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Agro-processing, value chains, and regional integration in Southern Africa

Anthony Black, Lawrence Edwards, Ruth Gorven, and Willard Mapulanga*

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Abstract: Regional integration in Africa is underway but ongoing progress requires that the gains are widely spread. South Africa's huge regional trade surplus in manufactured goods is already leading to protectionist pressures in neighbouring countries. Agro-processing is a large sector, which is widely regarded as having significant potential, but the export performance of the region has been quite poor if South Africa is excluded. Intra-regional trade is dominated by South Africa's exports to the region. The share of processed goods in agricultural trade has increased but only modestly. Regional value chains are failing to include the small economies of Southern Africa. Constraints include tariff and non-tariff barriers, weak infrastructure, demanding quality standards as well as weakly developed local suppliers. Policies to promote the development of suppliers outside of South Africa are required along with more generic measures such as improvements in the regulatory and investment environment, and better infrastructure.

Key words: regional integration, agriculture, agro-processing, supplier development, exports, tariffs, value chains

JEL classification: F15, L66, O13, Q17

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1 Introduction

In contrast to developments globally, there is a clamour of excitement around regional integration in Africa. The recently ratified African Continental Free Trade Area (AfCFTA) is an important step towards the long-term goal of regional integration and a big boost to regional trade and industrialization. Regional integration will be driven in part by growing trade links, and it is expected to facilitate the development of regional value chains. However, ongoing progress will require active policy measures to promote the spread of benefits to all the countries involved. Perceptions of national losses or regional dominance by partner countries can stall regional integration efforts. In Southern Africa, South Africa's dominance and huge regional trade surplus in manufactured goods are already an issue. This paper analyses these issues through the lens of the agro-processing sector with a focus on Southern Africa.

The current nature of Southern Africa's economies is that most countries' exports remain highly resource- and agriculture-dependent (AfDB 2019). Much of this trade is destined for markets outside of Africa, with intra-regional trade flows generally low. Yet the opportunity for expanding agro-processing exports within the region through the AfCFTA is significant (Fukase and Martin 2018). Agro-processing links to agriculture make it potentially pro-poor. It is also a sector where certain Southern African countries have demonstrated comparative advantage in particular products.

This paper reviews the case for agro-processing both from a growth and development perspective. It presents an overview of agricultural and agro-processing trade in the region, including participation by countries in regional and global value chains. It then examines the constraints and considers whether integration and upgrading in regional value chains offer some potential for the development of agro-processing in Southern Africa (outside of South Africa). We examine this question through the prism of supplier development in relation to lead firms in the form of South African food processors and supermarket chains. We go on to consider what policies could best accelerate this process.

We find that the potential of the sector is far from being fully realized. Export performance in many countries has been poor and South Africa has a large ongoing trade surplus with the region. While regional value chains in food production and distribution have developed, they are failing to include the small economies of Southern Africa. Participation is constrained by a weak investment climate, barriers to trade, and the lack of domestic supply capacity. This problem needs to be addressed by improving the investment climate but also by measures to assist the development of suppliers in South Africa's neighbouring countries.

The paper is structured as follows: section two assesses the potential for agro-processing to drive regional industrialization through the AfCFTA. This is followed in section three by an overview of Southern African country trade in agricultural and agro-processing products. Section four examines the constraints and policies required to accelerate regional integration and upgrading in regional value chains. Section five concludes.

2 Regional industrialization and the role of agriculture and agro-processing

In general, African economies are characterized by low levels of industrialization. Manufacturing accounts for a low and declining share of value added, and manufacturing exports lag those of the rest of the world.¹ While participation in international trade in manufactured goods has increased, this primarily involves low value-added, resource-based products (AfDB 2019: 83). This is slightly less true for intra-African trade, which has a higher proportion of value-added products, but intra-African trade remains low relative to that of other regional trade blocs.

With its goal of easing trade restrictions between African countries and reducing the complex groupings of regional trade agreements that currently raise costs of trade in Africa (Afreximbank 2018), the adoption of the AfCFTA is seen by many as an important instrument to boost intra-African trade and industrialization. For example, Ismail (2018) argues that by adopting a ‘developmental regionalism’ agenda that involves trade integration, industrial transformation, improved cross-border infrastructure, and a focus on democracy, governance, peace, and security, the AfCFTA could successfully drive industrialization.

Others take a more critical view, arguing that Southern Africa represents a protected market for South African goods and that South Africa is unlikely to support the relocation of production activities to neighbouring countries (Scholvin 2018). While South Africa’s economic size provides a large potential market for the countries of the region, there is currently a significant trade imbalance, with South Africa dominating the supply of processed and manufactured products (Banga and Balchin 2019). It could further be argued that continental free trade agreements may be a way for South Africa to bring other African countries into a more protectionist continental arrangement that may limit the potential for regional value chains (RVCs) to link into global value chains (GVCs) (Scholvin 2018).

Agriculture has always been essential to development. Recently, however, there is a renewed focus on the sector as a central driver of development in lower income countries, rather than simply playing a supporting role for manufacturing and industrial production (Fukase and Martin 2018). The ‘premature’ deindustrialization being faced by many African countries and the shrinking space in a manufacturing industry dominated by low-wage production in economies like Bangladesh and Vietnam, have meant that Southern Africa must seek to achieve growth in new and innovative ways (Mazungunye 2019). Value-added trade in agriculture and agro-processing may be one such opportunity, especially given its strong impacts in rural areas and major role for women and seasonal workers (Fukase and Martin 2018). Fukase and Martin (2018) argue that regional agricultural trade, and specifically trade in agro-processed goods, could facilitate industrialization if governments are able to lower tariffs, increase trade facilitation, and reduce transport costs.

Regional agricultural trade offers numerous opportunities for Southern Africa countries. The clear economic benefit is that it builds off pre-existing production and comparative advantage. Owoo and

¹ According to World Development Indicator data, manufacturing value added as a share of Gross Domestic Product (GDP) in sub-Saharan Africa fell from 16 per cent in 1990 to 10 per cent in 2017. These average values hide important differences across countries. The manufacturing value-added share is as high as 19 per cent for Cameroon, Gabon, and Senegal, and 5 per cent or lower for Burkina Faso, Chad, Eritrea, and several others.

Lambon-Wuayefio (2018) argue that in Ghana, agriculture has strong upstream and downstream linkages, which could be strengthened with appropriate policy. For Tanzania, Mazungunye (2019) finds that the agro-processing industry offers the opportunity for industrialization because of increasing demand for processed food products and an already existing agricultural sector.

In addition to agro-processing offering an economically promising path to development, Geyer (2019) adds that a regional focus is likely to be the most beneficial for Southern African countries. He demonstrates that these countries tend not to benefit from participation in GVCs because of the low value added in products being exported. In contrast, the value added of products exported within the region is higher, suggesting scope to enhance the gains from trade through the development of industries linked through RVCs. However, regionally, value chains remain highly restricted, and face the challenges of market volatility and limited product diversification (Banga and Balchin 2019). Further, in Southern Africa, South Africa's dominance is key to understanding the structure of RVCs, and creating greater balance between South Africa and the rest of the region is important for ongoing progress in regional integration (Odijie 2018).

The links to agriculture, including small holder agriculture, also make growth in agro-processing potentially pro-poor (AfDB 2019). Therefore, agro-processing has the potential to provide a bridge from primary agricultural products to industrialization, while boosting demand for agricultural products and increasing opportunities for rural employment (Mazungunye 2019; Owoo and Lambon-Quayefio 2018). This is illustrated by Tanzania, where growth in agro-processing reduced reliance on a relatively small basket of products, mostly primary resources and raw agricultural goods. In addition, it raised demand for employment by women in rural areas and, through strong forward and backward linkages in the economy, provided a bridge to growing other industrial sectors such as farm equipment, retail, and transport industries (Mazungunye 2019). Similarly, in Thailand, Watanabe et al. (2009) find that agro-processing was effective in simultaneously increasing value-added production and creating pro-poor employment.

3 What is happening to trade in the region?

This section presents an overview of trade in agricultural commodities and processed agricultural goods by Angola, Botswana, eSwatini (previously Swaziland), Lesotho, Malawi, Mozambique, Namibia, South Africa, Zambia, and Zimbabwe. The focus is on this selection of countries given their engagement in agricultural trade and the supermarketization of the region, as discussed later.

We consider four main dimensions of trade. The first is the growth in aggregate exports from these countries. The second is intra-regional agricultural trade and South Africa's trade imbalance with the rest of Southern Africa. Thirdly, the extent to which the composition of agricultural exports has shifted towards more highly processed agricultural products is assessed. Finally, we analyse these countries' participation in global and regional value chains using value-added export data.

The data used for the first three parts of the analysis is sourced from the United Nations Comtrade Database and covers the years 2010 to 2018 (UN Comtrade 2019). The Comtrade Database provides detailed import and export data by country, trade partner, and product code (at the 6-digit level of the Harmonized System). Where countries have not reported trade data for a particular year, mirror data

is used to estimate their trade values. To evaluate participation in GVCs, value-added export data is obtained from the UNCTAD-Eora Global Value Chain Database (Lenzen et al. 2013). This database provides the most comprehensive coverage of value-added exports across African countries (45 countries in sub-Saharan Africa).²

For the analysis of gross exports, agricultural products are classified as goods falling within the Harmonized System (HS) 2-digit chapter headings 1 to 24. Within this grouping, we define food and beverage-based agro-processing products as goods classified under HS chapter headings 15 to 24, as is recommended by the South African Department of Agriculture, Forestry, and Fisheries (2018/9). We exclude HS codes of processed agricultural products for use in the textiles or furniture industries.³ Additionally, the analysis does not consider or include re-imported or re-exported products.

3.1 Southern Africa's agricultural trade

Table 1 shows the significance of agricultural trade to each of the Southern African countries, reflecting the values (US\$ million) of trade in agricultural products as well as the share of this trade in the country's total trade, for the years 2010 and 2017. The results show that trade in agricultural products varies significantly across countries. South Africa, given its size, dominates by a substantial margin both exports and imports in terms of value. All countries, with the exception of Angola, Botswana, Lesotho, and Mozambique, are net exporters of agricultural products in 2017.

Table 1: Agricultural trade between Southern African countries and the world

Country	Absolute value of agricultural trade (US\$ million)				Agricultural trade as a proportion of total trade (%)			
	Exports		Imports		Exports		Imports	
	2010	2017	2010	2017	2010	2017	2010	2017
AGO	57	295	5600	5660	0.1	0.4	15	18
BWA	477	211	1420	1330	5	2	13	13
LSO	167	55	538	760	17	4	21	18
MOZ	696	1020	840	1710	16	11	12	15
MWI	1640	1590	581	632	77	90	13	12
NAM	2920	2340	1810	1860	25	22	15	14
SWZ	611	936	417	616	31	26	20	19
ZAF	17000	19700	11300	13500	10	11	7	8
ZMB	901	1200	522	1020	6	7	5	6
ZWE	1220	1980	2140	1480	19	28	18	15

Notes: mirror data used for eSwatini in 2010. The three-digit country classifications in parentheses for each country are Angola (AGO), Botswana (BWA), eSwatini (SWZ), Lesotho (LSO), Malawi (MWI), Mozambique (MOZ), Namibia (NAM), South Africa (ZAF), Zambia (ZMB), and Zimbabwe (ZWE).

Source: authors' calculations based on UN Comtrade data.

In terms of importance in trade, exports of agricultural products made up only 0.4 per cent of Angola's total exports in 2017, whereas they made up 90 per cent of Malawi's total exports. Looking at imports

² A word of caution is nevertheless required. The input-output tables used to calculate the value-added exports are estimated and not based on published tables.

³ This categorization of agro-processing products excludes a few processed products falling in the HS 1–14 chapters.

for 2017, agricultural products make up a significant share of total imports (15 per cent and above) in eSwatini (SWZ), Lesotho (LSO), Angola (AGO), Mozambique (MOZ), and Zimbabwe (ZWE), and a low share (less than 10 per cent) in South Africa (ZAF) and Zambia (ZMB).

Table 1 also reflects the different levels of growth in agricultural trade for each of these Southern African countries. Six of the countries have grown the value of their agricultural exports, with over 50 per cent growth experienced by Angola (off low base), Swaziland, and Zimbabwe. Four countries have lost value: Botswana and Lesotho experienced significant declines (50 per cent or more) in the value of their agricultural exports, while Malawi and Namibia have seen moderate decreases. Interestingly, the change in the share of agricultural exports does not always track the changes in the value of exports—agricultural exports make up a higher proportion of Malawi’s exports, despite decreasing in value, while eSwatini’s agricultural industry has grown in value, but has lost ground in its share of exports.⁴

Behind these broad trends between 2010 and 2017 is substantial volatility in export values and shares across years for several countries (see table A1 in appendix A that presents the annual export values and shares from 2010 to 2018). Nevertheless, the data reveals several features regarding agricultural trade. Firstly, there is significant heterogeneity across these countries, both in terms of absolute growth of the industry and in how the industry has grown relative to the overall trade economy. Secondly, agricultural performance is mixed, with only six of the eight countries experiencing positive export growth. Each country faces different challenges regarding boosting agricultural exports. Thirdly, imports of agricultural goods constitute a relatively high proportion of overall imports signifying the potential to increase intra-regional trade. The next section looks into this aspect in more detail.

3.2 Intra-regional trade and South Africa’s trade balance

Table 2 shows several indicators of intra-regional trade in agricultural products, including the share of agriculture in exports to Southern Africa (column 1), the share of exports to Southern Africa in total exports of agricultural products (column 2), the export share of each country in total intra-regional agricultural exports (column 3), and agricultural exports to South Africa as a share of total agricultural exports (column 4).

⁴ This data uses mirror data in 2010 and is therefore not as reliable as the other numbers in the table.

Table 2: Intra-regional agricultural trade in Southern Africa (%)

Country	Agricultural exports as a share of exports to Southern Africa		Agricultural exports to Southern Africa as a share of total agricultural exports		Agricultural exports to Southern Africa as a share of total intra-regional agricultural exports		Agricultural exports to South Africa as a share of total agricultural exports	
	(1)		(2)		(3)		(4)	
	2010	2017	2010	2017	2010	2017	2010	2017
AGO	0	1	0	3	0	0.2	0	1
BWA	19	8	34	28	3	1	27	25
LSO	22	7	50	43	2	0	50	43
MOZ	14	15	11	15	2	3	6	10
MWI	53	61	6	5	2	1	2	3
NAM	34	28	28	25	16	10	20	18
SWZ	24	24	43	37	5	6	41	34
ZAF	18	18	19	17	63	58	-	-
ZMB	23	29	24	18	4	4	4	4
ZWE	9	36	14	48	3	16	6	40

Notes: mirror data used for eSwatini in 2010.

Source: authors' calculations based on UN Comtrade data.

The first two columns indicate the important role that the region plays for many of these countries' agricultural industries. Apart from Malawi and eSwatini, agricultural exports comprised a higher share of exports to the region compared to exports to the rest of the world in 2017 (see Table 1 column for export shares). This is also shown in column (2) by the relatively high share of total agricultural exports destined for the region. Agricultural trade is therefore regionalized.

Looking over time, however, we find no clear patterns emerging. Intra-regional agricultural exports have not grown as significantly as might be expected given these countries participation in the Southern African Development Community (SADC) free trade area that commenced from 2000. Column (4) also reveals that the bulk of agricultural exports to the region are destined for South Africa. South Africa accounts for on average 69 per cent of each country's total agricultural exports to the region. For the Southern African Customs Union (SACU) members, Lesotho, Botswana, and eSwatini, the share exceeds 89 per cent in 2017. While agricultural trade may be regionalized, it is only because of these countries' exports to South Africa. Agricultural exports to the rest of the region are very low.

The third column further demonstrates the unbalanced nature of agricultural trade within the region. South Africa's share of intra-regional agricultural exports was almost two thirds in 2010, although this declined to 58 per cent in 2017. Not shown in this table are imports of agricultural products from the region. While South Africa is an important market for most of these countries' agricultural exports, the country still runs a significant trade surplus with the rest of the continent. In 2018, South Africa's agricultural exports to the region amounted to US\$3.3 billion compared to imports of US\$1.09 billion from the region. The unbalanced nature of trade is also reflected in the fact that South Africa only sources 8.1 per cent of its total agricultural imports from the region.

3.3 The role of agro-processing in Southern Africa's agricultural industry

The above analysis has focused on all agricultural products, both raw and processed. This section focuses on the relative importance of agro-processing trade, as it is the trade of these products that gives rise to the potential to develop RVCs.

Table 3 presents data on the exports of raw and processed agricultural products to the region and to the rest of the world for 2017. Several features are evident in the data.

Table 3: Relative importance of types of agricultural products to intra- and extra-regional trade in 2017

Country	Exports to the region as a share of total exports to Southern Africa (%)		Exports outside the region as a share of total exports to the rest of the world (%)			
	Agro-processed exports	Raw agricultural exports	Agro-processed to raw ratio	Agro-processed exports	Raw agricultural exports	Agro-processed to raw ratio
	(1)	(2)	(3)	(4)	(5)	(6)
AGO	0.1	1	0.2	0.2	0.2	1.3
BWA	2	6	0.2	0.1	1	0.1
LSO	2	5	0.4	1	2	0.3
MOZ	9	6	1.6	6	4	1.3
MWI	20	41	0.5	77	16	4.7
NAM	6	22	0.3	2	19	0.1
SWZ	24	1	34.0	26	2	16.9
ZAF	10	9	1.2	4	7	0.5
ZMB	17	12	1.5	4	3	1.5
ZWE	33	3	12.4	21	2	9.3

Source: authors' calculations based on UN Comtrade data.

Firstly, a high proportion of agricultural trade comprises of agro-processed goods. For example, looking at exports to the region, for half the countries in the sample, the value of processed agricultural exports exceeds the value of raw agricultural exports. The gap is particularly large for eSwatini.

Second, for the majority of countries, agro-processing plays a more important role in exports to the region than it does in trade with the rest of the world. On average, agro-processing's share of total exports to the region is higher than its share of total exports outside of the region. This can be seen in the agro-processed to raw agriculture ratios presented in columns (3) and (6). The exceptions are Angola, which has a very small agricultural industry, and Malawi, which has a very dominant tobacco industry.

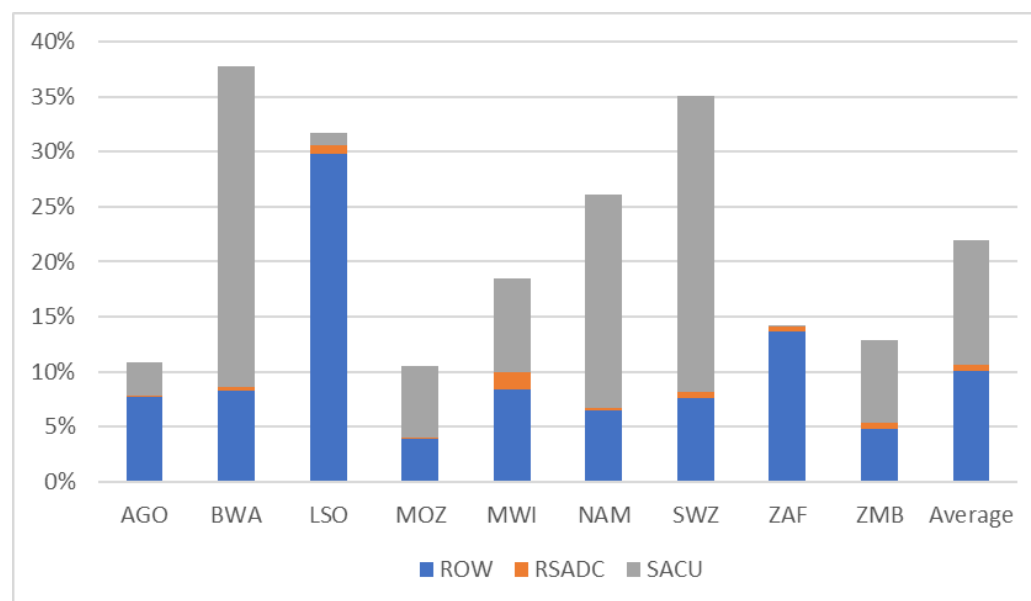
3.4 Participation in global value chains in processed agricultural products

The prior analysis of trade flows draws on gross measures of trade. One limitation of this is that we are unable to depict how firms in different countries are integrated into GVCs or RVCs. Exporters of processed agricultural products, for example, may draw upon raw agricultural products and other intermediate inputs imported from other countries. The value of exports, therefore, encompasses foreign value added embodied in intermediate inputs (termed backward vertical integration).

In this section, we draw upon value-added export data obtained from the UNCTAD-Eora Global Value Chain Database (Lenzen et al. 2013) to present a brief overview of GVC participation by Southern African exporters of processed agricultural goods. These are defined as exports from the food and beverages sector. We first look at the source and contribution of foreign value added in the region's exports of food and beverages. We then present a sectoral decomposition of foreign value added in these exports. We do not focus on forward linkages, calculated as the domestic value added embodied in exported intermediate inputs used to produce other countries' exports.

Figure 1 presents the share of foreign value added in food and beverages exports in 2015 from each of the Southern African countries in the sample. The residual (from 100 per cent) represents the contribution of domestic value added in exports, with the sum of domestic value added plus foreign value added equalling the gross value of exports. Foreign value added is also decomposed into its regional sources: rest of world (ROW), Southern African Customs Union (SACU) and rest of Southern African Development Community (RSADC). The latter breakdown is presented to provide insight into the extent to which region is used as a source of inputs in the exports of food and beverages.

Figure 1: Foreign value-added share by origin in gross exports of food and beverages by country, 2015 (%)



Source: authors' calculations using the UNCTAD-Eora Global Value Chain Database. The average is the simple cross-country average share.

The figure illustrates several features regarding the integration of these countries into the food and beverage global value chain. Imported intermediates are key inputs in the production of exports. However, the importance of foreign value added in exports differs substantially across countries, with a maximum share for Botswana (38 per cent) and the lowest share for Mozambique (11 per cent). The origin of the foreign value added in exports also differs across countries. SACU (almost entirely South Africa) accounts for a very high share of foreign value added for Botswana, eSwatini, and Namibia, reflecting the deeper integration of these countries associated with their long membership of the customs union. SACU is also relatively important for Zambia, Mozambique, and Malawi. In contrast, Lesotho sources a very low share of its foreign value added in exports from SACU, despite its

membership of the customs union. The rest of SADC plays a relatively minor role as a source of foreign value added.

South Africa is an exception with relatively low shares of foreign value added embodied in its exports of food and beverages. One reason is that the country has an established and well developed domestic intermediate supply base. What is noticeable, however, is the extremely low share of foreign value added imported from the rest of SACU or from the rest of SADC. While South Africa serves as a major source of foreign value added in Southern African country exports of food and beverages, these countries are not well linked into South African firm exports of these products. This asymmetry mimics the earlier findings using gross export data.

Which industries are important contributors of value addition in the production of food and beverage exports? To assess this, Figure 3 breaks down the gross value of exports into the industry sources of value added. The first bar combines value added sourced domestically and from foreign sources, while the second and third bar look at the industry composition in the domestic value added (DVA) component and the foreign value added (FVA) component, respectively.

Figure 2: Industry share structure of value added in food and beverages exports



Notes: figure is based on the sum of value added by industry for the sample of countries shown in Figure 2. The share structure will therefore largely reflect that of South African exports given the dominance of the country in the region's export value.

Source: authors' calculations using the UNCTAD-Eora Global Value Chain Database.

As expected, the agricultural sector and the food sector are the primary contributors to value added of food and beverage exports. Services are also a relatively important source of inputs in production. What is noticeable is the very different industry composition of domestic value added compared to foreign value added. The main industries contributing towards foreign value added are manufacturing and services. The results indicate that firms exporting food and beverage products leverage off domestic supply capacity in agriculture and food, but draw extensively on manufacturing and services

inputs from abroad. The relative importance of foreign services inputs in the exports of processed agriculture points to the need to incorporate services into the trade negotiations.

3.5 Intermediary comments

The analysis of gross exports and value-added exports reveal several distinctive features regarding Southern African countries' trade in agricultural products. The performance of the region in agricultural exports has been mixed with several countries experiencing a decline in exports. Intra-regional trade tends to be more agricultural intensive than exports to the rest of the world, and for several countries the region accounts for a high share of their agricultural exports. These exports are not only raw agricultural products. Processed agriculture accounts for more than half of total agricultural exports and is even more important in exports to the region. Further, the value-added export data reveals extensive backward linkages into the region for many of the countries in the sample. These factors point to the potential contribution the region may play in stimulating growth in production of agricultural products and the development of regional value chains in the sector.

However, South Africa features prominently for all trade indicators. Regional trade, whether measured in gross value terms or in value-added terms, is highly unbalanced in South Africa's favour. This trade imbalance presents a political challenge to the process of integration, because it provokes protectionist pressures (Black et al. 2019). This could stall or even reverse moves towards successful regional integration that are necessary for the development of RVCs and access to South Africa's large market.

Nevertheless, the ongoing and significant trade imbalance indicates that the South African market remains an opportunity for the development of export-oriented agricultural industries in other countries in the region. The South African market is large, relative to the other countries, and imports of agricultural products from the region do not appear to have saturated the market. It is therefore necessary to interrogate the constraints to expansion of agricultural exports from the region to South Africa. While tariff barriers on imports of agricultural goods have largely been removed under the SADC free trade area, non-tariff barriers including sanitary and phytosanitary measures and technical barriers still constrain exports (Farole 2016). Strict rules of origin have also been identified as barriers restricting access into the South African market (Brenton et al. 2005).

The data also suggest that domestic capacity constraints lie behind the trade imbalance. South Africa as a market already constitutes a high share of the region's agricultural exports. There may be some scope for these countries to re-channel exports currently destined for the rest of the world to South Africa, but a substantial increase in exports would require the emergence of new productive capacity in agriculture.

The following section delves into some of these issues, focusing on some of the constraints and opportunities to developing a stronger regional agricultural supply base.

4 Upgrading through integration into value chains?

All of the countries in Southern Africa have put industrial strategies in place and are eager to promote their respective manufacturing sectors. It appears likely, therefore, that unless the industrial base in the countries of Southern Africa can be seen to visibly benefit from closer regional integration, further

ad hoc restrictions and requirements will be imposed to achieve this objective. That in turn will frustrate the development of stronger RVCs. In most cases, agro-processing is seen to be a key opportunity. But creating a stronger base of suppliers requires deliberate action.

There are several ways in which agriculture and agro-processing can be developed. More support for agriculture will be helpful. Another avenue, and the subject of this section, is through incorporation into value chains, especially RVCs. The question is examined in three parts. The first is that of potential entry points for suppliers. Key players or lead firms in this sector are supermarket chains and the associated large firms in the food industry. Many are South African owned. These firms comprise a large and growing market for agro-processed goods and they also have well developed regional trade and production networks. However, accessing these supply chains is not easy. Suppliers face many difficulties and these constraints are the subject of the second part. Thirdly, in addition to measures to try and mitigate these constraints, large firms, national and international agencies, and governments themselves have undertaken a number of initiatives specifically aimed at supplier development. The question then arises as to how these can be ramped up and made more effective.

4.1 Accessing value chains: the role of supermarkets and large food firms

Supermarket chains (mainly South African based) have been expanding in the region and account for a growing share of consumer spending. There is a growing literature on this expansion and the implications that it might have for domestic suppliers in these host countries (das Nair and Chisoro 2017; Kaplan and Morris 2016; Nickanor et al. 2017; Phiri and Ziba 2019). The focus here is on the potential this creates for integrating local suppliers of agricultural products into their regional supply chains.

The expansion of supermarket chains into the region over the past two decades has been rapid. Shoprite Holdings is Africa's largest retail chain and, compared to other major South African based chains, draws the highest share of its revenue from its operations in the rest of Africa (16.5 per cent in 2015). In 2015, it had 250 stores in the rest of Africa with revenues of US\$1.3 billion. While Shoprite recently reported a decline in quarterly sales in its 'rest of Africa' outlets and was considering reducing the number and size of stores or entering franchise arrangements, preserving their 'African advantage' remains one of their nine strategic goals (Crotty and Child 2019).

Pick n Pay is another major South African based retail chain with a large presence in the region. The number of stores outside of South Africa has also been growing rapidly (from 94 in 2012 to 148 in 2019), although their share of the total (including South Africa) actually declined from 10 to 8 per cent over this period. Pick n Pay has a dedicated 'rest of Africa' division and the rest of Africa strategy is seen as one of seven 'growth acceleration' pillars. For example, they state in their 2019 Annual Report that '[t]he ongoing formaliz[ation] of food and grocery retail across Africa will provide the Group with a second engine of growth [...]' (Pick n Pay 2019: 31). Currently, however, problems in markets such as Zambia and Zimbabwe mean that its rest of Africa expansion is currently 'in hibernation'.⁵

This expansion of the supermarket chains into the region will continue, especially when the economies in the region get back to a high growth trajectory, but it is essentially driven by economic conditions

⁵ Interview, Pick n Pay, 26 November 2019.

and the rate of growth of consumer demand in the various countries, as well as regulatory and other issues.

Much of the product in South African stores in the region is supplied from South Africa with relatively little returning in the opposite direction. This is graphically illustrated by the fact that trucks return empty to South Africa raising intra African transport costs (Vilakazi 2018). Large retailers such as Pick n Pay and Shoprite source the bulk of the product sold in neighbouring supermarkets from within the country concerned but much of it is in turn supplied by large South African producers such as Tiger Brands and Pioneer Foods through their distributors operating in the various countries. Final processing and packaging may take place in these destination countries.

The supermarket chains and large food exporters have a strong interest in regional integration and in relaxing cross border constraints. Weak infrastructure and delays at borders are extremely costly and hinder expansion (AfDB 2019). Transporting goods by truck from Cape Town to Johannesburg can take a day. The trip from Johannesburg to Lusaka in Zambia, a shorter distance, can take 5–8 days due mainly to border delays exacerbated by the fact that there are as yet no single border crossings in the region.⁶ Costs are increased by so-called ‘facilitation fees’.

The countries, which play host to this South African retail expansion, are increasingly concerned with the issue of domestic suppliers. With the support of local firms, neighbouring countries are starting to place pressure on the supermarket giants to expand domestic supply (Kaplan and Morris 2016). Member states of SADC and SACU have imposed trade restrictions and local content requirements on imports of certain food products from South Africa. For example, Zimbabwe has set a requirement that supermarkets purchase at least 20 per cent of their products domestically. Botswana, Zambia, and Zimbabwe have placed bans on imports of cooking oil, maize meal, and poultry (das Nair et al. 2018). One of South Africa’s largest food companies, Pioneer Foods, which exports to 80 countries, attributed a recent decline in earnings as being partly caused by protectionism in African countries (Njobeni 2019). According to Pioneer, these barriers are a response to weak economic conditions in these markets.

4.2 Constraints on supplier development

All stakeholders have an interest in supplier development. It is in the interests of the supermarket chains and other multinational firms, which have a long-term interest in regional integration and in developing RVCs. More specifically, they have an interest in diversifying their supply base to protect the industry from any potential shocks (Karingi et al. 2018; Phiri and Ziba 2019). Governments of South Africa and of neighbouring countries also have an interest. This represents an opportunity to drive the development of agro-processing RVCs and thereby strengthen effective regional integration. The question is: what policies can make it happen?

The constraints on industrial development in the less developed countries of Southern Africa are well known and include tariff and non-tariff barriers, weak infrastructure, demanding quality standards, and a weakly developed local supply base. Some examples are indicated below.

⁶ Interview; Pick n Pay, 26 November 2019.

Tariffs, non-tariff barriers, and limited competition

As shown in Table 4, average applied and MFN rates are marginally higher in SADC than the rest of the world. Weighted average MFN tariffs are lower because volumes of lower protected goods are higher. Interestingly, the weighted average applied tariffs are substantially lower than the simple average. One reason is that a high proportion of food imports by SADC countries come from within SADC where there is an free trade agreement (FTA). The second reason reflects the fact that imports of food products are strongly influenced by trade agreements.

Table 4: Applied and MFN tariffs on food and beverage imports for SADC and the rest of the world (ROW)

Row labels	Average of simple average		Average of weighted average	
	AHS	MFN	AHS	MFN
ROW	10.56	13.99	7.86	11.83
SADC	11.00	14.49	4.96	13.03

Notes: comprises 175 countries for applied tariffs (AHS) and 176 for MFN rates (MFN). Applied tariffs combine MFN and preferential tariffs.

Source: obtained from TRAINS data. Manufacture of food products and beverages, ISIC R.3. Data based on 2015 tariffs, or 2014 tariffs if 2015 data are not available.

Lack of competition and high input costs present a further difficulty, including for larger firms in the region. An example is the Zambian sugar and confectionary industry, which has been unable to compete regionally due to two primary constraints: a lack of competition policy to manage the dominance of Zambian sugar, and government imposed non-tariff barriers in the form of vitamin A fortification requirements (das Nair et al. 2017: 16). Zambia imports almost no sugar because of vitamin A fortification legislation, which serves as a non-tariff barrier (NTB), protecting the domestic industry. Zambia Sugar Plc's market dominance and the lack of threat from sugar imports means that Zambian sugar prices are higher than regional sugar prices. Zambia's confectionary industry—processing raw sugar into sweets, biscuits, cakes, and so on—relies on Zambian sugar because of the restrictions on sugar imports. This industry is also relatively concentrated, partly because Zambia Sugar's market dominance has meant that confectionary producers must have the power to negotiate lower sugar prices in order to survive (das Nair et al. 2017). Zambia does export some confectionary products—primarily to Malawi and Zimbabwe (Phiri and Ziba 2019). When high sugar prices are compounded with the costs of labelling and packaging standards, Zambian confectionary products are unable to compete with South African confectionary products in supermarkets, and so must rely on independent sales (Phiri and Ziba, 2019)—a method which is becoming less reliable and sustainable as the demand for supermarket products in African countries grows.

Confectionary producers in Zambia argue that the only way for the industry to become sustainable is to lower trade barriers to sugar imports, dropping the price of sugar. While this would also increase competition in the confectionary industry, the market dominance of Zambia Sugar has resulted in uncompetitive practices and left confectionary producers vulnerable to price manipulation. In 2017, the Zambian Competition and Consumer Protection Commission fined Zambia Sugar for unfair pricing and price discrimination involving both household and 'industrial sugar users' (Funga 2017). However, competition in the Zambian sugar industry has yet to open up properly, and so Zambia Sugar's pricing power remains relatively intact.

South Africa is also adopting ad hoc protectionist measures. As a result of declining sugar demand partly driven by the introduction of a tax on sugar for health reasons, the South African Department of Trade and Industry has reportedly placed pressure on large domestic firms to use South African sugar as much as possible. This is driving up local prices. Leaders of firms engaged in large scale regional trade are therefore sceptical of initiatives such as the AfCTFA because of their experience with border difficulties and NTBs under existing arrangements. Although this is a topic pursued by industry federations, they appear to have limited clout.

Supplier capabilities

Supplier development is fraught with challenges. The retail chains prefer to deal with large suppliers, and while they all have supplier development programmes aimed at small suppliers, the large bulk of their business is with larger firms. For smaller firms, demanding standards and certification, competitive pricing, and large volume requirements present major obstacles. The availability of finance to upgrade capacity is a further constraint (AfDB 2019).

In their study of Zambia, Phiri and Ziba (2019) surveyed a range of firms, including those that did not supply supermarkets. The major constraint for these firms was finance but this related to the long credit times imposed by supermarkets. The second largest constraint was the large volumes required by supermarket chains. They also found that local suppliers failed to fully understand the procurement criteria of the retail chains and overrated their own capabilities. In key criteria such as price, packaging, quality, and volume, local suppliers had much higher assessments of their own capabilities than did their supermarket customers (Phiri and Ziba 2019:54).

Some of these difficulties are illustrated by interviews undertaken among food processing firms in Zambia. Skills shortages are a particular concern according to food processors and industry experts from the Zambia Development Agency (ZDA), the Chamber of Commerce, Zambia Association Manufacturers (ZAM), and the Private Enterprise Programme Zambia (PEPZ). The agro-industry requires technical skills that can implement food-safety management systems in order to increase compliance with food standards. As compliance with ISO and Hazard Analysis Critical Control Point (HACCP) systems becomes increasingly important in local,⁷ regional, and international markets, Zambia will increasingly require the skilled staff to run food safety management systems.⁸ Certification systems need to meet local, regional, and international requirements, and these need to be accessible and cost-effective for small and medium food processors.

For food firms in Zambia, packaging is also an area of difficulty. Informants revealed that the food industry experiences serious difficulties related to the shortage and cost of packaging. Labeling advisory, design, and testing services are limited. These problems are more pronounced for small and medium-sized processors, who constitute the bulk of food manufacturers in Zambia. Observations from interviews with firms and organizations like Technoserve suggest that Zambia agro-food processors incur high costs for low standards of packaging materials compared to their counterparts

⁷ For instance, supermarkets such as Shoprite and Pick'n Pay now demand that local suppliers have their products certified with HACCP.

⁸ Interview with an expert from the Zambia Chamber of Commerce, 30 August 2019.

in other countries such as South Africa. Large firms such as Zambeef have to import packaging at high cost as local suppliers cannot meet quality, volume, and consistency requirements.

Modes of supplier development support

Thus, firms attempting to access value chains by supplying supermarkets and large food companies face a daunting array of difficulties, many of which are outside of their control because they relate to governmental responsibilities. The outcome is underinvestment and limited upgrading. There are, however, a range of initiatives by large firms and non-profit and governmental agencies to address this problem. These agents are potentially able to not only provide the required productive assets but also access to markets.

One set of actors, which have the capacity to upgrade suppliers, are the supermarket chains themselves. Indeed, the supermarket chains have all instituted supplier development programmes, partly in response to pressure from governments. Ironically, perhaps the most significant measure taken by a Southern African government concerned about the position of local suppliers was the strong opposition by the South African government to Walmart's bid to buy a controlling share in the South African chain, Massmart. In the end, the courts allowed the takeover, but a condition was the establishment of a ZAR240 million Supplier Development Fund. This has met with some success and has been expanded beyond the initial required time frame. In this case governmental pressure led Massmart to expand its supplier development programme beyond what was required.

Such initiatives are also evident among South Africa's neighbours. In Zambia, Shoprite has signed Memoranda of Understanding with the ZDA and PEPZ to promote SMEs. Namibia also has a formal, albeit voluntary, retail charter (das Nair et al 2018). This has been successful in developing local sourcing of fresh produce by Woolworths (Black et al. 2019). The expansion and harmonization of such charters across the region may be a useful first step in encouraging a more balanced approach to regional development, which encourages rather than obstructs further regional integration.

Box 1: Nando's PERi farms project

Nando's is a fast food restaurant chain which by the end of 2018 had 937 fast food restaurants around the world (mainly in South Africa and the UK). Nando's PERi farms project provides an interesting and successful example of domestic sourcing and social innovation. The company used to source chillies from the global marketplace, but 95 per cent of Nando's global requirements are now sourced from Southern Africa, mainly from smallholders in Malawi, Mozambique, and Zimbabwe. International donors provided funding for the feasibility study, but the project does not require ongoing support and is seen as highly successful. The project now involves 1,400 farmers in the three countries. They are assisted by extension services. Chilli farming is labour intensive and the crops are farmed on small plots. Nando's has been able to establish prices and contracts directly with farmers avoiding low margins and volatile prices that can jeopardize the security of farmers. The impact on the incomes of small holder farmers has been significant with notable improvements in indicators such as food security, education, and housing.⁹

⁹ Sources: (i) interview with Annika Surmeier, from Global Development Institute, University of Manchester and Graduate School of Business, University of Cape Town; (ii) Bizcommunity (2018).

Various large firms have undertaken significant initiatives to upgrade suppliers. The fast food multinational, Nando's, has launched a three-country initiative to source chillies from small farmers (see Box 1). In Zambia, there are a number of such initiatives. The Mount Meru Group, a multinational firm that started operations in Tanzania, is a major regional manufacturer of edible oil, soya oilcake, and other products from soya beans, cotton, and sunflower. It is expanding via out-grower schemes with smallholder farmers as well as investing heavily in refinery, silo capacity, processing capabilities, and packaging units. Apart from setting up out-grower schemes in the soya bean value-chain, the company is also conducting feasibility studies to expand into new products through the development of an integrated social and environmental management system to support the recently acquired ISO 9001 and HACCP certification. What is also needed are local certification bodies that could make the process accessible and cost effective for small and medium food processors.

In most of the countries in the region, aid and non-profit agencies play a significant role. In Zambia, one such player is PEPZ, funded by the UK Department of International Development (DfID). Under the 'Value Chain Strengthening Initiative', PEPZ works on three broad themes: capital (co-investment and financial design), capacity (external technical and advisory assistance), and connections (fostering of market linkages) to facilitate and create strong linkages between producers, food aggregators, processors, packaging providers, logistics firms, and retail markets.

In the soya bean value-chain, PEPZ brokered a deal with an agro-processor who initially worked with 400 farmers, but after PEPZ's co-investment in the factory, the processor was able to buy soya beans from more than 1,000 farmers and increase tonnage. The processor's capacity expanded by more than two-thirds. Farmers have also been trained, helping them increase yields and area cultivated. As a result, the quality of the soya beans produced has improved, positively impacting profitability.¹⁰

Similarly, Musika Zambia, a non-profit organization, is implementing a market development initiative in agricultural value chains, including legumes such as soya beans, which seeks to improve the 'capacity of [the] food-processing industry to create commercially viable distribution channels for affordable nutritious foods into the rural market'.¹¹ Through its sector-wide interventions, Musika works with selected food processors to develop sustainable and inclusive business models that provide affordable food products to low income consumers in rural Zambia. According to the interviewee, Musika has managed to strengthen the capacity of small-to-medium food processors to produce and market high-quality and affordable processed foods to meet local retail demand. Musika's development initiative helps to broaden the rural industrialization base through strengthening agricultural commodity value-chains, value-addition activities, and the creation of non-farm employment.

These varied private and public initiatives have the common attribute of addressing coordination failures and missing markets across supply chains, and thereby facilitating entry by small and medium firms. Policy makers and aid donors need to develop strategies to encourage a rapid expansion of these ventures.

¹⁰ Interview with a consultant at PEPZ, 22 August, 2019

¹¹ Interview with project officer at Musika Zambia, 20 August 2019

5 Conclusion and policy recommendations

Regional value chains create potential for industrialization in the region but they are no silver bullet. Simply put, firms will invest where an economic case exists. Of course, the neighbouring countries would like to see industrial investment being ramped up. Arguably, South Africa has an interest in this as well, insofar as a wider spread of the gains of integration is essential to keep the regional project on track. But does this trump South Africa's interest in investment within its own borders? Almost certainly not. The same gloomy logic applies to supplier development by large supermarket chains or agro-processing firms. These firms do have an interest in the development of the supply base across the region, but their investment decisions are going to be market based and much will have to change for this to happen on a significantly larger scale. Sourcing from suppliers in the neighbouring countries will happen, but there needs to be a commercial case for anything beyond social responsibility activities.

This raises a policy conundrum. How can industrialization be driven forward in the region without resorting to protection? Some of the most important steps are more generic. An improved regulatory and investment environment, the easing of border controls, better infrastructure and appropriate support services, and a clamp down on corruption will all lead to higher rates of investment and more rapid growth. Another fundamental measure would be greater support for agriculture to provide a supply side push to the agro-processing sector.

South Africa needs to be more open to imports from the region and to play a more proactive role in driving a genuine 'developmental regionalism' agenda. This means infrastructure projects across borders and the easing of cross-border investment by South African firms. To be fair, there has been progress in that regard. The neighbouring countries in the region need to improve their operating environments. They need to avoid protectionist measures but could provide some pressure on firms through 'codes of conduct', which encourage multinational firms to localize and to develop local suppliers.

The firms themselves need to take a far-sighted approach and see the longer-term benefits of a broader supply base. Commercial decision-making, perhaps in part spurred by government pressure, will enable some supplier development by large firms. But it could be argued that large firms will tend to under invest because there are large positive externalities to developing these suppliers. This market failure may create a case for subsidies or support for supplier development. How can this be most efficiently delivered is therefore a key question. The examples of supplier development programmes cited above may provide some clues. Certainly, international agencies and donors need to align support to incentivise investment in the supply base. Partnering with firms and governments, researching possible projects, funding feasibility studies, and providing finance to small suppliers could all play a role.

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Appendix A

Table A1: Agricultural exports from Southern Africa to the world (US\$ million)

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018
AGO	57	51	90	100	100	215	342	295	252
BWA	477	271	250	360	321	283	255	211	242
LSO	167	219	195	187	149	117	-	55	-
MOZ	696	1 480	1 150	1 350	1 420	-	1 040	1 020	1 260
MWI	1 640	2 170	1 790	1 860	2 020	1 740	1 720	1 590	-
NAM	2 920	2 890	2 750	2 730	2 340	2 150	1 900	2 340	2 580
SWI	-	-	-	1 110	981	954	900	936	-
ZAF	17 000	18 600	18 000	19 100	18 500	15 500	14 000	19 700	21 000
ZMB	901	1 350	2 190	2 310	1 470	1 270	-	1 200	1 140
ZIM	1 220	1 740	2 070	2 230	2 190	2 200	2 150	1 980	2 110

Note: dashes indicate years where countries did not report trade data

Source: authors' calculation based on UN Comtrade Data.

Table A2: Agricultural exports from Southern Africa to the world (% of total exports)

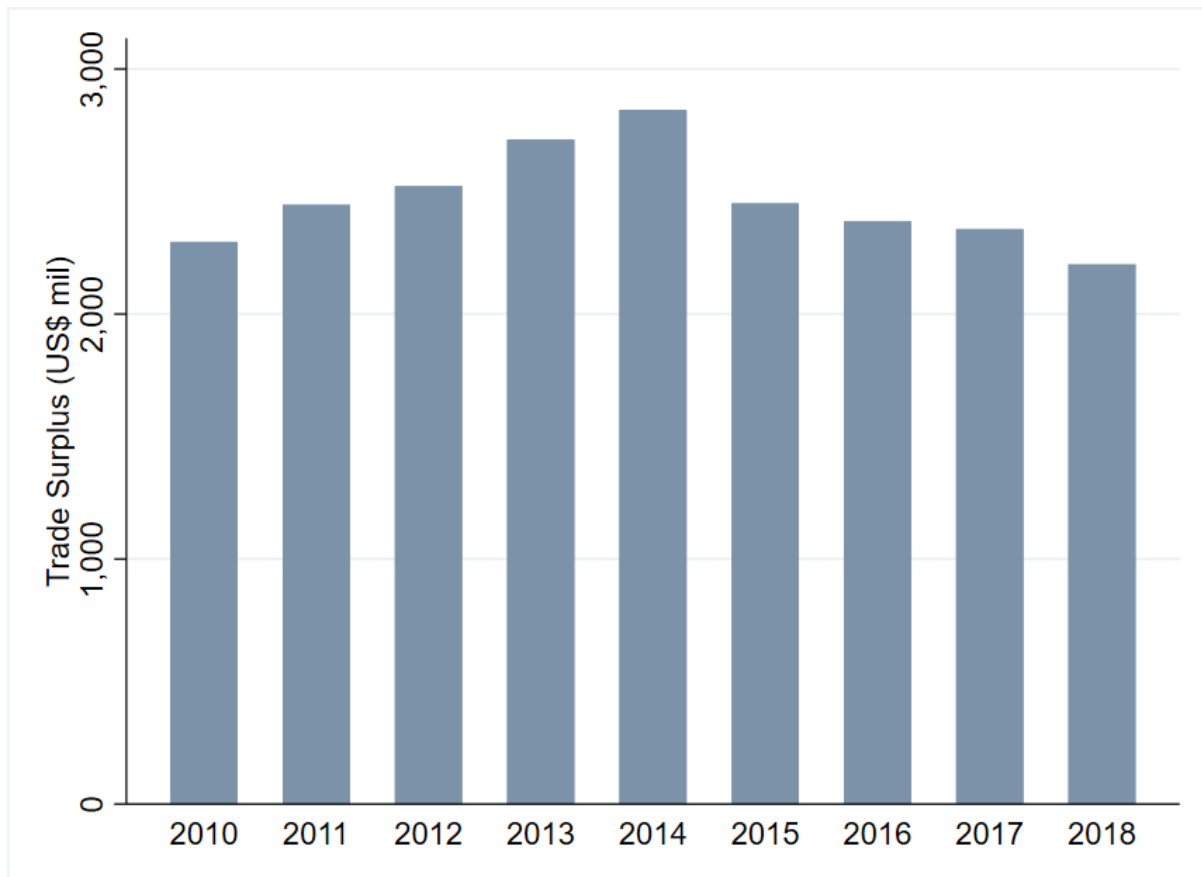
Year	2010	2011	2012	2013	2014	2015	2016	2017	2018
AGO	0.1	0.0	0.1	0.1	0.1	0.3	0.6	0.4	0.3
BWA	5.1	2.3	2.1	2.4	2.0	2.2	1.7	1.8	1.8
LSO	16.5	14.2	14.3	26.7	9.1	9.7	-	4.1	-
MOZ	15.5	20.5	16.6	16.8	15.0	-	15.5	10.8	12.1
MWI	77.0	76.1	75.5	76.9	75.4	80.6	84.3	89.8	-
NAM	25.0	24.5	25.5	21.5	19.5	23.2	19.7	22.3	17.2
SWI	-	-	-	29.8	26.0	27.3	28.7	26.0	-
ZAF	10.3	8.6	9.1	10.1	10.0	9.6	9.5	11.2	11.2
ZMB	6.3	7.5	11.7	10.9	7.6	9.1	-	7.4	6.3
ZIM	19.1	24.8	26.7	31.8	35.7	40.7	38.0	28.4	26.1

Note: dashes indicate years where countries did not report trade data

Source: authors' calculation based on UN Comtrade Data.

Appendix B

Figure 2: South Africa's trade balance in all agricultural products with Southern Africa



Source: authors' calculation based on UN Comtrade Data.