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The Agro-processing Sector in the South African Economy: Creating Opportunities for Inclusive Growth

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Abstract

This Paper provides an overview of the agro-processing sector in South Africa. The paper highlights the sector's potential to contribute to promoting inclusive growth. Drawing from time series data, the paper shows that agro-processing industries in South Africa have been the largest component of the manufacturing sector since the 1970s, accounting for about one-third of value added and employment in the sector. In 2018, the agro-processing sector accounted for 2.7 Percent of gross Domestic Product (GDP) and 3.2 percent of total employment. The paper argues that apart from being the largest segment of the manufacturing sector (accounting for an average of one-third of Manufacturing output since the 1970s), agro-processing industries have the potential to contribute to the broader national objective of transforming the economy through the creation of jobs and business opportunities for small and medium enterprises. In terms of employment creation, the potential of agro-processing industries lies in the fact that many industries, including textile, tobacco, wood and wood products, rubber products, and leather industries, tend to be labour intensive. On average, agro-processing industries use almost 30 percent more labour per unit of capital compared to the manufacturing sector as a whole. However, the challenge is that several of the most labour-intensive agro-processing industries are experiencing declining or stagnating output, investment and most importantly, employment. Identifying and promoting the growth of high-value added activities in the sector can assist in realising the potential of agro-processing industries in the country. Coordinated implementation of policy strategies aimed at reviving the dynamism in labour-intensive industries is needed to exploit the sector's potential.

Keywords: Agro-processing, High-value Added, Inclusive Growth, Labour-intensive, South African Economy, Job Creation

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Introduction

This paper provides an overview of agro-processing industries in the South African economy. The agro-processing sector has been recognised by the South African government as a strategic set of industries in the economy, with the potential to contribute significantly to promoting inclusive growth and job creation. For instance, the New Growth Path (2010), National Development Plan (NDP, 2011) and the Industrial Policy Action Plan (IPAP) 2016/2017-2018/19 have all identified agro-processing as one of the drivers of industrialisation, with huge potential to contribute to the structural transformation of the economy. A recent document by National Treasury which outlines the country's strategy for economic revival, also identifies agriculture and agro-processing as strategic industries with the potential to absorb low skilled labour, and in the process contribute to building an inclusive economy and society through the growth of small businesses, both upstream and downstream of various agro-processing value chains (National Treasury, 2019). The document argues that this cluster of industries has great potential to contribute to "the creation of opportunities for all South Africans to live productive, prosperous and dignified lives" (ibid, 11). In his address to the joint sitting of Parliament on October 15, 2020, President Cyril Ramaphosa referred to agro-processing industries as key to the country's economic reconstruction and recovery plan (The Presidency, 2020).

One of the reasons why agro-processing industries are believed to have the potential to make a significant contribution to economic and social transformation of the country is that several agro-processing industries are labour intensive, which is an important factor in terms of job creation. The other reason is that agro-processing industries are seen to have the potential to promote the growth of small and medium enterprises, and it is believed that this can contribute to economic transformation by promoting broader participation in the economy.

This Paper discusses the various components of agro-processing sector including the size, the major agro-processing industries, and some of the high value-added activities in the sector. Given the diverse nature of agro-processing industries, it is beyond the scope of this paper to discuss each of the industries in detail; the paper has focused on the major agro-processing clusters, to highlight the status of the sector and its potential for contributing to the national objective of building a resilient and inclusive economy. The paper also identifies the challenges in some of the key agro-processing clusters which must be addressed for the sector to play a significant role in economic transformation.

The Agro-processing Sector in the South African Economy

Composition of the Agro-processing Sector

Agro-processing industries in the South African economy constitute a diverse set of industries ranging from the simple processing of food and other agricultural products to more sophisticated manufacturing activities such as processing of cotton, leather, timber and rubber into finished products and the manufacturing of furniture. According to the International Standard Industrial Classification (ISIC rev 4) agro-processing is a division of the manufacturing sector, which is mainly involved in the processing of primary agricultural products into intermediate and final goods. Although ISIC provides an internationally accepted classification of economic activities, there are different definitions of the sector. For example, the South African Industrial Policy Action Plan (IPAP) 2016/17-2018-19 (DTI, 2016) restricts the terms agro-processing to the processing of food and beverages (tobacco is sometimes excluded, (see also SETA, 2017:3). The Department of Agriculture Forestry and Fisheries (DAFF) has however adopted a broader definition of agro-processing to include the processing of all agricultural, forestry and fishery products (DAFF, 2012). DAFF has adopted the Food and Agriculture Organisation's (FAO, 1997) definition of agro-processing as a subset of "manufacturing that processes raw materials and intermediate products originating from agriculture, forestry and fisheries" (DAFF, 2012:1). Needless to say, the definition one adopts affects the sector's composition, size, profile and contribution to the economy. For instance, if we restrict agro-processing to just food and beverages, we get a different picture of the sector than when we use a broader definition. This paper adopts a broader

definition of agro-processing to capture the diversity but also to highlight the sector's potential in the economy and society broadly.

As Table 1 below shows, the agro-processing segment of the manufacturing sector is a complex cluster of manufacturing industries which consists of 11 out of the 24 divisions of the manufacturing sector according to ISIC Rev.4. Although it is the food and beverage industries which dominate agro-processing in South Africa (and in many low and middle income countries), accounting for over 60 percent of the agro-processing sector output since the 1970s (DAFF, 2012), there are several other major industries which make up the agro-processing sector in South Africa.

Table1: Composition of the agro-processing Sector Under ISIC REV 4

Two-digit ISIC Code	Description of economic Activity	Technology Classification (ISIC Rev.4)
10	Manufacture of food products	Low Tech
11	Manufacture of beverages	Low Tech
12	Manufacture of tobacco products	Low Tech
13	Manufacture of textiles	Low Tech
14	Manufacture of wearing apparel	Low Tech
15	Manufacture of leather and related products	Low Tech
16	Manufacture of wood and wood products	Low Tech
17	Manufacture of paper and paper products	Low Tech
18	Printing and reproduction of recorded media	Low Tech
22	Manufacture of rubber	Medium Tech
31	Manufacture of furniture	Low Tech

Sources: author based on data from DESA (2008).

When we disaggregate the agro-processing sector, it becomes clear that this is an extensive sector with many clusters which are further divided into specific industries. For example, the processing of food has several industrial clusters such as the processing and preservation of meat and meat products (four-digit ISIC code 3011), processing and preservation of fish and fish products (ISIC code3012), the manufacturing of dairy products (ISIC code 3020), the manufacturing of grain mill (ISIC code 3031), etc. The textile cluster can also be divided into several industrial activities ranging from the ginning and spinning to the actual making of different types of wearing apparel and garments. Given its diversity, it is not surprising that the agro-processing sector is the largest division of the manufacturing sector in terms of both output and employment as illustrated below.

While industrial classification seeks to create clear boundaries between economic activities and sectors, analysts have observed that the "boundaries" between sectors, particularly agriculture and agro-processing, have in recent times, become fuzzy, making it hard to distinguish agro-processing from agricultural activities (Cramer and Sender, 2015; Dube et al, 2018). The blurring of boundaries has become even more pronounced due to the fact there is great deal of processing activities taking place within the farming enterprise which often fall outside of the conventional agricultural activities. Apple and orange farmers are now engaging in sophisticated processing activities within the fruit value chain than before. The adoption of sophisticated technology and equipment in modern agriculture has led to the industrialisation of agriculture, a phenomenon which is sometimes referred to as "industrialising freshness", such that even simple products like fruits are increasingly a production of manufacturing (Dube et al, 2020). A recent World Bank publication has attributed this to the growth of what it calls "embodied services" (the "servicification of manufacturing"), mainly as a result of the increasing digitisation of production (Driemeier and Nayyar, 2018).

However, even if the boundaries are blurred, it is still important to classify economic activities according to the broader category under which they fall, in order to capture trends in value addition and

changes occurring in different sectors. Although an increasing share of food processing including some of the complex processes such as wine making are taking place within the farm premises, it is important to distinguish agriculture production from processing (manufacturing), so as to understand opportunities and shifts occurring in various segments of the economy.

It is also common for people to use Agro-processing inter-changeably with agri-business. While there are several agri-business enterprises which are involved in the processing of primary agricultural products, the two are not synonymous. Agribusiness refers to a broader range of activities which is not restricted to processing of agriculture products. For example, an agribusiness could be a vertically or horizontally integrated enterprise that includes the processing of agriculture products such as honey as well as the research into the biotechnology of honey or other agriculture products. Agro-processing, as indicated above, refers to the transformation of primary agriculture produce into intermediate and final products. While agro-processing can be a component of an agribusiness enterprise, agribusiness is not restricted to process of agricultural products.

Profile and Trends

As noted above, agro-processing industries in South Africa have constituted the largest component of the manufacturing sector since the 1970s, accounting for an average of a third of the total manufacturing output over the last half century (Table 2).

Table 2: Manufacturing Output by sub-Sector (%) 1970-2019

	Agro-processing	Metal Machinery & Equipment	Transport Equipment	Basic & other Chemicals	Coal & Refined Petroleum	Other
1970-1975	34	27,3	12,2	7,2	2,5	16,8
1976-1980	34,8	26,7	10,7	8,7	3,3	15,7
1981-1985	35	25,8	10,4	8,9	3,9	16
1986-1990	36,7	21,5	9,3	10,1	4,6	17,8
1991-1995	36,2	19,8	9,6	10,5	5,1	18,9
1996-2000	32,7	20,4	10,9	12,2	6,7	17,1
2001-2005	29,6	19,7	14,2	13,1	7,7	15,7
2006-2010	29,3	20	13,8	13,2	8,1	15,7
2011-2016	32	19,5	12,3	13,4	8,9	13,9
2018	32,8	19,1	13,8	12,8	8,1	13,4
2019	33,6	19,5	15,4	12,5	8,7	15,5

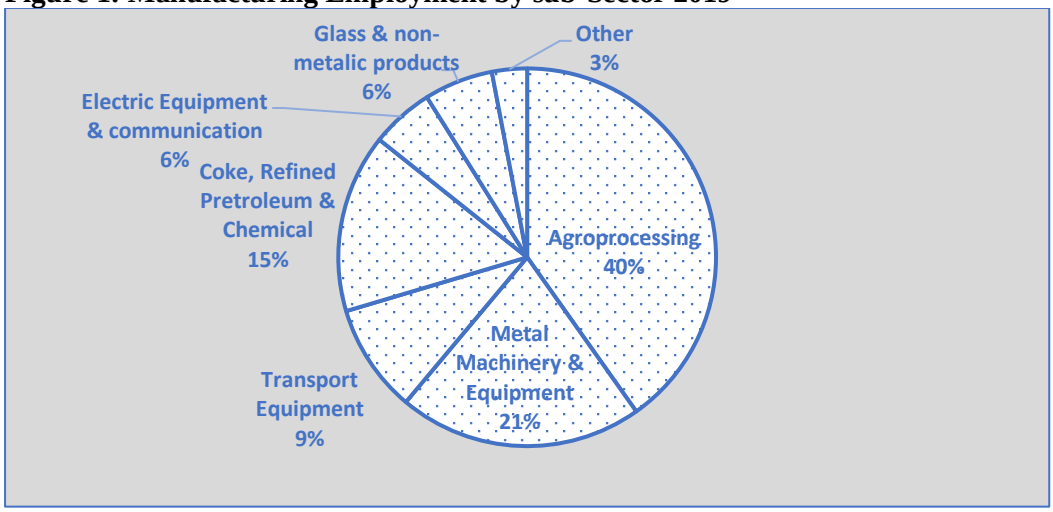
Source: Compiled by Author based on data from Quantec. Note: the classification and reporting of the manufacturing sector data has not been consistent over the period. Figures from 2011- 2019 are based on a different sectoral classification which has been reclassified to create consistence.

Although the sector's share in total manufacturing output declined slightly between 1990 and 2010, it has remained the largest subsector of the manufacturing sector, and its share has been growing since 2010. If we look at the 2019 manufacturing sector output by subsector, agro-processing industries constituted the largest share of the sector's output, almost equalling the combined output of the metal & machinery and the transport equipment subsectors.

The importance of agro-processing industries is not just because of its strong linkages to the agriculture sector, but also because of its size in the manufacturing sector as a whole. While agro-processing industries are not the highest in terms of value-added dynamics, they account for a bigger share of output and employment in the manufacturing sector. This points to the fact that most of the agro-

processing industries tend to use more labour per unit of capital. The capital-labour ratio for agro-processing is higher than other subsectors of the manufacturing sector (Black et al, 2016).

Figure 1: Manufacturing Employment by sub-Sector 2019



Source: Author based on data from StatsSA (2019a).

In terms of output, the sector grew from R450 to R762 billion (current prices) between 2010 and 2018 (Stats SA, 2019). This is confirmed by index of production volume, which shows that the agro-processing cluster grew steadily from 2009 up to 2015, but declined in 2017 and 2018 (Table 3)

Table 3: Agro-processing Volume of Production Index (2015=100)

	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2016**	**2017**	**2018**
Food & Beverage	84,6	88,1	90,1	91,7	95,2	97,3	99,3	101,2	105,9
Textile clothing & Leather	109,4	102,5	98,2	97,6	99,9	100,7	98,6	94,8	92,2
Wood, Paper & Publication	92,4	96,5	97,9	99,5	99,7	100,6	103,2	99,8	98,6
Agro-processing	**95,5**	**95,7**	**95,4**	**96,3**	**98,3**	**99,5**	**100,4**	**98,6**	**98,9**

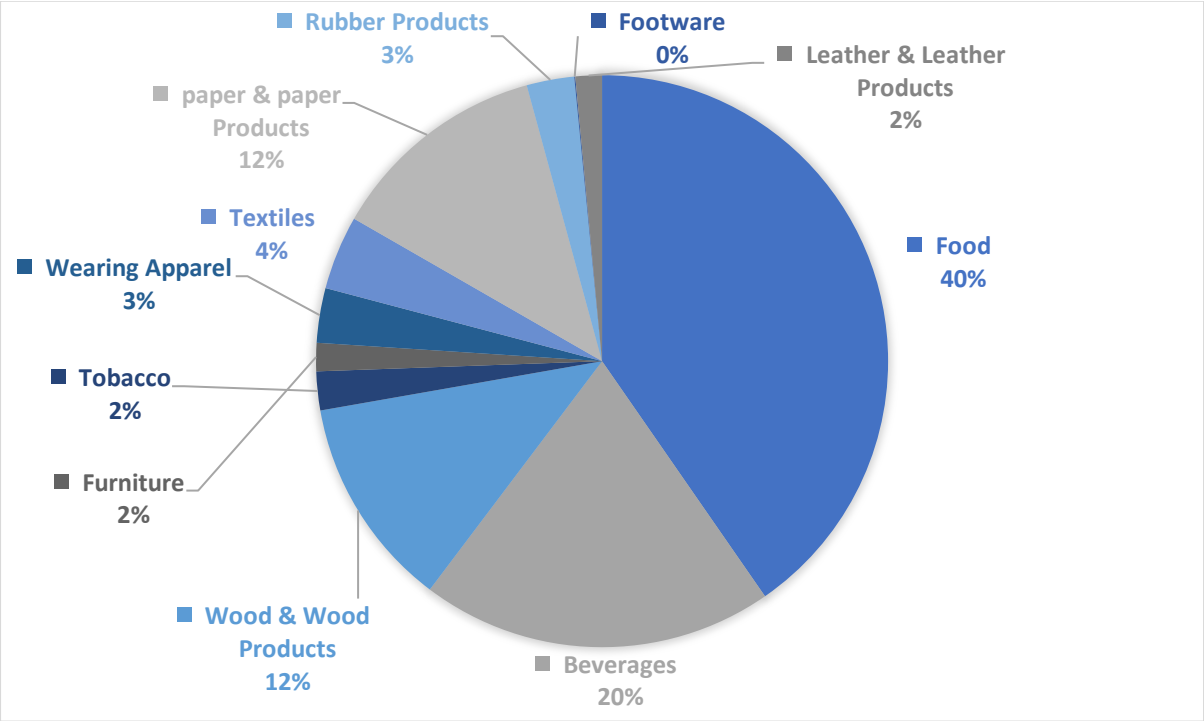
Source: Author based on data from StatsSA (2019a).

The decline in the volume of goods produced in the sector can be attributed to the decreasing volume of production in the textile, clothing and leather subsectors which experienced substantial drop in production between 2009 and 2018, declining at an average rate of about 2 percent per year. This decline can largely be attributed to the increasing pressure from imported textile, clothing, and leather products from Asia, particularly China and Thailand. However, output volumes in the other subsectors, particularly the food, beverages, and tobacco cluster, grew steadily over the same period, increasing at an annual average rate of 2.7 percent between 2009 and 2018. In terms of trade, the sector remained stable although the trade deficit has been growing since 2015 (DAFF, 2018).

Components of the Agro-Processing Sector

As shown in Table 1 above, there are 11 divisions which make up the agro-processing sector. The average share of output between 2011 and 2019 for each of the 11 subsectors is shown in Figure 3 below.

Figure 2: Agro-processing Output by Sector (average for 2011-2018)

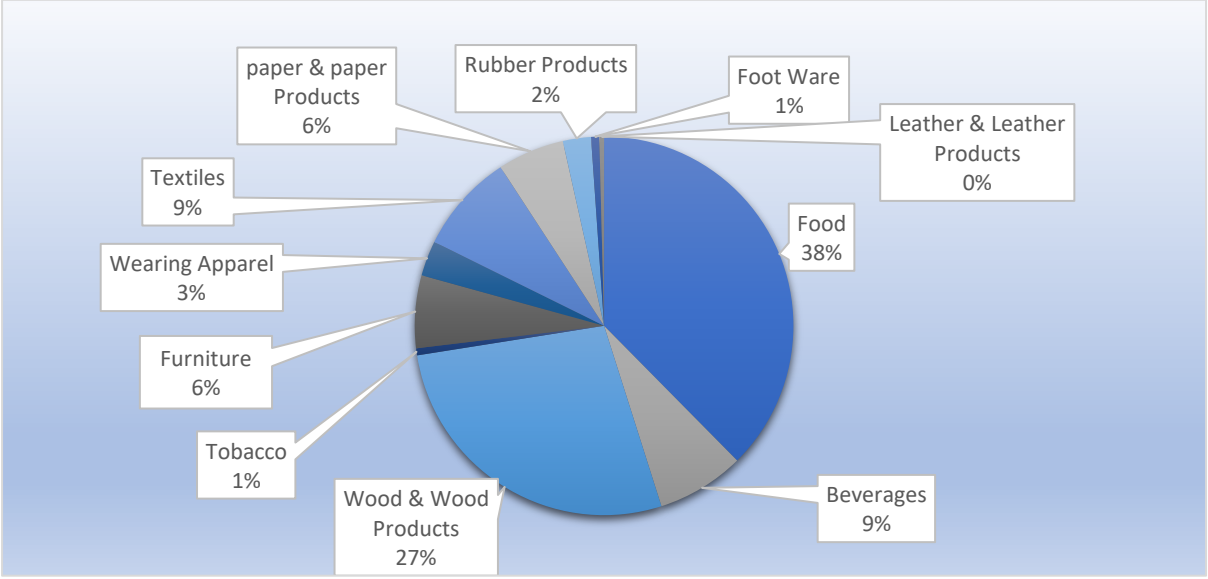


Source: author based in data from StatsSA (2019a).

It is clear from Figure 2 that while agro-processing is made up of many segments, it is dominated by the processing of food and beverages, which accounted for an average of two-thirds of the sector's total output between 2011 and 2019. Data presented by the DAFF has shown that this has been the case since the 1970s (DAFF, 2012). The dominance of the food cluster becomes clear when we consider that out of the 11 subsectors which make up the agro-processing sector, six sectors (footwear, leather and leather products, tobacco, furniture, rubber and wearing apparel) combined, are smaller than the food cluster in terms of output. The combined output of the six clusters is only slightly over half of the output for the beverage subsector. This highlights the importance of food and drinks (acholic and non-alcoholic) in the economy. The second largest cluster is the paper and paper products and wood and wood products which contribute an average of 12 percent of agro-processing output each.

When we compare employment and output share by sector, the share of formal employment for wood and wood products, furniture and textiles is double its contribution to output (see Figure 3 below). This confirms the labour intensity of this cluster of the agro-processing sector. On the other hand, the formal employment share for beverages and paper and paper products is only half of the share in total output, suggesting that labour is more productive in these clusters, and these two clusters tend to be more capital-intensive.

Figure 3: Agro-processing Formal Employment by Sector (2019)



Source: author based in data from StatsSA(2019a).

The Food and Beverage Cluster

As shown above, the food processing cluster is the biggest in the agro-processing sector. This is not surprising. The food processing industry is often divided into five clusters according to the type of activities involved. The production, processing and preservation of meat and meat products, fish, fruits, vegetable, oils and fats form one cluster. Processing of dairy products is another cluster which focuses on the manufacturing of dairy products such as yogurt, cheese, milk, butter, creams, etc. The third cluster is the manufacture of grain mill and related products, starches, and animal feed. The manufacture of confectionary and baking products including the production of sugar, chocolate, pastas, syrups, custards, and other related products make up the fourth cluster. The manufacturing of beverages, which is divided into the manufacturing of alcoholic and non-alcoholic beverages including bottled water, is often added to food processing, and is treated as the fifth cluster (SETA, 2017). In some instances, the processing of tobacco is added to the food and beverage cluster to constitute the Food, Beverage and Tobacco (FBT) cluster.

Evidently, the food and beverage cluster are a massive industry in the South African economy, covering three major trade unions: Food and Allied Workers Union, (FAWU), Federal Council of Retail and Allied Workers (FEDCRAW), and National Union of Food Beverage Wine Spirits and Allied Workers (NUFBWSAW). The food and beverage industries were in 2017 reported to have 11 011 registered companies (SETA, 2017:11), although as we shall see later, the sector is dominated by a few large local and multinational companies which account for an overwhelming share of output, production assets, investments and employment (Nhundu et al, 2017). It is estimated that out of the more than 11 000 companies in the food and beverage industries, 91 percent are small scale, 5 percent are medium, and 4 percent large-scale (SETA, 2017). Out of the 4 percent large food and beverage companies, production and market share are heavily concentrated in ten large firms, particularly vertically integrated firms such as Tiger Brands, Pioneers Foods, AVI Limited, Ocean Group Limited, Tongaat Hulett, Rhodes Food Group, and multinational giants such as Clover, Parmalat, Nestle and Cargill.

Just about a third of registered companies are involved in the processing and preservation of meat, fish, fruits and vegetables, followed by 18 percent in the beverage cluster. Most of the large food and beverage companies are involved in many food and beverage value chains, pursuing a vertically

integrated strategy, from agriculture production to the manufacture of packaging materials and distribution of food and beverages products (Harcourt, 2011). There is also spatial concentration of food and beverage activities in terms of location of firms and employment, with the Western Cape (mainly Cape Town and surrounding districts) and Gauteng accounting for over 82 percent of total employment in this cluster, followed by KwaZulu-Natal at 7 percent. Most of the large food processors which account for the lion's share of employment in the food and beverage industries are located within or close to metros to take advantage of population concentration.

There are several factors which account for dominance of the food and beverage processing industry in the agro-processing sector. The first is that the South African population has been growing steadily, doubling between 1989 and 2020. This growing population requires food to meet daily needs. While the country imports some processed food and beverage products, the large share of food is produced locally (ITAC, 2016). Prior to the deregulation and liberalisation of the economy, the country pursued a self-sufficiency strategy in terms of food and beverage, partly as a response to the international sanctions imposed on South Africa from the early 1960s (Greyling et al, 2015).

The second factor that has contributed to the growth of the processed food industry in the country is the growing demand for processed food as a result of rising income and what has been referred to as the 'supermarket revolution' (BFAP, 2019). It has been observed that the expansion of supermarkets has not just led to the spread of retail chain stores and fast foods even into rural towns, it has also led "to structural transformation in the agri-foods industry 'at speeds never seen before'" (Visser and Ferrer, 2015:40). D'Haese and Huylenbroeck (2005) observe that the spread of supermarkets to rural areas has resulted in increased demand for processed foods, even among poor rural dwellers who now have easy access to food and beverages through these outlets. Rising demand for processed foods has also been attributed to the social grants which enables many households to access foods in supermarkets (Aliber, 2009).

The third factor that has contributed to the growth in processed foods in South Africa is the expanding regional market, particularly Southern Africa, which since 2013 has become the top destination of South Africa's processed foods (DAFF, 2018). Rising income in several countries in the region has also meant that the middle class is growing and as a result, more households are consuming processed foods than before (ACET, 2017). The growth in export of processed food to the Southern Africa region has been attributed to both the large footprint of subsidiaries of the South African food processers as well as the strong presence of South African retail chain stores since the early 2000. Export of processed food almost doubled between 2002 and 2009, and continued to grow before it stagnated between 2011 and 2015 and declined in 2016 (attributed to the 2015 drought) (ITAC, 2016). Although exports of processed food to the region are rising, the volumes and value of exports still remain relatively small (Anthony et al, 2020).

If we disaggregate the food and beverage cluster, it is dairy products, confectionaries, meat and meat products which are the largest in terms of output. These three clusters accounted for over half of the total value of sales in the processed food sector (Table 4). In the beverage cluster, wines and mineral water take up a lion's share, accounting for more than 70 percent of the total sales value in 2017.

Table 4: Food and Beverage Output Composition (2011-2017)

	2011	2014	2017	2011	2014	2017
Food						
	(current R Million)			**Percent**		
Meat & Meat Products	54 268	86 265	94 640	14,9	17,1	15,2
Fruits (Fresh & Dried)	38 738	46 947	61 626	10,6	9,3	9,9
Sugar (Refined & Raw)	9 262	12 374	12 667	2,5	2,4	2,0
Vegetable & Animal Oils	32 095	49 153	74 024	8,8	9,7	11,9
Grain & Cereal	34 973	54 080	69 676	9,6	10,7	11,2
Dairy Products	78 035	102 978	126 344	21,4	20,4	20,3
Confectionery	63 253	81 289	93 507	17,4	16,1	15,0
Other Foods	53 479	72 132	90 996	14,7	14,3	14,6
Total Food	**364 105**	**505 219**	**623 483**	100	100	100
Beverages						
	(current R Million)			**Percent**		
Wines	46 832	74 599	93 324	41,8	40,6	38,9
Beer	22 206	40 216	51 459	19,8	21,9	21,5
Spirits	4 656	14 019	15 465	4,2	7,6	6,4
Mineral water, soft drinks	38 348	55 126	79 554	34,2	30,0	33,2
Total Beverage	**112 044**	**183 962**	**239 803**	100,0	100,0	100,0

Source: StatsSA (Excel Download)

One surprising observation regarding trends in the food sector is the decline in the consumption per capita in a number of foods between 1990 and 2018, except in maize, sugar and tropical fruits which recorded slight increases (Table 5).

Table 5: Consumption per Capita (Kg/year) 1990-2018

	Maize	Wheat	Barley	Sugar	Sunflower Seed Oil	Citrus	Deciduous & subtropical Fruit
1990-1994	70,8	49,22	7,46	31,62	5,8	14,56	21,58
1995-1999	73,4	48,92	5,96	30,94	7,9	16,74	21,3
2000-2004	79,1	48,3	4,92	35,8	6,52	18,98	27,86
2005-2009	79,6	49,82	4,82	31,84	5,62	12,44	24,14
2010-2014	81,58	49,16	4,6	34,72	6,5	16,34	24,14
2015-2018	75,9	47,2	5,0	34,9	5,4	13,3	23,5
Average	76,7	48,8	5,5	33,3	6,3	15,4	23,7
Change %	7,2	-4,1	-32,6	10,3	-6,5	-8,7	8,8

Source: Author based on data from DAFF (2019).

The increase in the consumption of maize, sugar and tropical fruits may reflect the general increase in the consumption of processed foods. This is particularly true for the beverage cluster which uses a lot of sugar and fruits in the production process, especially juices and non-alcoholic beverages. It is not clear why there is a decline in the per capita consumption of wheat, barley, and citrus fruits. This could be a result of rising prices of food on the domestic market, particularly meat which recorded a 78 percent rise in price between 2010 and 2018 compared to the 57 percent for all foods (DAFF, 2019).

Export of Processed Food and Beverages

The top five processed foods export from South Africa have for the past five years been sugar, processed vegetables, fruits and nuts, and food preparation ingredients such as spices, concentrates, yeast, soups, and creams (ITAC, 2016).

Although the bulk of the processed food produced is consumed locally, there is an increasing share of processed food exported, particularly fresh fruits which is one of the high value-added products. In 2018, it was estimated that 72 percent of the fruits produced were exported, leaving only slightly over a quarter for domestic consumption (van Lin et al, 2018). While the export of processed foods has been growing steadily, the trade balance in processed food has been negative, partly as a result of increased imports. The other factor responsible for the growing food trade deficit is the rise of poultry meat imports from Brazil and the US. This has been attributed to the shift in the diet as more people move to a protein-based diet, targeting poultry meat which is cheaper compared to other types of meat (BFAP, 2019). The shift in the diet is confirmed in terms of the consumption volume per capita, with poultry meat rising from an average of 9.5 kg in the 1970s to 36 kg per capita per year in 2014 (Greyling et al, 2015:6).

The growing share of processed food products in agriculture export also shows that the sector is responding to global trends where firms are shifting from exporting raw materials to the export of higher value-added products. Data from the DAFF suggest that up to 74 percent of primary agricultural products are processed locally, with significantly higher figures for canola and sunflower at 90 percent. The shift to exporting processed agricultural products can be partly attributed to the fact that prices for most agricultural goods are usually higher on the international than the domestic market, especially for fruits (Table 6)

Table 6: Ratio of Domestic to International Prices for Fruits

	Oranges	Peaches	Pears	Apricots	Apples	Grapes	Average
1985/86	1,7	3,4	..	5,8	1,9		**3,2**
1990/91	1,7	3,6	1,7	4,5	1,5	2,2	**2,5**
1995/96	2,1	2,5	1,9	5,1	1,1	2,0	**2,5**
2000/01	1,7	2,5	2,0	4,8	1,2	2,6	**2,5**
2005/06	1,4	1,3	1,4	2,0	1,2	1,3	**1,5**
2010/11	2,5	1,8	1,5	1,8	1,7	1,6	**1,8**
2015/16	2,4	1,9	1,7	2,0	1,7	1,8	**1,9**
2017/18	2,5	2,2	1,7	1,7	1,5	1,5	**1,9**
Average	**2,0**	**2,4**	**1,7**	**3,5**	**1,5**	**1,9**	**2,2**

Source: Author based on data from DAFF (2019)

Although the average prices for fruits on the international markets have declined over time due to competition from other fruit exporting countries such as Mexico, Chile, Argentina, Spain and Egypt (Cramer and Sender, 2015; ITAC, 2015), international prices are still significantly higher on average.

Export of fresh fruits has been a recognised as a high value-added activity and has been one of the most profitable segments of agro-processing industries (van Lin et al, 2018). In terms of the potential to contribute to promoting inclusive growth and job creation, the fresh fruits and vegetable cluster present great opportunities mainly because these activities are the most labour intensive. Growing and production of fruits and vegetables such as strawberries, carrots, tomatoes, pawpaw, avocado, cherries are several times more labour intensive than field crops such as maize, wheat and Barley (Zalk, 2019).

The persisting challenge in this regard is that these value chains are dominated by well-established and connected (domestically and internationally) commercial farmers, leaving little room for new entrants, especially the small and emerging farmers. If the sector is to realise its potential to contribute to

structural transformation of the economy, these structural challenges have to be addressed through appropriate policies.

At the top of the list of South Africa's processed export products are wine, fruits and juices, soups and food preparatory additives. In the southern Africa region and the continent broadly, several opportunities are opening up as a result of the steadily rising income, leading to the shift in food preferences among the growing middle-class households. Although the African market is currently small in size compared to traditional destination of South African export (Cramer and Sender, 2015; Black et al, 2020), the African demographic factor and income dynamics are slowly changing this picture, with some analysts predicting that the prospects for processed food on the continent are likely to increase in the near future (see Visser and Ferrer, 2015, ACET, 2017; National Treasury, 2019).

In the period between 1985 to 2018, the processed agriculture products' share in total agriculture export rose from 56 to 72 percent, while the share of unprocessed products declined from 46 percent to just above a quarter of total agriculture export (Table 7).

Table 7: Share of processed Agriculture Products in Total Agriculture Export (1985-2018)

	Percent		R(million)	
	Processed	Unprocessed	Processed	Unprocessed
1985-1999	56,2	43,8	2 009,9	1 603,5
1990-1994	51,0	49,0	2 865,3	2 780,5
1995-1999	53,2	46,8	6 650,3	5 482,1
2000-2004	60,8	39,2	13 047,4	8 475,9
2005-2009	58,1	41,9	20 568,7	15 069,0
2010-2014	70,9	29,1	46 526,9	18 598,6
2015-2018	72,5	27,5	85 256,8	32 260,1

Source: Author based on data from DAFF (2019)

The growing share of processed agriculture products in total agriculture export reflects the ability of the South African agro-processing sector to compete favourably on the international market. This is partly driven by the fact that the commercial agriculture sector is employing advanced technology which enhances the sector's efficiency and competitiveness. Visser and Ferrer (2015) have argued that South African commercial farmers have become more efficient, pushed by deregulation, which removed state support, leaving the sector to stand on its own feet.

As noted earlier, the rise in the export of processed agricultural products can also be attributed to the growing demand from SADC which accounts for the largest share of processed agriculture exports from South Africa, with Namibia, Botswana, Mozambique, and Zimbabwe accounting for over 35 percent of all processed agricultural export products in 2017 (DAFF, 2018). While the Netherlands, China and the UK accounted for about 30 percent of South Africa's export of primary agricultural products (unprocessed) in 2017, the SADC region is becoming the top export destination for South Africa's processed agricultural products. Although the levels of exports and intra-regional trade are still low, the growing share of SADC in South Africa's export of processed agricultural products highlights the growing importance of regional value chains and markets (see National Treasury, 2019).

The Textile and Clothing Industries

The textile and clothing industries is another major cluster of agro-processing industries in the South African economy. This is one of the oldest industries which have evolved over time into a now complex set of industries, utilising modern technology and equipment. The modern textile industry in the country can be traced to the post-Second World War era, when the industry grew rapidly such that by the 1960s, there were 19 firms producing knitted fabrics and 46 mills producing cotton-based yarns and other

fabrics (SA Cotton, 2019). The sector has gone through three major phases, notably the phase prior to the deregulation of the economy (before 1989 when import substitution was the main policy strategy), the liberalisation of the market and the massive penetration of imports (1994 to 2005) leading to many firms struggling to remain competitive internationally (Vlok, 2006).

Components of Textile and Clothing

The sector can be divided into two major components: the textile and clothing industries, with the clothing and apparel industries constituting the secondary manufacturing cluster, mainly drawing input from the textile industries[1]. In terms of output, the textile industry accounts for slightly less than three-fifths, with the clothing industry taking up the remainder. However, in terms of formal employment, the clothing industries contributes an average of about 55 percent, with textile industry contributing 45 percent (Table 8). It has been observed that there are a large number of informal ventures and workers in the clothing sector, most of them small businesses operating in sitting rooms, back-yards and small markets in townships and major cities (Vlok, 2006; SETA, 2014). If workers in the informal clothing sector are included, the figures would be much higher than what is presented here. Even when informal employment is excluded, the clothing segment accounts for the larger share of employment.

Employment and output trends between 1995 and 2019 confirm the popular sentiments that the textile and clothing industries in the country have been in a crisis for the past three decades— from 1990-2020 (See Table 8).

Real output in the sector has been declining, particularly the export of apparels which fell sharply from US$231 million in 2003 to US$6 million by 2012(Morris and Barnes, 2014:10). Formal employment in the sector has been depleted, with employment in 2019, dropping to just a third of the levels reported in 1995. This is worrying in terms of job creation given that the textile and clothing industry is one of the most labour-intensive clusters of the manufacturing industry (Vlok, 2006; SETA, 2014).

As noted above, the textile and clothing industries have been facing serious challenges due to many factors including the failure to restructure after deregulation and the flooding of cheap imports, mainly from China and other Asian countries (Morris and Barnes, 2014). From 2009, the sector has been trying to re-organise itself to become more competitive.

In the clothing sector, employment levels declined from 97 000 in 2003 to just over 52 000 in 2013 (Morris and Barnes, 2014: 11-12).

Although there are signs of recovery in the sector from 2014 onwards, the textile and clothing industries have been characterised by persistent decline in employment specifically. For instance, between 1996, when full-scale liberalisation kicked in, to 2005, employment in these industries declined from 228 000 to 143 000 (Vlok, 2006:233). Part of this crisis is due to the increasing share of imported textiles intermediates from other countries, mainly Lesotho, Mauritius and Kenya.

Several policy measures have been introduced to revive the textile and clothing industries (Patel 2016). One of the early measures aimed at stimulating competitiveness and sustained growth in the sector is Textile and *Clothing Industry Development Programme* (TCIDP), which was launched in 2006 and has been administered by the Industrial Development Corporation (IDC). TCIDP was essentially a production incentive programme, run by the government, with the aim of improving production capacity. The programme had two components: an upgrade grant which supported investment in additional production capacity, and an interest subsidy grant for working capital.

In 2010, the Clothing and Textile Competitiveness Improvement Programme was introduced to support established firms to upgrade by recapitalizing the sector (Morris and Barnes 2014). It has

[1] Some of the clothing industries are now relying in imported textile products from Lesotho and Madagascar, and Kenya.

been reported that as a result of the policy interventions introduced since 2010, 63 000 jobs have been saved and 8000 new ones have been created (SETA, 2014: 2). Although these policy interventions have helped to save the industry from total collapse (Patel 2016), the are still challenges which need to be addressed in order to create an environment where firms can respond effectively to the new challenges in the sector (Zalk 2014).

Table 8: Clothing and Textile Output and Formal Employment Trends (1995-2019

	1995	2000	2005	2010	2015	2016	2017	2018	2019
	Output by Subsector (R Million, current)								
Clothing	12627,6	13875,4	17252,2	16020,7	19693,2	20916,6	19608,0	18742,1	18 698,2
Textile	20073,5	23226,6	28760,2	24931,5	27784,8	29848,0	30494,9	30898,9	29 113,8
Total	32701,1	37102,0	46012,4	40952,2	47478,0	50764,6	50102,9	49641,0	47 812,0
	Share in Total Output (%)								
Clothing	38,6	37,4	37,5	39,1	41,5	41,2	39,1	37,8	39,1
Textile	61,4	62,6	62,5	60,9	58,5	58,8	60,9	62,2	60,9
	Formal Employment by Subsector								
Clothing	101 355	88 754	76 183	50 643	41 840	41 226	37 583	37 936	38 205
Textile	82 279	66 109	51 410	40 513	37 202	37 303	36 118	33 306	31 274
total	183 634	154 863	127 593	91 156	79 042	78 529	73 701	71 242	69 479
	Share in Formal Employment								
Clothing	55,2	57,3	59,7	55,6	52,9	52,5	51,0	53,2	55,0
Textile	44,8	42,7	40,3	44,4	47,1	47,5	49,0	46,8	45,0

Source: Author based on Quantec Data

While the sector has continued to face competition pressure from outside, there is potential for high value-added products in niche areas such as the men's formal shirts, suits and other tailor-made clothing. There is also an emerging market for African inspired designs and fashions which has potential to capture the growing African market. The major challenge in the sector remains around local firms struggling to remain competitive.

Leather and Leather Products

The other component of the agro-processing industries is the leather and leather products cluster. This segment of agro-processing, although it is small, is an important sector which provides inputs to other manufacturing industries including the automotive, furniture, bags, belts, and upper shoe. There are two major types of leather used in the industry. The biggest is the bovine leather, which is produced from hides of cattle. In 2015 the country produced 2.5 million cattle hides. Sheep and goat skins also contribute to the leather industry, with 5 million sheep skins produced in 2015 (DTI, 2016). The third major type is exotic leather which is produced from ostrich (0.25 million skins) and crocodile skin (80 000). The exotic leather market constitutes the high value-added segment of this cluster, and demand for this cluster is reported to be growing fast (DTI, 2016).

Components of Leather and Leather Products

The sector has two major components: footwear, and the leather and leather products. In terms of output, the leather and leather products segment has been contributing more than half of total output since 2000, except in 2019 when its contribution fell below half (Table 9).

Table 9: Leather, Leather Products and Footwear Industries Employment and Output Trends (2000-2019)

	Formal Employment (Number)							
	2000	**2005**	**2010**	**2015**	**2016**	**2017**	**2018**	**2019**
Footwear	18 254	9 864	8 445	8 869	8 411	9 513	9 229	8 584
Leather & Leather Products	8 656	5 229	5 615	4 725	5 204	5 207	5 039	4 807
Total	26 910	15 093	14 060	13 594	13 615	14 720	14 268	13 391
	Sectoral Share in Formal Employment (%)							
Footwear	67,8	65,4	60,1	65,2	61,8	64,6	64,7	64,1
Leather& Leather Products	32,2	34,6	39,9	34,8	38,2	35,4	35,3	35,9
Total Output by Sector (Million R)								
Footwear	2 930,0	2 840,6	3 788,0	4 883,3	5 289,1	5 271,8	5 840,2	6 445,6
Leather & leather products	3 195,9	3 982,3	4 485,2	7 082,0	6 944,9	7 262,2	7 166,5	6 109,5
Total	6 125,9	6 822,9	8 273,3	11 965,4	12 234,1	12 534,1	13 006,7	12 555,1
Sectoral Share in Total Output (%)								
Footwear	47,8	41,6	45,8	40,8	43,2	42,1	44,9	51,3
Leather & Leather products	52,2	58,4	54,2	59,2	56,8	57,9	55,1	48,7

Source: Author based on Quantec Data

Although the footwear industries have accounted for less than half of total output for the sector, it has been the largest employer in the sector since 2000, accounting for an average of over two-thirds of jobs in the sector between 2000 and 2019.

In terms of the distribution of firms in the sector, majority of companies are in the footwear subsector (with 175 in 2011), followed by leather products with 84 companies and 31 in the leather production subsector (CTFL-SEATE, 2014).

Overall, the leather industry faces similar challenges to the textile and clothing industry. Formal employment in the sector in 2019 was only half of the levels reported in 2000. The footwear industry was the hardest hit, with employment declining from over 18 000 in 2000 to just 8000 in 2019. The leather industry, like the textile and clothing industry, has been facing growing pressure as a result of imports from countries such as Turkey, India and Pakistan.

Some of the challenges specific to the sector include the low quality and quantity of leather and irregular supply of inputs. A key specific challenge has been attributed to the declining demand from the automotive manufacturing sector which has increasingly started using synthetic leather (DTI, 2016). This has resulted in some of the tanneries closing, although there are some signs of recovery since 2011, with 28 new factories opening between 2011 and 2014 (ibid). The Department of Trade and Industry announced in 2016 that centres of footwear and leather goods entrepreneurship will be established to push up the demand for bovine and exotic leather in the country and to train small business entrepreneurs in business management. The impact of policy measures aimed at improving productivity and growth in the sector is yet to be seen, though there are growing opportunities in the high value-

added segment of the sector. The high value-added products in this cluster include the exotic leather products which mainly supply the upper end of the domestic and export markets (SETA, 2014).

Wood, Wood Products and Furniture

The other major cluster in the agro-processing sector is the wood and wood products, and furniture. This set of industries has been the third largest in the agro-processing sector, after food and beverages, accounting for an average of 12 percent of the sector's output since the 1990s (DAFF, 2012). In terms of employment, this is the second largest subsector after the food processing industries, with an average of 25 percent of the total jobs in agro-processing since the 1990s. This is one of the agro-processing industries where employment has been growing steadily from an average of 140 000 in the 1990s to just over 170 000 in 2019 (see Table 10 below). The sector's output has grown consistently at an average rate of 2.4 percent between 2000 and 2017, except in 2009 when the sector declined by 4.5 per cent (TIPs, 2017).

The sector draws largely from the three types of forest resources: woodlands (which is the largest), natural forests, and plantation forests (Pogue, 2008). The three major forest products used in this sector are pine which account for 52 percent, followed by eucalyptus at 39 percent, and wattle at 1 percent, and a variety of other types, account for the remaining 8 percent. While there are many forest plantations owned by different companies and individuals, the industry is dominated two big vertically integrated companies Mondi South Africa and Sappi Forests.

Composition of Wood and Wood Product Cluster

The sector is divided into four major subdivisions, namely sawmilling and wood plaining, wood products, paper and paper products, and furniture. In terms of output, the furniture industry has been the largest averaging 30 percent of the sector's output between 2000 and 2019 (Table 10). The wood products segment was the second largest between 2000 and 2005 accounting for an average of about 27 percent, but from 2010 to 2019, the paper and paper products has been the second largest subsector, with an average of over 30 percent of total output. However, when it comes to jobs, it is the paper and paper products that has been the largest with over 60 percent of total formal employment between 2000 and 2019. Employment share in the furniture industry has hovered around 15 percent over this period, while the share of wood products has varied between 17 percent in 2000 and 22 percent in 2005, before declining steadily to 18 percent in 2019.

Table 10: Employment and Output Composition by Subsector 2000-2019

	Share in Employment (%)							
	2000	**2005**	**2010**	**2015**	**2016**	**2017**	**2018**	**2019**
Sawmilling & Wood Plaining	7,4	8,8	7,6	8,5	8,8	8,8	8,3	8,1
Wood Products	16,9	22,4	20,1	18,2	18,3	17,6	17,5	17,4
Paper & paper Products	60,2	52,2	57,9	58,3	58,8	59,1	61,0	61,9
Furniture	15,5	16,6	14,5	15,0	14,0	14,4	13,3	12,7
	Output Composition by Sector%							
Sawmilling & Wood Plaining	16,9	14,5	16,9	14,7	15,8	16,0	15,4	14,9
Wood Products	25,6	28,3	21,5	24,5	24,4	22,9	23,6	26,1
Paper & paper Product	19,9	21,9	32,9	34,1	34,3	34,5	31,2	28,7
Furniture	37,6	35,3	28,6	26,6	25,5	26,6	29,7	30,4

Source: Author based on data from Quantec (excel download).

The major challenges in the sector are related to the stringent regulations imposed to ensure compliance with environmental standards and regulations. Extraction of forest products requires that consideration is given to the environmental issues, including the effects of logging on biodiversity and climate change. Other challenges reported in the sector include the lack of research and development (R &D), and lack of funding to promote innovation and the growth of appropriate technology (FP&M SETA, 2014). The opportunities in the sector lie in increasing value addition to export products, most of which have been exported with low value added (mainly in the form of wood pulp), and then imported back as finished products. As a result of this, the sector's trade deficit has been growing since 2011 (TIPS, 2017).

It is evident from the above discussion that the agro-processing sector is a diverse and complex cluster of industries, ranging from the simple process of extracting of oil from seeds to the manufacture of furniture and paper and related products. It is also clear that the sector is strategically important not just as a source of food for the country, but as a supplier of intermediate products for secondary manufacturing. The sector has strong backward linkages to the agriculture sector as noted earlier, and significant forward linkages to other manufacturing subsectors as well as the service sector, particularly the hospitality industry.

Employment in the Agro-processing Sector

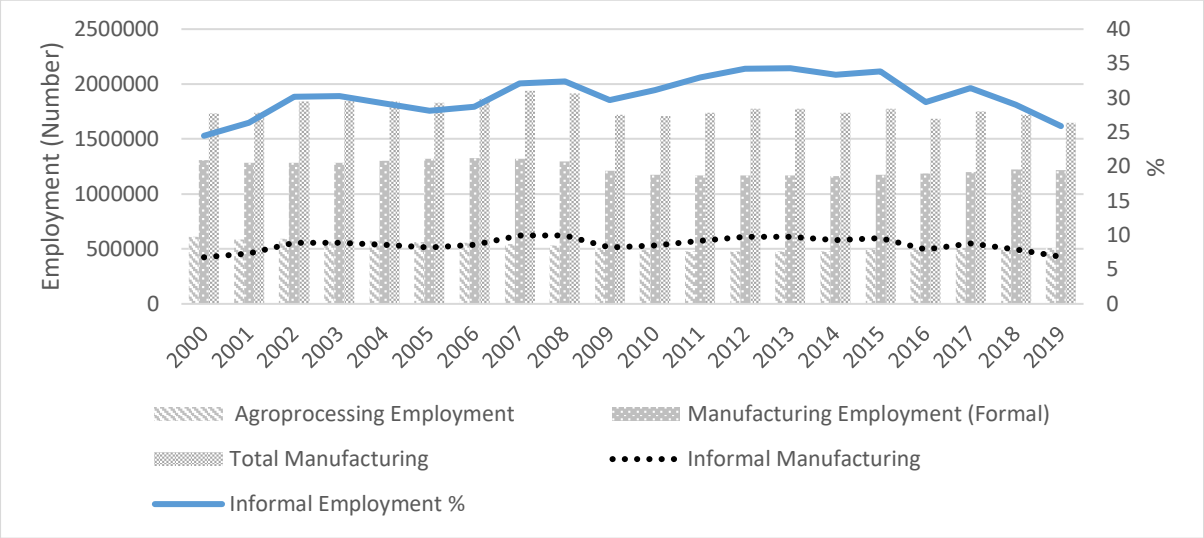
As indicated earlier the agro-processing sector has consistently accounted for the largest share of employment in the manufacturing sector since the 1970s. When we disaggregate employment in the sector, it is clear that the food, textile and apparel, and wood are the largest (Table 11). Even though the percentage share of agro-processing in total manufacturing employment has remained relatively stable, the actual number of formal jobs declined, from just over 611 000 in 2001 to slight over 500 000 in 2018 and 2019, representing a 17 percent decline over this period. This reflects the general trend of employment in the broader manufacturing sector where formal employment declined from 1.3 million in 2000 to 1.2 million in 2019 (Figure 4).

Table 11: Agro-processing Formal Employment by Subsector (%)

	2000	**2005**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	2000-2019 **(Average)**
Food	32,0	34,1	35,9	34,9	34,3	34,9	36,2	37,3	39,1	39,9	40,8	41,1	35,2
Beverage	6,6	5,8	6,7	7,1	7,5	7,9	7,6	7,7	7,8	7,6	7,2	6,7	6,7
Tobacco	0,5	0,5	0,5	0,6	0,6	0,6	0,6	0,6	0,7	0,6	0,6	0,5	0,5
Textile & Wearing Apparel	25,3	23,1	18,7	17,7	16,9	15,9	15,7	15,9	15,5	14,6	13,9	13,6	19,7
Leather& leather Products	4,4	2,7	2,9	2,8	2,7	2,9	2,7	2,7	2,7	2,9	2,8	2,6	2,9
Wood & Paper Products	20,8	23,5	26,7	27,8	28,7	28,9	28,8	27,5	26,5	26,2	26,0	26,2	25,3
Rubber products	3,0	2,8	2,5	2,6	2,7	2,5	2,3	2,3	2,3	2,5	2,4	2,3	2,6
Furniture	7,5	7,5	6,2	6,4	6,7	6,3	6,0	6,1	5,5	5,7	6,5	6,9	6,9

Source: Author based on data from Quantec data.

Figurer 4: Agro-processing in Manufacturing Employment (2000-2019)



Source: Author based on data from Quantec Data

The level of informal employment in the manufacturing sector as a whole oscillated around the 30 percent mark between 2007 and 2016, before dipping below the 30 percent between 2017 and 2019. The declining of informal employment also follows the general pattern of employment in the larger manufacturing sector.

Labour Intensity

In terms of labour intensity, the agro-processing sector as a whole has consistently been the most labour-intensive sector, although the labour intensity has varied between subsectors (Table 12). If we look at the levels of capital per worker for the various sectors, furniture and wearing apparel were the most labour-intensive in the entire manufacturing sector, while tobacco, textile, leather and leather products, and Rubber and rubber products have been the most labour-intensive. Studies that have analysed labour-intensity in the manufacturing sector have found similar patterns. For example, Black et al. (2016) divided manufacturing subsectors into capital intensive, intermediate labour-intensive and ultra-labour intensive. All the clusters of agro-processing sector, except beverage and paper and paper products, fell either in the intermediate labour-intensive or ultra-labour-intensive category. Ultra-labour-intensive include footwear, wood and wood products, leather products, furniture, and apparel. It is therefore not surprising that the agro-processing sector has been the most labour-intensive subsector in the manufacturing sector as whole. On average, the sector uses 27,8 percent more labour per unit of capital relative to the manufacturing sector as a whole. If we exclude furniture the average labour-intensity in the sector increase to 40 percent more relative to manufacturing. This is one of the reasons why the sector is widely believed to have great potential to contribute to addressing the low employment generation in the economy. Although the larger share of employment in the agro-processing sector is generated by large firms which often employ capital-intensive production techniques, greater employment creation can be achieved through the participation of small and medium enterprises (DAFF, 2016; Paremore, 2018; Nair and Landani, 2020).

What is worrying, though, is that the most labour-intensive clusters of agro-processing industries (textile and wood and wood products) are both reporting declining output and employment. Between 2010 and 2018, wearing apparel lost close to 10 000 jobs, while the number of jobs in the textile industry dropped from 37 000 to 28 000 over the same period (DAFF, 2018). The largest sector (food processing) has relatively lower labour intensity, with the lowest being in the beverage industry which, though being the second largest in terms of output, only accounted for less than 6 percent of agro-processing employment in 2018 (Table 10)

Table 12: Labour Intensity by Industry (Rands per Worker, Constant 2010 prices) 2000-2019

	2000-2004	2005-2009	20010-2014	2015-2019	2000-2019
Food	88 694	120 768	124 342	161 228	125 860
Beverage	42 048	46 251	51 708	59 581	50 058
Tobacco	5 644	6 307	6 825	7 706	6 650
Textiles	71 063	68 106	54 522	48 446	60 066
Wearing Apparel	255 751	202 126	156 275	144 733	185 534
Leather & Leather Products	26 153	29 182	31 809	28 977	29 049
Footwear	100 713	77 580	71 884	73 662	77 825
Wood & Wood Products	58 051	70 768	62 068	70 789	66 052
Paper and Printing	77 812	105 436	121 473	118 938	107 203
Rubber Products	39 017	38 801	31 176	27 399	33 624
Furniture	358 758	321 488	230 717	226 421	281 085
Average Agro-processing	**102 155**	**98 801**	**85 709**	**87 989**	**93 001**
Coke, Fuels and Petroleum	27 631	54 951	72 088	61 876	55 909
Basic & other Chemicals	68 551	116 366	132 317	164 592	123 606
Metals & Equipment	134 325	172 044	182 797	171 828	167 535
Transport & Communication	145 731	170 321	156 053	159 435	159 507
Other Manufacturing	108 673	122 107	87 007	82 311	99 802
Average for Manufacturing	**97 844**	**122 432**	**119 329**	**121 338**	**116 560**

Source: Author based on Quantec Data

Employment levels for the food cluster has stabilised while jobs in the beverage sector have been growing steadily after 2012. The struggling employment levels in the manufacturing sector since 2000 can be attributed to the effects of liberalisation which has created pressure on local manufacturers in various manufacturing industries (Zalk, 2014). However, the pressure from international competition is pushing some of the manufacturing firms to adopt new technology and innovative business approaches. This has however led to some sectors becoming more capital-intensive as a strategy to increase productivity, profitability and competitiveness (Cramer and Sender, 2015).

The real potential for generating employment in the agro-processing sector lies with the small and medium processors, which tend to be more labour-intensive than the large firms which dominate the sector (Ncube et al, 2016). This is why there is a strong push within policy circles to encourage the growth of small enterprises to enter the market. However, realising this goal would require strong policy commitment to drive a reform agenda in the sector.

Challenges in the Agro-processing Sector

The agro-processing sector profile presented above highlights the centrality of this cluster of industries in the South African economy, not only because of its size, but also its potential to contribute to transformation of the economy and society. However, there are several challenges which need to be addressed for the sector to play its strategic role in promoting inclusive growth. One of the major challenges is the structure of the sector, which like many other sectors in the economy, exhibits high levels of concentration of market power, output and investments. For instance, the four largest agro-processing firms (Tongaat Hulett, Tiger Brands, Pioneer Foods, and RCL Food) accounted for 72 percent of productive capacity in 2014 (Nhundu et al, 2017). In terms of employment, the five largest food processors account for almost 80 percent of total employment in the food processing cluster (Dube et al, 2018). This concentration of production and market power in a few large firms has shifted the balance of power between the producers (farmers) of food and the processors, with the later exercising

tremendous control over most food value chains, not only in South Africa but in an increasing number of African countries where the South African subsidiaries operate (Visser and Ferrer, 2015; Nhundu et al, 2017). A number of the top South African food processers have acquired controlling stakes in food processing enterprises in several Africa countries including Nigeria, Ethiopia, Uganda, Zimbabwe, Zambia and the middle East.

The challenge with high levels of industrial concentration is that it can lead to inefficiencies in the economy through uncompetitive behaviour which is often associated with monopolies and cartels. In the context of agro-processing industries, the momentum in the sector is being constrained by structural limitations leading to a number of challenges such as rising costs of inputs, monopoly pricing, different types of collusion including price fixing and ring-fenced markets controlled by vertically integrated networks of a few large firms (IDC, 2017). This ultimately creates high barriers to entry for small and medium firms, making it difficult for the sector to contribute to transformation in the economy. In a parliamentary briefing to a *Select Committee on Land and Mineral Resources* (NCOP) in 2016, the DAFF (2016) singled out the concentration of production and market power as one of the major reasons for the continued failure of the agro-processing industries to realise the sector's potential to contribute to economic transformation. Broadly, "High concentration has reinforced the capital and resource-intensive industrial development path, while imperfect competition[has] distorted economic outcomes more widely" (Black and Roberts, 2009:217).

This growing trend towards food cartels is manifested in the number of cases of price fixing and collusion which have been reported and handled by the Competition Commission over the last two decades that the commission has been in existence (Dube et al, 2018). The Competition Commission has specifically identified food and agro-processing as one of the seven target clusters. Although some analysts have argued that the move towards business consolidation is a global phenomenon which should not be surprising; that market power concentration is a feature of a maturing capitalist economy where monopolies and cartels are a defining feature (Cramer et al, 2020), high levels of concentration can lead to negative economic and social outcomes. Similarly, while some analysts have suggested that, given the current global trade context, 'big and not small is beautiful' (Amsden, 2012), concentration of market power leads to economic inefficiencies and makes it difficult to address the pressing challenges of inequality in South Africa (Black and Roberts, 2009). Concentration of market and production power makes it hard to 'make the circle bigger' as large vertically integrated firms often collude in order to maintain and increase influence in specific industries (Nair and Landani, 2020).

In South Africa, it has been suggested that the move towards concentration of production capacity and market share can be explained by several factors including the carryover of food cartels from the apartheid era, the global trend towards vertical integration of lead firms in food value chains, the effects of liberalisation and deregulation of the economy during the 1990s, and the tightening of social networks and relations between farmers, food processors, retailers and suppliers in the sector (Ncube, et al, 2016; Visser and Ferrer, 2015; Nair and Landani, 2020).

Making the Circle Bigger

The sector's structure, which is a reflection of the structural challenges in the wider economy needs to be addressed to enable the sector to realise its full potential. The failure to address this structural challenge will continue to worsen inequality and polarisation of society at different levels (World Bank, 2018; StatsSA 2019b). Therefore, strategies to transform, not just the agro-processing sector but the entire economy are urgently needed to create conditions for inclusive and sustained growth in the economy. Achieving this goal is not going to happen through self-introspection of those who are already benefiting from the status quo, it will require deliberate and sustained policy commitment to implementing strategies which can successfully stretch the frontier of the proverbial "circle" to make it more inclusive and at the same time sustainable. Admittedly, "making the circle bigger" has its own trade-offs (see National Treasury, 2019), but on the balance of things, the current situation does not

serve the long-term interest of anyone including the owners of large firms, politicians, and the ordinary people on the streets.

Some analysts argue that forcing the successful and efficient large firms in agro-processing and other sectors to adopt measures which seek to reduce inequality will undermine the 'pockets of efficiency' which have sustained the economy in the past (CDE, 2008). Proponents of this view argue that such a move will not only make the country less competitive internationally, but also lead to weaker growth. It has even been suggested that government policy should focus on supporting the large and efficient agro-processing ventures to leverage their capacity to generate foreign exchange which the small businesses will not deliver (Cramer and Sender, 2015). However, a society with a "bigger circle of wealth and welfare" offers greater opportunity for sustained economic growth as well as a strong foundation for promoting competitiveness and efficiency in the economy. Defending the current situation ignores the basic fact that economic performance is about what we do together, not what a few successful individuals or groups do. A large firm might be successful for ten or twenty years, but it is difficult to maintain that success when majority of the people are not productively participating in and contributing to the economy. Empirical studies have now shown that it is difficult to sustain economic growth under conditions of extreme levels of inequality (UNRISD, 2010) as the case is in South Africa (see StatsSA, 2019b). There is therefore value in making the circle bigger.

Agro-processing Sector Potential

One of the widely recognised roles of agro-processing in terms of economic transformation is the sector's potential to contribute to 'making the circle bigger' by creating opportunities for a broad range of businesses (small and medium) to productively participate in the economy. This can contribute to reducing inequality and the concentration of ownership of wealth and businesses (National Treasury, 2019). As noted above, concentration of wealth and businesses is a structural challenge that needs to be addressed in the South African economy in order to unlock the potential for sustained and inclusive growth. The current economic structure, characterised by high levels of economic concentration of wealth, income and market power, has created binding structural constraints on the economy leading to anaemic growth and the waning economic vigour. The need to transform the current structure of the economy, to promote inclusive growth by creating opportunities for a wider range of people to live productive and dignified lives is an urgent matter.

The key question is, how can agro-processing contribute to addressing the pressing challenge of transforming the structure of the economy? There are many ways through which agro-processing industries can contribute to economic transformation, particularly, promoting inclusive growth and reducing inequality. One of the reasons why agro-processing industries are believed to have the potential to contribute to economic transformation in South Africa is the fact that agriculture and agro-processing activities tend to be labour intensive and can therefore contribute to creating jobs, especially low and semi-skilled jobs. As illustrated above, majority of the agro-processing clusters tend to be labour-intensive industries requiring low and semi-skilled labour. The agriculture-agro-processing activities have higher capital-labour ratio making them an important sector in terms of employment creation (ITAC, 2016: 2). Agro-processing industries' role in job creation is linked to the agriculture sector, which has been an important source of employment for people in rural areas for a long time (Van Zyl et al, 1988). For instance, it has been estimated that deciduous fruit production, on average, requires 300 times more labour per hectare compared to maize production (Cramer and Sender, 2015, Zalk, 2019). This offers great opportunity to create jobs which are badly needed in the current circumstances where measures implemented to prevent the spread of the Covid-19 pandemic have resulted in massive job losses.

The other reason is that the stronger linkages between agro-processing and agriculture has the potential to stimulate growth not just in the agriculture sector but also in other manufacturing industries which

supply input to the agriculture sector. Dube et al (2018) estimate that agro-processing sourced 91 percent of its inputs from agriculture in 2016. Such strong linkages can provide momentum in the agriculture sector, which is instrumental in overcoming the structural constraints in the economy through the creation of opportunities for wider participation in both agriculture and agro-processing industries (Nair and Landani, 2020). A growing agriculture sector offers great potential to transform the agriculture sector by allowing emerging small and medium farmers to actively participate in several high value-added agro-processing value chains which, in the past, have been dominated by large commercial farm enterprises and a few agro-processors (Greyling et al, 2015).

Currently, the potential of agro-processing to promote inclusive growth is not being realised for various reasons including the failure to create appropriate conditions for broader participation in agriculture through land reform and the nurturing of small farmers. In the agriculture sector, the growth of small and medium farmers has been stifled by the continuation of a dualistic (bimodal agrarian) farming structure, which has remained intact despite 26 years of reform in the land and agriculture sectors. Paremore (2018) has observed that a highly concentrated agro-processing sector which is linked to commercial agriculture has made it difficult for small and medium business to participate in these sectors.

It is also believed that since establishing agro-processing enterprises require relatively lower capital outlay, there is potential for small and medium enterprises to participate in these value chains than in other branches of the manufacturing sector. When compared to other subsectors of the manufacturing sector, such as metals and chemicals, the barriers to entry for agro-processing are relatively lower, in terms of skills and capital requirement.

Although the barriers to entry into agro-processing are currently high due to the concentration of market power and production in a few Johannesburg Stock Exchange (JSE)-listed companies (Nhundu et al, 2017), there are opportunities for small and medium ventures to be involved in activities such as the extraction of oils from seeds and fruits, confectioneries, milling of grain and the processing of animal feed, to contribute to 'making the circle bigger'.

The other reason why agro-processing is believed to be strategically important is related to the supply of intermediate products for secondary manufacturing activities. For example, the products and by-products from the manufacturing of sugar can be used as inputs in the manufacture of industrial alcohol and perfumes. There is potential here for a wide range of medium enterprises to participate in downstream activities of several agro-processing value chains. It is estimated that the manufacturing sector uses 70 percent of agriculture products as intermediate goods (Dube et al, 2018). The strategic role of agro-processing is captured better in Adelman's (1984) Agriculture Demand Lead Industrialisation (ADLI) model where agro-processing acts as the conveyor belt between agriculture and secondary manufacturing. Adelman (1984: 939) argues that "the ADLI strategy would stress the raising of agricultural productivity, especially that of medium-scale farmers, as a means of achieving industrialization. It would accomplish the industrialization goal by expanding internal demand for intermediate and consumer goods produced by domestic industries." The growth of medium-scale farmers and processors which Aldelman highlights can have significant transformative impact on the South African economy and society. By adding value to raw materials from the agriculture sector, agro-processing industries can contribute to industrialisation and job creation, especially if growth is occurring in labour intensive industrial clusters.

Agro-processing industries can contribute to reducing poverty by increasing rural income through the creation of expanded markets for agricultural produce. The rising income in rural areas can induce growth in demand for intermediate and consumer goods and services (DAFF, 2012; ITAC, 2016; National Treasury, 2019). Agro-processing industries can play an important role in economic transformation because they have the potential to moderate the price of locally produced foods, which prevents rapid rise in the cost of living and demand for higher wages (ACET, 2014). In this regard, the

agro-processing sector's contribution is not only restricted to stabilising the prices and supply of food; it also contributes to extending shelf-life of most processed foods, and this can create opportunities for small and medium enterprises to participate in downstream segments of the food value chains. Nair and Landani (2020) have argued that broader participation in the agro-processing value chains can be increased if technology is made available to enhance creativity among small enterprises.

In addition to the above, agro-processing also contributes significantly to improving the balance of payment situation by saving on food imports (ACET, 2017). Export of processed and raw agriculture produce generate foreign currency needed to acquire capital goods and other products which the country does not produce (Van Zyl, et al, 1988). Cramer and Sender (2015: 7) argue that "South Africa has enormous untapped potential to generate foreign exchange from agriculture and agro-industries." The growth of the agro-processing sector is also seen as strategy in trying to diversify South Africa's export basket from commodity dependency, mainly minerals. There is therefore a strong case for agro-processing to play an important role in the South African economy. Francis Malunga (2015) from the African Centre for Economic Transformation (ACET) refers to the agro-processing sector in Africa as the "low hanging fruit" with tremendous potential to transform the agriculture sector and improving the well-being of majority of people on the continent.

There are several other reasons why agro-processing industries are believed to have the potential to promote inclusive growth and contribute to reducing the inequality gap. But for the agro-processing sector to fulfil its potential to contribute to transforming the economy through inclusive growth, specific policy strategies have to be implemented consistently.

The Regional Opportunities

As noted above, the South African government has recently acknowledged the growing importance of the regional market for agro-processing products, particularly in Southern Africa. A recently launched strategy for reconstructing the South African economy by National Treasury (2019) has observed that South Africa has an advantage in several value chains including agro-processing which should be exploited[2]. In the case of processed agricultural products, South Africa has several advantages and opportunities arising from the fact that the country has well-developed food processing and manufacturing capacity and capabilities, with a clearly revealed comparative advantage in a number of value chains such as wine, fruits, vegetable juices, and food preparations ingredients. ITAC (2016) reports that "South Africa has a comparative advantage in 29 of the 77 agro-processing products, which accounts for 88.4 percent of its total agro-processing export." However, it has been observed that the country is losing some advantage in some of the regional value chains. There are also suggestions that in order to broaden and sustain South Africa's opportunities in SADC, the country has to source an increasing share of inputs from the region, which is not happening at the moment. Currently, South Africa is relying more on non-African countries for inputs (Black et al, 2020).

In the agro-processing cluster South Africa can develop strategies to participate in some of the regional value chains, and this can create opportunities to increase value addition not just in the agro-processing but also in the input and machinery supply cluster. As noted above, opportunities in the agro-processing sector are expanding as the demand for processed foods in the region grows, and South Africa can tap into these growing regional value chains and markets. Chingumira (2019), for example, has noted that due to the growing demand for food in the region as population, urbanisation and income rise, the market for agro-processing equipment in the region is expanding rapidly, and South African equipment and parts manufacturers can exploit the proximity and free trade opportunities to supply this growing

[2] Part of the growth of export to SADC has been attributed to the change made in 2013 when South Africa started to report the export to SANCU members (see Dube et al, 2018).

market in the region. As things stand, most of the food manufacturers in the region are importing food processing equipment from various countries such as India, Italy, China, Germany and Turkey

Conclusion

This paper has presented a profile of agro-processing industries in the South African economy, looking at trends over time. One of the things that stand out is that the agro-processing sector is a large and diverse set of industries, consistently accounting for the largest share of the manufacturing sector output and employment since the 1970s. The sector has consistently accounted for over 40 percent of the total manufacturing employment. Although the levels of employment have varied over the years, agro-processing industries have been the most labour-intensive sector within manufacturing relative to their share of output. However, there are structural challenges which need to be addressed, and one of the biggest challenges is the concentration of production capacity and market power among a few large agro-processing firms. Although the trend towards concentration is a global phenomenon observed in many countries, in the South African context, and particularly in agro-processing, concentration has been a direct response to the deregulation and liberalisation policies implemented after 1994. As a strategy to withstand competition from the liberalised markets, firms have been restructuring their investment and business strategies leading to consolidation of market power within a few large firms. In the agro-processing sector, the largest four firms account for almost 80 percent of the total production capacity in the sector. This creates several challenges including high barriers to entry for new players in the market, often leading to uncompetitive tendencies manifested in cases of price fixing and collusion among the large agro-processors.

In South Africa where income, business opportunities and wealth inequalities are extremely high, addressing these structural constraints in the sector is vital to unlocking the economic potential in the country. The agro-processing industry can play an important role in addressing the different facets of inequality primarily because of its connection to agriculture (and the land question) but also the potential for growing employment and entrepreneurship through the growth of small and medium firms, which have been recognised to have potential to create jobs and business opportunities.

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