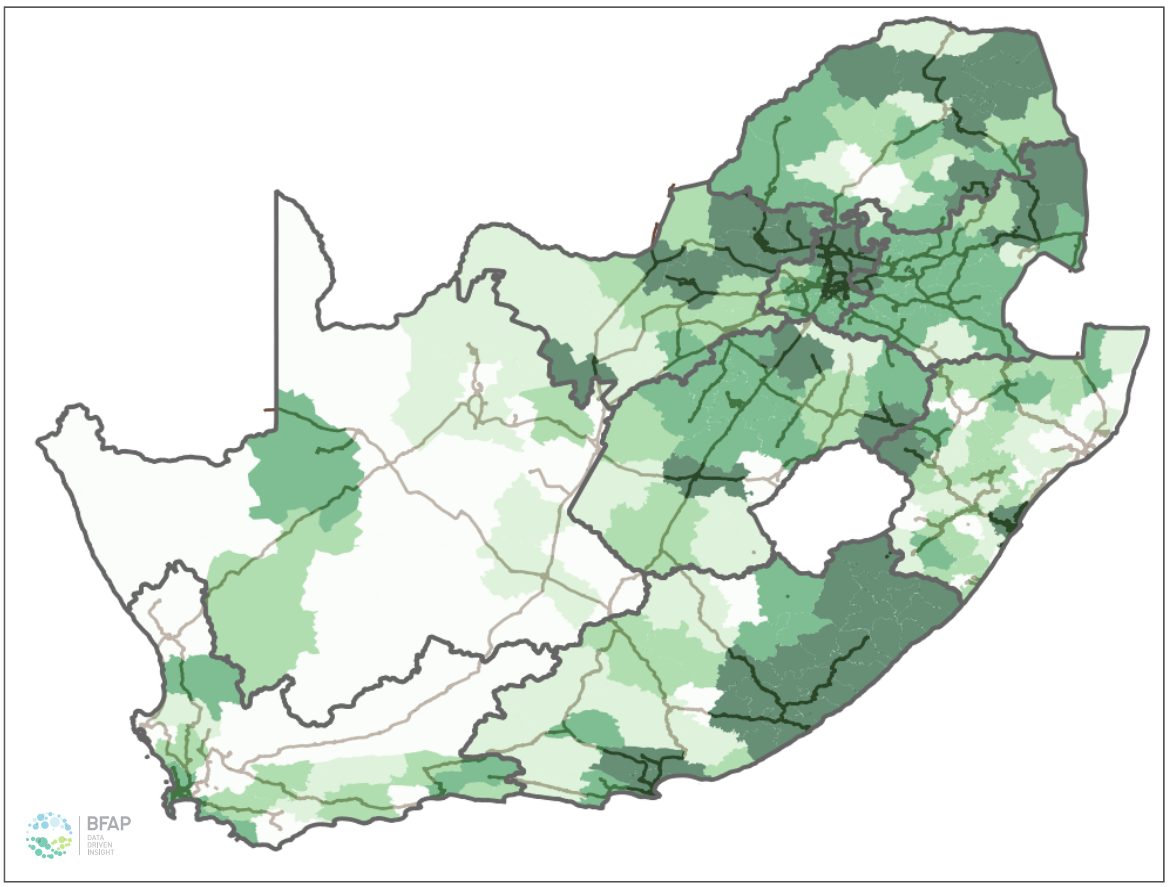


Figure 56: Spatial distribution of South Africa's informal pig herd - defined as units keeping 50 pigs or less

Source: StatsSA 2016, BFAP calculations

The total number of pigs kept in this informal herd is estimated to amounted to 893 000. Considered in conjunction with figures from SAPPO related to the size of the formal pig herd, this suggests that the informal sector accounts for 38 percent of the national herd. The community survey recorded a total of 691 610 pigs for households owning more than 50 pigs (proxy for the formal sector), which is well below the 1.45 million pigs estimated to be in the formal herd, based on the 114 000 sows reported by SAPPO. The extent of under reporting on the large-scale commercial sector within the community survey might suggest that the estimates on the informal herd size should also be seen as conservative and interpreted as a minimum number.

In order to relate the herd numbers to production volumes, a number of assumptions need to be made regarding productivity and carcass weights. Based on a small case study survey in the North West province, smaller units typically comprise 3 sows and 1 boar. Piglets are raised and sold at around 5 months, while sows are sold for slaughter at around 2.5-3 years. Triangulating these productivity indicators, the size distribution (number of pigs per household) presented in the Stats SA Community Survey and an average carcass weight of 50kg suggests that, in 2016, informal production accounted for as much as 26 500 tonnes. This implies that the formal production estimates likely undercount national production, and consequently consumption, by around 10 percent (Figure 57). Weaker productivity and smaller carcasses relative to larger operations imply that the informal herd (38% of the total herd) only contributes an estimated 10 percent of national production; the informal sector's contribution remains a significant undercounting of total production. The sector supports

thousands of livelihoods, provides affordable protein to consumers in rural areas and, based on the economics of these small producers, the asset value of the informal herd equates to approximately R1.24 billion rand.

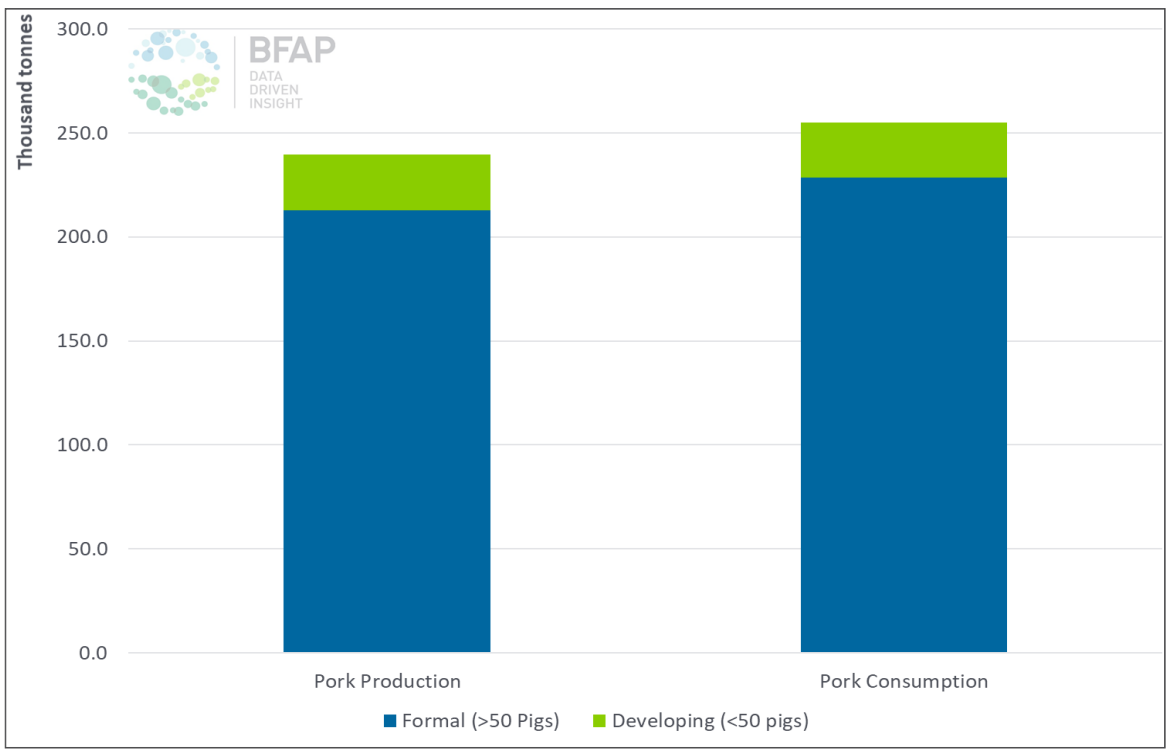


Figure 57: Contribution of the informal pork sector to national production and consumption in 2016

While higher prices would be expected to support expansion, the continued challenges associated with livestock theft and predation reduce the incentive to increase production. This persistent risk, combined with contracting demand, results in a largely sideways trend in sheep meat production over the coming decade (Figure 58) and imports remaining a fairly stable, but small share of consumption.

Domestic Market Outlook: Wool

Where wool prices reached record levels in 2018, supported by strong demand in China, India and the EU and drought induced supply constraints in Australia, the 2019/20 market conditions were considerably less positive. In early 2019, wool exports were challenged by the FMD outbreak, which resulted in the initial closure of the Chinese market for South Africa's wool. The producer to auction traceability system within the industry enabled it to re-open exports based on bilateral agreements, but much of the clip had to be stored at a cost, with exports only re-opening in the 2020 season. Towards the end of the 2020 season, exports were again delayed by the lockdown, as wool was not initially declared as an essential agricultural commodity. With COVID-19 exacerbating the international economic slowdown, the lower demand for apparel will likely result in a lower world price despite slightly lower production levels from Australia. The fact that South Africa exports more than 90 percent of its wool without adding any value to the raw product, and South Africa's dependence on China as export market for wool, has been criticised in recent years. China has established itself as a highly cost effective primary wool processor, an activity that is not markedly labour intensive but that is a crucial step in the value addition and labour intensive processes of apparel manufacturing. Despite these recent export challenges, merely 3 percent of the domestic wool clip was delivered into the domestic market in 2019, evidence of the lack of local processing capacity. Over the course of the outlook period, the scope for further diversion to exports is limited. Nevertheless, the pandemic-linked slowdown period is followed by strong international prices, which are expected

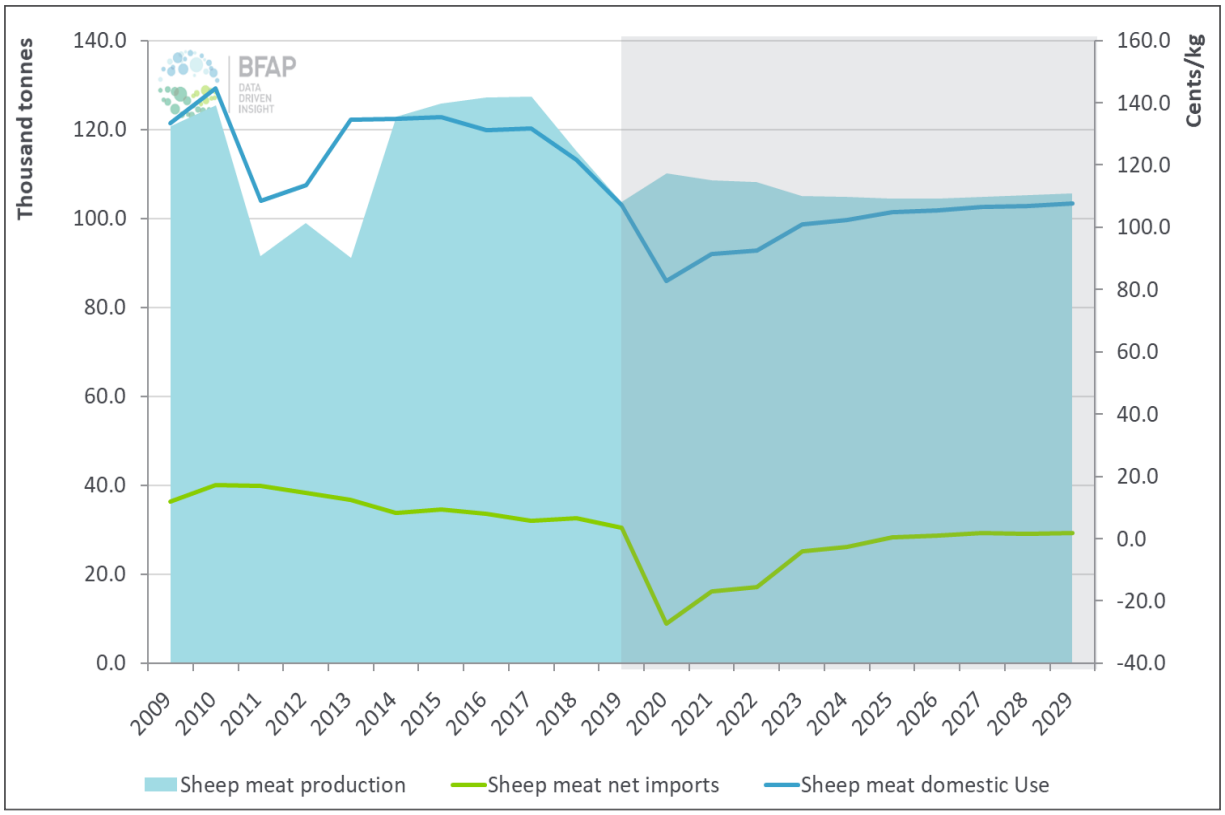


Figure 58: Sheep meat production, consumption and imports

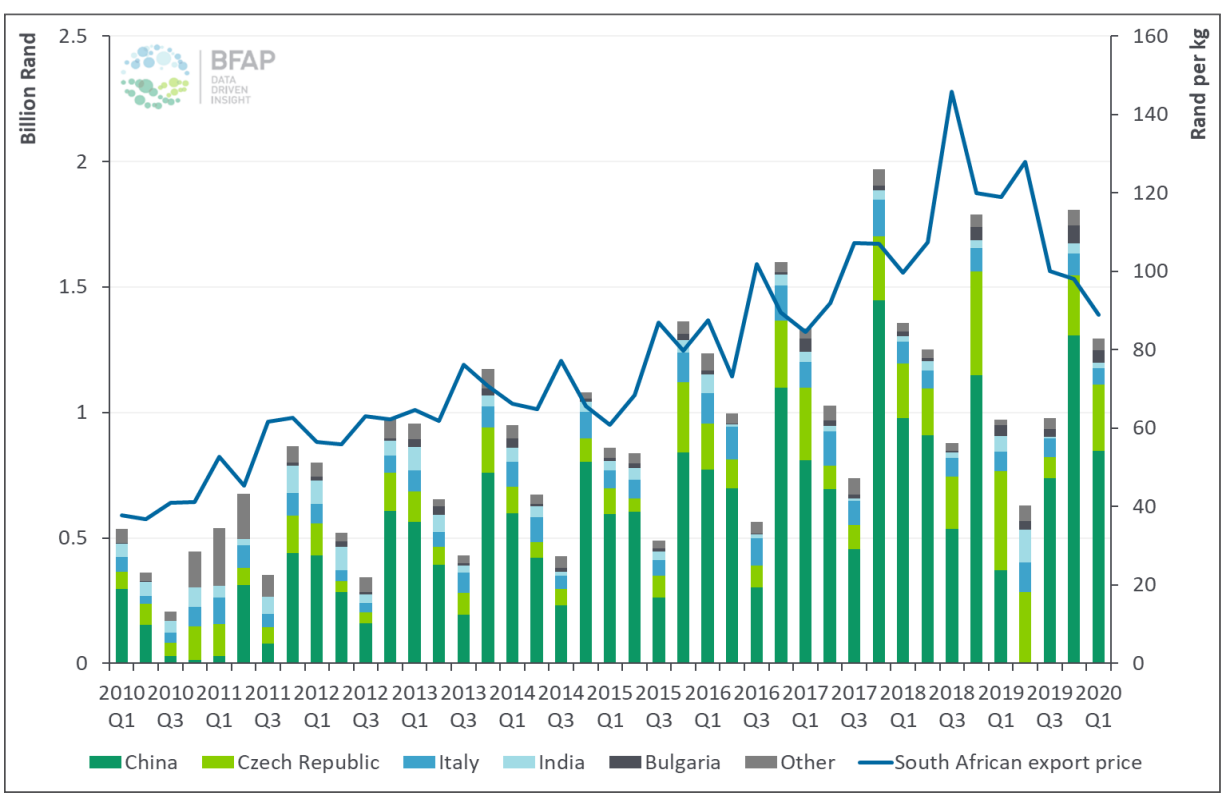


Figure 59: Value of South African wool exports and trade weighted average export price

Source: ITC Trademap, 2019

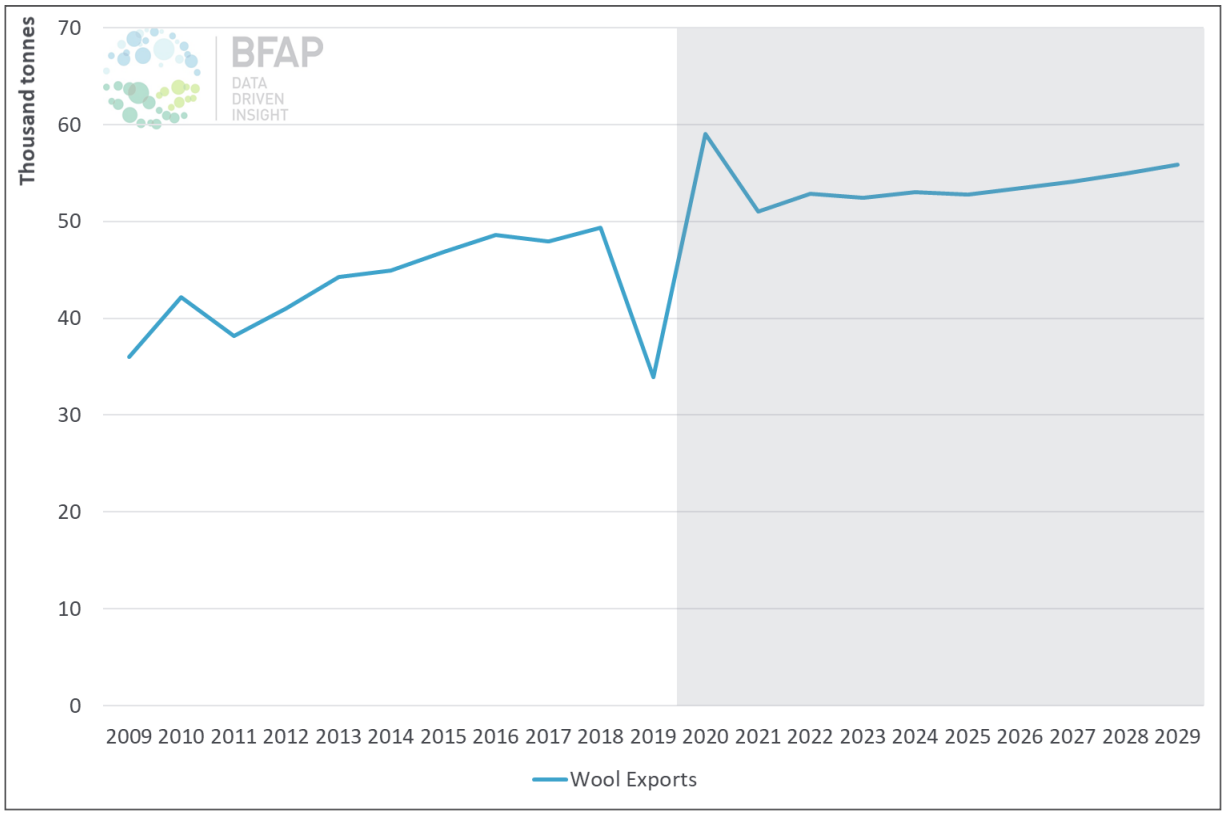


Figure 60: South African wool exports: 2009 - 2029

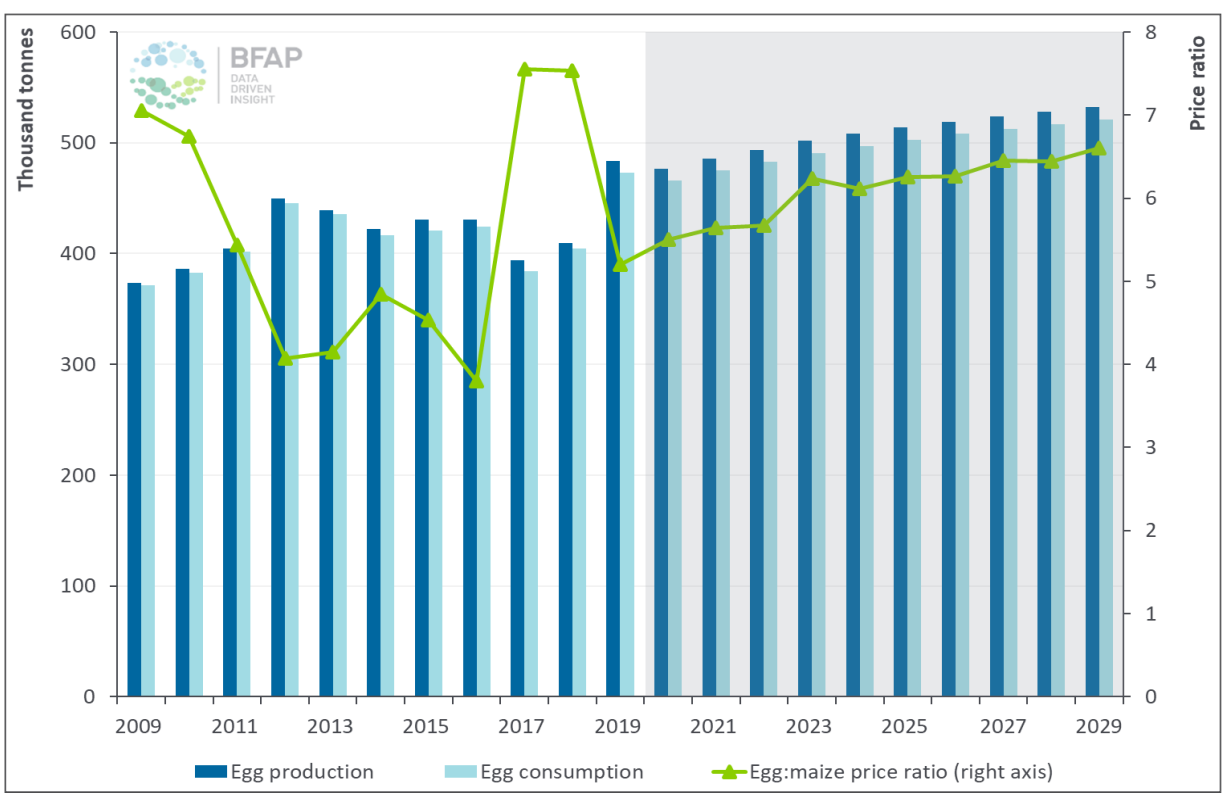


Figure 61: SA egg production, consumption and profitability

to support faster growth in the total value of wool exports up to 2029.

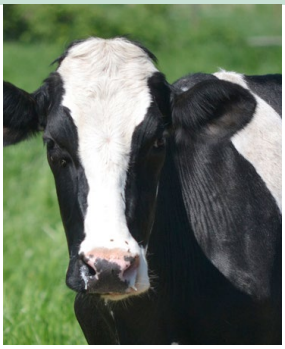
Over the course of the next decade, production is projected to continue increasing, though at a marginally slower rate than the past decade, owing amongst others to challenges related to livestock theft and predation. Considerable potential for wool production expansion exists especially in parts of Mpumalanga as well as communal areas in the Eastern Cape, where genetic improvement, shearing house facilities and traceability systems to prove adherence to Responsible Wool Standards could result in more poor farmers earning income priced in foreign currency.

Domestic Market Outlook: Eggs

The egg industry provides the most affordable source of animal protein to South African consumers. Through the national lockdown, the demand for eggs remained strong and prices tended upwards, particularly towards the end of the hard lockdown when some inputs became scarce. The lockdown follows a period of immense volatility for the industry. The 2017 outbreak of Highly Pathogenic Avian Influenza (HPAI) reduced the national layer flock by an estimated 20 percent. With the nature of the product not conducive to large scale imports and time required to restock, this resulted in year on year price increases of 17 and 11 percent respectively in 2017 and 2018. As supply re-entered the market in 2019, prices declined by 15 percent. Given that supply is still strong, but consumer income under pressure, a further reduction of 2 percent is projected in 2020.

Over the course of the coming decade, egg consumption is projected to expand by 24 percent, supported by its relative affordability compared to alternative animal proteins. Figure 61 also indicates that the egg to maize price ratio increases over the course of the projection period and remains well above the 2012-2016 lows, but below the peaks of 2017 and 2018. Despite the ongoing risk of AI for layer hens, this is sufficient to induce average annual growth of 1.1 percent per annum, to reach 530 000 tonnes by 2029.

The outlook presented in this chapter reflects the assumption of stable weather conditions, but remains subject to a number of uncertainties and unexpected events. The emergence of COVID-19 and the drastic measures imposed to correct it served to illustrate how sensitive the sector is to sudden changes in consumer spending power. Similarly, the impact of exchange rate instability and extreme volatility in weather conditions on profitability, and the resultant investment decisions, was clear over the past 5 years. However, in livestock markets, food safety and disease management adds an additional extremely important risk to manage. The price support gained by the beef sector from being able to export since being declared free of FMD in 2014 presents a clear example of the benefits attainable if the country's disease status is managed well, while 2019 illustrates how big the impact can be if that disease status is lost. As the sector navigates its way out of the crisis induced by COVID-19 and the measures imposed to contain it, the need for successful management of South Africa's animal health status and the associated biosecurity measures cannot be overemphasised.

OUTLOOK FOR MILK AND DAIRY PRODUCTS

International market overview

In 2019, global raw milk production grew by 1.8 percent, led by Asian countries - specifically India. By contrast, production from the Oceania countries fell slightly on the back of poor climatic conditions in Australia. Unusually high temperatures in some European countries also affected milk output during the summer months. These issues, combined with strong import demand, provided robust price growth during the first half of 2019. Over the second half of 2019, supply improved, reversing the price trends of the first half of the year. Consequently, the average annual increase in the FAO Dairy price index for 2019 amounted to 3 percent. Overall, trade in dairy products (in milk equivalents) increased by 1 percent between 2018 and 2019 with skim milk powder (SMP) and whole milk powder (WMP) being the most traded dairy products followed by butter and cheese. Of these products, the biggest growth in trade was in cheese, followed by WMP and butter. There was, however, a decline in the volume of SMP traded due to import restrictions imposed by many countries. The growth in trade and prices during 2019 can be attributed to the persistence in a demand trend that has been apparent since 2016, characterised by a preference for high protein/fat and low carb diets, which has supported demand for products such as butter and cheese.

As 2020 unfolds, the picture looks very different from that of 2019. Dairy prices, as measured by the FAO dairy price index, contracted by almost 10 percent between January and May 2020. The largest contraction of almost 25 percent was observed for SMP, due to a slowdown in Chinese demand and constrained port access because of COVID-19 and its associated restrictions. This was followed by a 21 percent contraction in WMP prices and a 17 percent decline in butter prices. Cheese prices rose marginally by 1.5 percent but are also expected to come under increased pressure due to reduced food service sales.

Overall, the FAO (2020) expects global dairy exports to contract by 4 percent in 2020. This is based on import declines from key importers such as China, Algeria, and the United Arab Emirates and low prices for petroleum products. Prices of petroleum products can be seen as a leading indicator of dairy trade for two reasons. The first is that it plays a pivotal role in the income of large importers such as the UAE, but in general, it is also a metric that gauges the level of economic activity around the globe. If the above-mentioned contraction is realised, it would be the sharpest year-on-year decline in trading volumes in thirty years. This is likely to result in increased stocks in exporting countries, which will inevitably push prices lower.

The challenge for the global dairy industry going forward will be to adjust supply in accordance with lower demand and a possible shift in the product mix of dairy products. Here consumers seem to prefer products with a longer shelf life. It is expected that contracted global demand for dairy products will persist into 2021, based on the slow recovery from the recession in 2020 and prices will only show modest recovery over the rest of the outlook period (Figure 62).

Domestic market overview and outlook

The consolidation of dairy enterprises persisted in 2020, with the number of farming operations declining

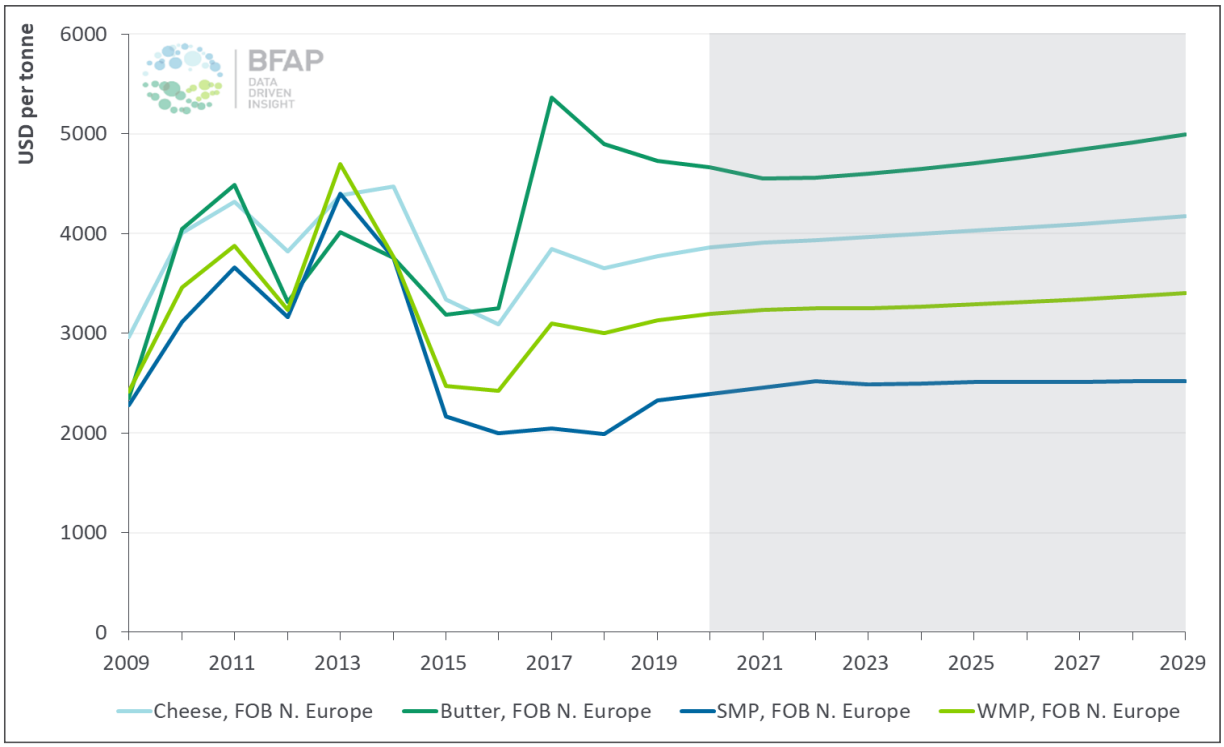


Figure 62: International Dairy Prices: 2009-2029
Source: FAPRI, OECD-FAO and BFAP, 2020

from 1235 in January 2019 to 1164 in January 2020. This represents a cumulative reduction in dairy enterprises of 57 percent since 2011. The largest reduction in the number of producers has occurred in Limpopo, with production shifting to pasture-based coastal provinces. The drop in the number of producers is a result of the increased efficiency engendered by the cost-price squeeze on producers over the last decade. With the exception of 2017, the milk to maize price ratio has been consistently under two and tending lower, indicating constrained profitability. Despite this, milk production has shown a steadily increasing trend, with fluid milk production increasing by 0.65 percent year on year in 2019. This is indicative of the ever-increasing scale of operational units, which is a consequence of the asset specificity and sheer size of investment required when utilising top technology for optimum competitiveness. The productivity gains achieved in the sector have been a key driver of increased production despite the input-output price squeeze.

The slightly positive trend in production that has been apparent over the past decade is expected to persist over the outlook period, with fluid milk production increasing by just short of 20 percent over the next 10 years, compared to 26.3 percent over the past decade. It is expected that the milk to maize price ratio will stabilise over the outlook period at a level similar to 2014 – above the lows of 2015 and 2016, but also well below the peak of 2017. This is sufficient to support production growth at an average rate of around 1.8 percent per annum (Figure 63). The dairy industry has historically been characterised by a fine balance between supply and demand, resulting in volatile prices. Over the outlook, this balance is projected to be maintained, with domestic production sufficient to supply demand. The projected price path reflects the assumption of stable weather conditions and in reality, some volatility will be evident around this trend, as milk output is sensitive to climatic variation. This sensitivity is twofold – directly due to the impact on the productivity of the cows, but also indirectly through its influence on the cost of feed rations and the inherent flexibility of some producers to adjust feed intensity.

In 2019, the South African market was divided into 62 percent fluid milk and 38 percent concentrated products. Within the fluid milk category, around 43 percent is ultra-high temperature (UHT) milk, 34 percent pasteurised milk, 12 percent yoghurt, 2 percent flavoured milk, 1 percent cream and 8

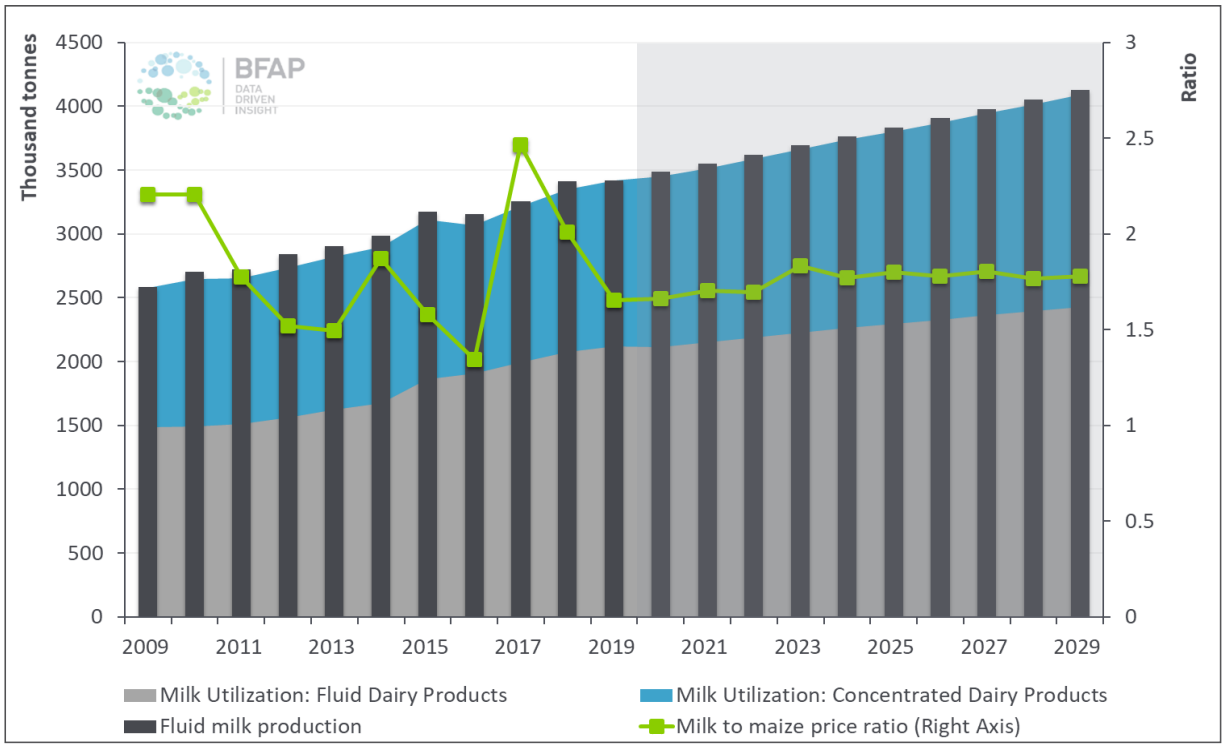


Figure 63: South Africa Milk Production, Utilization, and Profitability: 2020-2029

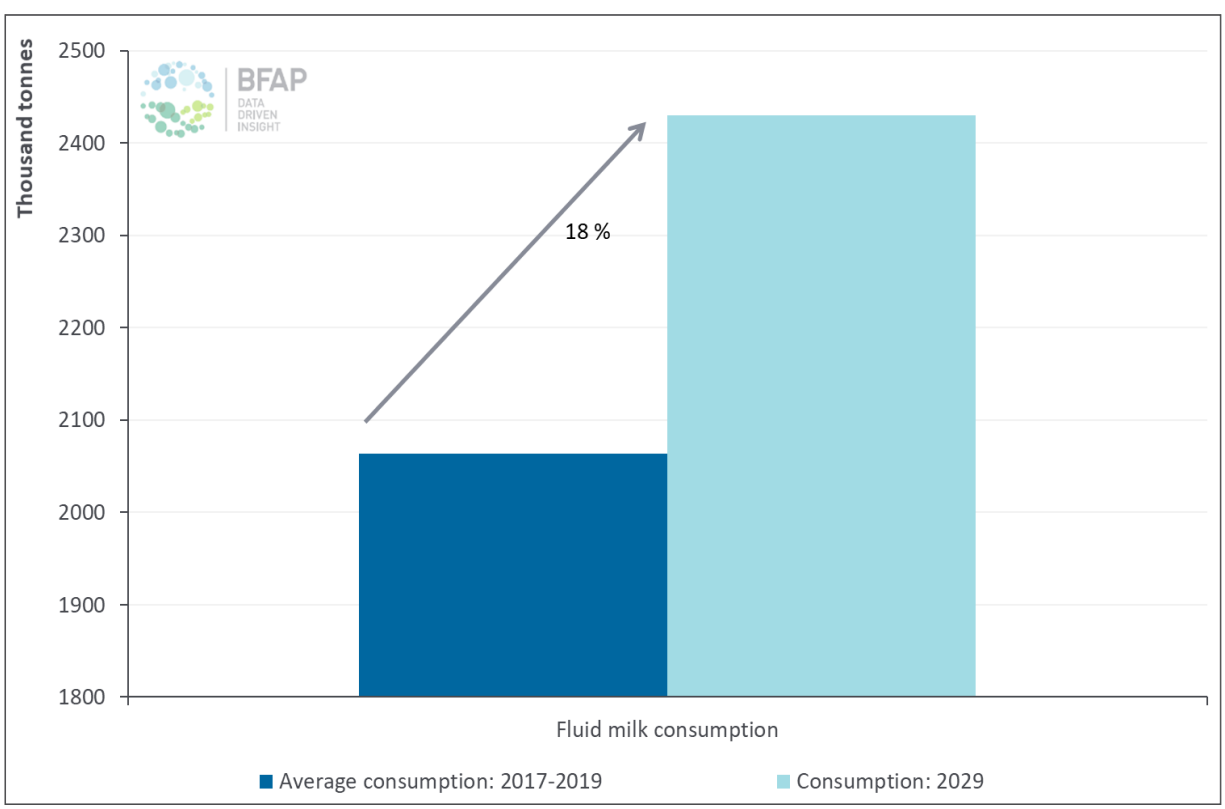


Figure 64: Outlook for fluid milk – 2017-2019 vs. 2029

percent other products. Here it is also expected that consumption patterns will support growth in products with a longer shelf life so that consumers can reduce shopping trips. Over the outlook period, the demand for liquid products is projected to increase by an annual average of 1.5 percent, which is slower than that of concentrated products. Amongst the various concentrated products, it is expected that the biggest growth, albeit from a very low base, will come from SMP (59%), the most affordable of the concentrated products, followed by cheese (41%) and butter (39%). WMP will also show less substantial growth of 12 percent over the next 10 years. For most of these products, this represents a substantial slowdown from the past decade, when cheese consumption increased by 55 percent and butter consumption by 60 percent.

Similar to other sources of animal protein, dairy consumption is expected to be affected by the economic fallout associated with the COVID-19 pandemic. In previous downturns, such as the financial crisis in 2009/10, the consumption of fluid milk grew at a much slower rate. Concentrated products, in turn, experienced contraction in consumption during the crisis period but showed rapid recovery on the back of economic upturns in 2011/12. In the coming decade, the recovery from the 2020 downturn is expected to be slower, resulting in more muted consumption growth rates relative to the past decade. Nevertheless, many dairy products still provide an affordable source of protein to multiple lower income consumers.

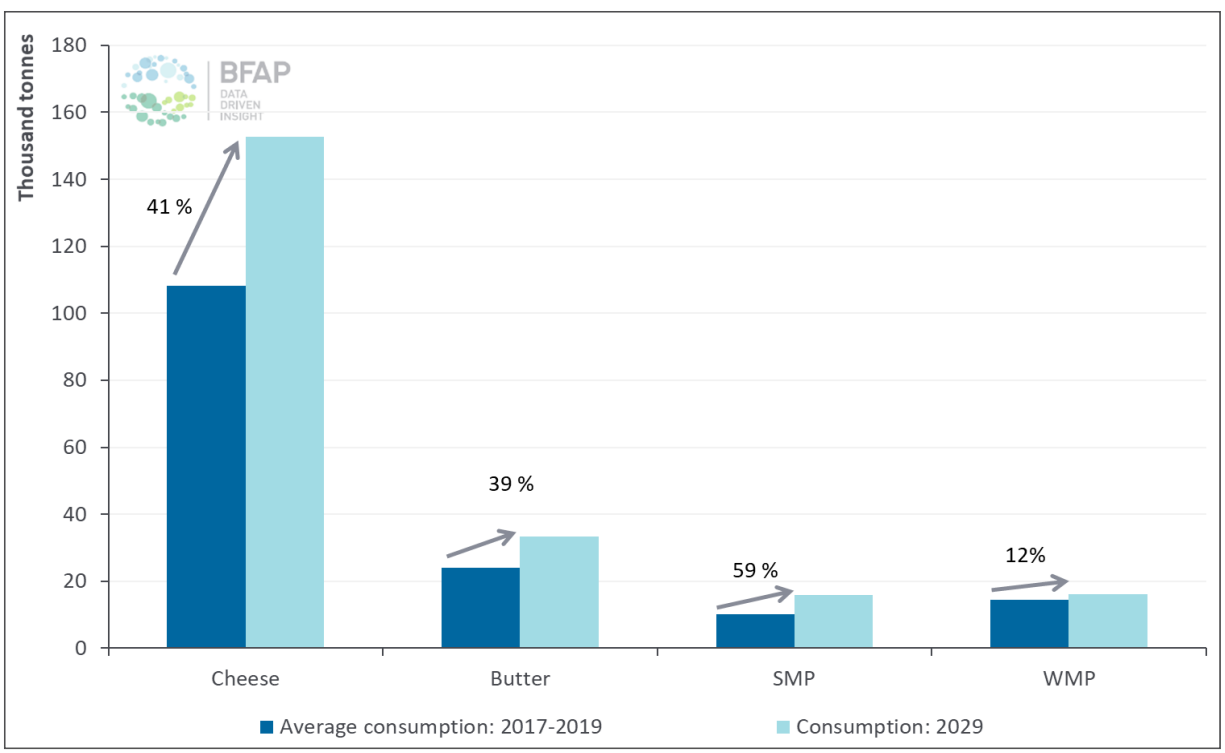
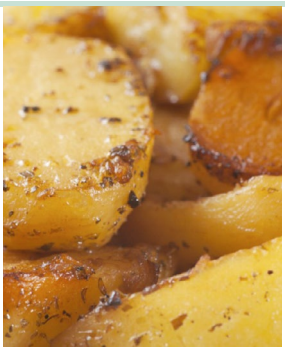


Figure 65: Outlook for concentrated dairy products – 2017-2019 vs. 2029




OUTLOOK FOR HORTICULTURAL PRODUCTS – POTATOES

According to the Abstract of Agricultural Statistics (DALRRD, 2019), the gross production value (GPV) of vegetables in South Africa is R17.7 billion. Potatoes constitute the largest share of the vegetable gross production value (42%), followed by green mealies (26%), tomatoes (12%) and onions (8%) (Figure 66). The average annual growth in production value over the past five years was 7 percent for potatoes, 13 percent for green mealies, 9 percent for tomatoes and 6 percent for onions.

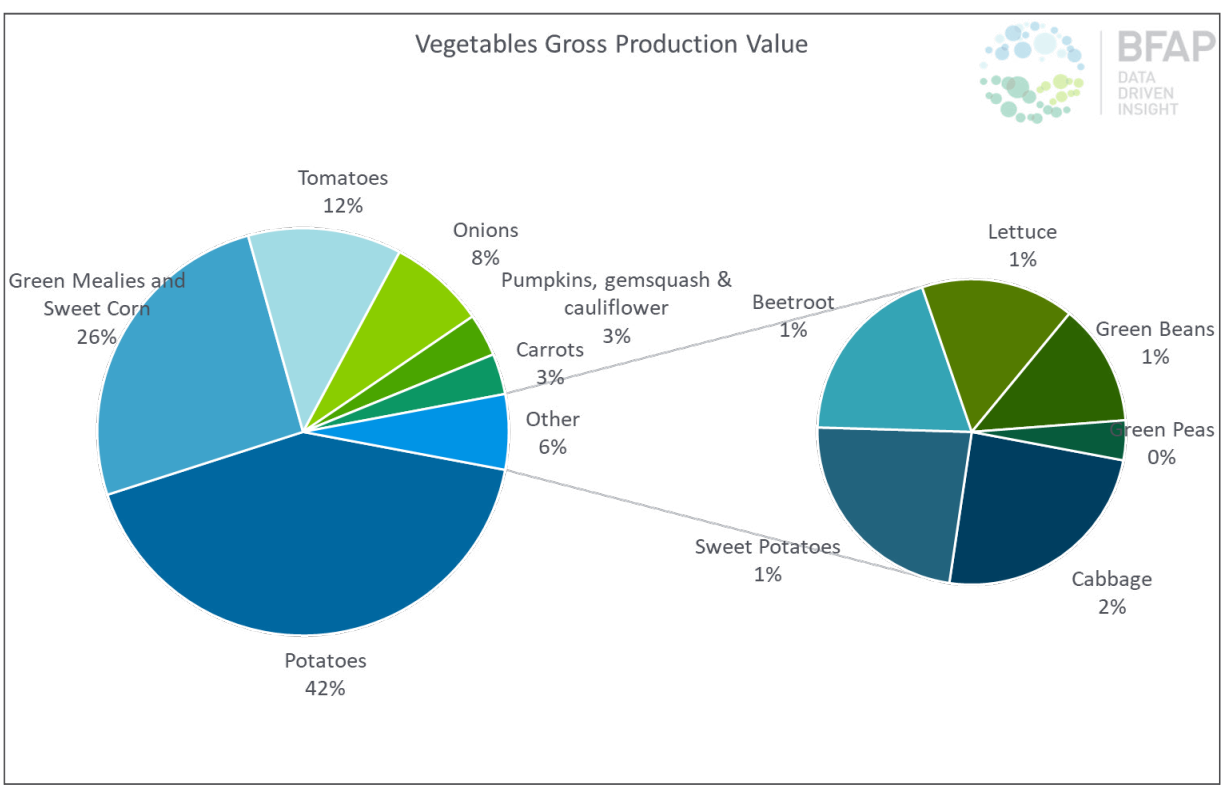


Figure 66: Gross Production Value of Vegetables

Box 5: Relative affordability of vegetables

This box evaluates the affordability of a selection of popular vegetable options in the South African context on a single serving unit cost basis[5] (Figure 67). The retail prices of these items (on a per kilogram basis) are monitored by Stats SA monthly in urban areas of South Africa.

When we consider this range of popular vegetable types, the most affordable vegetable options in 2020 thus far have been cabbage (R1.04/SSU in April 2020), carrots (R1.07/SSU), pumpkin (R1.09/SSU) and onions (R1.16/SSU). The next affordability cluster in Figure 67 contains beetroot (R1.33/SSU in April 2020), tomatoes (R1.37/SSU) and potatoes (R1.47/SSU). Potatoes are generally more expensive than other starch-rich vegetable options such as carrots and pumpkin, being up to 38 percent more expensive in April 2020 for a SSU. The most expensive vegetable option presented in Figure 67 is bell peppers (R3.22/SSU) – which is known to contain high levels of vitamin C – typically associated with immune support. From 2019 to April 2020 the most significant price increases occurred for potatoes (+11.1%), beetroot (+7.0%), carrots (+4.4%) and cabbage (+2.7%) (Figure 67).

The SSU cost of popular vegetables is higher than the SSU cost of popular staple foods (e.g. R0.74 for brown bread and R0.26 for maize meal in April 2020), but generally lower than the SSU cost of fruit. This contributes to consumers' tendency to reduce fresh produce intake (with a larger reduction on fruit than on popular basic vegetables) when facing financial difficulties, in favour of starch-rich staple foods.

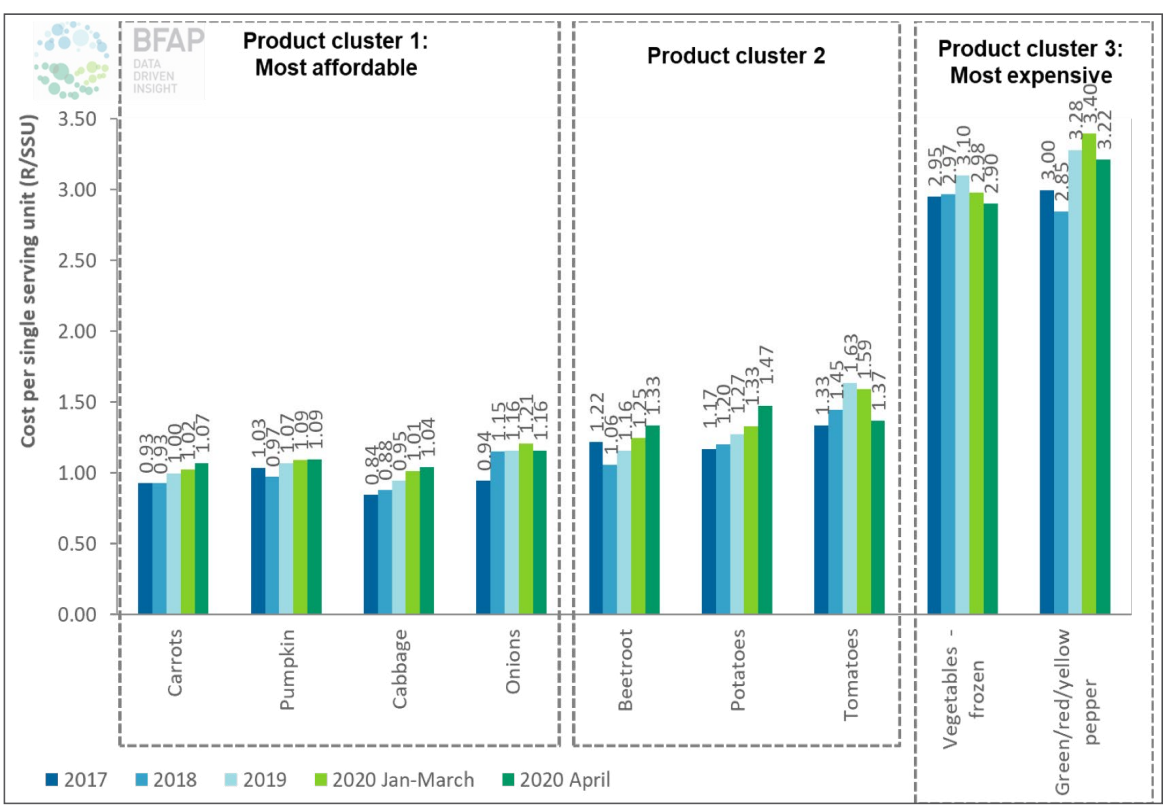


Figure 67: Comparing the affordability of selected vegetable options based on average monthly values for 2017, 2018, 2019 and 2020 (January to April)

Source: BFAP calculations based on StatsSA monitored urban food retail prices & Single serving units as defined by the South African Food-based Dietary Guidelines

[5] The South African Food-based Dietary Guidelines define a single serving of fruit as an 80g edible portion. Non-edible shares were also considered to focus on the fruit options 'as purchased'.

International market overview

World potato production was estimated at 458.5 million tonnes in 2018 (FAOSTAT, 2020). The traditionally largest potato producing and consuming countries (Western Europe, Eastern Europe, and Russia) still have the highest per capita consumption (more than 100kg per capita per annum). However, China (90.3 million tonnes, 20 percent of global production) and India (48.5 million tonnes, 11% of global production) have surpassed them in terms of total production. Other top potato producers in 2018 include Ukraine (22.5 million tonnes, 5 percent and the United States (20.6 million tonnes, 4 percent).

With the 2.46 million tonnes of potatoes produced in 2018, South Africa contributed 0.5 percent of the global potato production. Even though South Africa's total potato production share is small, the per capita production (therefore the per capita availability) is comparable to other developing countries: 36kg/capita/annum (South Africa) compared to 43kg/capita/annum in China, 25.5kg/capita/annum in India and 52kg/capita/annum in the United States of America.

Domestic market outlook

Potato production in South Africa has increased by an average 2.3 percent per annum over the past 10 years (Figure 68). During this decade, potato area has remained relatively constant at an average 51 800 hectares, while yield improvements (1.2% average increase per annum) drove production increases. The average potato yield in 1998 was 30.4 tonnes per hectare, and 45.1 tonnes per hectare in 2019, and by 2029 BFAP anticipates yields just above 50 tonnes per hectare (at an average annual growth of 1.1%). It is expected that factors such as research, cultivar development, better production practices and better plant protection products will drive an average increase in yields.

The projected GDP contraction for 2020 is assumed to lead to a decline in disposable income and therefore decreased food budgets and demand for potatoes. Logistical challenges through the period of lockdown have also influenced the functioning of some fresh produce markets, as well as the informal market sector. In the shorter term, BFAP estimates that an 85 000 tonne decline in demand (-3.6%) will lead to a 16 percent decline in the potato price in 2020 (from R39.80 per 10 kg bag in 2019 down to R33.00 per 10 kg bag in 2020). Potato production is projected to decline slightly to 2.42 million tonnes in 2020 due to a 5.6 percent decline in area planted (55 400 hectares in 2019 down to 52 200 hectares in 2020). In 2021, a further decline in area planted (down to 51 200 hectares) is projected due to perceived lower profitability following the price decline in 2020. However, demand is expected to increase again with the potato price rebounding to R40.70/10kg in 2021.

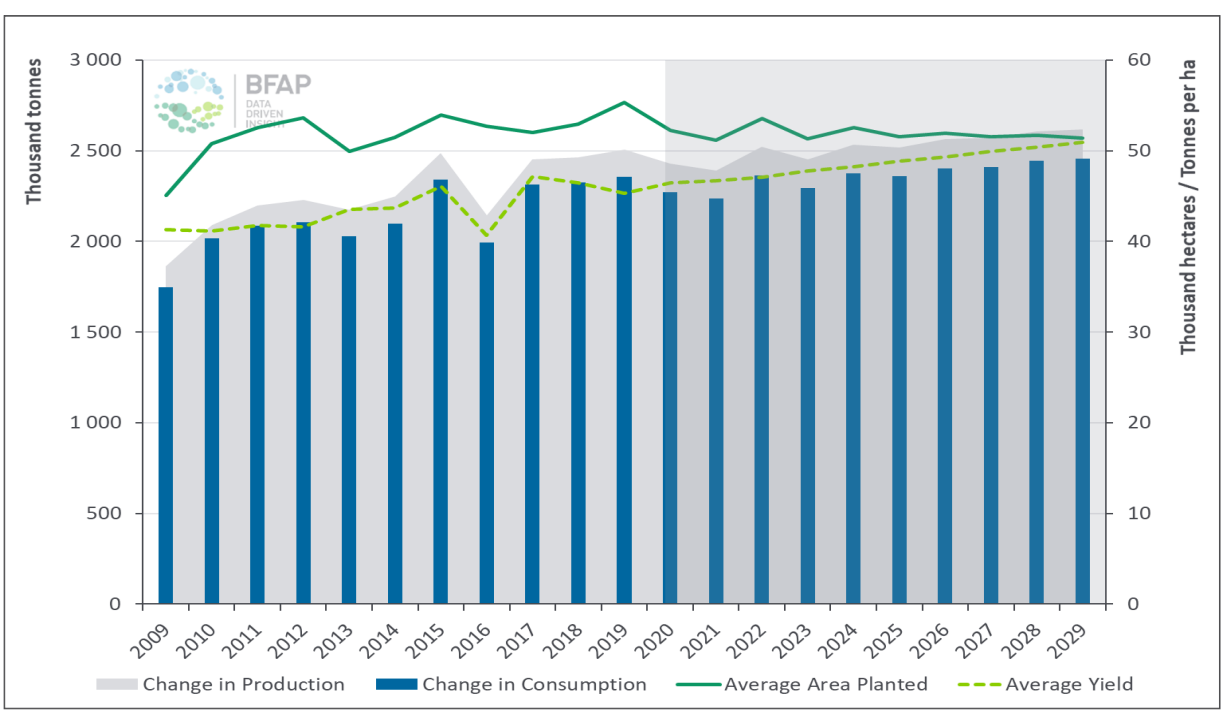


Figure 68: Potato production, consumption, area and yield: 2009 - 2029

In the longer term, potato production is projected to increase by an average 0.8 percent per annum over the next decade to 2.61 million tonnes in 2029. In line with increase production, domestic consumption is expected to increase by an average 0.9 percent per annum to 2.45 million tonnes by 2029. Domestic use comprises fresh formal and informal consumption as well as processing (potato chips and crisps). The absolute levels and relative growth of the various categories of consumption are presented in Table 5.

While nominal prices have increased, accounting for general inflation yields a largely sideways trend in real prices at a level of around R30/10kg bag in constant 2012 terms. This trend is projected to continue in the outlook period, with price increases generally keeping up with inflation (Figure 69).

Table 7: Summary of Potato Consumption

	2019	Average annual growth (2009 - 2019)	2029	Average annual growth (2019 - 2029)
Fresh formal	879.62	1.1%	972.14	1.0%
Fresh informal	767.85	3.5%	755.36	0.6%
Processing	489.23	3.6%	539.34	1.2%

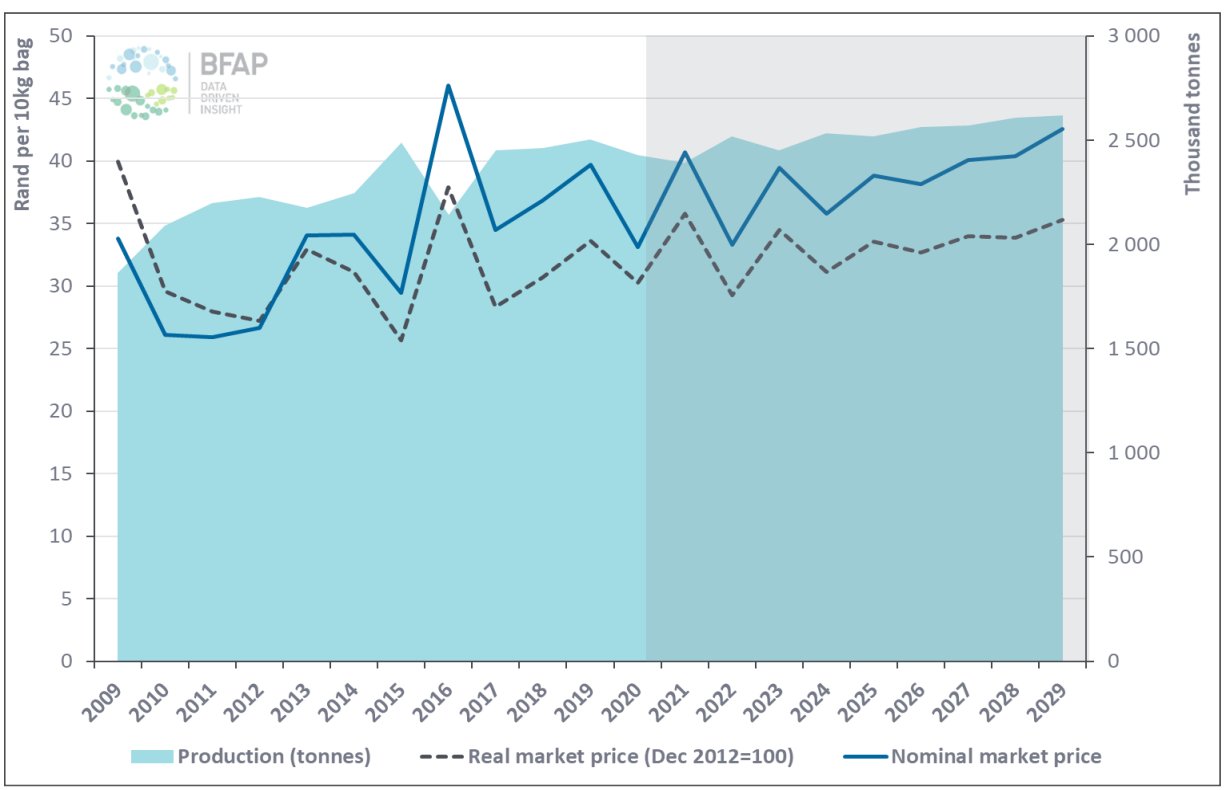
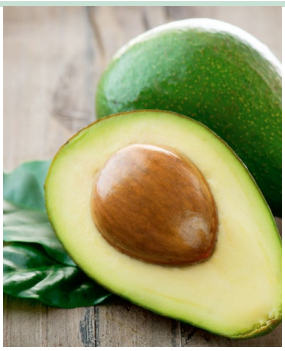


Figure 69: Potato price vs. production: 2009 - 2029

OUTLOOK FOR HORTICULTURAL PRODUCTS – FRUIT

Introduction

The ever increasing demand for year round supply of fresh fruit has driven continued increases in internationally traded volumes. Over the past decade, the annual average growth rate of fruit (citrus, table grapes, avocadoes, pome and stone fruit) trade was 2.1 percent, from 32.92 million tonnes in 2010 to 38.97 million tonnes in 2019. On the one side, pome fruit trade was the most stable at 0.25 percent average annual growth, and on the other side avocado trade increased at an average annual rate of 13.15 percent. As a result, the total trade value for these fruit types increased from US$ 30.87 billion in 2010 to US$ 41.81 billion in 2019. Within this global context, South African export volumes also increased by 45 percent over the same period, at an annual average rate of 4.19 percent. Consequently, South Africa managed to increase its share of total trade volume in all the mentioned fruit types. This average annual growth was mainly driven by citrus (3.51%), where soft citrus (11.06%) and lemon (9.65%) exports increased the most, avocadoes (3.45%) and table grapes (3.10%). Growth in value marginally outperformed volume, at 4.30 percent, from US$ 1.91 billion in 2010 to US$ 2.62 billion.

In this expanding trade environment, Europe remains the top importing region, with 40 percent of fruit in this basket being exported to that region in 2019. Although the volume has increased, the share declined from 44 percent in 2010. In similar fashion, Russia's share of fruit imports decreased from 13 percent in 2010 to 9 percent in 2019. In contrast, Northern America and Asian shares increased from 2010 (10% and 14% respectively) to 2019 (12% and 22% respectively). The growth in Asian fruit imports was primarily driven by increases in stone and pome fruit, as well as grapes and citrus. Growth in the Northern America markets were mostly driven by substantial increases in citrus and avocado imports. One would expect that future growth opportunities will remain low in mature markets, where population growth is low and income levels are already high, as demand will remain fairly stagnant. Growth opportunities will come from regions with high economic growth and a growing population of individuals who can expand their expenditure on fruit.

The COVID-19 outbreak and the measures implemented to contain its spread has riddled 2020 with uncertainty – pushing the fruit sector into unprecedented territory, with widespread disruptions and immense uncertainty. On the market side, the combination of reduced purchasing power and logistical challenges resulted in deviations from traditional markets. Delays in port operations due to reduced staff compliments, a decline in container availability and severe weather conditions remain causes of concern for trade. Furthermore, possible suspension of operations due to COVID-19 outbreaks amongst employees still present possible challenges for producers and pack-houses as the season progresses. To date, though, and despite the challenges encountered, the subsector has managed to hold export volumes steady. In essence, COVID-19 has brought about a new normal, where good multi-stream planning and quick, nimble decision-making is needed more than ever to ensure continuity of operations in exceptionally volatile conditions.

In general, production growth in the fruit

industry has been achieved through a combination of growth in bearing hectares and production volumes per hectare. In 2019, the citrus area expanded further, continuing a trend apparent since 2014. Table grape area also grew, although the growth rate is slowing, constrained by the availability of suitable land and water. Conversely, apple and pear hectares have been stable, reflecting only small increases over the past 5 years and amongst stone fruits, increases were evident in the area planted for nectarines and plums, while a decrease was observed for peaches, prunes and apricots. The differences in trends across the various industries are based on relative profitability, as well as inherent differences in natural resource and climatic requirements. Despite weather related fluctuations from year to year, yields have mostly trended upwards, reflecting higher density plantings, improved genetic material and better management practices.

The unpredictable nature of weather always has an impact on production. Heat waves during fruit set last year adversely affected yields for some fruit types, especially apricots and plums. Hail in the Orange River and untimely rain in the Hex River valley reduced the expected number of table grape export cartons from those estimated initially for 2020. The 2017 drought also still has lingering effects on the fruit industry. In 2017, it had a distinct impact on the uprooting and establishing cycles in pome and stone fruit. Older, more marginal apple orchards were replaced with new plantings as part of water saving and profitability strategies, resulting in a temporary decrease in total bearing apple hectares, whilst a smaller component of pear orchards have been replaced, resulting in a relative increased bearing hectare complement for pears. On average, the table grape, pome and stone fruit industries have still experienced lower average yields since the drought. Stone fruit in particular is also still hampered by the lingering drought in the Klein Karoo region. To manage climatic risk and water scarcity, the use of netting in orchards and vineyards is increasing. This investment in infrastructure is aimed at improved productivity, as netting yields water savings and improved pack-out percentages, but it also requires careful management of the micro-climate under the nets to prevent deterioration in fertility and yields.

Apart from adverse weather conditions, producers also need to manage and control diseases and pests at farm level, such as Citrus Black Spot (CBS), false codling moth (FCM) and a number of fruit fly species, including Bactrocera dorsalis (BD). When present, these pests and diseases typically have a negative impact on the marketability of fruit.

Production

Production typically flows into either the export market, the local market or the processing market and, where applicable, the dried fruit market. While all marketing channels are important, the fruit industry is predominantly export orientated. In this regard, additional value can be unlocked through improved market access for quality fresh produce, as well as the negotiation of more competitive trade terms in key markets through preferential agreements. When fruit does not meet quality standards to be packed and sold as fresh produce, value can be added in the form of processing, which therefore remains an important function of the total volumes produced and the pack-out percentage. While producers typically first aim to maximise export quality fruit, where they generate higher value, growth in hectares and volume produced will inevitably give rise to a natural flow into all market outlets.

The 2019 season had its challenges with harvested volumes and quality. This was exacerbated by increased competition in export markets due to fruit from other Southern Hemisphere competitors being rerouted from their traditional markets, thus weighing on the markets typically served by South African exports. A prime example was Peruvian table grape exports, where although total value and volume of exports grew from 2017/2018 to 2018/2019, a decrease was observed in the unit value of exports to their biggest traditional market in the USA. Consequently, to compensate for the loss in value, they had to increase their spread of exports in other areas such as the EU and thereby directly competed with South Africa in that market. Peruvian exports doubled in both volume and value to the Netherlands from 2017/2018 to 2018/2019, while South Africa experienced a decline in both volume and value to the Netherlands over the same period. To date, 2020 has shown a robust recovery. Summer fruits such as table grapes, plums, peaches and nectarines all showed improved returns, assisted by a weaker Rand in early 2020 as the spread of COVID-19 accelerated across the globe. Amongst the winter fruits, GPV's increased for soft citrus, mainly as a result of higher volumes, as well as oranges, where volumes have increased consistently ever since 2016. Amongst the various fruit sectors,

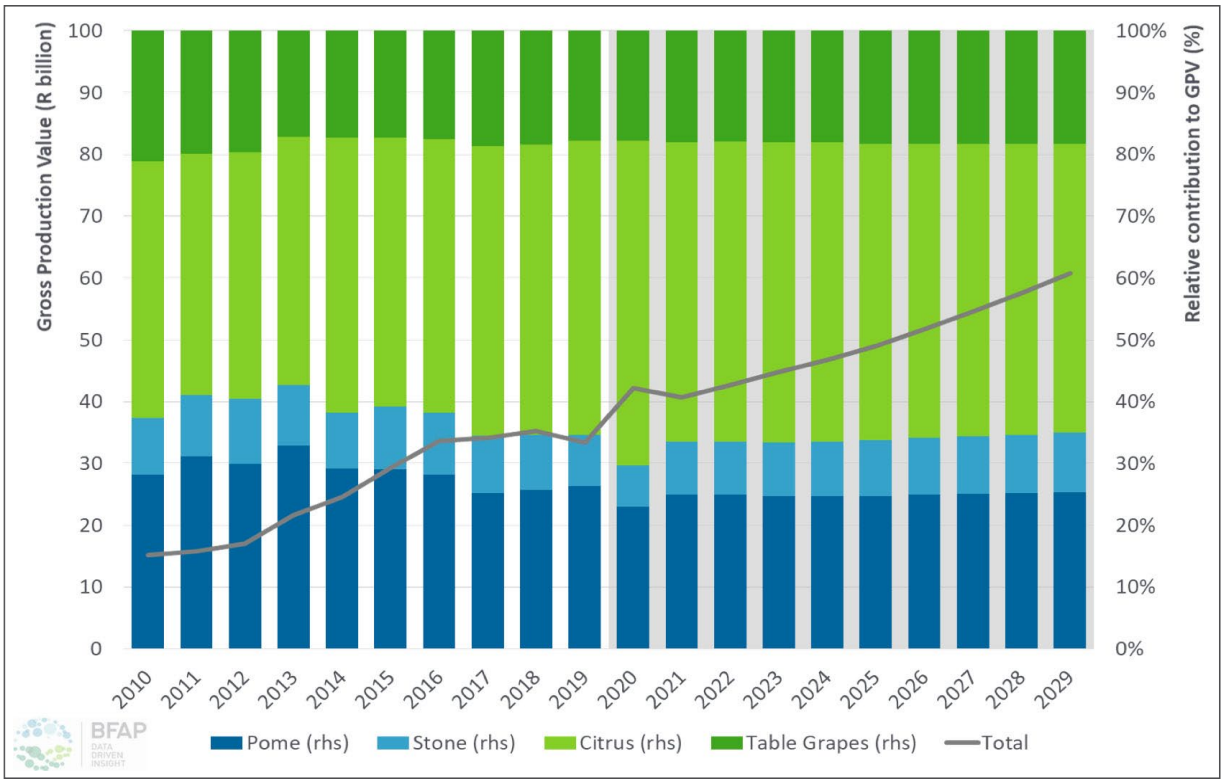


Figure 70: Actual and projected combined GPV for different fruit types and their relative contribution thereto: 2010 - 2029

citrus remains the foremost contributor to total GPV. The industry's relative contribution to the fruit sector's GPV is projected to remain constant over the outlook period (Figure 70).

Citrus

Citrus fruit production has increased steadily by an annual average of 3.13 percent over the past decade, largely as a result of substantial area expansion. Amongst the various citrus fruits, half of the cultivated area is under oranges and the other half is split between lemons & limes, soft citrus and grapefruit. The area cultivated under oranges grew from 39 588 hectares in 2010 to 44 713 hectares in 2019. The previous record levels of orange production in 2014 will be surpassed by 2021 (Figure 71).

Soft citrus showed a staggering increase in area planted, from 5 082 hectares in 2010 to 19 317 hectares in 2019. Lemons & limes revealed a similar trend, with area planted increasing from 4 593 hectares in 2010 to 16 407 hectares in 2019. By contrast, grapefruit reflected a downward trend in area cultivated, with 9 228 hectares in 2010 contracting to 8 104 hectares in 2019, yet a substantial increase in yield during the same period ensured volume growth from 315 035 tonnes in 2010 to 371 849 tonnes in 2019. The increased productivity is attributed to the uprooting of unproductive orchards and a larger bearing hectare complement.

Although the citrus industry is export orientated, the local fresh and processing markets have expanded sufficiently to absorb that component of production not suitable for export markets. Domestic consumption of soft citrus grew from 9 046 tonnes in 2010 to 42 806 tonnes in 2019, with the easy peeling quality resonating with consumers, while local demand for lemons & limes increased as well. By contrast, a gradual decline in local demand for fresh oranges was observed over the last ten years, from 134 714 tonnes in 2010 to 94 462 tonnes in 2019. On the other hand, the portion of grapefruit consumed as fresh fruit domestically remains very small. On average, around 24 percent of citrus is absorbed into the processing market, with challenging seasons often leading to a higher relative share of fruit in this market channel, as was the case in 2019, when 29 percent of citrus was sold to processors.

Further expansion in the area under citrus over the next 10 years is projected to slow substantially from the past decade. This is underpinned by a

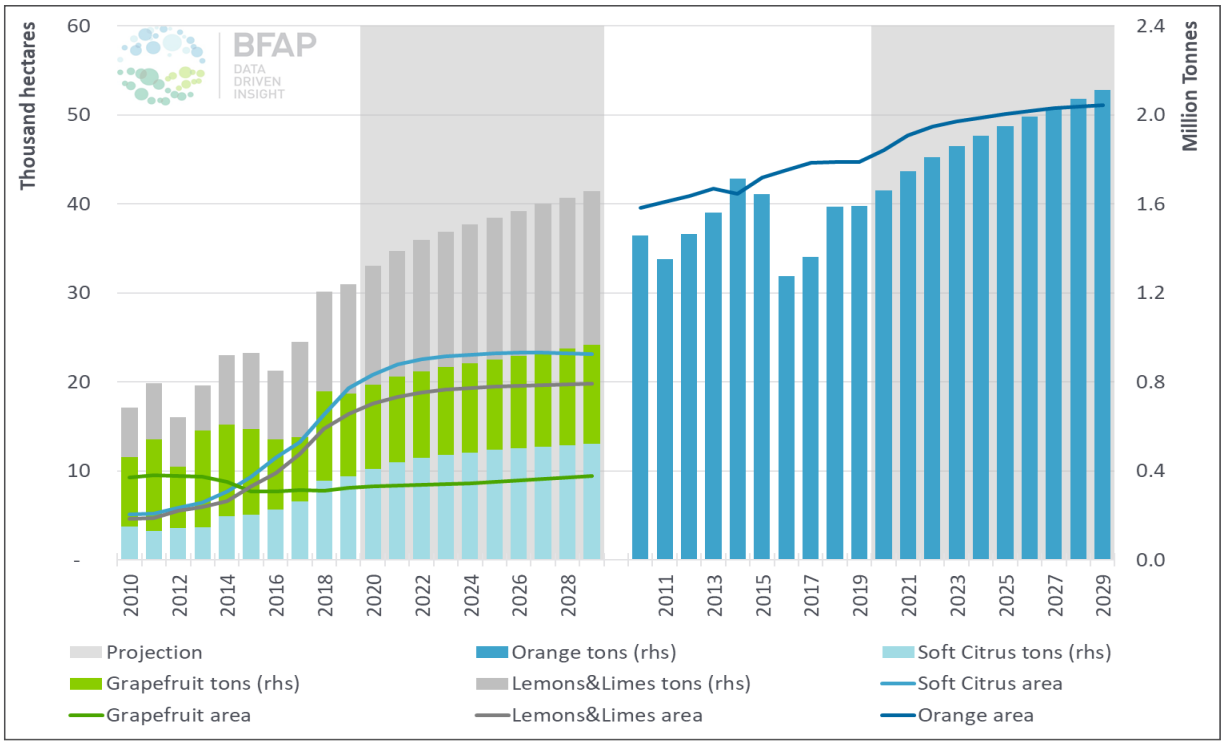


Figure 71: Actual and projected citrus area and production by type: 2010 - 2029

projected stabilisation in prices across all citrus types as additional volumes from recent orchard establishments enter the market. The total area under citrus production is expected to grow by 1.25 percent, on average, for the next 10 years to 103 552 hectares by 2029, compared to average annual growth of 4.57 percent from 2010 to 2019. The average annual rate of orange hectare expansion is expected to slow from 1.36 percent in the previous decade to 1.17 percent for the outlook period. With prices having declined post 2016, average annual growth in soft citrus and lemons & limes cultivation area is projected to drop dramatically from 15.99 and 15.20 percent respectively for the period 2010 to 2019, to 1.18 percent and 1.38 percent over 2020 to 2029. Grapefruit has declined on average by 1.43 percent per annum from 2010 to 2019, but a positive area trend is projected for the outlook, partly due to the expected saturation of soft citrus and lemons & limes markets. Hence, there is an expectation that grapefruit area can grow by 1.56 percent per annum. However, much of this growth is dependent on the international consumption of grapefruits, as South Africa is the world leader in global trade in grapefruit. Considering yield gains in conjunction with area expansion, production of soft citrus and lemon & limes is projected to grow respectively from an estimate of 409 866 tonnes and 533 257 tonnes in 2020, to 521 012 tonnes and 689 496 tonnes by 2029. Lastly, orange production is expected to grow from 1.66 million tonnes in 2020 to 2.11 million tonnes in 2029, whilst growth from 378 722 tonnes to 445 275 tonnes of grapefruit can be expected based on the projected area expansion (Figure 71).

Table Grapes

Since 2010, the table grape industry grew from 14 660 hectares to 21 837 hectares in 2019. Concurrently, production grew from 259 260 tonnes to 299 162 tonnes. Despite adverse weather conditions in the form of heavy rain and hail during the latter part of 2019, which influenced the 2019/20 crop, the total output was still 9.48 percent higher than the previous season, where the lingering effect of the drought still constrained volumes (Figure 72).

The processing & dried and local outlets are relatively small compared to exports, as the industry is geared towards premium export quality, from cultivar development to farm level to packhouse and marketing. Three major streams into local fresh sales exist: a) domestic supermarket programs, b) planned packaging for local fresh markets (especially if concerned about quality during shipping), and c) export cartons that did not pass inspection.

The outlook over the next ten years projects only

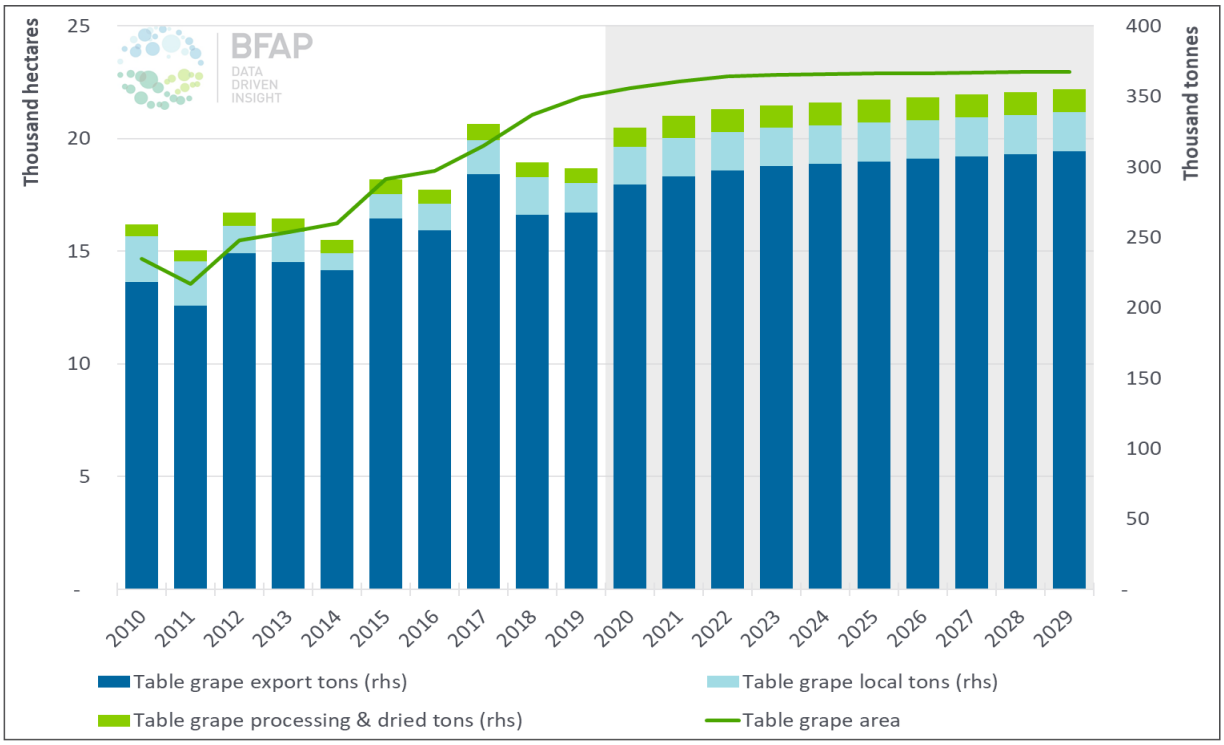


Figure 72: Actual and projected Table Grape area and production by market type: 2010 - 2029

a marginally upward trend in cultivated area. Should international marketing opportunities expand, this could result in new entrants into the industry and expansion by existing producers in terms of area and output. Production is projected to reach 354 952 tons by 2029. This represents a year-on-year growth rate of less than 1% for both hectares and volume, with total growth from 2020 to 2029 being 3.20% and 8.37% respectively. At least some of the volume growth over and above the rate of area expansion can be attributed to newer cultivars with higher yielding potential. The lag between establishment of new vineyards and reaching full bearing potential also explains part of the disparity between volumes and area growth over the past decade.

Pome Fruit

The area planted under apples and pears increased by 15.40% and 9.01% respectively over the period of 2010 to 2019. This induced an increase in production of 18.74% for apples and 12.05% for pears, reflecting average annual yield gains of 0.52% for apples and 0.31% for pears. Apple yields grew faster on average than pear yields, with higher density establishments of apples becoming more popular, and pear production, in some instances, relegated to arable land unsuitable for apple production. The apple market volume distribution in 2010 was split 29.4%, 31.0% and 39.6% between local fresh market, processed & dried, and exports respectively. By 2019, exports had expanded to 47.3%, at the expense of domestic fresh market sales, which declined to 22.2%. Processing shares have remained fairly constant at 30.5%. Pears had 13.9% of production going to local fresh market sales in 2010, 35.0% in processing, 2.1% dried and 49.0% for exports. This market split became 12.9%, 33.8%, 1.7% and 51.6% in 2019.

The area under pear production has fluctuated within a small band over the last number of years and this trend is expected to continue, with farm level profitability impacted by current demand (and consequently price) as well as yield per hectare. Also, only Packhams and Forelle pears can be stored for prolonged periods in controlled atmosphere (CA) cold facilities, restricting the marketing window to a certain period of the year. Conversely, most apple cultivars do fairly well in CA storage, providing better opportunities for marketers locally and internationally. The outlook for apples and pears over the period 2020 to 2029 projects area cultivated to grow by an annual average of less than 1 percent. However, production is expected grow by 2.81 percent for apples and 1.56 percent for pears. Apple production is expected to reach 1 168 000 tonnes by 2029 and pear production 436 263 tonnes (Figure 73).

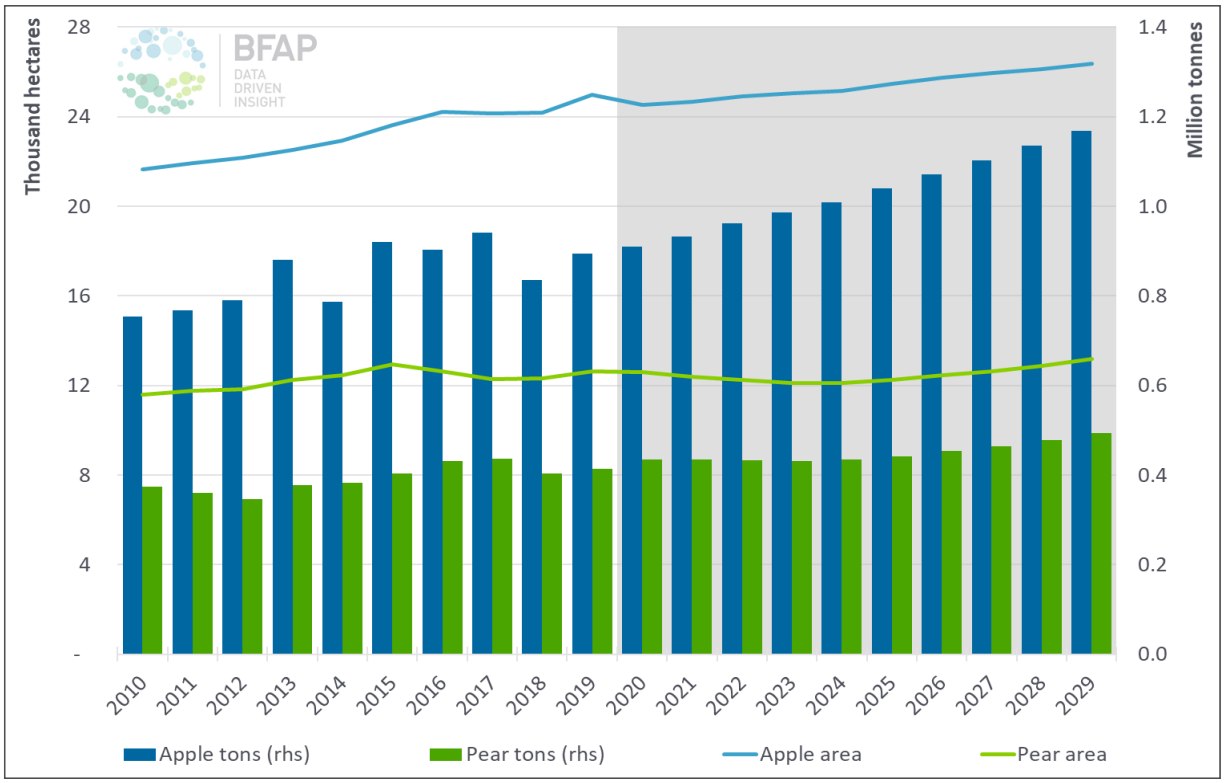


Figure 73: Actual and projected Pome fruit area and production by type: 2010 - 2029

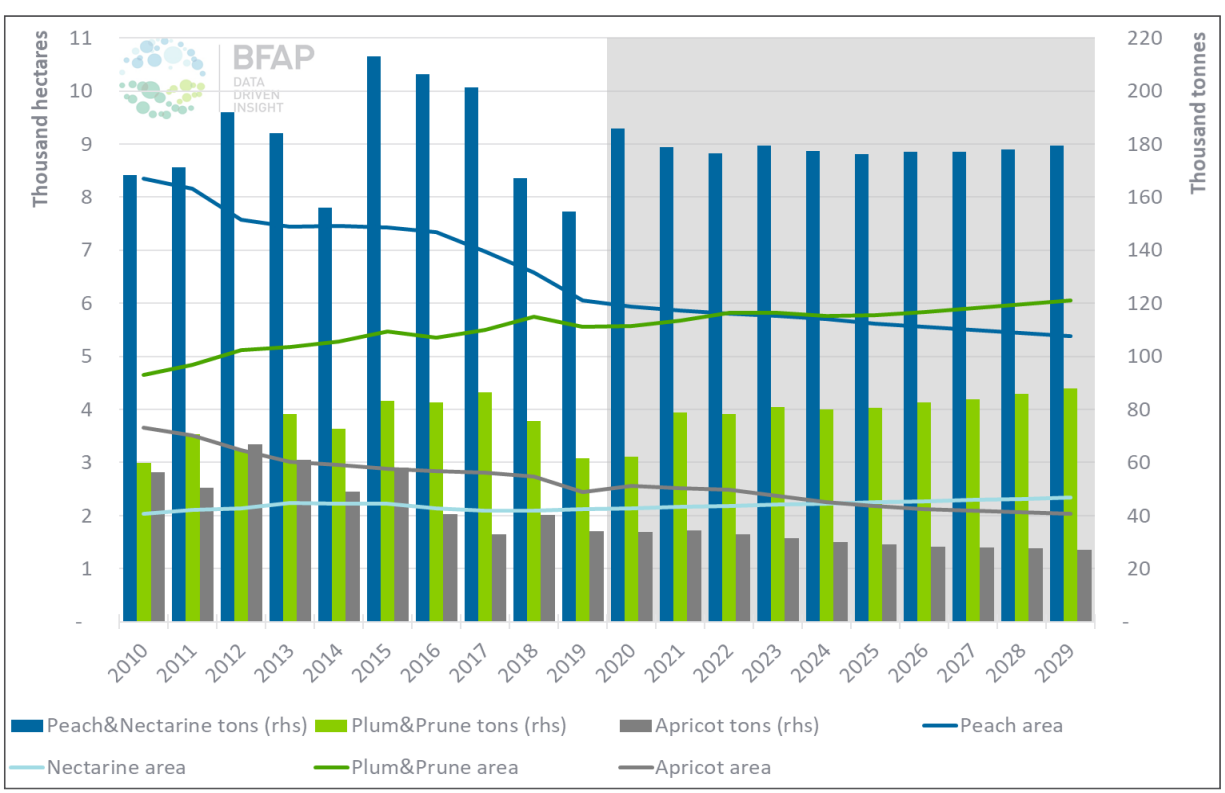


Figure 74: Actual and projected stone fruit area and production by type: 2010 - 2029

Stone Fruit

The area cultivated under nectarines remained relatively steady over the past 10 years. Peaches declined from 8 348 hectares under cultivation in 2010 to 6 050 hectares in 2019. This brought about a drop in the total output for the combination of peach & nectarines, from 168 310 tonnes in 2010 to 154 533 tonnes in 2019. The decline in productive output was exacerbated by the drought towards the end of that timeframe, yet an upturn is projected for 2020, given optimistic export expectations and strong early volumes. The slight increase in plum area resulted in a modest increase in production, which rose from 59 804 tonnes in 2010 to 61 578 tonnes in 2019, despite the latter being a sub-par yielding year. Late season plums were hit by intense heat during blooming, which resulted in back-to-back below average production yields. Due to a lack of marketable opportunities over a number of years, prune production has been reduced to a mere 243 hectares by 2019. Previously typically earmarked for the dried fruit market, many producers are now selling prunes in the fresh market to yield positive returns from existing biological asset investments. Apricot

Box 6: Rapid growth in the avocado industry

The avocado industry has expanded from around 13 000 hectares in 2010 to almost 19 000 hectares to date. This resulted in a rapid increase in fruit volume. The alternating bearing pattern of avocadoes results in an on-year/off-year pattern, with yield visibly higher one year and lower then next. As the newly established avocadoes come into full production, it is expected that this pattern will continue in future volumes. Whilst the subtropical areas of Limpopo and Mpumalanga has been the primary area for cultivating avocadoes commercially, expansions has been observed in KwaZulu-Natal, as well as the Eastern and Western Cape provinces. This also increased the harvesting window of South African avocadoes, as the difference in climatic conditions result in different harvesting times. However, with the bulk of avocadoes harvested in Limpopo and Mpumalanga, the main export period remains March to September, but the export window has extended towards November. Avocadoes that ripen outside that window, are typically earmarked for domestic consumption only.

In terms of markets, South Africa's domestic market are keeping up with the industry's total expansion to date. This is good news for the industry, as the further expansion in hectares will result in larger volumes in the local market too. The average annual growth in price per 4 kg equivalent carton on the local municipal markets from 2015 to 2019 has been 9.57 percent - well above general inflation. On the international front, 94 percent

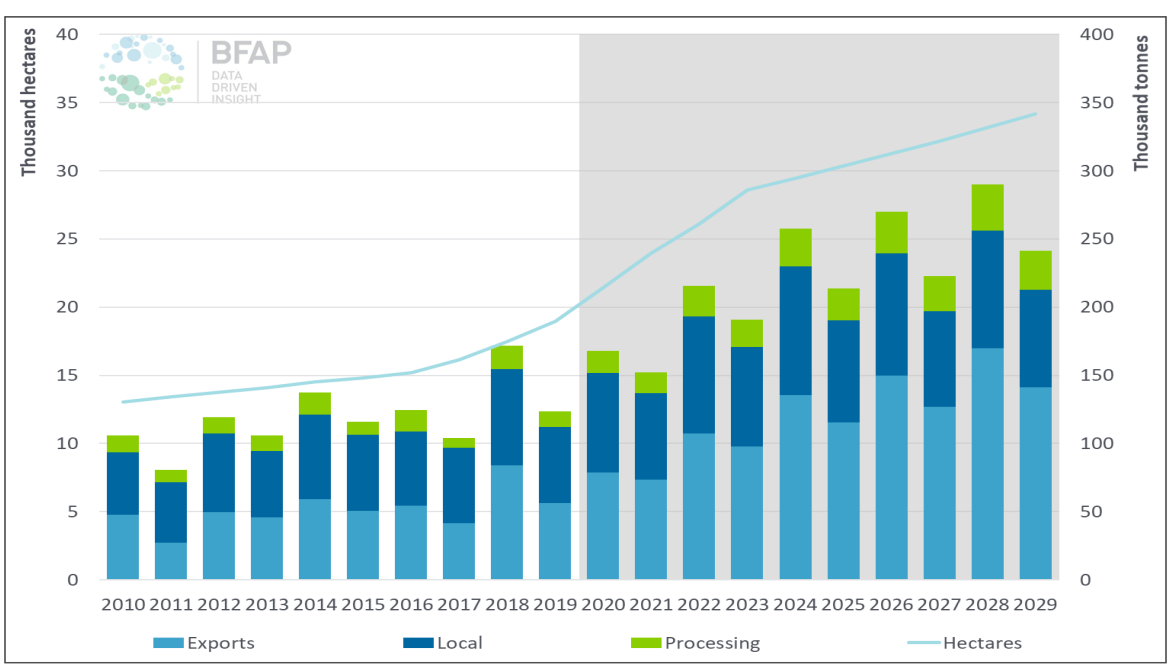


Figure 75: Actual and projected Avocado area and production by market type: 2010 - 2029

Box 6: Rapid growth in the avocado industry (Continued)

of avocadoes have been exported to the EU and UK between 2015 and 2019. Despite the continued growth in avocado imports by the EU and UK, opportunities in other regions will be required to continue the growth path in volume and value. As a result of continued growth in demand and a weakening Rand over time, the average annual increase in export price per carton was 5.49 percent from 2015 to 2019.

South Africa is busy with cultivar development to improve yields, as the average yield currently is below the yields achieved in other parts of the world, especially in Peru, who is also expanding in area and holds the majority share of EU market. It is projected that the industry could expand to 34 000 hectares by 2029, as the shortage of new planting material has been resolved with the expansion of capacity in nurseries to meet the growing demand. Volume is expected to grow to 250 000 to 300 000 tonnes by 2028 to 2029 (Figure 75). Further growth can be expected as the additional hectares projected to be established over the outlook period reach full bearing potential.

area continues to contract resulting in a production decline from 56 336 tonnes in 2010 to 34 123 tonnes in 2019. Yields are often low, and in many instances erratic due to the impact of weather and climatic conditions, with good prices per ton not translating to good returns per hectare. Consequently, on average, the return on investment for apricots is often lower than other produce competing for land and water, resulting in the replacement of uprooted apricot orchards with other perennial crops.

The downward trends in peach and apricot areas are expected to continue over the next 10-year period, dropping by an annual average of 1.10 and 2.54 percent respectively, while the area under nectarine cultivation is expected to increase by an annual average of 1 percent. Peach & nectarine tonnes produced are expected to decline by 0.39 percent per annum over the same period as a result of changes in type of peaches planted and the consequent market outlet. Fresh export volumes continue to rise, as producers who previously focused on preparing orchards for large volumes for the canning market are adapting to the current conditions, with smaller yields and a greater focus on quality produce for fresh market sales. Apricot production is expected to drop by 2.36 percent annually because of the smaller expected cultivated area, slow rate of replacement, and an ever-increasing average age of orchards. Plum production is projected

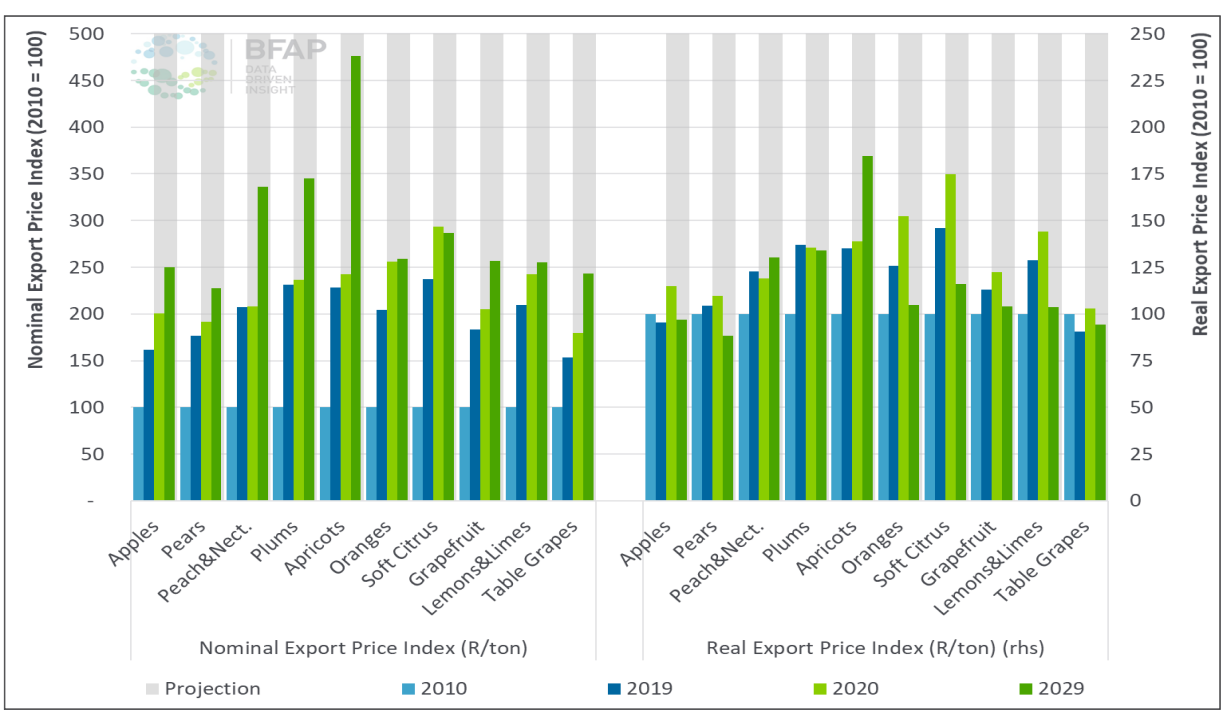


Figure 76: Actual and projected Nominal and Real Export Price Index: 2010, 2019, 2020 & 2029

to grow by 3.93 percent annually, with area expanding by an annual average of 0.93 percent - higher density plantings and later cultivars, with higher yields per hectare, means that production volume will grow faster than expansion in production area (Figure 74).

Trade

In light of the changes and uncertainties brought about by the COVID-19 pandemic, global trade has been complicated in 2020. In Cape Town, reduced staff, a decrease in the availability of containers and the added effect of strong winds and fog caused major port disruptions and shipment delays. Deviations from traditional markets added more fuel to the fire as purchasing power was severely impacted by lockdown measures around the world. However, despite market volatility, global demand for fresh, healthy foods remains strong.

In nominal terms, all export prices (Net Export Realisation Rand per ton) over the outlook period trend upwards from 2019 to 2029. Soft Citrus, however, returns a negative relationship between 2020 and 2029. One should keep in mind that the recent devaluation of the Rand has a significant impact on the 2020 index values in Figure 76. Current projections suggest that stone fruit export prices will grow the fastest from 2019 to 2029, followed by table grapes, although from a smaller base in 2019. In terms of real value, price increases for apricot, peach & nectarine, table grape and apple export are projected towards 2029 from 2019 values. Negative real price growth is projected for soft citrus, lemons & limes, oranges, pears, and grapefruit, with little real price movement projected for plums (Figure 76).

Citrus

The early season of 2020 has been remarkable. Volumes exported have been strong and prices very high. Good demand for citrus came from consumers who wish to boost their immune systems and consume products high in Vitamin C. Together with uncertainty over availability of produce and logistical realities, this led to a price spike, which was further accentuated by the weakened Rand. The current market could be described as volatile, with inconsistent shipping adding to the periodic overstocking and understocking of markets. Market access, trade agreements and tariffs remain key issues.

Over the past decade, both the volume and value of soft citrus, grapefruit and lemon & lime exports increased rapidly. Although export volumes for oranges decreased ever so slightly for the period of 2010 to 2019, the value thereof still increased because of improved prices. The EU remains the largest export market across all citrus types, with just over 40 percent of all citrus exports destined for this market in 2019. Oranges form the bulk of citrus exports, with over

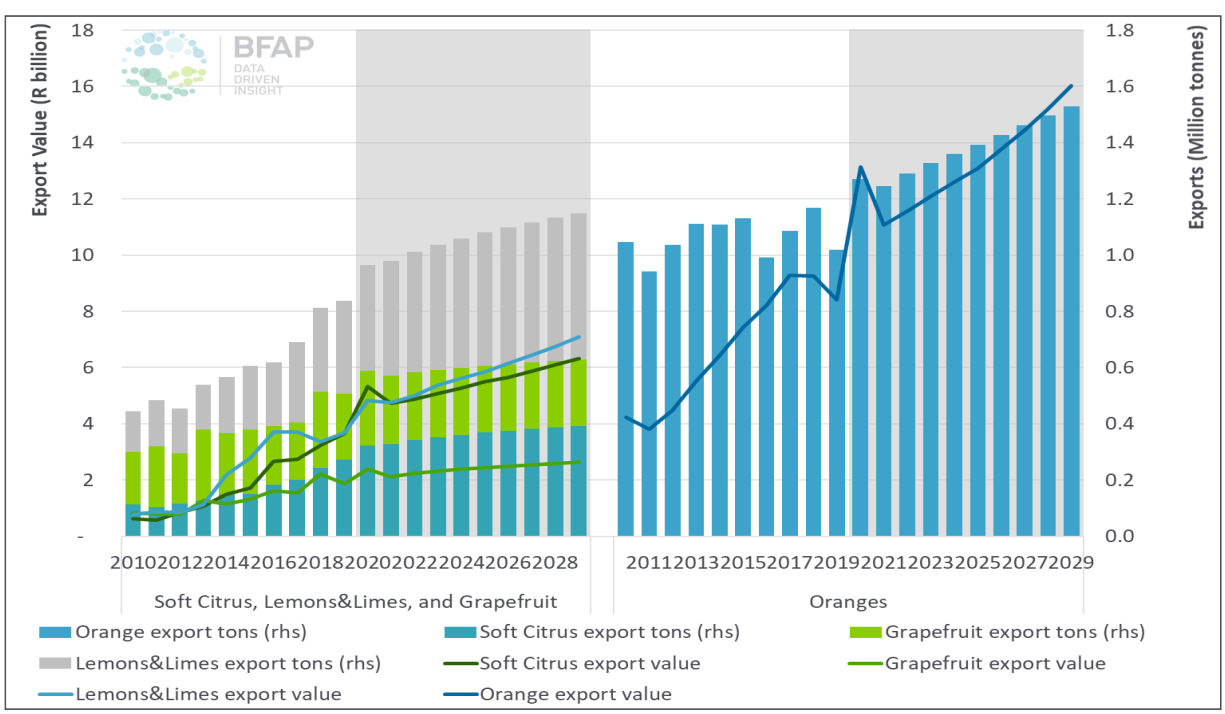


Figure 77: Actual and projected Citrus export volume and value by type: 2010 - 2029

57 million cartons (15 kg equivalent) leaving South African harbours in 2019 (Figure 77).

The strong upward trend in nominal citrus export value is set to continue for all citrus types over the coming decade, as a result of increased export volumes over the long term, rather than prices. A sharp nominal price increase is expected for the 2020 season, royally assisted by the depreciation of the Rand. The average citrus export price is expected to decline initially after 2020 as the exchange rate recovers and markets are expected to reorganise after the pandemic. Thereafter, it increases gradually over the next ten years on a nominal basis, although real prices are expected to remain under pressure and trend downwards (Figure 77). It remains to be seen if the pandemic results in long term sustained demand at good price levels. While healthy foods may still be prioritised, spending power globally is set to come under pressure.

Table grapes

Table grape exports increased from 48.4 million cartons in 2010 to 59.4 million cartons in 2019. This, together with a gradual weakening of the Rand over time, underpinned an increase in the export value from R2.98 billion in 2010 to R5.59 billion in 2019. This rise in value was accompanied by an average annual growth of 5 percent in the nominal net export realisation price. Exports contribute about 94 percent of the gross production value generated by table grapes and are an outlet for about 89 percent of the total produce. The main export destinations remain the EU and UK, with about 74 percent of the export shipment destined for European consumers. Hong Kong, in third place, took about 5 percent of the export shipment.

The outlook for table grape exports reflects the small window of opportunity to expand offering in existing mature markets, and the existing policy environment, which prevents penetration of alternative and expanding markets, especially in the Far East region. Southern Hemisphere table grape producing countries such as Peru, Chile and Australia are able to cement their positions in those markets, often with preferential trade agreements (PTAs), while South Africa suffers from a lack of PTA's and free trade agreements (FTA's). The Most Favoured Nation (MFN) tariff rate faced by South Africa is typically much higher than the preferential access achieved by these major competitors. Table grape export value is however set to rise steadily with table grape GPV, as the nominal net export realisation price is projected to increase by an annual average of 3.45 percent over the ten-year period (Figure 78).

Pome Fruit

Apple and pear export volumes grew by 41.81 and 16.70 percent respectively from 2010 to 2019. This coincided with a growth in export value of 129 percent for apples and 106 percent for pears. The annual growth in the nominal net export realisation price in this period was 5.48 percent for apples and

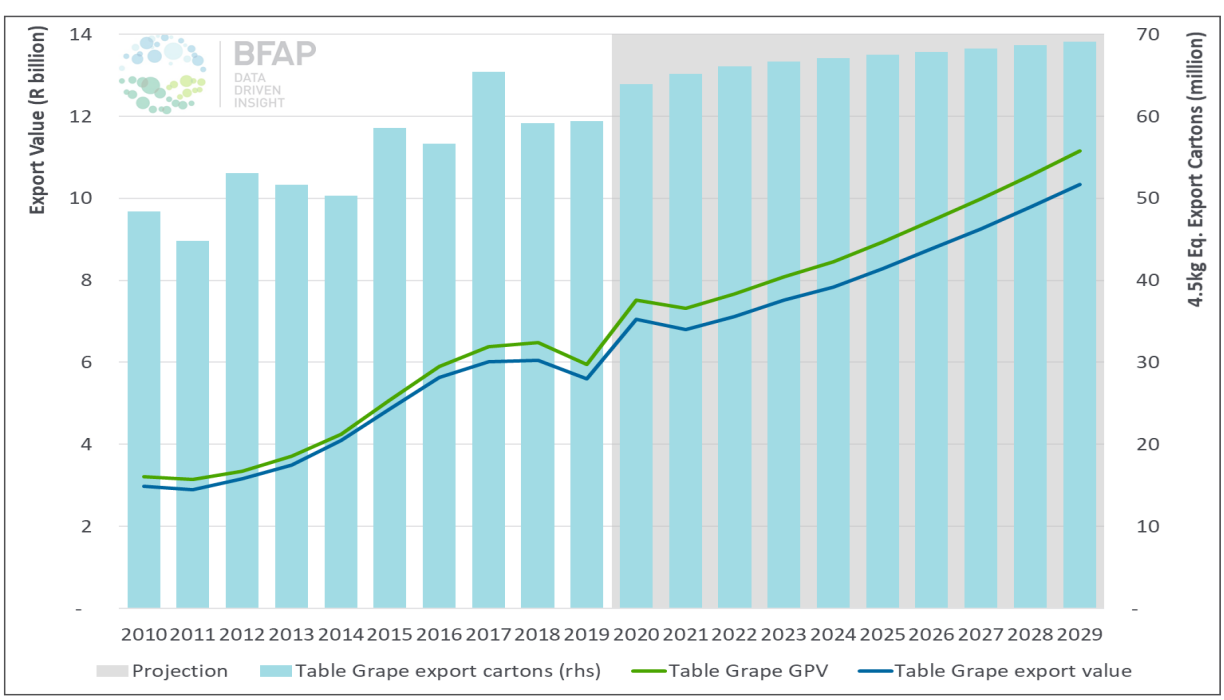


Figure 78: Actual and projected Table Grape total and export value and export volume: 2010 - 2029

6.54 percent for pears. The main export destination for apples in 2019 was the UK, accounting for 14 percent of the export shipment from South Africa. Pears from South Africa are mainly destined for Russia and the Netherlands, respectively taking 16.02 and 13.49 percent of exports in 2019. The normal rhythm of exports has been disrupted in 2020 because of the pandemic, with much larger volumes shifting towards Russia than in previous years because of logistical challenges with shipping to Far East & Asia markets and declining purchasing power in African markets. This is in addition to the severe disruptions at the Cape Town port, which generally operates well. The disruptions are emanating from a smaller

Box 7: Adapting to consumer preferences

The table grape industry has long been lauded for its agility, especially with reference to adapting to change in demand. In 2011, South Africa exported 44.7 million cartons (4.5kg equivalent) of which 33 percent was seeded grapes. In comparison, 63.9 million cartons were exported in 2020, of which a mere 5 percent were seeded grapes (Figure 79).

Specific changes can be observed further within international markets. Notwithstanding the virtual extinction of seeded grapes, there has also been a shift in colour preferences. In the European, UK and Russian markets, the ratio between red and white grapes switched around in this relative short period. In the eastern markets, the relative share of white grapes remained stable, with black grapes gaining traction in favour of red grapes. Lastly, in other markets, red seedless grapes are exported to Africa and the Indian Ocean Islands, with equal portions of white seedless and red seedless destined for the USA and Canada. The change in ratios from 2011 to 2020 in this category can be ascribed to the relative growth of exports to the USA and Canada in comparison to the other regions.

Cultivar selection is a fine balance to manage at industry and individual producer level. Time taken from ordering new vines at a nursery to full bearing production can be as much as seven years. Whereas consumer

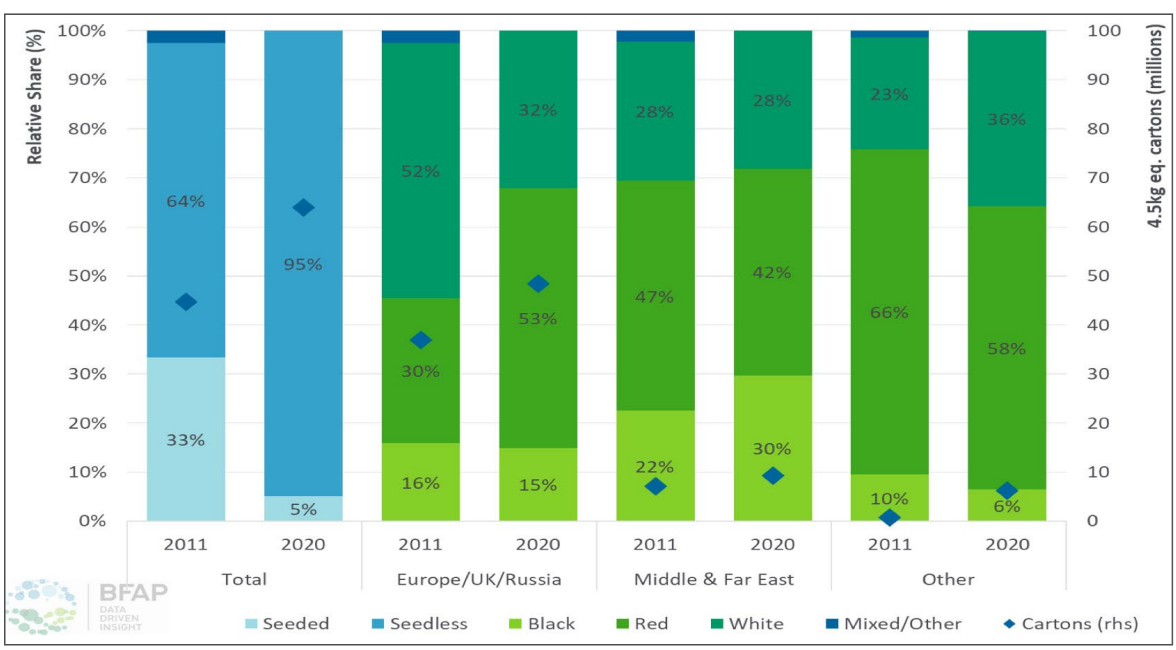


Figure 79: Breakdown of Table Grape cultivar groups per market and in total: 2011 and 2020
Sources: SATI (2011, 2019) and Agri-hub (2020)

preferences can change more gradually, changes in markets – access, trade agreements and/or tariffs – have an instant effect which cannot always be pre-empted, nor necessarily absorbed or reacted to with immediate action. Ensuring greater access to markets will, however, reduce the risks for the industry as a greater scope of trade partners would be available when produce has to be rerouted at short notice.

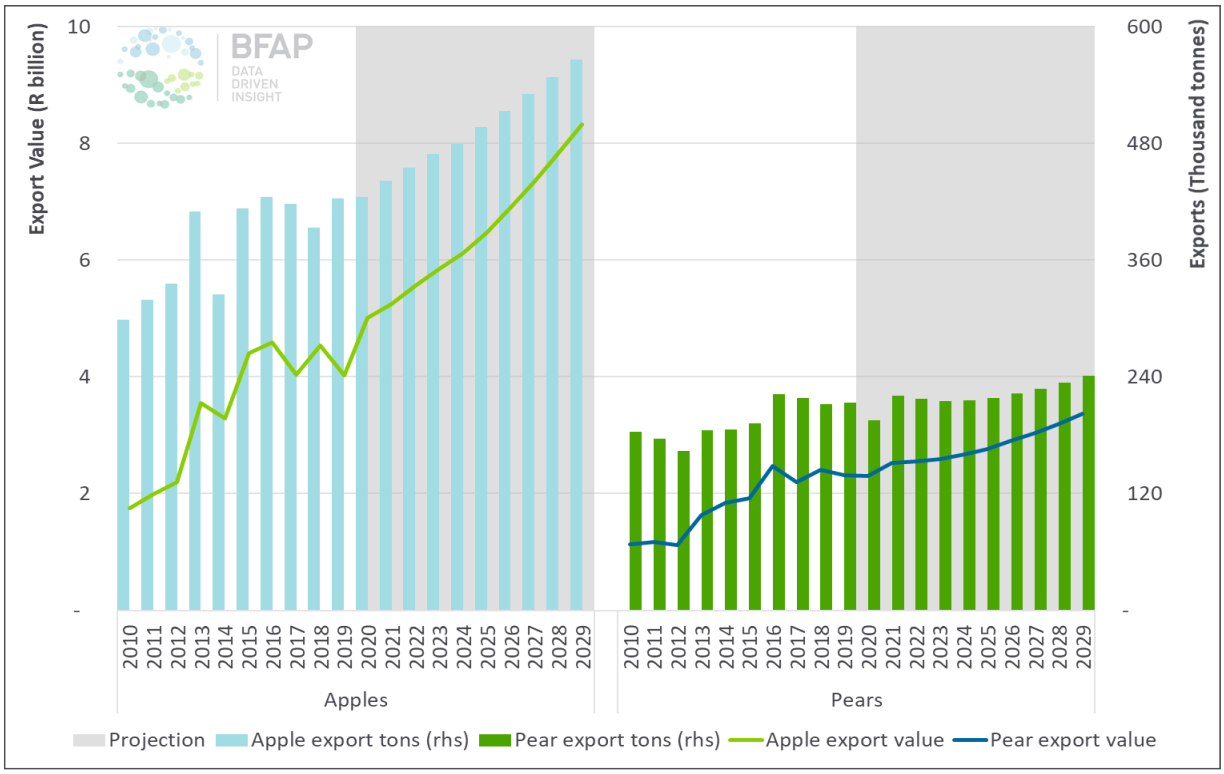


Figure 80: Actual and projected Pome Fruit export volume and value: 2010 - 2029

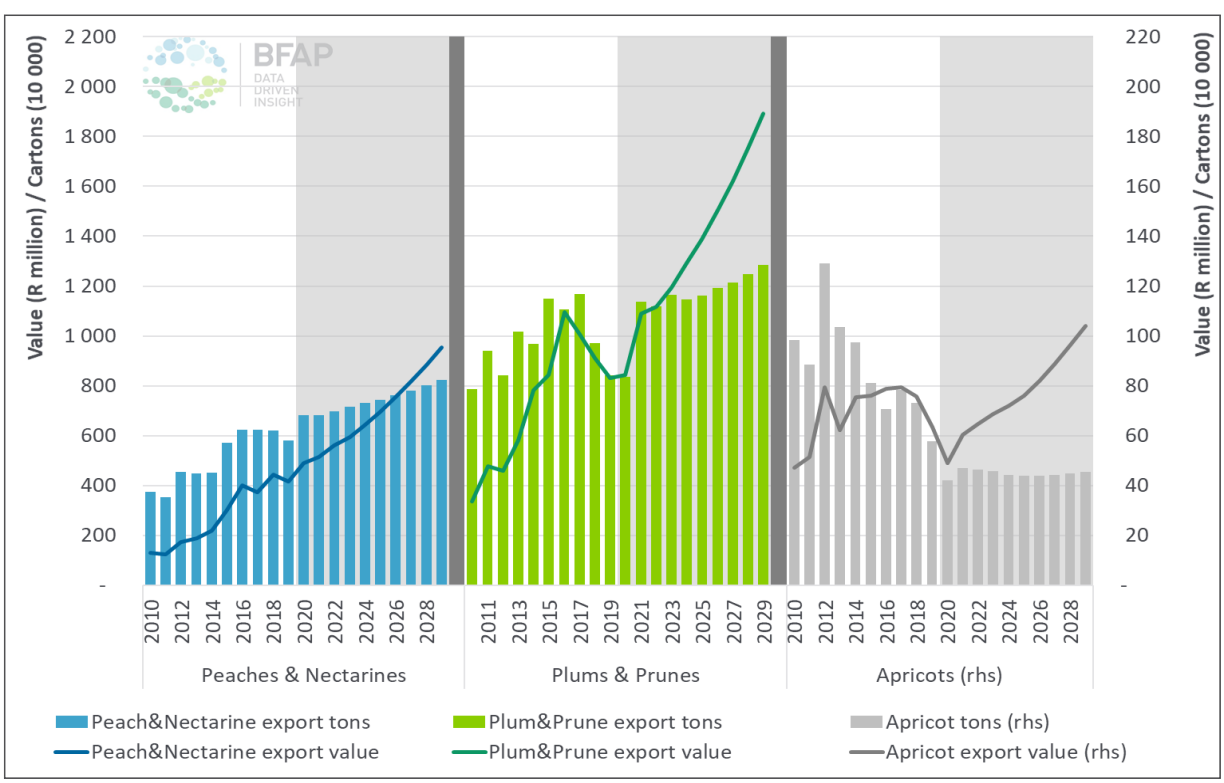


Figure 81: Actual and projected Stone Fruit export volume and value: 2010 - 2029

staff complement, accentuated by positive COVID-19 cases amongst staff.

The outlook for apple export tonnes shows strong growth at 3.24 percent per year over the next ten years and is expected to approach 600 000 tonnes by 2029, which has a considerable impact on the export value projected. In general, the apple market is very stable. Similar trends are expected for pear exports, albeit at a slower rate (Figure 80).

Stone Fruit

Peach & nectarine exports showed strong growth in volume and value over the last decade. The number of export cartons was 55 percent more in 2019 than in 2010, driven by the demand for nectarines and the adjustment of some peach volumes away from processing towards fresh sales. The demand for nectarines has had a positive effect on price, as has the weakening of the Rand, resulting in both a nominal (108%) and real (23%) price increase per tonne from 2010 to 2019. Consequently, total value expanded by 221 percent. Similarly, plum exports grew in volume by 7 percent from 2010 to 2019, with nominal (131%) and real (37%) increases per tonne, and as a result the total value grew by 148 percent over that period. Lastly, despite the drop in apricot export volumes by about 41 percent from 2010 to 2019, total value has increased by 34%, as the nominal (128%) and real (35%) price per tonne increases offset the reduction in volume.

The outlook for the coming decade shows an upward trend for peaches & nectarines and plums in both export volume and value. Apricots show a strong growth in export value as the market is paying well, but producers often struggle to consistently yield good harvests. As a result, growth of 112 percent in value can be expected from 2020 to 2029, despite constant volume (Figure 81).

Domestic Use

For this section, the focus shifts from cartons and international markets to grams and Rands in South Africa's domestic markets with its diverse households. Whilst exports are a critical component in the gross value of production, large scope remains in the unlocking of potential for local sales, as is visible in the sub-par average daily intake of fresh fruit by South Africans (Box 9). Given the current economic climate, many South Africans do not have a sufficient intake of daily fresh produce. In a broad sense, the expansion of production volumes (as discussed earlier) will lead to an increased domestic fresh supply as well as processing volumes. In an open market system, price is influenced by demand and supply. Should supply increase without an increase in demand, prices will drop, which can stimulate demand for the product. As

Box 8: Considering the implications of risk and uncertainty for plum gross margins

For the industry as a whole as well as at farm level, there is a spread of different plum cultivars, each with its unique colour, flavour, time of blooming and harvesting, yield and many other characteristics. Within BFAP's farm level analytics program, the representative farm for plums is based on five cultivar categories, with an average yield and pack-out percentage, as well as appropriate production cost per hectare per group. These averages are based on industry data on the proportionate contribution of each cultivar in the total area of the industry between 2012 and 2019. The five groups are early season red plums, midseason red plums, late season red plums, yellow plums, and black plums. The scenario below, highlights the potential to realise a certain EBITA (earnings before interest, tax and amortisation) margin for 2020 to 2022.

Table 8: Different plums categories for financial simulation

Cultivar group	Area share (%)	Average ton/ha	Class 1 pack-out %
Early Red Plums	17%	19,94	68%
Midseason Red Plums	16%	29,55	60%
Late Red Plums	32%	31,54	60%
Yellow Plums	15%	28,04	62%
Black Plums	20%	30,24	66%

Box 8: Considering the implications of risk and uncertainty for plum gross margins (Continued)

By making use of a stochastic simulation model which considers the yield, pack-out percentage, export and local prices as the key variables that cause the highest level of volatility in profitability, a minimum, mean and maximum EBITA percentage has been calculated for a three-year period. Considering the current macro-economic projection, the information from Table 6 was used together with production cost and depreciation information to calculate the stochastic output in Figure 82.

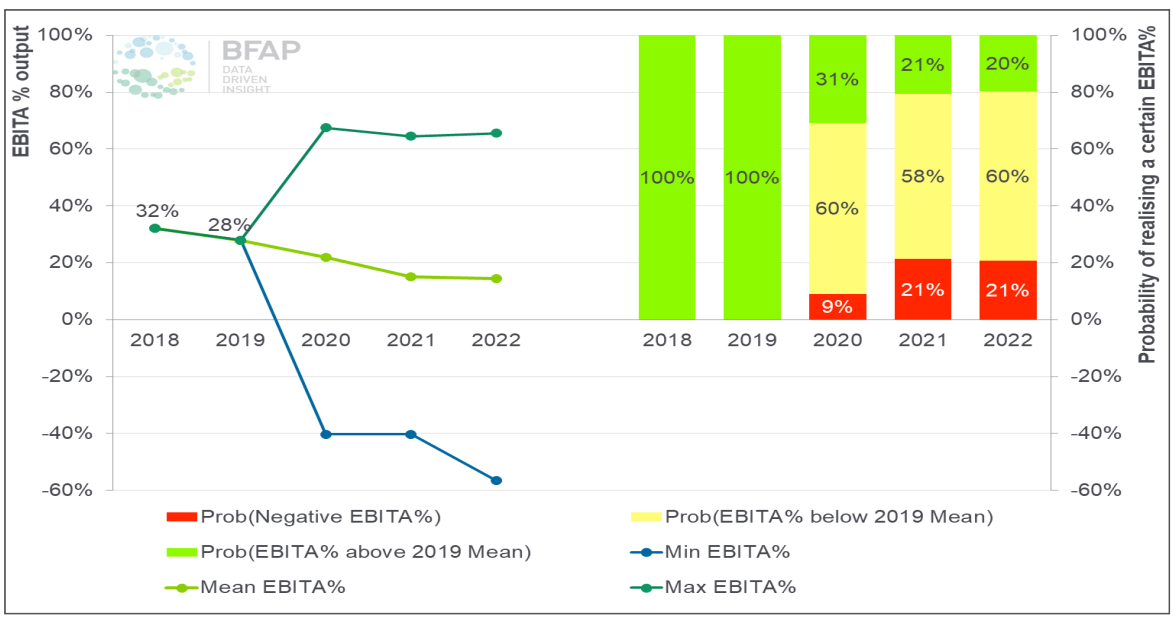


Figure 82: Stochastic output of actual and projected EBITA percentages for farm-level plum production: 2018 – 2022

The results from the mean EBITA percentage calculated in the model are 32 percent for 2018 and 28 percent for 2019. In terms of the minimums and maximums for 2020 to 2022, these range between -57 percent and +68 percent, with mean values of 22, 15 and 14 percent for 2020, 2021 and 2022 respectively. As to the probability of a negative EBITA percentage, the likelihood is 9 percent, with a 60 percent chance of an EBITA percentage between zero and the 2019 mean EBITA (28%). The prospects for returning a value above the 2019 mean for the 2020 season, is 31 percent. Similarly, the probabilities for 2021 and 2022 are also displayed. Weather conditions, as has been alluded to previously, played a role in the 2020 yield, whilst the projected global economic slowdown has the potential to increase market volatility and affect profitability.

such, a decline in the real price of domestic produce will negatively impact farm level profitability, but can be a stimulus for consumption.

Figure 83 presents the average annual total local fresh and processing (including dried) volumes for the period of 2010 to 2019 and for the 2029 outlook, as well as the share of each fruit type relative to the share of other fruit types. As such, the total fresh domestic figure for citrus, table grapes, pome and stone fruit amounts to an annual average of 498 000 tonnes between 2010 and 2019. This is expected to grow to 615 000 tonnes by 2029. Similarly, the total processing volume was 1.174 million tonnes, on average, per annum for the period 2010 to 2019, and this is expected to grow to 1.577 million tonnes by 2029, resulting in an increase of 14.67 percent on the value returned for 2019. Should the demand for fresh produce increase over the next ten years, it would be possible to increase the volume sold fresh and decrease the volume absorbed in the processing market channel.

Local fresh consumption is expected to increase by 25.08 percent for 2019 to 2029, while the relative share

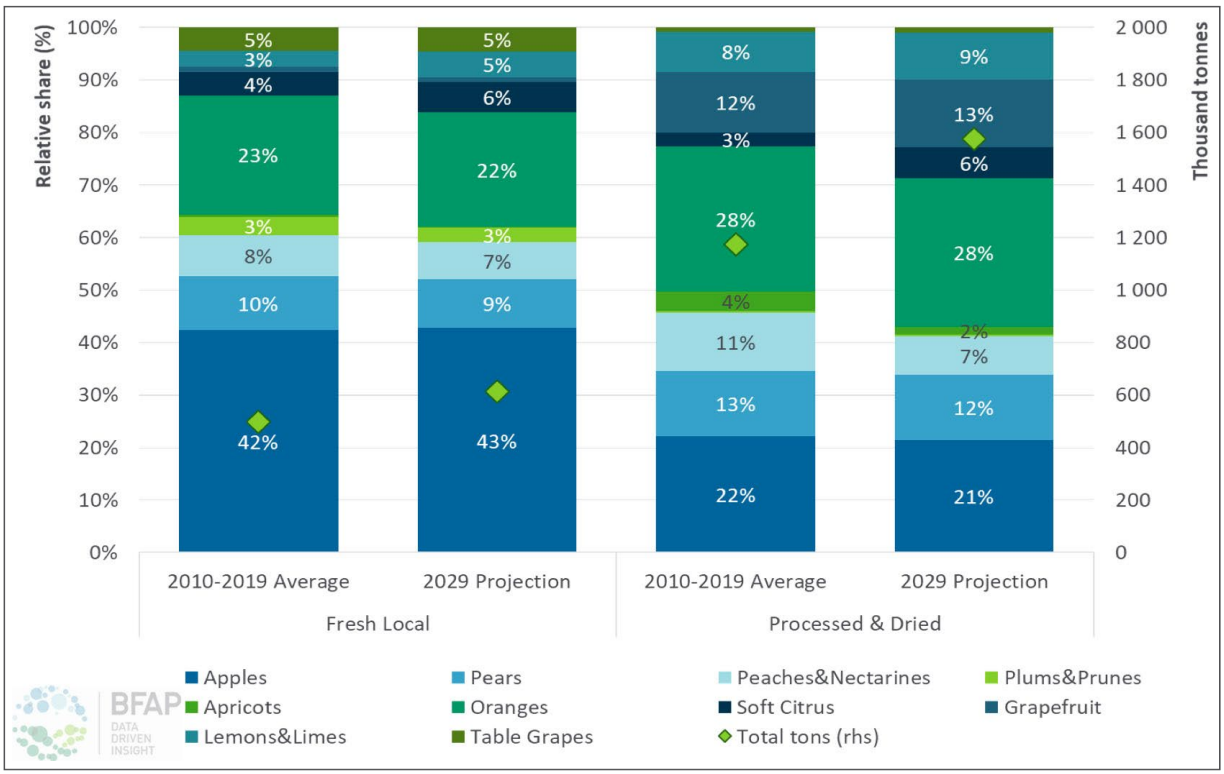


Figure 83: Actual and projected local fresh and processing market share and volume: 2010 - 2029

Box 9: An introduction to fruit consumption in South Africa

How important is fruit in the food budget of SA consumers?

Fruit expenditure in South Africa is dominated by affluent households (contributing ±58% to total fruit expenditure), followed by middle-income households (Table 7). The absolute expenditure on fruit per household increases by ±38 times from the least affluent 10 percent of households to the most affluent 10 percent of households.

Table 9: Socio-economically disaggregated fruit expenditure in SA

	Low-income households*:	Middle-income households**:	Affluent households***:
Estimated share of household food budget allocated to fruit:	1.6%	2.1%	4.9%
Estimated contribution of socio-economic sub-segment to total fruit expenditure in South Africa:	10.6%	31.2%	58.2%

** Least affluent ±40% of South African households; ** ±40% of South African households; *** Most affluent ±20% of South African households*

Source: Calculations based on Stats SA Living Conditions Survey 2014/2015 with expenditure data inflation adjusted to April 2020 levels

Do South African consumers eat enough fruit?

According to the Guidelines for Healthy Eating (based on the South African Food-based Dietary Guidelines), the general recommendation for daily fruit intake could be interpreted as two 80g edible servings. The

Box 9: An introduction to fruit consumption in South Africa (Continue)

estimated cumulative per capita intake, amounts to 18 kg/capita/year (refer to Figure 1 below). However, ideal fruit intake (i.e. two daily servings) would yield a per capita intake value of ±80 kg/capita/year – emphasising the significant fruit consumption deficit amongst South African consumers. This contributes to inadequate dietary diversity, particularly among low- and middle-income consumers in our country.

Most popular fruit types in South Africa

Considering the fruit types presented in Figure 84, the most popular fruit option in South Africa is bananas (representing ±54% of per capita consumption from the selected fruit options combined), with the lowest average single serving unit cost in 2019 (R1.80/SSU). Apples are in second position (19% consumption contribution per capita), despite having the highest SSU cost (R2.30) among the top 4 fruit options. Oranges and pears are in the third and fourth positions, contributing 9 and 5 percent respectively to per capita consumption (Figure 84).

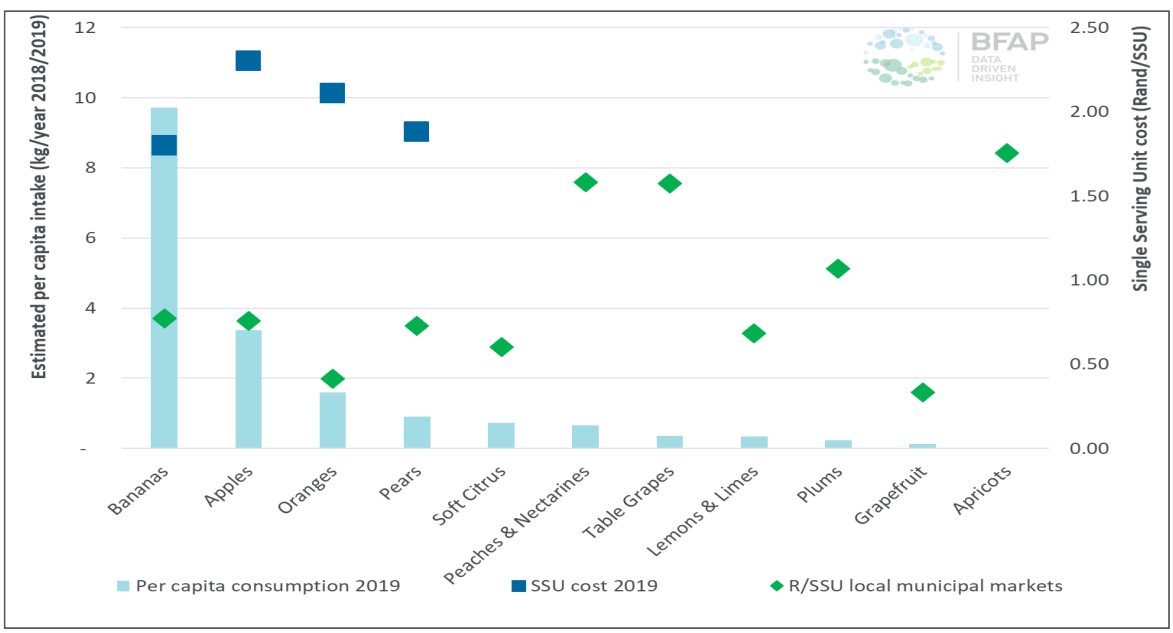


Figure 84: Estimated per capita consumption and single serving unit (SSU) cost for prominent fruit options in South Africa in 2018/2019

Sources: BFAP sector model & DAFF Abstract of Agricultural Statistics

Note: 'SSU cost' only available for major fruit types consumed locally. The 'R/SSU local municipal markets' provides an indication across all fruit types in the graph at local municipal market level - retail price for the other fruit types can be derived from the relationship between 'SSU cost' and 'R/SSU local municipal markets', as indicated for the major fruit types consumed locally.

The relative affordability of fruit

In this section, we evaluate the affordability of a selection of popular fruit options in the South African context on a single serving unit cost basis[6] (Figure 85). The retail prices of these items are monitored by Stats SA monthly in urban areas of South Africa. When we consider popular fruit types, the most affordable fruit option in 2020 thus far has been pears (R1.96/SSU in April 2020), followed by bananas (R2.26/SSU) and apples (R2.34/SSU). The most expensive fruit options during this time were oranges (R2.85/SSU) and avocados (R5.04/SSU).

[6] The South African Food-based Dietary Guidelines define a single serving of fruit as an 80g edible portion. Non-edible shares were also considered to focus on the fruit options 'as purchased'.

Potentially viewed as immune-boosting foods, the demand for citrus and avocados grew within certain (more affluent) consumer market segments during the COVID-19 pandemic worldwide. From 2019 to April 2020 the price of oranges and avocados increased by 35.0 and 25.6 percent respectively.

The SSU cost of popular fruit is notably higher than the SSU cost of popular staple foods (e.g. R0.74 for brown bread and R0.26 for maize meal in April 2020). This contributes to consumers' tendency to reduce fruit intake when facing financial difficulties, in favour of starch-rich staple foods. Nevertheless, consumer who could afford to expand their fruit intake did so during 2020, prioritising healthy eating to boost immune systems.

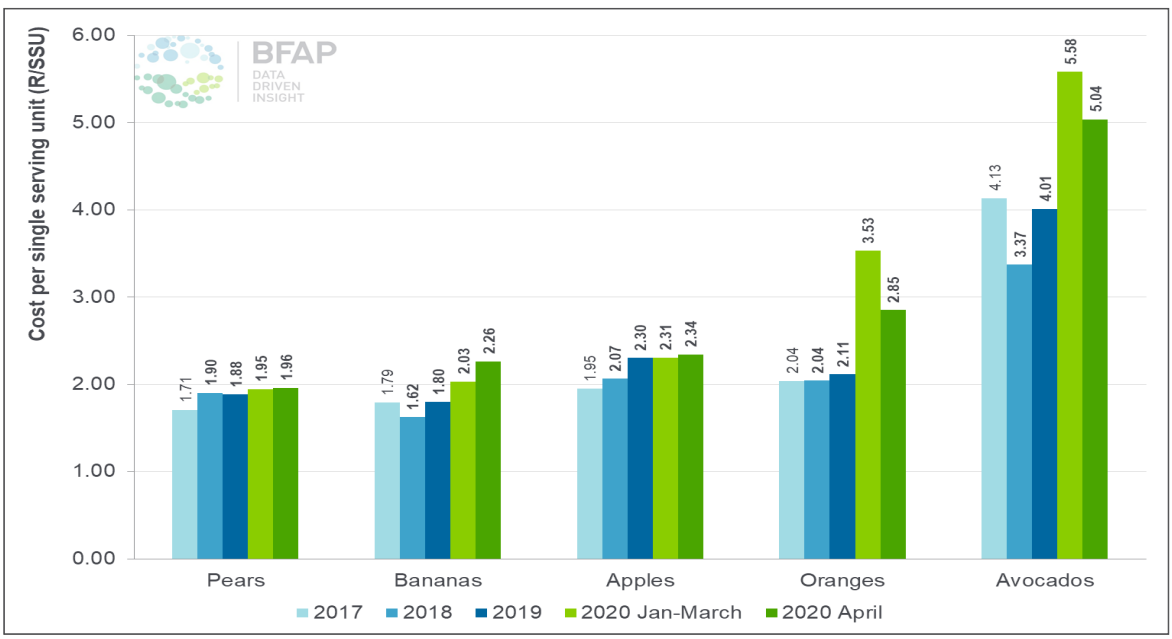


Figure 85: Comparing the affordability (at retail level) of selected fruit options based on average monthly values for 2017, 2018, 2019 and 2020 (January to April)

Source: BFAP calculations based on StatsSA monitored urban food retail prices & Single serving units as defined by the South African Food-based Dietary Guidelines

Most popular fruit types among socio-economic sub-segments in South Africa

Table 10: Most popular fruit types among low-income, middle-income and affluent households in South Africa from a household-level expenditure perspective

Low-income households:	Middle-income households:	Affluent households:
Estimated contribution of fruit type to total fruit expenditure of socio-economic sub-group		
Bananas (36%)	Apples (32%)	Bananas (21%)
Apples (33%)	Bananas (28%)	Apples (19%)
Oranges (14%)	Oranges (10%)	Avocados (8%)
Avocados (3%)	Avocados (4%)	Grapes, raisins (7%)
Peach (3%)	Pears (4%)	Oranges (4%)
Grapes, raisins (2%)	Grapes, raisins (3%)	Peach (3%)
Pears (2%)	Peach (3%)	Pears (3%)
Plums, prunes (1%)	Plums, prunes (1%)	Plums, prunes (2%)
Lemons (0.5%)	Grapefruit (1%)	Grapefruit (2%)
Naartjies (0.4%)	Naartjies (1%)	Naartjies (1%)

Source: Calculations based on Stats SA Living Conditions Survey 2014/2015 with expenditure data inflation adjusted to April 2020 levels

of apples in that market channel is expected to remain constant (42% in the period 2010 to 2019 and 43% in the outlook period). This results in an increase in total apple volume sold as fresh produce in the domestic market, but in line with total growth. On the other hand, pears, peaches & nectarines, as well as oranges are expected to lose some market share (10% to 9%, 8% to 7%, and 23% to 22% respectively), to be replaced by the expansion in volume and consequent relative share by soft citrus (4% to 6%) and lemons & limes (3% to 5%).

Similarly, the relative share of the different fruit types by 2029 is expected to remain close to the levels observed for the 2010 to 2019 period, with the exception of peaches and plums & prunes, as well as soft citrus and lemons & limes. With processing volumes expected to increase by 14.67 percent because of the expected increase in total production, the absolute volume of each fruit type will also increase in order to retain its relative share. The projected decline in peaches and plums & prunes is primarily the result of a smaller canning component (for peaches) and a smaller prune market. These decreases are also linked to the effect of declining hectares in these respective industries. Transversely, the growth in cultivated area of soft citrus and lemons & limes is indicative of faster expansion for these products in their relative share of total processing & dried volume (3% to 6% and 8% to 9% respectively, on average). Should fresh consumption demand increase in different quality categories and a shortened travel distance and time can offset/minimise deterioration of the produce, a portion of the produce destined for the processing market can be rerouted into formal and informal fresh local markets.

Concluding Remarks

Fruit production is currently, and will remain, an important sub-sector in agriculture, especially in terms of earning foreign revenue and providing employment. With a total value of more than R 60 billion projected for 2029, foreign revenue is expected to contribute 70.14 percent of the combined overall earnings in the citrus, table grape, pome and stone fruit industries. Continued growth and employment at production and agro-processing facilities (including pack-houses) remain dependent on exports.

As the saying goes: It is not the strongest that survives, but the species that survives is the one that is able best to adapt and adjust to the changing environment in which it finds itself. Covid-19 will impact all fruit industries, sooner or later. Everyone will be affected by the pandemic, whether it is directly and/or indirectly. With the dependency on exports to realise profits across the different fruit industries, it is natural to approach the coming season with a certain level of uneasiness. The need to think outside the box has never been more evident. In order to ensure consistent supply of high quality South African fruit through this testing period, stakeholders will have to work in unison to ensure the least possible interruption through all of the activities of the value chain.




OUTLOOK FOR WINE GRAPES AND WINE

The wine industry was one of the most severely affected by the COVID-19 pandemic and the measures imposed to curb its spread. This impact was both direct, in the form of restrictions on sales, and indirect owing to the rapid deterioration in economic prospects globally. South Africa's lockdown restrictions were particularly severe, with all sales, domestic and exports, banned through the initial 5-week lockdown. After moving to level 4 lockdown on 1 May 2020, exports resumed, but domestic sales remained prohibited. It was only after 9 weeks of lockdown that domestic sales resumed, still in a restrained environment, such as limitations on operating hours and the prohibition of consumption away from home. In mid-July, alcoholic beverage sales were banned for a second time, in order to reduce pressure on trauma units in the health system.

The massive demand shock brought about by the lockdown action comes at a time when the industry was just starting to recover. After a period of contraction, both in terms of vineyard size and the volume of wine production, further exacerbated by the severe, three-year long drought in the Western Cape (2015-2017), real wine grape prices had increased for consecutive years from 2017-2019. Then, after a modest increase in wine production in 2019, early estimates pointed to a more significant increase of 8.2 percent in wine grape production and 7.5 percent in wine production in 2020. Early prospects also pointed to a good quality vintage.

Despite these recent challenges, the wine industry remains one of the largest contributors to South Africa's positive trade balance for agricultural products. The industry employs in excess of 40 thousand people directly and in addition to its direct production value, contributes a further estimated R7.2 billion through wine tourism. In 2015, the industry launched the Wine Industry Strategic Exercise (WISE), whose purpose was to develop strategic targets that would put the industry on a more sustainable path towards 2025. Significant progress had been made in reaching these targets, but unfortunately, 2020 has brought significant challenges that have put it on the back foot once more, undoing some of the progress made to date. As it seeks to recover in the post COVID-era, it will need to re-establish momentum in its switch to a truly market and value driven industry. This will require a multifaceted strategy in an environment where consumer spending power will likely remain under pressure for a number of years.

International market overview

The impact of the COVID-19 containment measures reach well beyond South Africa's borders, with early indications pointing to an economic contraction of approximately 6 percent globally and as much as 8 percent in South Africa's major export markets. This suggests that global demand will come under increasing pressure, having already declined by 1 percent in 2018, before recovering only very marginally by 0.1 percent in 2019. Amongst major consumers, 2019 consumption increased from 2018 levels in the USA (1.9%), Spain (1.8%), Argentina (1.2%), Russia (1%), Italy (0.9%) and the UK (0.8%). Offsetting declines were recorded in Canada (-4.1%), China (-3.3%), the Netherlands (-2.8%), Portugal (-2%), Australia (-1.7%) and France (-0.7%) (Figure 86). In 2020, the continued spread of COVID-19 and the measures imposed to contain it will affect markets in two ways. Firstly, total demand will most likely decline, owing to the economic downturn.

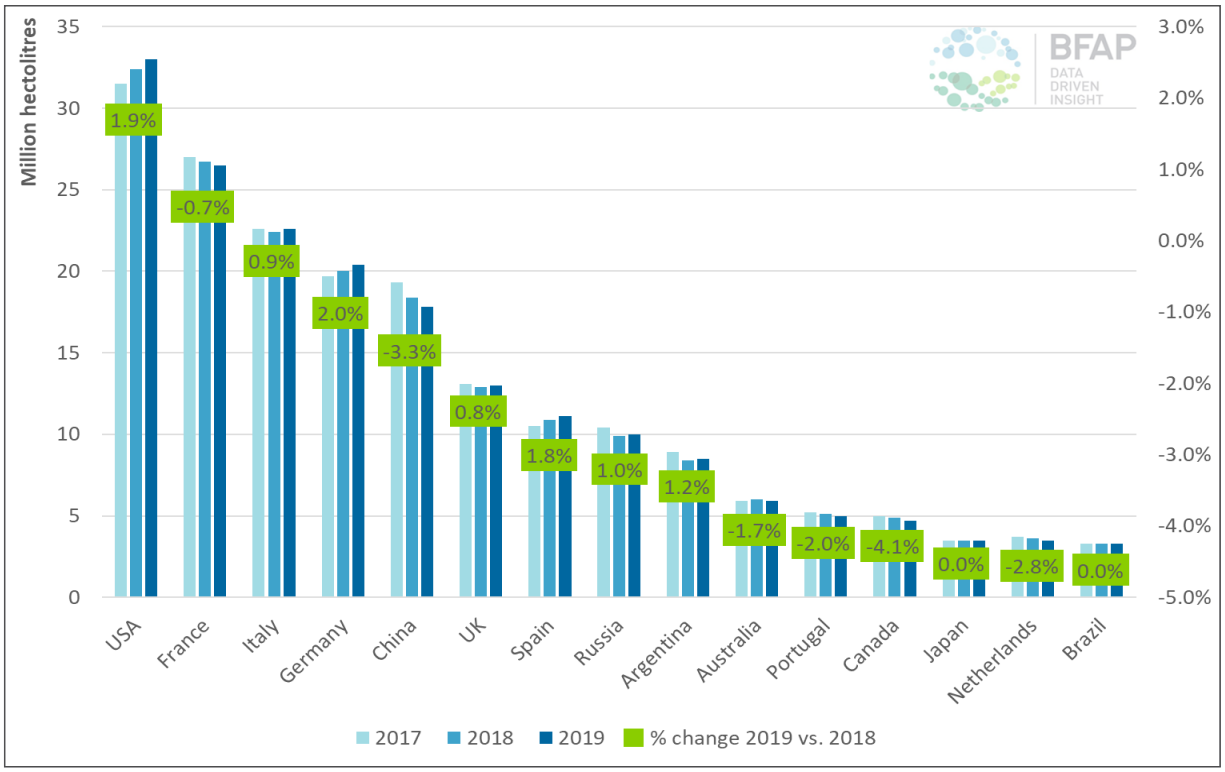


Figure 86: Wine consumption in selected countries from 2017 to 2019
Source: OIV, 2020

Secondly, closure of clubs, cafes, restaurants and wine tasting venues has induced a shift in marketing channels. Sales are likely to shift to supermarkets and e commerce channels, as volumes typically sold through restaurants and tourism related sectors collapse.

Global wine production is estimated at 26 billion litres in 2018, 11.5 percent below the exceptionally high volume recorded in 2018, and produced on some 7.4 million hectares of vineyards. This compares to the levels of 40 years ago, when the global vineyard was 10.2 million hectares in extent (1976-80) and wine production 33.5 billion litres. Much of this decline is attributed to the EU, where Spain's harvest is estimated to have declined by 24 percent from 2018, France's by 15 percent and Italy by 12 percent. Beyond the EU, US production declined by 2 percent from 2018 levels, Chile by 7.4 percent and Australia by 6 percent. While Argentina's volumes were also down marginally, the 2019 harvest is regarded as one of its finest in terms of quality.

Despite the smaller harvest, indications from the OIV are that wine exports expanded by 1.7 percent year on year in 2019 – driven mainly by Italy (10%), Spain (6.5%), New Zealand (3.9%), Chile (3.6%) and the USA (2.9%). On the import side, the biggest year on year increases were recorded in Russia (9.8%), Japan (7.7%), USA (7%), Belgium (3.3%), France (2.9%) and the UK (2.3%). Global imports are highly concentrated, with Germany, the UK and the USA accounting for 38 percent of the market between them.

In terms of volume, bottled wine accounted for 53 percent of internationally traded volumes in 2019, with a further 4 percent attributed to the "Bag in Box" (BiB) category and 9 percent to sparkling wine, while 34 percent of exports were traded in bulk. Bulk wine also provided the greatest year on year gain in volume at 2.5 percent, followed by sparkling wine at 2.5 percent and bottled wine at 0.5 percent. By contrast, BiB sales declined by 13 percent year on year.

Domestic Consumption

The restrictions on domestic wine sales through various stages of the lockdown in 2020 present a severe setback to the industry's efforts to grow domestic consumption. Domestic wine consumption was already declining during 2018 and 2019 (by 4% and 7% respectively) on the back of lower disposable incomes and higher prices. In 2020, domestic consumption of still wine is expected to decline by as much as 19 percent. This emanates from the combination of sales restrictions and further economic

decline, which results in greater unemployment and reduced disposable income. While sales restrictions are not expected to last beyond 2020 under the baseline, the economic recovery will take much longer. Consequently, while a substantial year on year recovery is projected in 2021, it is insufficient for domestic sales to exceed 2019 volumes, despite lower prices.

Figure 87 presents the outlook for wine consumption in South Africa. After the initial setback in 2020, total wine consumption is projected to increase by an annual average of 1 percent. Naturally, this is influenced by the exceptionally low sales volumes in 2020 and 2029 projections remain 3 percent below the average sales volume between 2017 and 2019. Within the still wine category, the low and basic price segments constitute the lion's share of consumption by volume, and the bulk of the decline is also attributed to these categories. These categories are typically consumed by lower income consumers and continue to face strong competition from beer in the alcoholic beverage complex. Premium categories are expected to perform better, owing to their less sensitive consumer base. By 2029, total still wine sales are projected to decrease by 6 percent relative to the 2017-2019 base period. By contrast, sparkling wine consumption is projected to increase by 7.7 percent, fortified wine by 13.6 percent and brandy by 11 percent. In light of the industries strategy of targeting higher value products, the increase in higher value categories represents a switch from lower priced categories into these higher value products. This enables the industry to target additional volumes at higher income consumers, where spending power is less constrained, whilst also improving the value contribution of the sector, despite declining volumes. Despite this successful shift, higher value products grow from a small base and lower priced wine remains the bulk of total still wine consumption, which therefore still underpins the decline in total wine consumption.

Despite the challenges of 2020, the wine tourism industry represents significant opportunities to unlock future growth. Accordingly, it is critical to provide short term support to a sector that has been closed since the initial imposition of lockdown on 26 March and was yet to reopen by mid-July.

Trade

South African wine producers export almost half of the wine that they produce, and have built a reputation for consistent delivery of high quality wines at competitive prices in export markets. In 2020 however, they encountered a perfect storm, as COVID-19 decimated

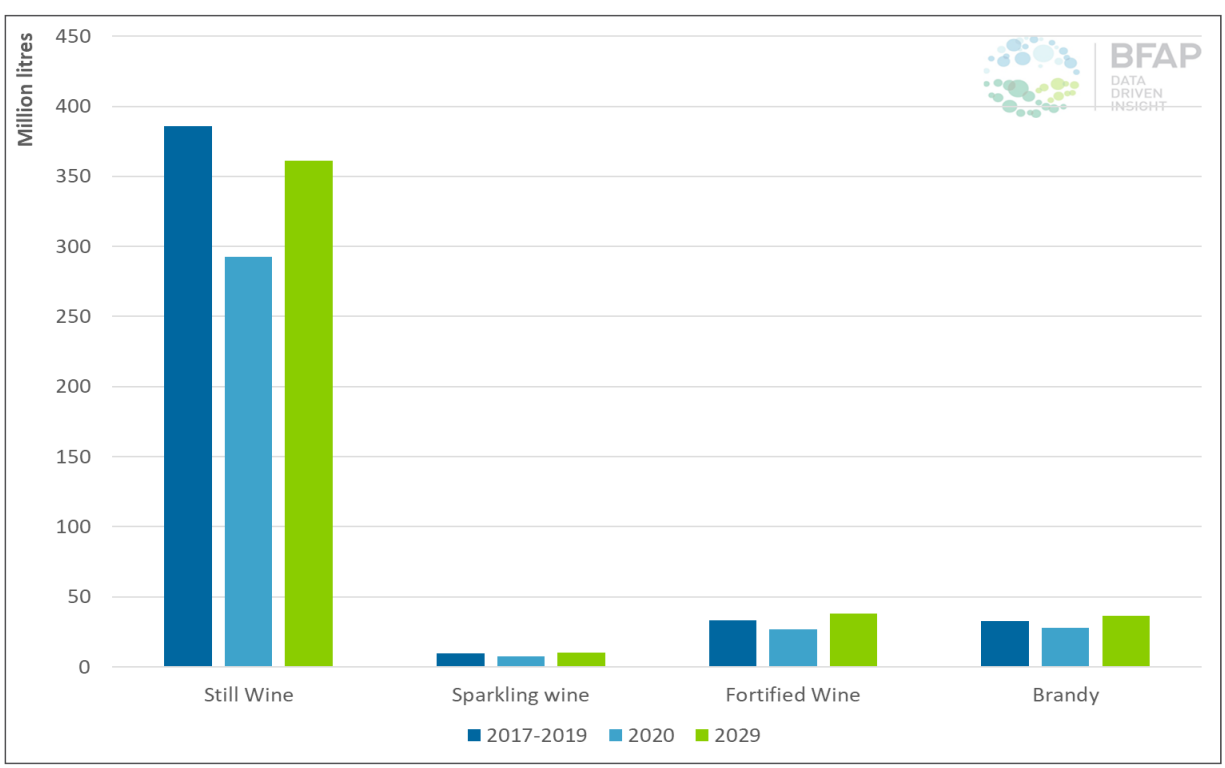


Figure 87: Wine and Brandy consumption in South Africa: 2009-2029

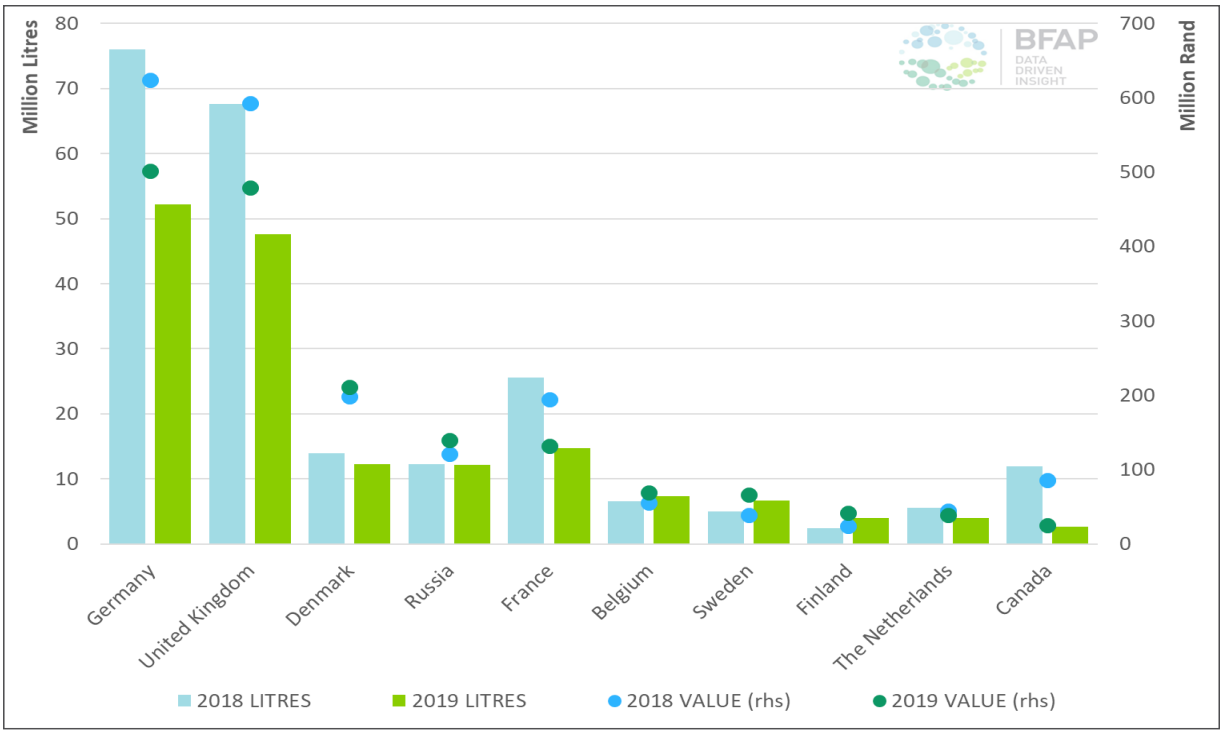


Figure 88: Bulk wine exports from South Africa to selected destinations in 2018 and 2019
Source: SAWIS, 2020

the initial expectation of substantial gains in both the volume and value of exports. While the loss of export revenue for the initial 5 week period of the lockdown was significant, the effects of the measures are expected to persist much longer. The inability to deliver on export orders placed prior to the introduction of the lockdown caused substantial reputational damage and will result in delisting and loss of shelf space. Such factors take months to remedy.

2019 was already a challenging year on the export front. With global supplies still plentiful, export volumes declined by almost 24 percent relative to 2018. On the up side, exporters fared relatively better in optimising value, as the year on year decline in export value was restricted to 6.8 percent. While the average price attained for both bulk and packaged wine increased in 2019 relative to 2018, part of the improvement in average export prices can also be attributed to a shift in the composition of exports. From 2015 to 2018, the share of packaged wine in total export volumes remained fairly stable around 40 percent, but in 2019 this increased to 45 percent. This signals the first significant shift in composition towards the targets contained in WISE, which aims for a 60 percent packaged, 40 percent bulk composition by 2025.

To attain the shift in composition, total bulk wine exports declined by 30 percent year on year in terms of volume. Given higher prices, the decrease in value was less at 17 percent. Figure 88 presents bulk wine exports from South Africa to the 10 largest export destinations in 2018 and 2019. Volumes increased into Belgium (12.6%), Sweden (33.7%) and Finland (61%), while export values also increased into Denmark (6.3%) and Russia (15.8%), despite lower volumes. Substantial declines were evident to Germany (31.3%), the UK (29.7%) and France (-42.3%).

Total packaged wine exports from South Africa declined by 14.4 percent in terms of volume, but only 3.6 percent in terms of value. Figure 89 indicates that, among the major export destinations, packaged wine export volumes increased into the Netherlands (14%) and Russia (6%), while the value improved into the USA (0.3%), Canada (9.7%), Belgium (5.5%) and Russia (4.6%), despite lower volumes shipped.

Despite the impact of COVID-19, a marginal increase is expected in South Africa's export volumes in 2020. The sharp depreciation of the exchange rate, combined with lower prices domestically, is expected to support the relative competitiveness of South African products in the export markets and continued restrictions on domestic sales may induce a greater focus on exports. In May 2020, export volumes were still below the same period of 2019, but volumes are expected to increase over the

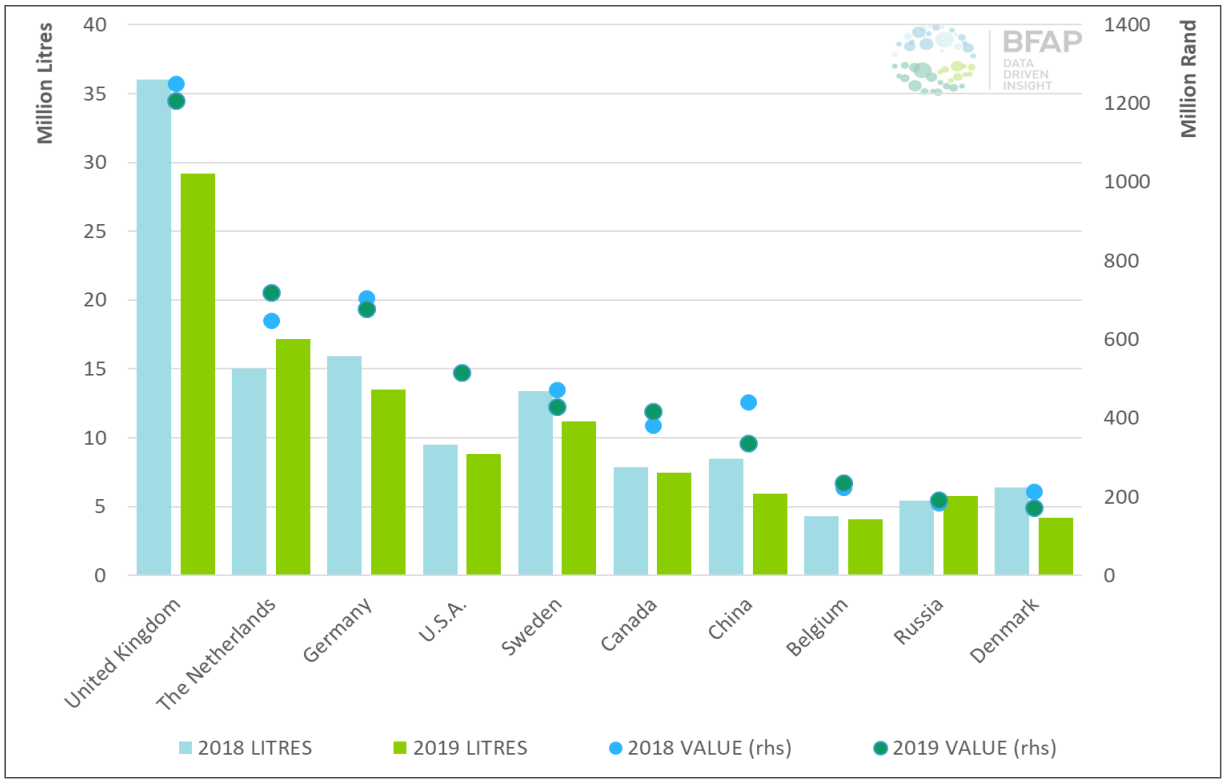


Figure 89: Packaged wine exports from South Africa to selected destinations in 2018 and 2019
Source: SAWIS, 2020

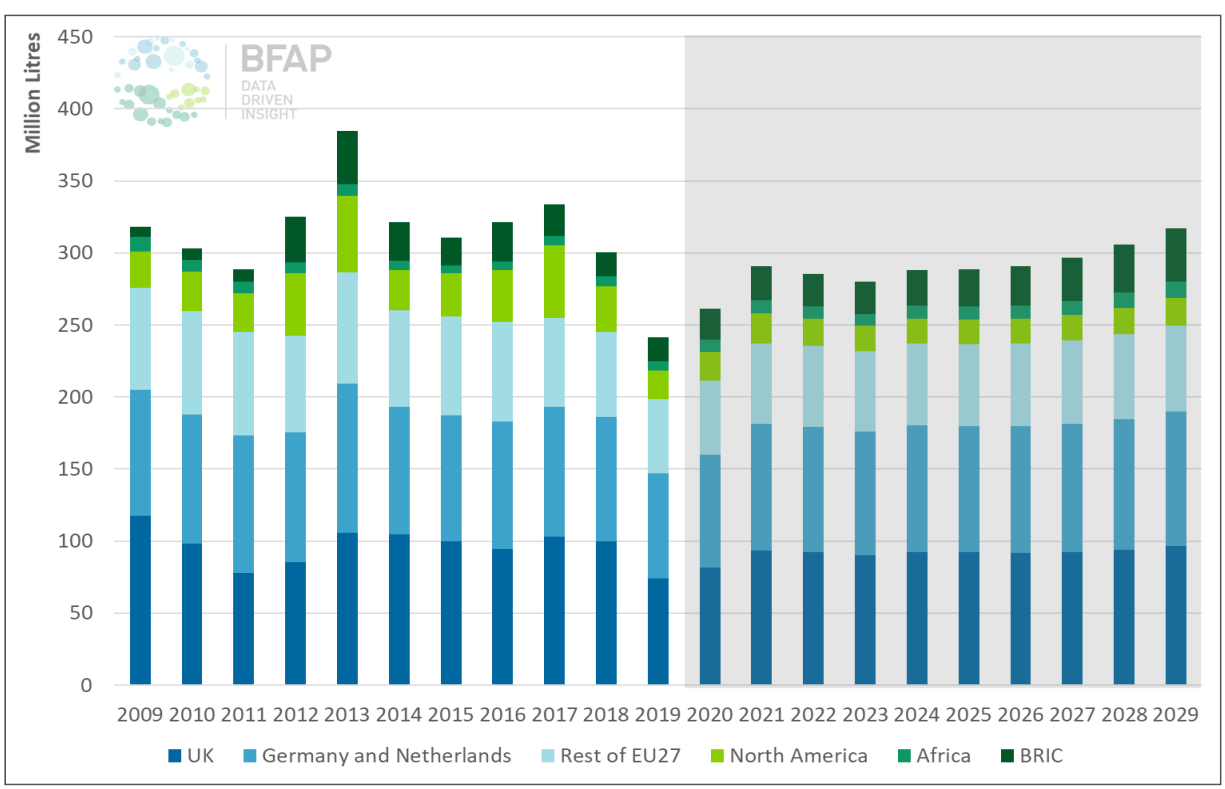


Figure 90: South African wine exports, disaggregated by region: 2009 – 2029
Source: SAWIS, 2020 & BFAP ProjectionsA

second half of the year, as more economies start to emerge from lockdown restrictions.

Over the course of the next decade, export volumes are projected to increase by an annual average of 2 percent. While this growth rate is skewed somewhat by the low volumes shipped in 2019 and 2020, exports are projected 7 percent higher in 2029 relative to the average volumes shipped from 2017 to 2019. Exports will find support from persistent weakness of the Rand, but growth is also constrained by lower production volumes and a slow recovery in global demand over the next few years. The process of rebasing South African wine's market position is expected to continue, with a continued focus on quality premiums and high value markets more important than ever. Europe retains the largest share of South African wine exports, supported by the substantially increased duty-free quota and post BREXIT, South Africa will also benefit from an additional duty-free quota into the UK. The prominence of projected exports to the EU also assumes that South Africa can maintain the preferential status that it has over all other competitors except Chile, which also currently has duty free access into the EU.

While traditional trade partners remain strong, some shifts are also evident over the outlook period, with exports into the BRIC region expected to expand by an average annual rate of 6.4 percent, driven mainly by Russia and to a lesser extent China. Exports into Africa are also projected to increase by an annual average of 3.4 percent, though from a much smaller base. By 2029, the share of total exports into the BRIC region is projected to increase to 11.6 percent, from 6.8 percent in 2019, mainly at the expense of the EU (Figure 90). While Chinese import demand has slowed in recent years, the US-China trade war provides additional opportunities for increased market share into China. China levied substantial import tariffs on US wine during 2018, which could provide space for South African exports to China to grow.

Production and Prices

An historic perspective on wine grape production in South Africa reflects a distinctly declining trend over the past decade, both in terms of vine area and grape production. The number of vines has declined consistently over the past decade, by 1.1 percent per annum. The decline in wine grape production has been slower, at an annual average of 0.8 percent from 1.35 million tons in 2009 to 1.25 million tons in 2019. In recent years, weaker relative profitability compared to a number of fruit sectors has

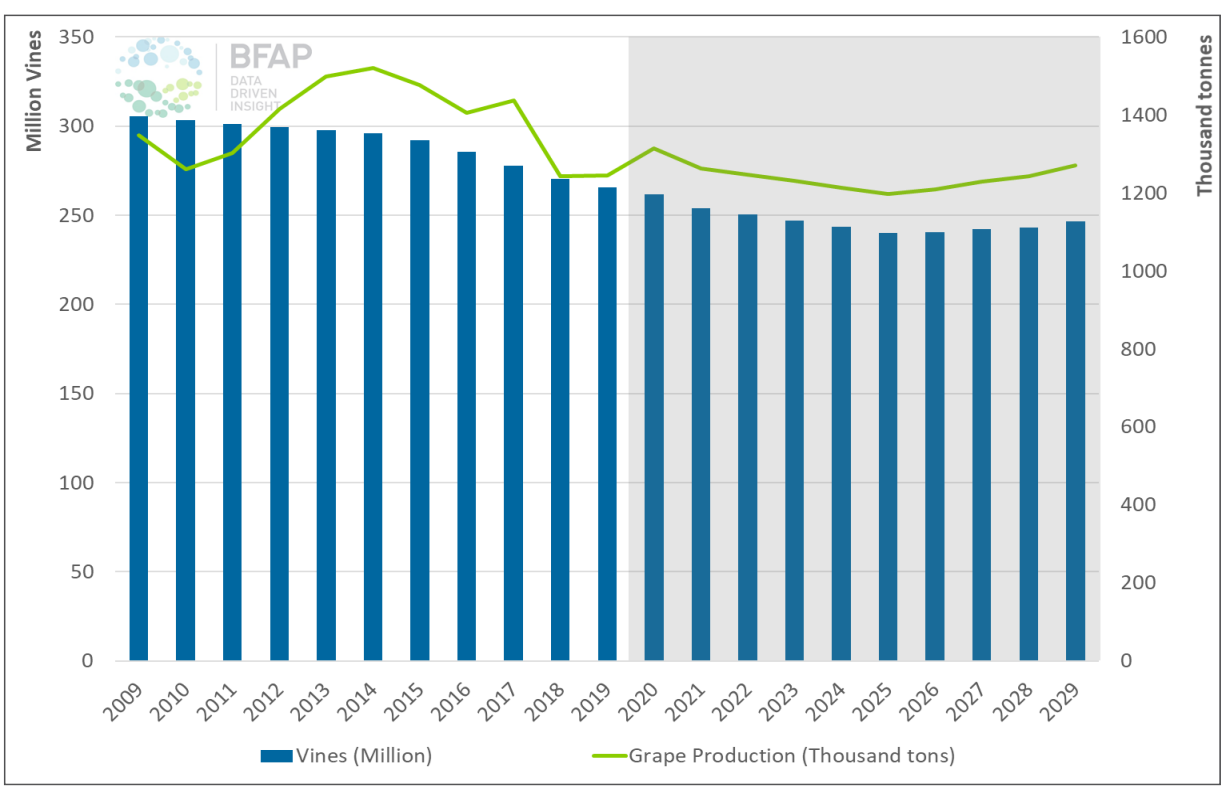


Figure 91: South African wine grape production: 2009 – 2029
Source: SAWIS, 2020 & BFAP Projections

accelerated this trend and by 2019, the total number of vines in production had declined by 6.6 percent relative to 2015 levels and by 9.7 percent relative to 2010 levels. While real price increases over the past 3 years supported improvements in profitability, the demand shock in 2020 may push many producers over the edge, resulting in further declines over the next 5 years. Post 2025, the total number of vines is projected to consolidate at a level of approximately 240 thousand, allowing wine grape production to increase modestly over the second half of the projection period (Figure 91).

Having increased rapidly through the 1990's, the share of red grape varieties in total vine composition fluctuated between 43 and 45 percent from 2003 to 2019. The age structure of white and red grape varieties presented in Figure 92 reflects aging red vineyards. The share of old vines (> 20 years) in total red having increased significantly in recent years, reflecting the greater emphasis on premium wines. At the same time, the share of younger vines (<10 years) has stabilised from 2014 onwards. The reduction in vines aged below 4 years is indicative that the decline in real prices from 2012-2016, which was stronger for red wine grapes (Figure 93), has slowed the establishment of new vineyards drastically. Encouragingly, after the real price increases of the past 3 years, the share of vineyards younger than 4 has shown a marginal increase for the first time since 2014. For white varieties, the age distribution is more even. Older vines (>20 years) are increasing, but at a much slower rate than red, but the share of vines aged below 10 years continues to decline. The combination of more consistent establishment in recent years, as reflected in a more stable number of vines younger than 4 years, combined with vine orders to be planted over the next few years, suggests that the share of white varieties in total vines could increase marginally by the end of the projection period.

In response to contracting supply, wine prices increased at above inflation levels in 2018 and 2019 (Figure 93). With supply expected to rebound strongly in 2020 and in light of the substantial reduction in demand resulting from the combination of the weak economic environment and continued restrictions on domestic sales, prices are expected to fall sharply in 2020. The combination of weak demand and increased supply is expected to result in record stock levels at the end of 2020. The slow, prolonged recovery expected on the demand side suggests that stock levels will remain high for the foreseeable future, only reducing significantly beyond 2024 (Figure 94). Consequently, the recovery in prices, while consistently positive, remains slow. In real terms, prices are only projected to reach 2019 levels towards the end of the ten-year projection period.

Concluding remarks

2020 is set to be one of the most challenging years yet encountered by South Africa's wine industry and the recovery will undoubtedly be slow. Having gone through a period of consolidation and structural adjustment post 2015, amid prolonged climatic challenges, production bounced back strongly in 2020, but challenges abound on the demand side. Globally, markets have slowed in the wake of COVID-19

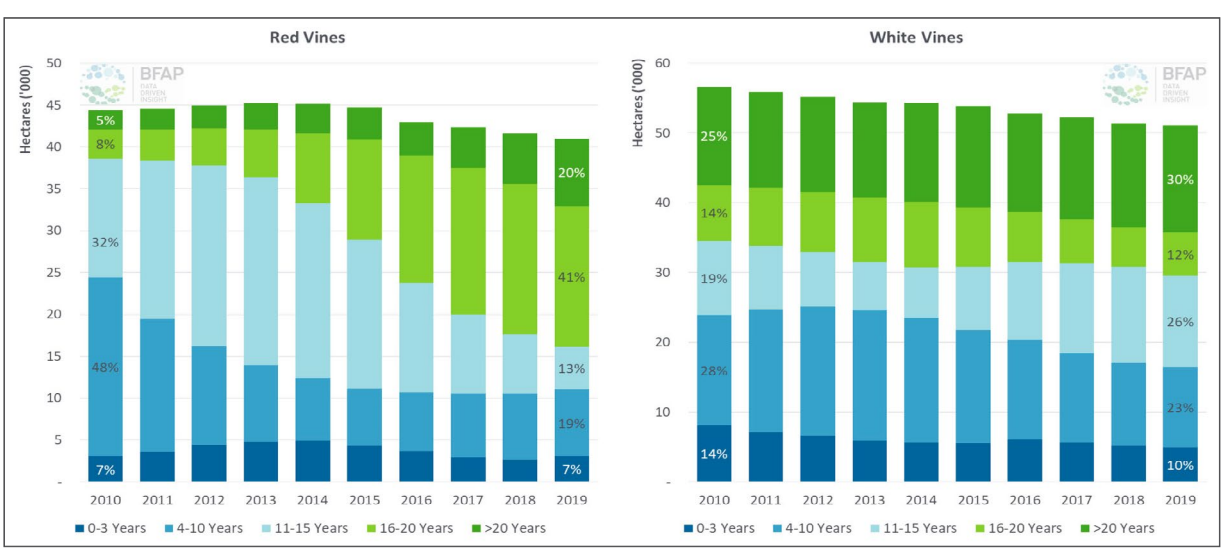


Figure 92: Age structure of South African vines
Source: SAWIS, 2020

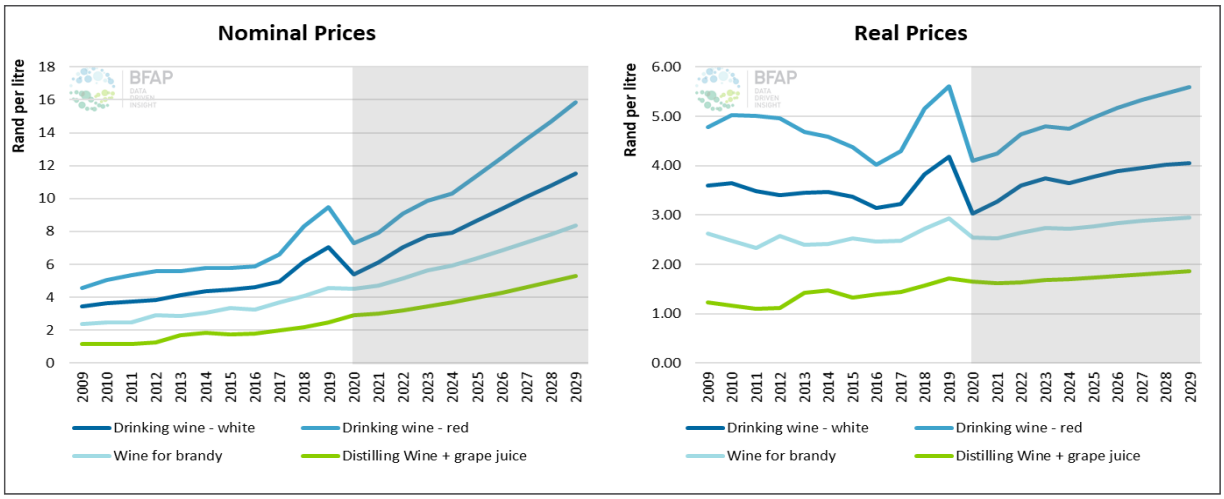


Figure 93: Historic and projected South African wine prices in nominal (left) and real (right) terms: 2009 - 2029

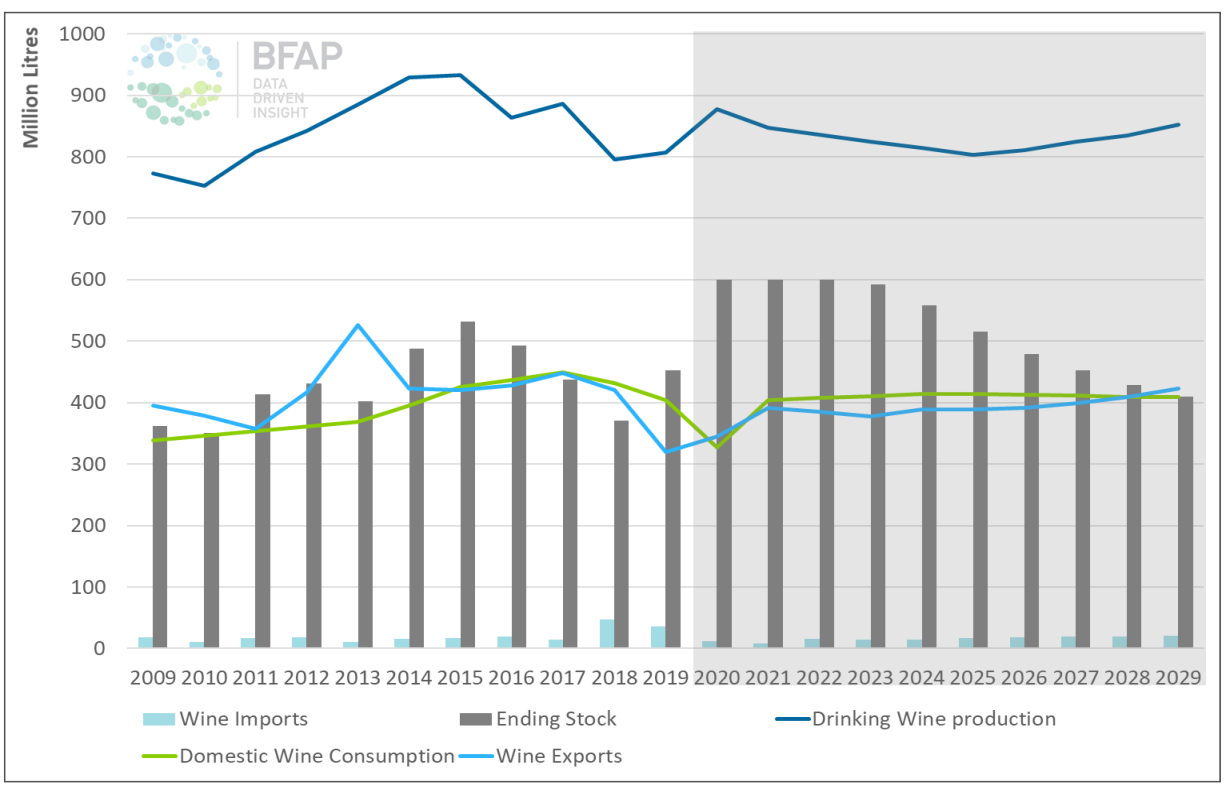
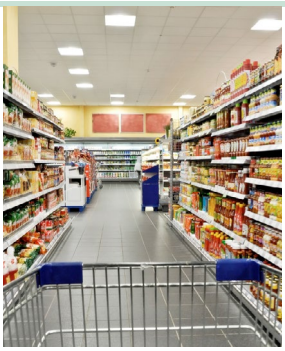


Figure 94: Production, consumption, trade and stock levels: 2009 – 2029

containment measures and weak economic prospects. In South Africa, the same holds true, but the situation was further exacerbated by sales restrictions through various stages of the lockdown period. The effect of continued restrictions on wine tourism, one of the pillars of the WISE strategy, has also been devastating.

While global markets remain weak, rapid depreciation of the exchange rate provided some consolation, lending support to Rand based prices. In 2019, export volumes declined sharply, but the industry was successful in attaining higher prices for exported products, despite weak international markets. The expected year on year increase in export volumes in 2020, despite the challenges in global markets, also provides a small positive, albeit from a sharply reduced base in 2019.

Going forward, the industry will be faced with new norms, not only in terms of the economic environment in which it operates, but also in terms of water availability and increasing competition for resources from the fruit sector, which has been more profitable than wine in recent years. As it strives to recover in the post COVID-19 era and unlock inclusive growth, reigniting its previous momentum towards the targets articulated in its WISE strategy will require consolidated efforts from all stakeholders. With production volumes set to decline further in the short term, opportunities for growth lie in unlocking additional value, which will also enable price premiums to flow back to producers and thereby stabilise volumes. This can be attained by a continued focus on quality premiums through correctly positioned and marketed brands and a focus on high potential domestic and export destinations. In the case of exports, it may require access to additional high value markets. In domestic markets, appropriate segmentation is critical, whilst support to the wine tourism sector will be critical to enable it to recover from current challenges and harness its full potential in future.

FOOD INFLATION IN 2020 AND BEYOND...

Introduction

Food inflation plays a central role in headline inflation, but is also an important metric to track in terms of access to sufficient and sufficiently nutritious food for households. It is in this context that this chapter explores current and possible future trends in food inflation and their potential impact on household food security, from an affordability perspective.

Trends in food inflation

For the past couple of years, BFAP has included a food inflation forecast in the Baseline that was generated considering the statistical properties of the inflationary series in question (be it food inflation or one of its sub-categories). This practice could have been done with relative confidence since most inflationary series exhibit a degree of inertia, which can be drawn on to forecast trends into the future. This inertia is predominantly supported by demand-side trends, which drive the longer term trajectory of the series. Supply side issues also play a role, but manifest more as shorter term shocks away from the longer term demand side trends. As we emerge from the strict lockdown measures of stage 4 and 5, however, it is unclear how these supply and demand dynamics will manifest in metrics such as food inflation.

In terms of demand, South African consumers have been under pressure from before the lockdown period, thus the restrictions intensified the economic pressures already evident from early 2019. The supply side, in turn, also experienced unprecedented shocks, such as the significant depreciation of the Rand/USD exchange rate and additional cost pressures associated with additional COVID prevention measures. Within this context, inflation forecasts for food and its sub categories were generated, and are presented in Figure 95 and Figure 96. These figures should however be regarded with some caveats. Although they give us some idea of the effect of depressed demand already prevalent before the lockdown, this projection does not allow for supply shocks as and when they occur. The forecasted figures could therefore potentially be much higher if logistical and manufacturing disruptions occur or if other cost pressures ensue. The extent this can be passed through to consumers is however uncertain, albeit expected to be limited due to the pressures mentioned above.

Figure 95 shows the extrapolation of the downward trajectory during 2020, which can be explained by the depressed demand already evident since the beginning of 2020. This trend is expected to be removed in early 2021 partly due to an expected uptick in demand side drivers but also due to the low inflation base experienced during 2020.

The results in Figure 96 seem to support the trend that has been apparent for the past 18 months, where consumers are diverting expenditure away from luxury options to expenditure on essential goods. In 2019 the emergence of this trend started with strong demand support for vegetable prices. Due to their relative affordability compared other food groups, households have progressively relied more on vegetables than fruit to fulfil their dietary needs for fresh produce. This trend has now also spilled over to the protein complex. Egg prices surged over 2020Q2 on the back of consumer stockpiling and its appeal as the most

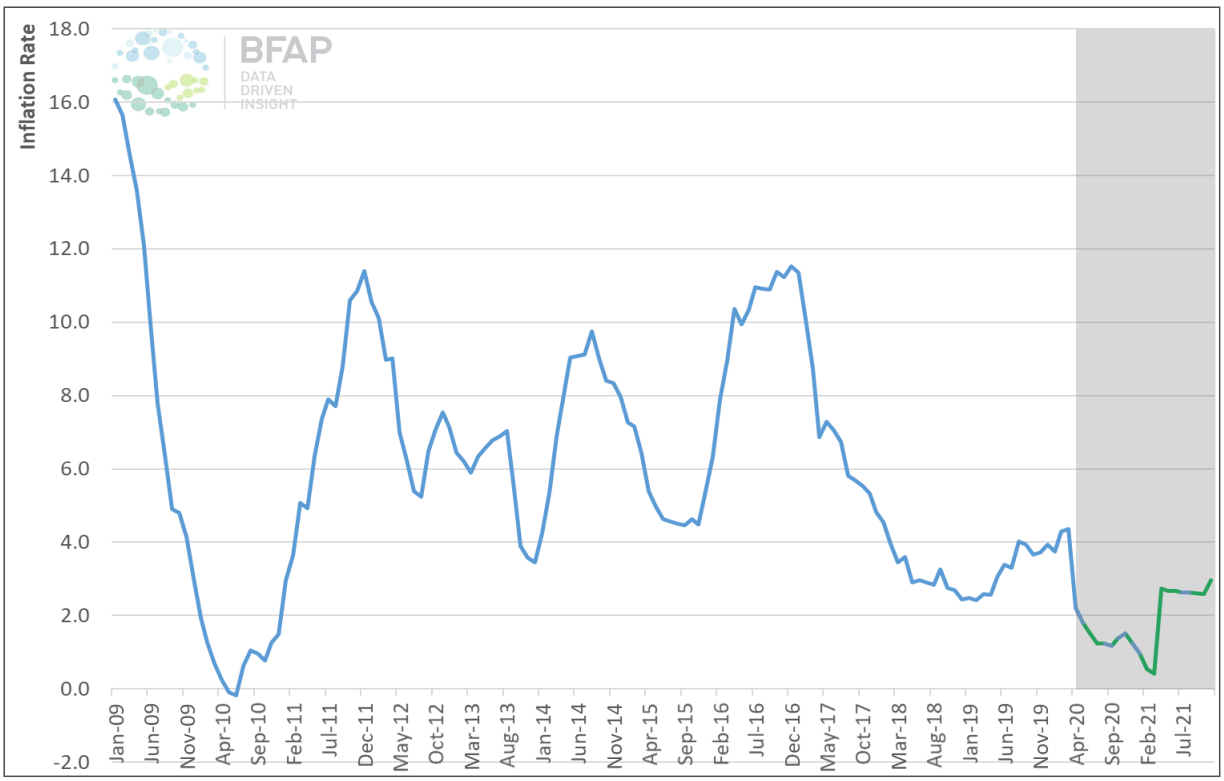


Figure 95: Monthly food inflation projections[7] for 2020 and 2021

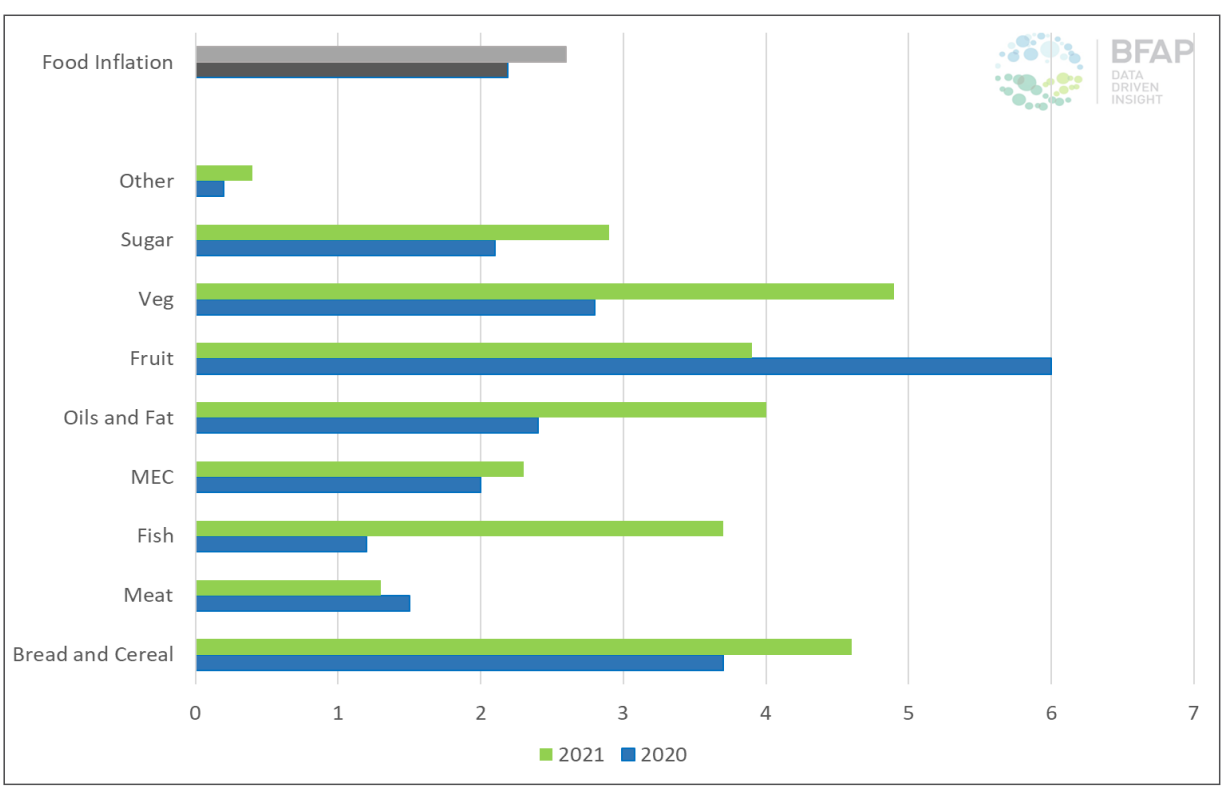


Figure 96: Average projected food inflation per sub-category for 2020 and 2021

[7] The projections are based on a time series model in which the statistical properties of the inflation series were used to extrapolate future values.

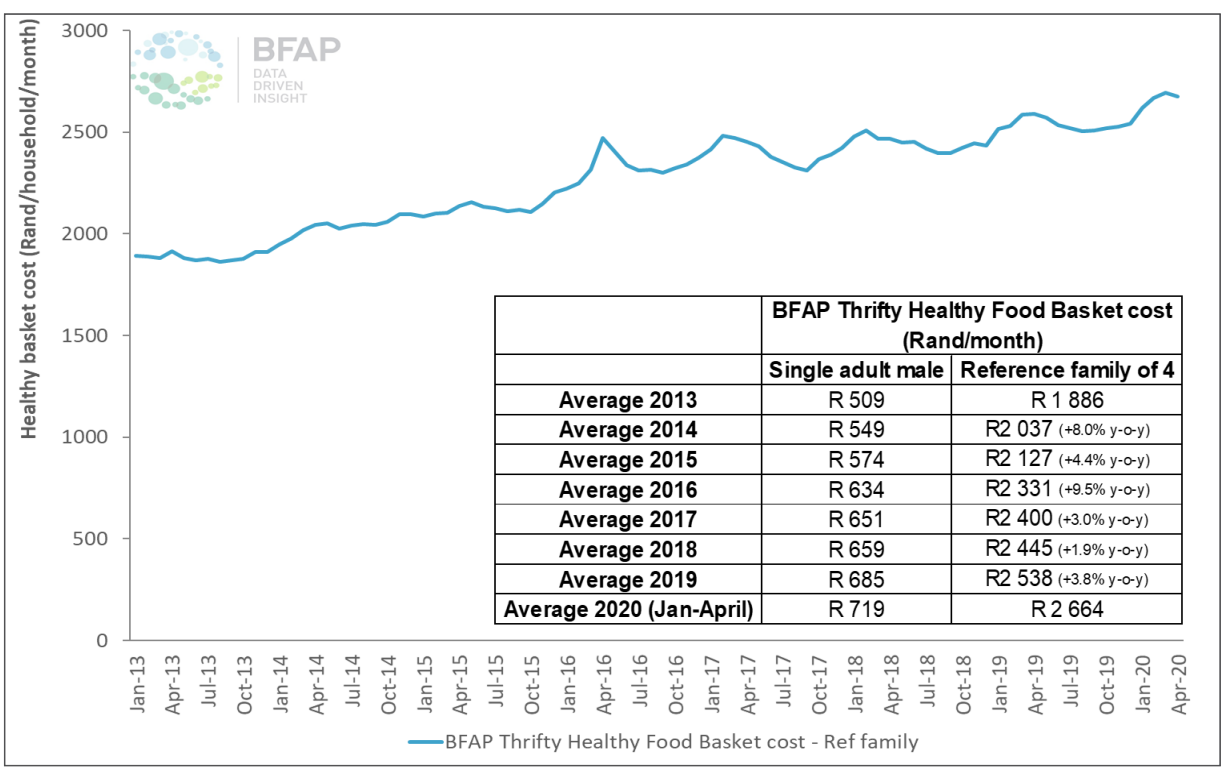
affordable animal protein. This is also evident in meat, where consumers are focusing on mince, sausages and frozen options, while reducing consumption of fresh primal cuts. Based on the economic contractions projected in the aftermath of the imposed COVID-19 restrictions, this trend is expected to carry on over the coming months.

Consumer level impact of food price dynamics – The BFAP healthy food baskets

In South Africa the typical monthly inflation on food and non-alcoholic beverages is calculated based on the Stats SA Consumer Price Index (CPI) for food and non-alcoholic beverages. Consisting of a typical basket of food items, the index weights are based on the food expenditure patterns of the average South African household. In 2015 BFAP identified the need to develop an approach to measure the cost of healthy (nutritionally balanced) eating in the South African context – thus enabling the comparison of consumers' actual and 'more ideal' food expenditure patterns and associated inflation.

The BFAP Thrifty Healthy Food Basket (THFB) measures the cost of basic healthy eating for low-income households in the South African context. The methodology takes into consideration national nutrition guidelines, typical food intake patterns of lower-income households, official Stats SA food retail prices and typical household demographics. Consisting of a nutritionally balanced combination of 26 food items[8] from all the food groups, the BFAP THFB is designed to feed a references family of four (consisting of an adult male, an adult female, an older child and a younger child) for a month. For more detail on the methodology applied to develop the BFAP THFB please refer to the 2015 edition of the BFAP Outlook.

From January 2013 to April 2020 the cost of the BFAP THFB for the four-member reference family increased from R1 893 to R2 675 (Figure 97) – thus potentially absorbing ±32 percent of the monthly income of a household earning two minimum wages and receiving two child support grants, or approximately 27 percent if children received school feeding meals as well.



	BFAP Thrifty Healthy Food Basket cost (Rand/month)	
	Single adult male	Reference family of 4
Average 2013	R 509	R 1 886
Average 2014	R 549	R2 037 (+8.0% y-o-y)
Average 2015	R 574	R2 127 (+4.4% y-o-y)
Average 2016	R 634	R2 331 (+9.5% y-o-y)
Average 2017	R 651	R2 400 (+3.0% y-o-y)
Average 2018	R 659	R2 445 (+1.9% y-o-y)
Average 2019	R 685	R2 538 (+3.8% y-o-y)
Average 2020 (Jan-April)	R 719	R 2 664

Figure 97: A comparison of the BFAP Thrifty Healthy Food Basket cost from January 2013 to April 2020
Source: BFAP calculations

[8] Starch-rich staples: super maize meal, rice, brown bread, wheat flour & potatoes; Fruit: apples, bananas & oranges; Vegetables: tomatoes, onions, carrots, cabbage & pumpkin; Dairy: milk, maas & cheese; Animal protein foods: beef mince, chicken, canned pilchards & eggs; Fats / oils: sunflower oil, margarine & peanut butter; Legumes: dried beans & baked beans in tomato sauce; Sugar-rich foods: A small quantity of white sugar.

Considering the period from January 2013 to March 2020[9], the annual inflation on healthy eating (as measured through the BFAP THFB) was lower than the CPI inflation of food and non-alcoholic beverages for 68 percent of the months considered. However, from March 2019 to March 2020 inflation on the cost of healthy eating was higher than CPI food inflation for 10 of these 13 months (Figure 98).

Based on BFAP food inflation projections (Figure 95) the cost of the BFAP THFB could increase by 2.7 percent from 2019 to 2020 to R2 607 for the reference households (compared to a lower projected food inflation rate of 2.2%) and by a further 0.9 percent from 2020 to 2021 to R2 630 for the reference household (compared to a higher projected food inflation rate of 2.6%). The differences observed in the anticipated increases in the thrifty basket versus CPI food inflation are rooted in the compositional differences of the basket of food items used to compile the CPI index and the thrifty basket, i.e. reflecting typical food expenditure in the case of the CPI food and reflecting 'basic healthy' food expenditure in the case of the thrifty basket. The cost increases expected for the thrifty basket towards 2021 reflect lower inflation on healthy eating than in 2018/2019 (2016/2017 +3.8%).

In general, animal proteins (e.g. fish, chicken, meat, eggs, cheese) have the largest expenditure share contribution of the thrifty basket (28.2% in 2019), followed by vegetables (19.1%), starch-rich staple foods (18.0%), liquid dairy (13.4%), fruit (8.9%), legumes (5.8%) and sugar (1.9%). Towards 2021 slight increases in the share contributions of starch-rich staple foods and vegetables are expected, accompanied by slight decreases in the share contributions of animal proteins (Figure 99).

To be able to afford the thrifty basket in 2020, a four-member household will require a monthly income of about R7 449 (if 35% of total expenditure is allocated to food), implying that a household in ED 6 and upwards (thus ±50% of households) could afford such a basket. Among less affluent households healthy eating could only be attainable if a larger share of non-food expenditure is allocated towards the household's food budget.

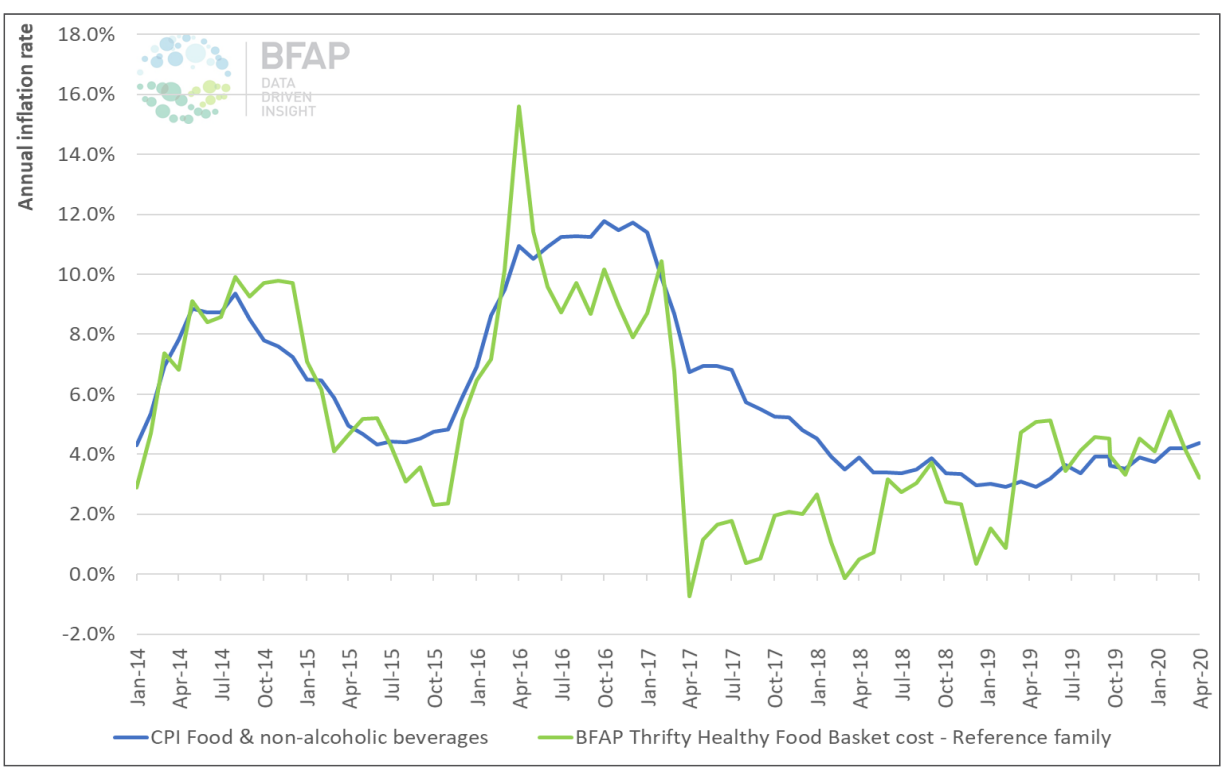


Figure 98: A comparison of inflation on the BFAP Thrifty Healthy Food Basket and the CPI for food and non-alcoholic beverages from January 2014 to April 2020
Source: BFAP calculations & Stats SA CPI data for all urban areas

[9] Due to the impact of the level 5 COVID-19 lockdown in South Africa, Stats SA has not year released the official April 2020 CPI figures.

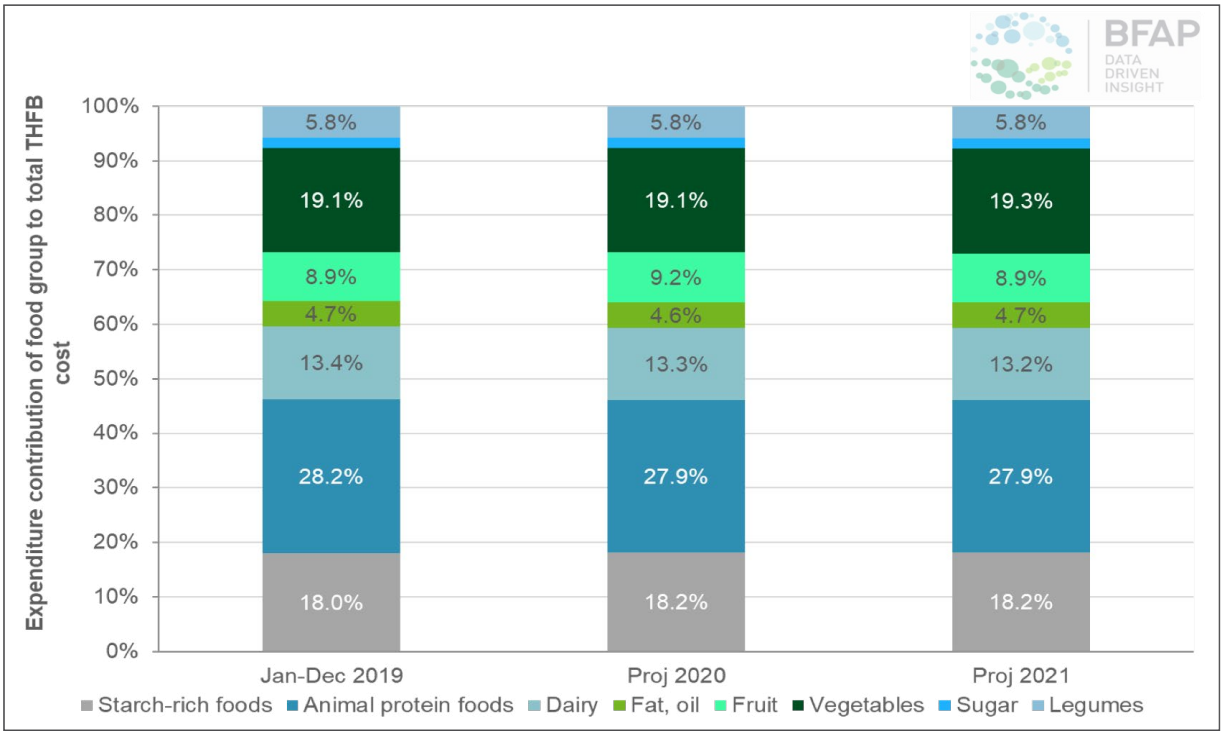


Figure 99: Food group composition of the BFAP Thrifty Healthy Food Basket cost for 2019 (actual) and projected values for 2020 and 2021

Source: BFAP calculations

BOX 10: The cost of a more luxurious healthy food basket based on online food prices in April 2020

During the COVID-19 national level 5 lockdown in South Africa, Stats SA gathered weekly online food price data. These price observations were applied to calculate the cost of a more luxurious BFAP Healthy Food

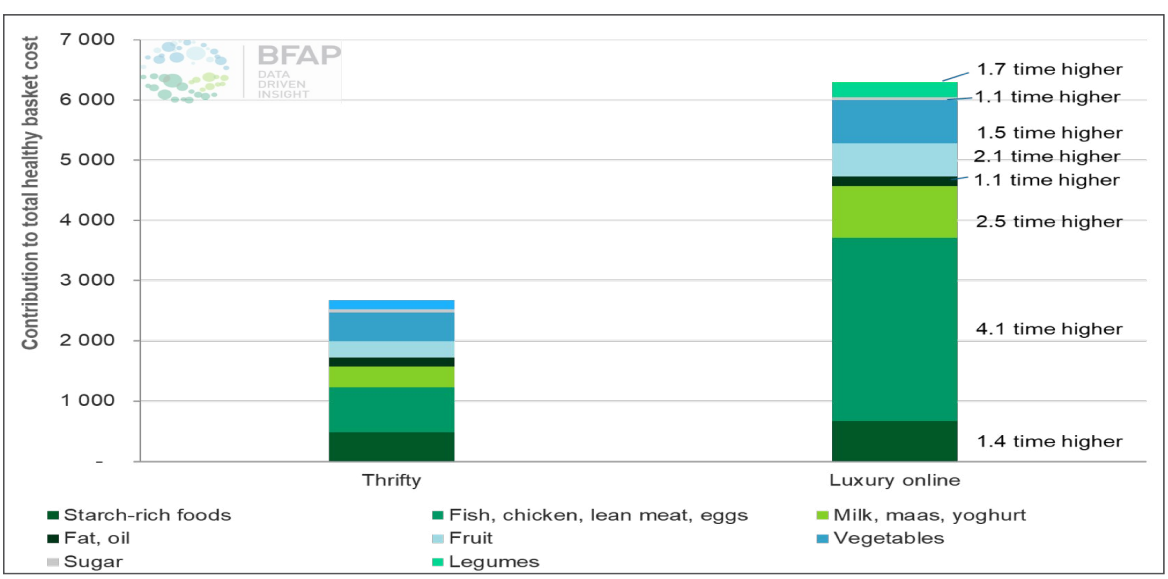


Figure 100: Comparing the BFAP Thrifty Healthy Food Basket and a more luxurious BFAP Healthy Food Basket based on Stats SA online food retail prices in April 2020

Source: BFAP calculations based on Stats SA food retail prices

Basket, based on the assumption that online food shopping applies more to the wealthier segments of the South African consumer spectrum.

The healthy food basket contained the following items: super maize meal, brown bread, rice, potatoes, wheat flour, fresh chicken pieces, beef mince, beef steak, eggs, frozen fish, fresh low-fat milk, yoghurt, cheddar cheese, sunflower oil, margarine, peanut butter, apples, pears, bananas, oranges, tomatoes, cabbage, onion, pumpkin, carrot, peppers, sugar (white and brown), baked beans in tomato sauce and dried beans.

The cost of the more luxurious BFAP Healthy Food Basket, based on Stats SA online food retail prices, amounted to R6 303 in April 2020, thus 2.4 times more expensive than the estimated cost of the BFAP Thrifty Healthy Food Basket in April 2020 (Figure 100). Within the more luxurious healthy food basket the absolute cost of all food groups is higher than for the Thrifty Healthy Food Basket, with the largest differences observed for animal protein foods.

References

Broadcast Research Council of South Africa (BRC). 2019. *The Establishment Survey March 2019 Release*. Available at: https://brcsa.org.za/establishment-survey-march-2019-release/

Broadcast Research Council of South Africa (BRC), Publisher Research Council & Kantar TNS. *The Establishment Survey March 2020 release*. https://695.618.myftpupload.com/wp-content/uploads/2020/04/ES_Mar20-release_.pdf

Bureau for Food and Agricultural Policy. 2019. Contextualising the 2019 African Swine Fever outbreak in South Africa. BFAP. Pretoria.

Citrus Growers' Association of Southern Africa. (2020). 2019 *Industry Statistics, 2019 Export Season*. Hillcrest, KwaZulu-Natal: CGA.

Food and Agriculture Organisation of the United Nations (FAO). 2020. FAOSTAT database. Available at: www.faostat.fao.org

International Trade Centre (ITC). 2020. International trade database. Available at: www.trademap.org

National Credit Regulator. 2020. *Consumer Credit Market Report - Fourth Quarter | December 2019*. https://www.ncr.org.za/documents/CCMR/CCMR%202019Q4.pdf

Organisation for Economic Cooperation and Development (OECD) & Food and Agriculture Organisation of the United Nations (FAO). 2020. Agricultural Outlook 2020 - 2029. Available at: www.agri-outlook.org

International Organisation of Vine and Wine (OIV). 2020. State of the Vitiviniculture World Market: April 2019. International Organisation of Vine and Wine (OIV).

South African Social Security Agency (SASSA). 2019. *Annual report on social assistance – 1 April 2018 to 31 March 2019*. https://www.sassa.gov.za/statistical-reports/Documents/4%20Q%20Social%20Grants%202018-19.pdf

South African Government. 2020. *Minister Zweli Mkhizi confirms total of 30 967 cases of Coronavirus COVID-19. 30 May 2020*. https://www.gov.za/speeches/minister-zweli-mkhizi-confirms-total-30-967-cases-coronavirus-covid-19-30-may-2020-0000

South African Reserve Bank. (2020). *Online statistical query (historical macroeconomic timeseries information) - Disposable income per capita of households: KBP6272J*. https://www.resbank.co.za/Research/Statistics/Pages/OnlineDownloadFacility.aspx

Stats SA, 2017. *Living Conditions of Households in South Africa: An analysis of household expenditure and income data using the LCS 2014/2015. Statistical release P0310*. Pretoria: Statistics South Africa. Available at: http://www.statssa.gov.za/publications/P0310/P03102014.pdf

Stats SA. 2019. *Mid-year population estimates 2019. Statistical release P0302.* http://www.statssa.gov.za/publications/P0302/P03022019.pdf

Stats SA, 2008. *Mid-year population estimates 2008. Statistical release P0302.* Available at: http://www.statssa.gov.za/publications/P0302/P03022008.pdf

Stats SA. 2019. *General Household Survey 2018. Statistical release P0318.* http://www.statssa.gov.za/publications/P0318/P03182018.pdf

Stats SA. 2020. *Consumer Price Index - March 2020. Statistical Release P0141.* http://www.statssa.gov.za/?page_id=1854&PPN=P0141

Stats SA. 2020. *Quarterly Labour Force Survey - Quarter 4: 2019. 11 February 2020.* http://www.statssa.gov.za/publications/P0211/P02114thQuarter2019.pdf

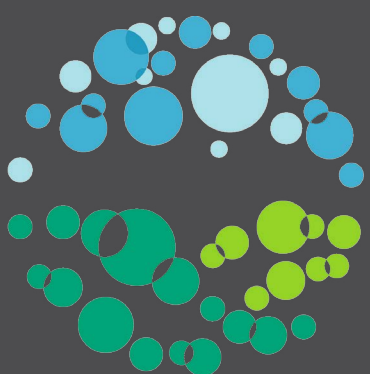
Stats SA. 2020. *Results from Wave 2 survey on the impact of the COVID-19 pandemic on employment and income in South Africa. 20 May 2020.* http://www.statssa.gov.za/publications/Report-00-80-03/Report-00-80-03May2020.pdf

Stats SA, 2015. *Census 2011 - Population Dynamics in South Africa. Report No. 03-01-67.* Available at: http://www.statssa.gov.za/publications/Report-03-01-67/Report-03-01-672011.pdf

Stats SA, 2017. *Living Conditions of Households in South Africa: An analysis of household expenditure and income data using the LCS 2014/2015.* Statistical release P0310. Pretoria: Statistics South Africa. Available at: http://www.statssa.gov.za/publications/P0310/P03102014.pdf

Stats SA, 2017. *Consumer Price Index - The South African CPI Sources and Methods Manual.* [Online] Available at: http://www.statssa.gov.za/cpi/documents/The_South_African_CPI_sources_and_methods_26Feb13.pdf

South African Department of Agriculture, Forestry and Fisheries. 2019. Abstract of agricultural statistics: 2019.



BFAP

DATA
DRIVEN
INSIGHT

www.bfap.co.za