

CHAPTER FOUR

MEASURING AND ANALYSING THE COMPETITIVENESS STATUS OF THE SOUTH AFRICAN AGRIBUSINESS SECTOR

4.1 INTRODUCTION

In this chapter, the competitiveness status and trends in the competitiveness of the agribusiness sector in South African is determined and discussed. The competitiveness of selected agro-food and fibre commodity chains is also determined and variations highlighted. The methodology of the second step of the framework developed in the previous chapter will be used in this regard. Selected factors impacting on the competitiveness status of the agribusiness sector are also analysed.

From these analyses specific statements around the competitiveness status of the agribusiness sector in South Africa are discussed. This Chapter will also serve as a basis for the exploration of a number of opportunities and relationships for South African agribusinesses in the next two chapters.

4.2 MEASUREMENT OF THE COMPETITIVENESS STATUS OF THE SOUTH AFRICAN AGRIBUSINESS SECTOR

4.2.1 Methodology

As discussed in Chapter Three, to determine the competitiveness status of the South African agribusiness sector, the Relative Comparative Advantage (RCA) model developed by Balassa (1977, 1989) and extended by Volrath (1991) to the Real Trade Advantage (RTA) method will be used.

4.2.2 Data used

To measure how competitive the agribusiness sector in South Africa is, it is necessary to determine how successful the sector traded its products, relative to its competitors, over time in the local and international market. For this purpose imports and export data is needed to compare the South African performance against global competition. The data collection process for this can be quite formidable, as the data is not necessarily available or published in the required format. In order to ease this problem, trade data (imports and exports values) were taken from the Food and Agricultural Organisation of the United Nation's (FAO) agricultural database. Although questions about the quality of the data can be ask, it is one of the best agricultural databases available given the cost of gathering primary data. The database is also available on the Internet (<http://www.fao.org>). Trade data from year 1961 to 2003 were used in order to calculate the current competitiveness status as well as long and short term trends.

The Food and Agriculture Organization of the United Nations, as part of its mandate, compiles information and data on various aspects of food and agriculture from all countries. The data is analysed and interpreted to support FAO's programmes and activities. In accordance with the basic functions of the FAO, the data are disseminated to the public through publications, CD-ROM, diskettes and the Internet.

"FAOSTAT" - the user interface to the database, provides data under eighteen domains. The data can be broadly classified into three groups: (a) country-level data referring to items such as agricultural production and trade, producer prices, land use, means of production, etc., (b) derived data such as agricultural production and trade indices, food supply etc., and (c) data referring to items such as population and labour force that are derived by, or in collaboration with, other international agencies.

Country-level data is collected through (a) tailored questionnaires sent annually to member countries, (b) magnetic tapes, diskettes, transfers and accessing websites of the countries, (c) national/international publications, (d) visits to the country made by the

FAO statisticians, and (e) reports of FAO representatives in member countries. The consistency of the various data sets is checked through the framework of the "Supply and Utilisation Accounts". Established guidelines for preparation of these accounts are used (FAOSTAT, 2003).

4.2.3 Competitiveness status of the agribusiness sector

In Table 4.1 and Figure 4.1 the competitiveness status of the agribusiness sector in South Africa is shown. From the table and figure it is evident that the South African agribusiness sector's RTA values are situated round-about zero (RTA 2003 value = 0.55; RTA 2002 value = 0.46; RTA 2001 value = 0.48). This result classifies the South African agribusiness sector as being generally marginal as far as international competitiveness is rated. However, the competitiveness of the agribusiness sector recorded relatively positive trends in competitiveness from 1961 to 1973; from 1985 to 1990 and the past ten years (1994 to 2003).

The trends in the competitiveness of the agribusiness sector in South Africa from 1961 to 2003 can be divided into five phases (see Figure 4.1). The first phase is during the 1960's and early 1970's. South Africa's agribusiness sector was relative competitive, with RTA values above one. This was mainly as a result of relatively low interest rates and low inflation. Subsidies and high protection from government also contributed to making the sector more competitive during this period.

The second phase is from the mid-seventies to the mid-eighties. Sanctions were introduced in this period that resulted in a huge drop in competitiveness. Interest rates were also relatively high. Also during this period the marketing of agricultural products were regulated by marketing boards. Note also the negative impact of the drought years of 1973/74, 1978/79, 1983/84 and 1984/85 on the competitiveness of the agribusiness sector in South Africa.

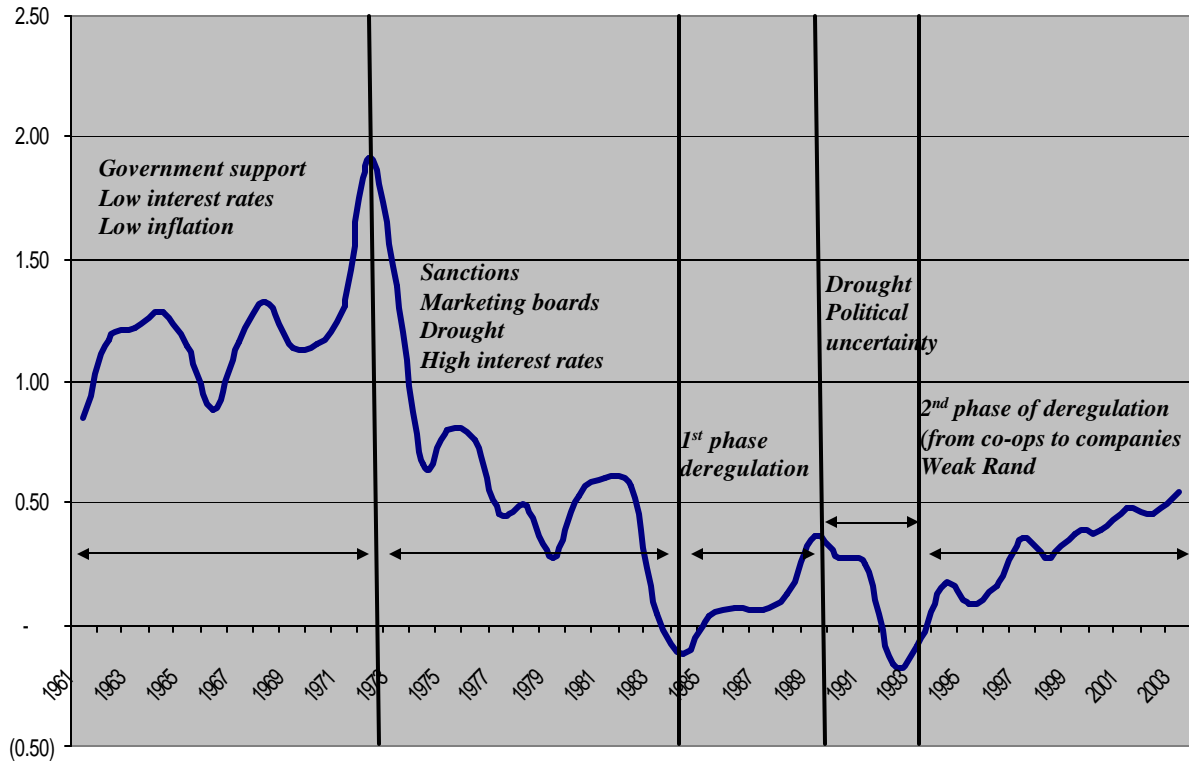


Figure 4.1: The competitiveness status of the South African agribusiness sector

Source: Own calculations based on data from FAOSTAT 2003

Table 4.1: The competitiveness status of the South African agribusiness sector

	RTA 2003	RTA 2002	RTA 2001	Trends 1961-73	Trends 1974 - 84	Trends 1985 - 90	Trends 1991 - 93	Trends 1994 - 03
The South African agribusiness sector	0.55	0.46	0.48	+	-	+	-	+

Source: Own calculation based on data from FAOSTAT 2003.

Notes: ‘+’ Positive trend; ‘-’ negative trend;

Competitive (RTA > 1), marginal competitive (1 > RTA > -1), not competitive (RTA < -1).

The third phase is from the mid 1980's to the early 1990's. This slight increase in the competitiveness of the agribusiness sector in South Africa can be attributed to the first phase of deregulation that was introduced. The fourth phase is the sharp decline in competitiveness in the early 1990's that was mainly because of the drought and the political uncertainty before the first democratic election in South Africa.

The fifth and current phase is the definite positive trend in the competitiveness of the agribusiness sector in South Africa from 1992 onwards. The competitiveness index for the South African agribusiness sector increased from -0.16 in 1992 to 0.55 in 2003. This positive trend of the last ten years in the competitiveness of the agribusiness sector occurs despite the ever more decreasing terms of trade (National Department of Agricultural, 2004).

The period from 1992 also indicates the start of the sharp and continuous decrease in the value of the Rand against the US\$. Although the devaluation of the Rand plays an important role in making the prices of South African products more competitive (Esterhuizen & Van Rooyen, 2001), these authors also showed that this is not the only reason for the improvement in competitiveness. This increase in competitiveness can also be attributed to the improved business know-how of South African agribusinesses; the 2nd phase of deregulation of the agricultural sector, which amongst others resulted in a change in business form from co-operatives to companies; the elimination of non-competitive business; the delivery of quality products and an increase in labour productivity in the agribusiness sector.

Kirsten & Vink (1999) stated, through empirical evidence, that on balance, the process of deregulation has resulted in a nett welfare gain to the commercial agricultural sector. Kirsten & Vink (1999) found, for example that the general level of investment in agricultural has been relatively high throughout the nineties, and substantially higher than in the period before 1990.

4.3 SOUTH AFRICA VERSUS OTHER COUNTRIES

Table 4.2 describes the trends and the status in the competitiveness of the agribusiness sectors of selected countries from 1993 to 2002 – the last ten years. The table is divided into six blocks. The competitiveness of the country, in 1993 as the base year for comparison, is shown on the vertical axis and can be either competitive ($RTA > 1$), marginally competitive ($1 > RTA > -1$) or not competitive ($RTA < -1$). The trend in competitiveness for the period 1993 to 2002 is shown on the horizontal axis and can either be increasing or decreasing.

If the competitiveness of the country's agribusiness sector in 1993 was positive and there was an increase in competitiveness in the period from 1993 to 2002, the country's agribusiness sector is classified as a "winner"; and if a sector was not competitive in 1993, but there was an increase in competitiveness in the period 1993 to 2002 the sector was classified as a "turn-around". A "losing" country's agribusiness sector was not competitive in 1993 and it had a decreasing trend in competitiveness from 1993 to 2002, etc.

Table 4.2: “Winning” and “losing” agribusiness sectors of selected countries

Trends in competitiveness 1993 –2002			
Competitiveness in 1993		Increase	Decrease
	Competitive	<u>Winners</u> : Argentina; Australia; Brazil; Chile; Ivory Coast; Greece; New Zealand	<u>Declining high performers</u> : India; Kenya; Mauritius; Netherlands; Paraguay; USA; Zimbabwe; Denmark; Hungary; Madagascar; Thailand; Turkey
	Marginal	<u>Rising moderate Performers (catch-up)</u> : Belgium; Canada; Germany; Italy; Portugal; South Africa ; Spain; United Kingdom	<u>Declining moderate performers</u> : China; France; Israel; Lesotho; Mexico; Mozambique; Namibia; Nigeria; Switzerland; Indonesia; Sweden
	Not Competitive	<u>Turn-around</u> : Russia; Angola; Peru	<u>Chronic underperformers (losers)</u> : Botswana; Egypt; Japan; Uruguay; Zambia

Source: Own calculations based on data from FAOSTAT 2003

From Table 4.2 it is apparent that the South African agribusiness sector is classified as a “Rising moderate performer” i.e. the South African agribusiness sector was marginally competitive in 1993 and it shows a positive trend in competitiveness from 1993 to 2002. Belgium, Canada, Germany, Italy, Portugal, Spain and the United Kingdom are in the same category. Australia, Argentina, Brazil, Chile, Ivory Coast, Greece and New Zealand are classified as “winners”.

India, Kenya, Mauritius, Netherlands, Paraguay, USA, Zimbabwe, Denmark, Hungary, Madagascar, Thailand and Turkey had a positive competitiveness status in 1993 but a negative trend in competitiveness from 1993 to 2002. Botswana, Egypt, Japan, Uruguay, and Zambia are classified as “losers”, while Angola, Russia, and Peru have turned their competitiveness situation around.

A limitation of RTA analysis is that it does not explain how a country or region acquired its global market share and competitiveness status. Market share may well be attained by means of high export subsidies paid by governments (such as is for EU, USA, etc.) or protection (i.e. “uneven playing fields”). The sustainability of a competitive position might thus be in question, especially in view of the ongoing global movement to “free-up” markets and reduce subsidies and protection.

For the South African agribusinesses, the reality of “unequal playing fields” is indeed important. Without a comprehensive development policy as well as operational support to minimise “dumping” and crafty “green box” provisions by the highly subsidised economies of the European Union, Canada and the USA, it will be difficult for the South African agribusinesses to obtain and maintain an internationally competitive foothold. “Fair protection” will be required to reduce “unfair” distortions in world markets. However, the total removal of unfair distortions over the medium term is unlikely. Agribusinesses in South Africa should therefore attempt to mobilise and “cope-with-the-slope” while addressing the “unfair” trade practices with the rest of the Southern Africa region, as an economic block, at World Trade Organisation level. A strategy for this is currently non-existent.

4.4 MEASUREMENT OF THE COMPETITIVENESS STATUS OF SELECTED COMMODITY AND PRODUCT CHAINS IN SOUTH AFRICA

Table 4.3 illustrates a comparison between the competitiveness status of fifty-seven selected commodity and product chains. The competitiveness status for each chain is indicated for the years 2000, 2001 and 2002. The trends in competitiveness are also indicated in Table 4.3: the long-term trend (1961 – 2002), the trend in competitiveness from 1980, the last 10 years’ trend and the last 5 years’ trend. Each of the selected agro-food and fibre commodity and product chains will be discussed separately.

Table 4.3: The competitiveness of selected product and commodity chains in South Africa in 2002, 2001 and 2000 and trends in competitiveness from 1961 to 2002 based on the Relative Trade Advantage (RTA) index

Chain	Product	RTA 2002	RTA 2001	RTA 2000	Trends 1961-02	Trends 1980 - 02	Trends 1993 - 02	Trends 1998 - 02
Wheat chain	Wheat	(0.87)	0.15	(0.89)	-	-	+	+
	Flour of wheat	2.25	1.90	2.06	+	+	-	+
	Bran of wheat	(1.55)	(0.75)	(1.20)	-	-	+	-
	Macaroni	(0.35)	(0.44)	(0.50)	-	-	+	+
	Pastry	0.05	(0.09)	(0.07)	-	+	-	-
	Bread	(0.11)	(0.21)	(0.22)	+	+	+	+
	Breakfast cereals	0.16	(0.06)	(0.10)	-	-	+	+
Maize chain	Maize	0.85	1.58	1.11	-	-	-	-
	Flour of Maize	19.36	5.25	5.35	+	+	+	-
	Bran of maize	1.26	(0.64)	(1.09)	-	-	+	+
	Oil of maize	1.12	1.77	1.50	-	-	+	+
Potatoes chain	Potatoes	0.82	0.75	0.69	+	+	+	+
	Potatoes, frozen	0.08	0.09	0.05		+	+	-
	Flour of potatoes	(0.29)	(0.03)	2.27	+	+	+	-
Sugar chain	Sugar (Centrifugal, Raw)	7.78	9.77	7.89	+	+	+	+
	Sugar refined	2.88	2.92	4.97	+	+	+	-
	Sugar confectionery	0.47	0.52	0.58	-	+	+	+
	Maple sugar and syrups	0.05	(0.01)	(0.04)			+	+
Soybeans chain	Soybeans	(0.08)	(0.05)	(0.37)	-	-	+	-
	Oil of Soybeans	(2.16)	(1.41)	(0.24)	-	-	-	-
	Cake of Soybeans	(2.14)	(2.14)	(1.91)	-	-	-	-
	Soya sauce	(0.24)	(0.17)	(0.20)		-	-	+
Groundnuts chain	Groundnuts in shell	27.31	18.70	15.03	+	+	+	+
	Groundnuts shelled	3.76	2.53	2.13	-	+	+	+
	Oil of groundnuts	2.13	0.38	0.56	+	-	-	-
	Cake of groundnuts	0.09	0.02		-	-	+	+
	Prepared groundnuts	0.71	0.42	0.71		+	+	+
Sunflower chain	Sunflower seed	0.03	(0.01)	0.14	-	+	+	-
	Oil of sunflower	1.15	(3.08)	(3.90)	-	-	+	+
	Cake of sunflower	(2.06)	(1.64)	(3.32)	-	-	-	-

University of Pretoria etd – Esterhuizen, D (2006)

Chain	Product	RTA 2002	RTA 2001	RTA 2000	Trends 1961-02	Trends 1980 - 02	Trends 1993 - 02	Trends 1998 - 02
	Margarine	0.95	0.64	0.91	+	+	+	+
Cotton chain	Cotton seed	(1.76)	(5.96)	(5.52)	-	-	+	+
	Oil of cotton seed	(53.52)	(48.99)	0.50	-	-	-	-
	Cake of cotton seed	(16.46)	(17.09)	(12.45)	-	-	-	+
	Cotton lint	(2.22)	(1.26)	(0.78)	-	-	-	-
	Cotton carded combed	(0.30)	(0.18)	0.09	+	-	+	-
	Cotton linter	0.47	0.88	0.62	+	+	+	+
Sorghum chain	Sorghum	(1.19)	0.04	(0.11)	-	-	-	-
Barley chain	Barley	(2.58)	(1.81)	(1.65)	-	-	-	-
	Malt of barley	(3.10)	(2.51)	(3.10)	-	-	+	+
	Beer of barley	0.95	1.08	0.47	+	+	-	+
Tobacco chain	Tobacco	0.25	0.83	0.57	+	+	+	+
	Cigarettes	0.83	1.28	1.20	+	+	+	+
	Cigars cheroots	(0.35)	(0.44)	(0.57)	+	+	+	+
Tomatoes chain	Tomatoes	0.06	0.08	0.11	+	+	+	-
	Tomato juice	0.07	0.06	(0.04)	+	+	-	-
	Tomato paste	0.00	(0.24)	(0.10)	-	-	+	+
	Peeled Tomatoes	(0.50)	(0.50)	(0.60)	-	-	-	+
Essential oils chain	Essential oils	1.21	1.18	0.87	+	+	+	+
Oranges chain	Oranges	14.50	15.59	17.94	+	+	+	-
	Orange juice	1.70	3.65	2.94	+	+	+	-
Apples chain	Apples	6.40	6.31	6.44	-	+	-	-
	Apple juice	0.26	8.12	10.22	+	+	-	-
Apricot chain	Apricots	4.02	4.64	6.75	+	+	+	-
	Apricots, Dry	4.57	5.82	3.31	+	+	-	+
Asparagus chain	Asparagus	0.25	0.43	0.44	+	+	-	-
Avocados chain	Avocados	8.78	7.43	11.85	+	-	-	-
Green Beans chain	Beans green	0.24	0.22	0.86	+	+	+	+
Dry beans chain	Beans dry	(2.34)	(0.83)	(2.67)	-	-	+	+
Bananas chain	Bananas	(0.01)	0.01	0.00	+	-	+	+

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Chain	Product	RTA 2002	RTA 2001	RTA 2000	Trends 1961-02	Trends 1980 - 02	Trends 1993 - 02	Trends 1998 - 02
Cabbages chain	Cabbages	0.22	0.28	0.08	+	+	+	+
Carrot chain	Carrots	0.44	0.33	0.34	+	+	+	+
Chillies and peppers chain	Chillies and peppers, green	0.02	0.02	0.02	+	+	+	-
Coffee chain	Coffee green	(0.56)	(0.63)	(0.52)	-	-	+	-
	Coffee extracts	(0.10)	(0.11)	(0.06)	-	-	+	-
	Coffee roasted	(0.40)	(0.36)	(0.27)	-	-	-	-
Garlic chain	Garlic	(0.02)	(0.04)	(0.06)	-	-	-	-
Grapefruit and Pomelos chain	Grapefruit and Pomelos	18.11	13.18	17.00	-	+	+	+
	Grapefruit juice	7.12	17.89	26.58	+	+	+	+
Grapes chain	Grapes	10.59	11.84	14.57	+	+	+	-
	Grape juice	5.87	5.55	7.66	+	+	+	+
	Raisins	9.88	8.16	6.92	+	+	+	+
Wine chain	Wine	4.28	3.76	4.02	+	+	+	+
Honey chain	Honey	(0.12)	(0.27)	(0.26)	-	-	+	-
Hops chain	Hops	(0.72)	(0.58)	(0.93)	+	+	-	+
Kiwi fruit chain	Kiwi fruit	(0.10)	(0.17)	(0.29)			-	-
Lemons and lime chain	Lemons and lime	6.06	5.99	5.95	+	+	+	+
Lettuce chain	Lettuce	0.08	0.04	0.05	+	+	+	+
Mangoes chain	Mangoes	3.78	2.50	2.82	+	+	-	+
Mushroom chain	Mushrooms	0.48	0.49	0.42	+	+	-	+
	Dried mushrooms	0.21	0.27	(0.11)	+	-	+	+
	Canned mushrooms	(0.07)	(0.18)	(0.16)	-	-	-	+
Olive chain	Olives, preserved	(0.12)	(0.18)	(0.18)	-	-	-	+
	Oil of olives	(0.53)	(0.52)	(0.55)	-	-	-	-
Onions chain	Onions	0.78	0.68	0.46	-	+	+	-
	Onions, dry	1.04	0.90	0.63	-	+	+	-
Papayas chain	Papayas	0.14	0.31	0.23		+	+	-
Peaches chain	Peaches and Nectarines	1.45	1.34	1.71	+	+	+	-
Pears chain	Pears	7.90	6.15	8.50	-	+	-	-
Peas chain	Peas fresh	0.69	0.23	0.28	+	+	-	+

University of Pretoria etd – Esterhuizen, D (2006)

Chain	Product	RTA 2002	RTA 2001	RTA 2000	Trends 1961-02	Trends 1980 - 02	Trends 1993 - 02	Trends 1998 - 02
	Peas, dry	(1.70)	(0.82)	(0.98)	-	-	+	-
Pineapple chain	Pineapples	0.74	1.23	1.69	-	+	+	-
	Pineapples, canned	5.95	4.41	6.07	-	-	+	-
	Pineapple juice	9.45	4.37	4.84	-	-	-	+
Plum chain	Plums	12.57	12.95	14.57	+	+	+	-
	Plums, dried	0.05	0.07	0.24	+	+	-	+
Strawberries chain	Strawberries	0.00	0.03	0.11	+	-	+	+
Watermelons chain	Watermelons	0.04	0.01	0.11	+	+	+	-
Sweet potatoes chain	Sweet potatoes	1.76	2.63	2.79	+	+	-	-
Tea chain	Tea	0.18	(0.37)	0.05	+	+	+	+
Egg chain	Hen eggs	1.68	0.88	0.61	-	+	+	+
	Eggs liquid	1.11	1.33	1.49	-	-	+	+
	Eggs liquid, dried	0.78	0.89	1.02	-	-	+	+
	Eggs dry whole yolks	0.17	(0.01)	0.01	+	+	-	+
Chicken chain	Chicken meat	(0.44)	(0.59)	(0.93)	-	-	-	+
	Canned chicken	0.15	0.11	0.44	-	-	+	-
Beef meat chain	Bovine meat	0.13	0.12	0.00	-	-	+	+
	Beef and veal	0.47	0.50	0.27	-	+	+	+
	Beef and veal, boneless	0.04	0.02	(0.13)	-	-	+	+
	Beef dried salt smoked	0.33	0.12	0.37	-	-	-	-
	Beef preparations	0.10	0.17	0.35	-	-	-	-
Milk chain	Cow milk (whole, fresh)	0.47	0.25	0.45	+	+	+	+
	Skim milk	0.39	0.20	0.27	+	+	+	-
	Dry whole cow milk	0.94	0.34	0.66	+	+	+	-
	Dry skim cow milk	(0.77)	(0.18)	(0.66)	+	-	-	-
	Butter of cow milk	(0.01)	(0.18)	(0.48)	-	-	-	-
	Cheese	0.02	(0.16)	(0.14)	+	-	+	+
	Cream, fresh	0.26	0.16	0.26	+	+	+	-
	Chocolate products	0.32	0.29	0.22	+	+	-	-
	Ice cream	0.26	0.24	0.29			+	+

Chain	Product	RTA	RTA	RTA	Trends	Trends	Trends	Trends
		2002	2001	2000	1961-02	1980 - 02	1993 - 02	1998 - 02
	Yoghurt	0.20	0.03	0.02		-	-	-
Wool chain	Wool, greasy	6.73	4.17	4.56	-	-	+	-
	Wool, scoured	3.56	3.75	3.27	-	+	+	+
Mohair chain	Hair carded or combed	6.48	9.51	12.52	+	+	-	-
	Hair fine animal	31.37	21.27	3.05	-	+	+	+
	Hair coarse	10.98	58.38	100.03	+	+	+	-
Sheep meat chain	Meat sheep fresh	(0.51)	(1.14)	(1.94)	-	-	-	+
	Mutton and lamb	(0.52)	(1.17)	(2.00)	-	-	-	+
Leather chain	Hides and skins	1.91	1.08	0.80	-	-	-	+
	Hides wet salted	(0.08)	(0.60)	(0.90)	-	-	-	+
	Hides dry-salted	0.03	3.59	3.47	+	-	-	-
	Leather	0.49	0.19	0.07	-	+	-	+
Pork chain	Pork	(0.10)	(0.17)	(0.18)	-	-	+	+
	Pork preparations	(0.07)	(0.06)	(0.17)	-	-	+	-
	Bacon-ham	(0.05)	(0.02)	0.00	-	+	-	-
	Sausages	0.26	0.07	0.21	-	+	+	+

Source: Own calculation based on data from FAOSTAT 2003

Notes: Competitive ($RTA > 1$), marginal competitive ($1 > RTA > -1$), not competitive ($RTA < -1$); '+' Positive trend; '-' negative trend.

Wheat chain

The South Africa's wheat chain is relative marginal, as far as international competitiveness is concerned except for flour of wheat (relative competitive) and bran of wheat (relative uncompetitive). There is an increasing trend in competitiveness when moving from the primary to the processed products in the wheat value chain.

Wheat, the primary product of this chain, has a negative long-term trend in competitiveness. However, in the short-term, the trend in competitiveness is positive. Macaroni and breakfast cereals have also a negative long-term trend in competitiveness and a positive short-term trend in competitiveness. Flour of wheat and bread has positive trends in competitiveness in the short-term as well as in the long-term. Bran of

wheat and pastry has negative trends in competitiveness in the long-term as well as in the short-term.

Maize chain

South Africa's maize chain is very competitive in the international arena. The value adding process from primary to processed product in the chain is also competitive. Maize had an RTA value of 0.85 and maize flour an RTA value of 19.36 in 2002. Maize flour is also the third most competitive product in the agribusiness sector in South Africa.

Maize, however, shows negative trends in competitiveness in the long-term as well as in the short-term. Maize flour, on the other hand, shows positive trends in competitiveness. This means that South Africa's maize chain has moved up the technological ladder (the 'value-added chain') in its competitive activities. It is, however, important to have a competitive local primary industry where primary inputs can be sourced. Both oil of maize and bran of maize have positive trends in competitiveness from 1993 to 2002.

Potato chain

The potato chain in South Africa is relatively marginal as far as international competitiveness is concerned. The potato chain shows a negative trend in competitiveness when moving from the primary to the processed product. Potatoes, the primary product, have had a positive trend in competitiveness from 1961 to 2002, from 1980 to 2002, from 1993 to 2002 and from 1998 to 2002. Frozen potatoes and flour of potatoes have positive long-term trends in competitiveness but demonstrated negative trends in competitiveness for the last five years.

Sugar chain

Sugar (centrifugal, raw) and refined sugar production in South Africa are internationally highly competitive. Sugar confectionery and maple sugar and syrups production are

marginally competitive. There is a definite negative trend in competitiveness when moving through the chain from the primary to the processed product.

Sugar (centrifugal, raw) production shows positive trends in competitiveness in the long-term as well as the short-term. Refined sugar production shows a positive trend in competitiveness in the long term but a negative trend for the last five years. Sugar confectionery and maple sugar and syrups have positive trends in competitiveness in the in the short run.

Soybeans chain

South Africa's soybeans chain is not internationally competitive. Soybeans and soy sauce is marginally (but on the negative side) competitive and oil of soybeans and cake of soybeans are not internationally competitive. There is also a negative trend in the competitiveness of value adding from the primary to the processed product in the soybeans value chain.

Soybeans, oil of soybeans and cake of soybeans have negative trends in competitiveness from 1961 to 2002, from 1980 to 2002 and for the last five years. Soya sauce demonstrated negative trends in competitiveness from 1980 to 2002 and from 1993 to 2002. Soya sauce, however, indicates a positive trend in competitiveness for the last five years.

Groundnuts chain

The whole groundnut chain is internationally highly competitive except for prepared groundnuts and cake of groundnuts, which are marginally competitive. The primary product, groundnuts in shell, was the second most competitive product in the agribusiness sector in 2002. One concern in the groundnut chain, however, is the decline in competitiveness when moving from the primary to the processed product in the chain.

Groundnuts in shell and prepared groundnuts show positive trends in competitiveness in the short as well as long run. Groundnuts shelled and cake of groundnuts shows definite positive trends in competitiveness the last ten and five years. Although oil of groundnuts has demonstrated a positive long-term trend in competitiveness from 1961 to 2002, there has been a definite negative trend in the competitiveness of oil of groundnuts for the last twenty years.

Sunflower chain

Sunflower oil manufacturing in South Africa has shown a dramatic change in competitiveness status from 2001 to 2002. In 2001 the competitiveness index of sunflower oil was negative, while in 2002 it was positive. This positive trend in competitiveness originates, however, from 1993. Sunflower seed and margarine are marginally competitive, while cake of sunflower is not competitive. There is, however, a decrease in competitiveness when moving from the primary to the value-adding products in the sunflower chain.

Sunflower seeds demonstrate a positive trend in competitiveness from 1980 to 2002. Its competitiveness has, however, for the past five years indicated a negative trend. Oil of sunflower has a negative long-term trend but a positive short-term trend in competitiveness. Cake of sunflower has both a negative short-term and long-term trend in competitiveness, while margarine has a positive trend in competitiveness in the long-term as well as the short-term.

Cotton chain

The cotton chain in South Africa is not very competitive internationally. Cottonseed, cake of cotton seed and cotton lint are highly uncompetitive internationally. Only cotton carded combed and cotton linter is marginally competitive. The whole cotton chain demonstrates negative trends in competitiveness from 1961 to 2002, except for cotton carded combed and cotton linter. Cotton seed, cake of cotton seed and cotton linter

indicate positive trends in competitiveness for the past five years. The cotton chain, however, has a positive trend in competitiveness when moving from the primary to the processed product in the value chain.

Sorghum chain

The sorghum chain in South Africa was marginally competitive in 2000 and 2001 but not competitive in 2002. Sorghum also has a negative trend in competitiveness in the long run as well as in the short run.

Barley chain

The barley chain in South Africa is not internationally competitive, except for beer of barley – that is marginally competitive. Barley also has a negative long-term and short-term trend in competitiveness. Beer of barley and malt of barley have positive short-term trends in competitiveness. Beer of barley has a long-term positive trend in competitiveness. Malt of barley has a long-term negative trend in competitiveness.

Tobacco chain

The tobacco chain in South Africa is relatively marginally competitive internationally. All the products in the chain have positive trends in competitiveness from 1961 to 2002, from 1980 to 2002, from 1993 to 2002 and from 1998 to 2002. There is an increase in competitiveness when moving from the primary to the processed product in the chain.

Tomato chain

The whole tomato chain in South Africa is internationally marginally competitive. There is a small decrease in the competitiveness when moving from the primary to the processed products in the value chain. Tomatoes and tomato juice have positive long-term trends in competitiveness, while tomato paste and peeled tomatoes have negative

long-term trends in competitiveness. During the last ten years, tomatoes and tomato paste showed positive trends in competitiveness. Tomato juice and peeled tomatoes had negative trends in competitiveness for the past ten years. During the last five years, however, tomatoes and tomato juice demonstrated negative trends in competitiveness, whilst tomato paste and peeled tomatoes demonstrated positive trends.

Essential oils chain

The essential oils chain in South Africa is relatively competitive internationally and must be considered as one of the success stories in the South African agribusiness sector. Essential oils have a positive long-term and short-term trend in competitiveness.

Orange chain

South Africa's orange chain is highly competitive internationally. There is, however, a great negative trend in competitiveness when moving from the primary to the processed product, orange juice, in the value chain. Oranges as well as orange juice indicate positive long-term trends in competitiveness. However, during the past five years the trend in competitiveness for both oranges and orange juice has been negative.

Apple chain

The whole apple chain in South Africa is highly competitive internationally. Apple juice, however, shows a dramatic decline in competitiveness from 2001 to 2002. Although apples and apple juice have positive long-term trends in competitiveness, the negative trends during the past ten years in competitiveness must be a cause for some concern.

Apricot chain

The apricot chain in South Africa is highly competitive internationally with RTA values above four. Apricots and dry apricots have positive trends in competitiveness in the long

run. Apricots indicated a decrease in competitiveness for the past five years. Dry apricots, on the other hand, show a positive trend in competitiveness.

Asparagus chain

The asparagus chain in South Africa is marginally competitive internationally. Asparagus have a positive long-term trend in competitiveness, but a negative short-term trend in competitiveness for the past ten and five years, respectively.

Avocados chain

Even though the avocados chain in South Africa has indicated negative trends in competitiveness for the past twenty-three years, the past ten years and the past five years, respectively, it is still very competitive internationally. The long-run trend in competitiveness, from 1961 to 2002, is still positive.

Green beans chain

The green beans chain in South Africa is marginally competitive internationally, with positive trends in competitiveness in the long-term as well as the short-term.

Dry beans chain

The dry beans chain in South Africa is not internationally competitive. It demonstrates positive trends in competitiveness, however, for the past ten years, from 1993 to 2002, and for the past five years, from 1998 to 2002.

Banana chain

The banana chain in South Africa is marginally competitive internationally, with positive trends in competitiveness in the long-term as well as in the short-term.

Cabbage chain

The cabbage chain in South Africa is marginally competitive internationally, with positive trends in competitiveness in the long-term, as well as in the short-term.

Carrot chain

The carrot chain in South Africa is marginally competitive internationally, with positive trends in competitiveness in the long-term as well as in the short-term.

Chillies and peppers chain

The chillies and peppers chain in South Africa is marginally competitive internationally, with positive trends in competitiveness in the long-term. The last five years, however, demonstrated a negative trend in the competitiveness of chillies and peppers in South Africa.

Coffee chain

The coffee chain in South Africa is marginally (but on the negative side) competitive internationally. The whole chain also shows negative long-term trends in competitiveness, as well as negative trends for the last five years.

Garlic chain

The production of garlic in South Africa is marginally competitive internationally, with negative trends in competitiveness in the long-term as well as in the short-term.

Grapefruit and pomelos chain

The grapefruit and pomelos chain in South Africa is highly competitive internationally. Both grapefruit and grapefruit juice have positive trends in competitiveness in the long-term as well as in the short-term.

Grapes chain

South Africa's whole grape chain is highly competitive internationally, but the primary product (grapes) is more competitive than the processed products (grape juice and raisins). Grapes show positive trends in competitiveness, except for the past five years. Grape juice and raisins have positive trends in competitiveness in the long-term, as well as in the short-term.

Wine chain

Wine produced in South Africa is highly competitive internationally. The wine chain also shows positive trends in competitiveness in the long run and short run. The National Agricultural Marketing Council's (2005) report on the competitiveness of the agricultural sector in South Africa stated that the wine sector has been one of the big success stories in South Africa over the last 10 years. This is also confirmed by a recent study by Esterhuizen & Van Rooyen (2005) into the competitiveness of the South African wine industry.

Honey chain

The honey chain in South Africa is marginally (but on the negative side) competitive internationally. Honey also demonstrates negative long-term trends in competitiveness as well as negative trends for the last five years.

Hops chain

The hops chain in South Africa is marginally (but on the negative side) competitive internationally. Hops illustrate positive trends in competitiveness for the last five years as well as in the long run.

Kiwi fruit chain

The kiwi fruit chain in South Africa is marginally (but on the negative side) competitive internationally. Kiwi fruit is, however, a relatively new product to be commercially produced in South Africa. Kiwi fruit shows a negative trend in competitiveness the past ten and five years.

Lemons and lime

The lemons and lime chain in South Africa are highly competitive internationally, with positive trends in competitiveness in the long-term as well as the short-term.

Lettuce chain

The lettuce chain in South Africa is marginally competitive internationally, with positive trends in competitiveness in the long-term as well as in the short-term.

Mangoes chain

The mangoes chain in South Africa is highly competitive internationally, with positive trends in competitiveness in the long-term. There is a negative trend in competitiveness for the period 1993 to 2002. It seems, however, as if, in the last five years, this negative trend is changing to a positive one.

Mushroom chain

The mushroom chain in South Africa is marginally competitive internationally. There is a decrease in competitiveness when moving from the primary to the processed products in the value chain.

Mushrooms, the primary product of the chain, show positive trends in competitiveness in the long run as well as for the last five years. From 1993 to 2002 it has, however, a negative trend. Dried mushrooms' long-term as well as short-term trends in its competitiveness status are positive. Canned mushrooms show a positive trend in competitiveness for the last five years.

Olive chain

Olives preserved and oil of olive from South Africa is marginally competitive internationally. Oil of olives has a negative trend in competitiveness in the short run as well as in the long run. Preserved olives demonstrate a positive trend in competitiveness for the last five years but a negative trend in competitiveness in the long-term.

Onions chain

The onions chain is marginally competitive, while dried onion production is internationally competitive. There is an increase in competitiveness in the value chain when moving from fresh onions to dried onions. Both products in the chain have negative trends in competitiveness for the last five years and for the period 1961 to 2002. However, both products in the chain have positive trends in competitiveness for the periods 1980 to 2002 and from 1993 to 2002.

Papaya chain

The papaya chain in South Africa is marginally competitive internationally. Papayas have a decreasing trend in its competitiveness status for the last five years. From 1980 to 2002 and from 1993 to 2002 the trend was, however, positive.

Peach and nectarine chain

The peach and nectarine chain in South Africa are competitive internationally, with positive trends in competitiveness in the long-term. From 1998 to 2002 the competitiveness status of peaches and nectarines showed a negative trend.

Pear chain

The pear chain in South Africa is highly competitive in the international arena. However, its competitiveness status demonstrates a decreasing trend over the short run as well as the long run.

Pea chain

Fresh peas are marginally competitive internationally, while dried peas are not competitive. Fresh peas have positive trends in competitiveness in the short and long run. Dried peas have decreasing trends in competitiveness in the short- and long-term.

Pineapple chain

South Africa's pineapple chain is very competitive in the international arena. The value adding process from primary to processed product is also competitive. The primary product in the chain, pineapples, indicated a positive trend in competitiveness from 1980 to 2002, but a negative trend in competitiveness from 1998 to 2002. Canned pineapples have a positive trend in competitiveness from 1993 to 2002, but negative trends in the

long run and for the last five years. Pineapple juice showed positive trends in competitiveness for the last five years, but it has a negative long-term trend in competitiveness.

Plum chain

The plum chain in South Africa is highly competitive globally. The plum chain also has a positive trend in competitiveness in the long run and short run, except for the last five years from 1998 to 2002. Dried plums are marginally competitive, with positive trends in competitiveness the last five years and in the long run.

Strawberry chain

The strawberry industry in South Africa is marginally competitive globally. It demonstrates positive trends in competitiveness from 1961 to 2002, from 1993 to 2002 and for the last five years. It has, however, a negative trend in competitiveness from 1980 to 2002.

Watermelon chain

The watermelon industry in South Africa is marginally competitive internationally. The watermelons chain has positive trends in competitiveness from 1961 to 2002, from 1980 to 2002 and from 1993 to 2002. In the last five years, however, there was a decreasing trend in the ability of the watermelons chain to compete.

Sweet potatoes chain

The sweet potatoes chain in South Africa is relatively competitive internationally. Sweet potatoes show an increasing trend in competitiveness in the long-run. It is, however, a concerning factor that in the short run there is a decreasing trend in the competitiveness of sweet potatoes produced in South Africa.

Tea chain

The tea industry in South Africa is marginally competitive internationally. However, it shows a positive trend in competitiveness in the long run as well as in the short run.

Egg chain

The whole egg chain in South Africa is relatively competitive internationally. There is, however, a decrease in competitiveness when moving from the primary to the value-added products in the value chain. Hen eggs (the primary product) show a definite increase in competitiveness over the past twenty years. Eggs liquid and eggs liquid dried have negative long-term trends in competitiveness, but definite positive short-term trends in competitiveness. Eggs dry whole yolks are marginally competitive internationally with positive long-term trends in competitiveness over the last five years.

Chicken chain

The chicken chain in South Africa is marginally competitive internationally. There is an increase in competitiveness when moving from chicken meat to canned chicken in the value chain. Chicken meat shows negative long-term trends in competitiveness. During the last five years, however, there has been a positive trend in the competitiveness of chicken meat produced in South Africa. Canned chicken also has negative long-term trends in competitiveness, with a positive trend in competitiveness for the last ten years.

Beef meat chain

The beef meat chain in South Africa is marginally competitive internationally. Beef dried salt smoked and beef preparations have negative short-term trends in competitiveness. The rest of the chain has positive short-term trends in competitiveness. The whole beef meat chain, however, shows a negative long-term trend in competitiveness.

Milk chain

The whole milk chain in South Africa is marginally competitive internationally, with a slight decreasing trend in competitiveness when moving from the primary to the processed product in the value chain. Milk (primary product) has a positive trend in competitiveness over the long run and a positive trend in competitiveness over the short run.

Skimmed milk and dry whole milk have positive trends in competitiveness, except for the last five years. Dry skimmed milk has a positive long-term trend in competitiveness, but negative trends in competitiveness during the last 20 years. The production of butter of cow's milk in South Africa has a negative trend in competitiveness over both the long and short run. The production of cheese shows an increase in competitiveness for the last ten and five years, respectively.

Fresh cream and chocolate products have negative trends in competitiveness during the last five years but it demonstrates positive long term trends in competitiveness. Ice cream and yoghurt production is marginally competitive internationally. Ice cream production, however, shows positive trends in competitiveness for the last ten and five years. Yoghurt production shows negative trends in competitiveness for the last ten and five years.

Wool chain

The whole South African wool chain is highly competitive internationally. There is a decrease in competitiveness when moving from greasy wool to the clean product in the chain. Wool scoured, however, shows a positive trend in competitiveness from 1980 onwards. Wool greasy has negative short-term and long-term trends in competitiveness.

Mohair chain

The mohair chain is the most competitive chain in the South African agribusiness sector. Hair fine was the most competitive product in the agribusiness sector of South Africa in 2002. In 2001 and 2000 it was coarse hair. There is also an increase in competitiveness when moving from the primary to the more processed products in the value chain.

Hair carded and combed has positive long-term but negative short-term trends in competitiveness. Hair coarse's competitiveness status shows positive trends in competitiveness, except for the last five years. Fine hair has a positive trend in competitiveness from 1980 onwards.

Sheep meat chain

The South African sheep meat chain was generally marginally competitive in 2002. The chain, however, was uncompetitive in 2001 and 2000. The sheep meat chain also show negative trends in competitiveness, except for the last five years.

Leather chain

Hides and skins, the primary product in the leather chain is relative competitive. The rest of the leather chain is, however, only marginally competitive. Hides and skins and hides wet salted have negative long-term trends in competitiveness, but positive trends for the last five years. Hides dry-salted has an increasing long-term competitive trend, but a decreasing trend in competitiveness over the last twenty years. The production of leather in South Africa has negative trends in competitiveness from 1961 to 2002 and also from 1993 to 2002. The trend in competitiveness from 1980 to 2002 is, however, positive and also the trend from 1998 to 2002.

Pork meat chain

The whole pork meat chain in South Africa is marginally competitive internationally. There is, however, an increase in competitiveness when moving to the more value added products in the chain. The whole pork meat chain demonstrates negative trends in competitiveness for the period 1961 to 2002. Pork meat and pork sausages show positive trends in competitiveness for the last five years.

4.5 CONCLUSION

The analyses above described the degree of competitiveness for the agribusiness sector as a whole in South Africa, as well as within and amongst agro-food supply chains. The following features are important:

- (i) **Competitiveness status:** From the analysis above it is evident that the South African agribusiness sector is generally rated marginally as far as international competitiveness is concerned. Table 4.4 summarises the competitiveness of the primary products and Table 4.5 summarises the competitiveness of the value added products. From the Tables it is clear that most products' competitiveness status is classified as marginal.

This implies that minor adjustments related to factors influencing the competitiveness status can contribute to changing the status from negative to positive. It will, however, be important to identify the particular set of factors and supply chain interactions required to facilitate the upgrade.

Table 4.4: The competitiveness of primary products in the agribusiness sector of South Africa

Competitive (+)	Marginal	Not Competitive (-)
Maize; Sugar; Groundnuts; Oranges; Apples; Grapes; Pineapples; Grapefruit and pomelos; Lemons and lime; Mangoes; Avocados; Pears; Apricots; Peaches and nectarines; Plums; Sweet potatoes; Eggs; Wool; Mohair; Hides and skins	Wheat; Potatoes; Soybeans; Sunflower seed; Sorghum; Tobacco; Tomatoes; Asparagus; Green beans; Cabbages; Carrots; Chillies and peppers; Coffee; Garlic; Honey; Hops; Kiwi fruit; Lettuce; Milk; Pork; Onions; Olives; Papayas; Mushrooms; Peas; Bananas; Beef; Strawberries; Watermelons; Tea; Chicken	Cotton seed; Barley; Dry beans; Mutton and lamb

Source: Own calculations based on RTA indexes

Table 4.5: The competitiveness of value added products in the agribusiness sector of South Africa

Competitive (+)	Marginal	Not Competitive (-)
Wheat flour; Flour of Maize; Bran of maize; Oil of maize; Sugar refined; Groundnuts shelled; Groundnut oil; Sunflower oil; Cigarettes; Essential oils; Orange juice; Apple juice; Dry apricots; Grape juice; Wine; Pineapple canned; Pineapple juice; Grapefruit juice; Dry onions; Eggs liquid; Wool scoured; Hair coarse;	Macaroni; Pastry; Bread; Breakfast cereals; Potatoes frozen; Flour of potatoes; Sugar confectionery; Maple sugar and syrups; Soya sauce; Cake of groundnuts; Prepared groundnuts; Margarine; Cotton carded combed, Cotton linter; Beer of barley; Cigars cheroots; Tomato juice; Tomato paste; Peeled tomatoes; Coffee extracts; Coffee roasted; Canned mushrooms; Dried mushrooms; Oil of olives; Plum dried; Eggs liquid, dried; Eggs dry whole yolks; Canned chickens; Beef prepared; Dry cow milk; Butter; Cheese; Fresh cream; Ice cream; Yoghurt; Leather; Hides dry slated; Hides wet salted; Pork prepared;	Bran of wheat; Soya bean oil; Soya bean cake; Sunflower cake; Oil of cotton seed; Cake of cotton seed; Cotton lint; Malt of barley; Peas dry;

Source: Own calculations based on RTA indexes

- (ii) **Variation between value chains:** The generalised classification of the agribusiness sector as having the status of marginally competitive, disguises the varying rates of competitiveness between the different value chains within this sector. From Table 4.4 and Table 4.5 it is clear that South Africa is competitive in the production, marketing and selling of maize, groundnuts, most fruits, wool, mohair, wine, fruit juices, flour of maize and flour of wheat. South Africa is not competitive in the cotton, soybeans, dry beans and mutton and lamb value chains.

This finding is inline with the NAMC (2005) conclusion on the competitiveness of the South African agricultural industry. The NAMC (2005: 17) found that South Africa is clearly competitive in most of the main fruit production areas such as deciduous fruit, citrus, exotic fruit and wine. These products are considered to have relatively high values in international markets. The NAMC also found that South Africa's competitiveness position is much weaker (and in some cases nearly non-existent) in areas of more commodity-, price- and scale-driven industries. These industries have also been subject to much higher levels of market protection and distortion over the years in all major international markets such as the EU, America and Japan.

- (iii) **Decreasing competitiveness in the supply chains:** In Table 4.6 the inter-chain competitiveness of selected chains is shown. The table is divided into six blocks. The first row indicates an increasing trend in competitiveness when moving from the primary to the value added products in the chain. The second row indicates a decreasing trend in the competitiveness of value-adding activities in the chain. The columns show the competitiveness of the primary product in the chain and can be competitive (+), marginal or negative (-).

The primary products of the maize, apple, pineapple, grapefruit and mohair chains' are competitive and there is an increasing trend in competitiveness of value-adding in the chain. The wheat, tobacco, pork and chicken meat chains are marginal competitive. These chains, however, also show an increase in

competitiveness when moving from the primary to the value added products in the chain. However, most value chains (sugar, groundnuts, oranges, grapes, wool, plums, eggs, hides and skins, potatoes, sunflower, tomatoes, milk, soybeans) indicate a decreasing trend in competitiveness in the value adding activities of the chain.

Table 4.6: Inter-chain competitiveness

		COMPETITIVENESS OF PRIMARY PRODUCT		
		+	<i>MARGINAL</i>	-
T R E N D	Increasing ↑	Maize, Apples, Pineapple, Grapefruit, Mohair	Wheat, Tobacco, Chicken meat, Pork	Cotton, Barley
	Decreasing ↓	Sugar, Groundnuts, Oranges, Grapes, Wool, Plums, Hen eggs, Hides and skins	Potatoes, Sunflower, Tomatoes, Milk, Soybeans, Mushrooms, Olives, Peas, Beef	

Source: Own calculations based on RTA indexes

This implies that beneficiation or “value adding” opportunities in the South African agribusiness sector are restricted. The primary products in the sector, on the other hand, are relative or marginally competitive. One possible explanation for this could be the high rates of return recorded for the applications of technology at farm level for most primary commodities (Thirtle, Townsend, Amadi, Lusigi & Van Zyl, 1998). Thirtle *et al* (1998) have calculated in the late nineties the rates of return on research and development (R&D) done by the Agricultural Research Council in South Africa (see Table 4.7).

The rate of return (ROR) is a discounted evaluation measure for single projects or sets of projects. It is the discount rate that equates the net present worth of the

incremental net benefit stream, or incremental cash flow, to zero. The ROR represents the maximum interest that a project can pay for the resources used, if the project is to recover its investment and operating expense and still break even when valued at economic shadow values (Wessels, 1998).

Table 4.7: Rates of return for research and development done by the Agricultural Research Council

Commodities	ROR %
Maize	29-39
Wheat	28-34
Sorghum	50-63
Groundnuts	50
Tobacco	50-53
Sweet potatoes	21
Wheat aphid control	35-49
Animal production	11-16
Animal health	36+
Wine grapes	40-60
Bananas	50
Deciduous fruit	78
Lachenalia	6.5-12
Protea	8

Source: Thirtle *et al*, 1998

In Figure 4.2 the high correlation ($R^2 = 84.54\%$) between competitiveness and high rate of return (ROR) on investment in research and technology is confirmed for cattle, wheat, sweet potatoes, maize, groundnuts, grapes and deciduous fruits. The higher the ROR on investment in research, development and technology, the higher the competitiveness index of that specific industry.

The link between research and development (R&D) and competitiveness was also confirmed in a recent study (Esterhuizen, Van Rooyen & D' Haese, 2001) to determine the major factors influencing the competitiveness of agribusinesses:

78.57% of the agribusinesses investigated indicated that high cost of technology is currently a constraint to their competitive success. Half of the respondents indicated that the cost of knowledge (research) is a constraint to their competitive success. Only 22% of the respondents indicated that the availability and quality of technology are an enhancement to their competitiveness and only 33.33% of agribusinesses indicated that the availability and quality of research are enhancing their competitive success.

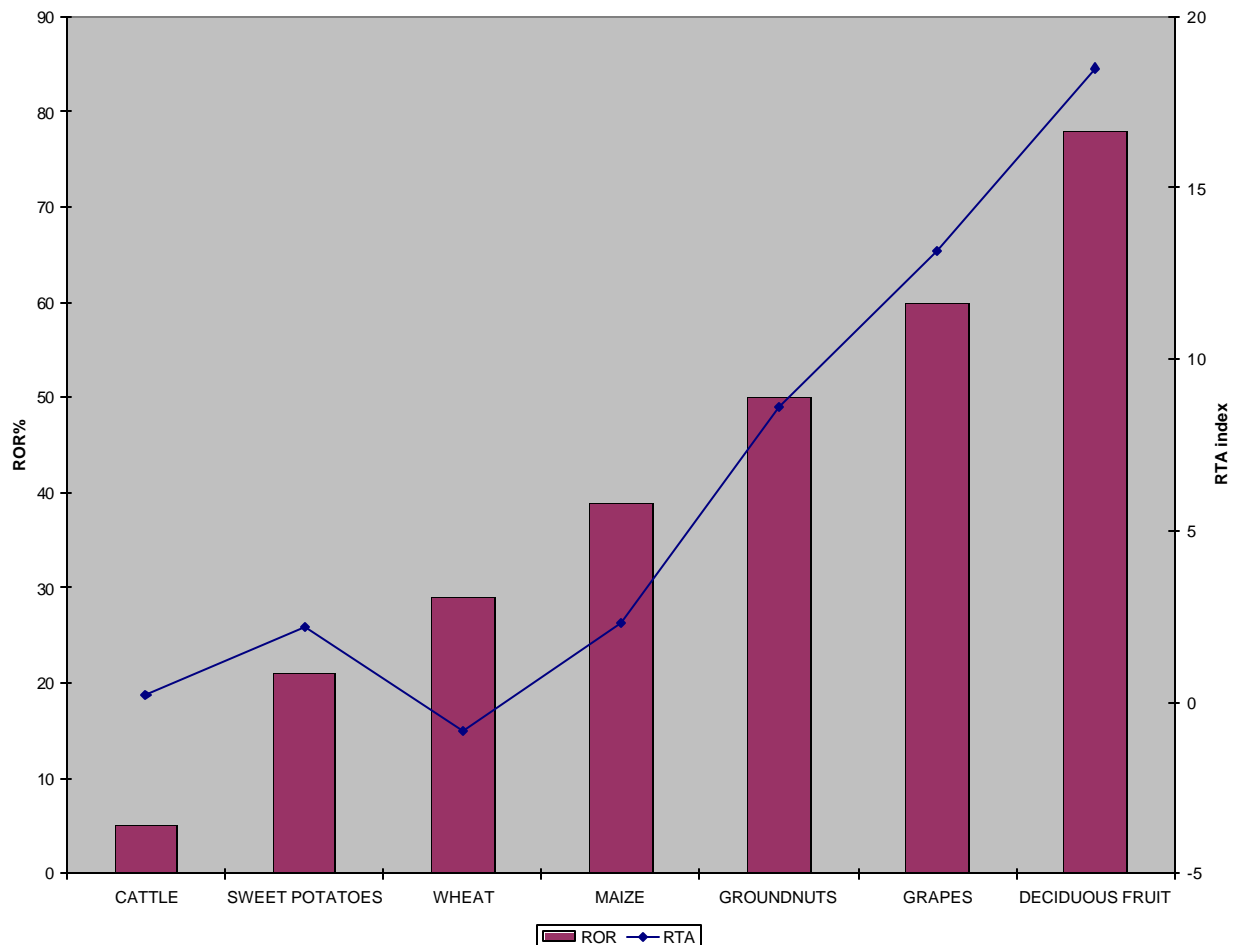


Figure 4.2: The correlation between ROR and competitiveness in the agribusiness sector of South Africa

Source: Own calculations based on data from Thirtle *et al*, 1998 and the agribusiness sector's competitiveness index

These statements must be viewed against a background of the historical focus of public sector expenditure, being largely on farm level R&D. Value added activities higher up in the supply chain have been somewhat ignored within agricultural R&D expenditures. Government is also currently reducing their investment in research and development activities. The Agricultural Research Council (ARC) responsible for primary and secondary R&D in the agricultural sector has experienced a decline in parliamentary grant since 1994. This grant represented more than 90% of R&D investment in agriculture. It has also been observed that agribusinesses generally invest very little towards R&D. A technological innovation crisis for South African agriculture may very well be in the making. It will, however, be important to “discover” the various underlying reasons for non-competitiveness in each chain. Does it relate to a lack of technological innovation, unproductive labour, high input cost, low quality or maybe government trade policy, etc?

- (iv) **Positive trends over time in competitiveness:** Table 4.8 indicates the long-term and short-term trends in competitiveness of the primary products in the agribusiness sector of South Africa. The long-term trends (1961 to 2002) are indicated in the columns and the short-term (1993 to 2002) trends in the rows. If a product has both a positive short-term and long-term trend, the product is classified as a “star”. Stars are products that are able to adapt over time which leads to a sustainable competitive advantage that is updated by innovation and research and development.

If the product has a positive long-term trend, combined with a negative short-term trend, it is classified as “struggling”. These products are slow to adapt to the new, more open, economy and they need to update their competitive advantage. If the product has a negative long-term trend combined with a positive short-term trend, the product is classified as “recovering”. These products have changed their destination and have adapted to the new global environment. They have developed new competitive futures. If a product has a negative long-term as well

as short-term trend, it is classified as a “crisis”. Serious new development and research need to be done to save these products in the global arena.

Most of the primary products produced in the agribusiness sector of South Africa can be classified as “stars”. These products show positive long-term and short-term trends in competitiveness. Many of the products can also be classified as “recovering”. This is good news for the agribusiness sector in South Africa and it indicates the presence of positive trends in the competitiveness of the primary products in the sector.

However, there are products that are “struggling” and products that are in a “crisis”. Products such as asparagus, avocados, mangoes, mushrooms, peas, sweet potatoes and mohair can be classified as “struggling”, while products such as maize, sorghum, barley, apples, garlic, olives, pears, chickens, sheep, hides and skins can be classified as to be in a “crisis”. Serious new development, research and marketing need to be done to improve the ability of these products to compete in the global arena.

In Table 4.9 the trends in the competitiveness of the value-added products in the agribusiness sector are indicated. Again, most of the products show positive trends in competitiveness. There are, however, also products that can be classified as “struggling” and to be in a “crisis”.

Value added products that are “stars” include the following: Bread, maize flour, flour of potatoes, sugar refined, margarine, cotton carded combed, cotton linter, cigarettes, cigars, cheroots, essential oils, orange juice, grape juice, raisins, wine, dried mushrooms, fresh cream, cheese, dry whole milk, hair coarse.

Value added products that are “recovering” include: bran of wheat, macaroni, breakfast cereals, bran of maize, oil of maize, sugar confectionery, groundnuts shelled, cake of groundnuts, oil of sunflower, malt of barley, coffee extracts, dry

onions, dry peas, canned pineapples, eggs liquid, canned chicken, wool scoured and prepared pork.

The following value added products are “struggling”: flour of wheat, oil of groundnuts, beer of barley, apple juice, dried apricots, dried plums, eggs dry whole yolk, dry skimmed milk, hides dry salted. Pastry, oil of soybeans, cake of soybeans, cake of sunflower, oil of cotton seed, cake of cotton seed, cotton lint, roasted coffee, canned mushrooms, olives oil, pineapple juice, butter, hides wet salted and leather can be classified as to be in a “crisis”.

Table: 4.8 Trends in the competitiveness of primary products

		Long term trend (1961 – 2002) in competitiveness	
		Positive (+)	Negative (-)
Short term trend (1993 –2002) in competitiveness	Positive (+)	Stars: Potatoes; Groundnuts; Sugar, raw; Tobacco; Tomatoes; Oranges; Apricots; Green beans; Bananas; Cabbages; Carrots; Chillies and peppers; Grapes; Lemons and lime; Lettuce; Peaches and nectarines; Plums; Strawberries; Watermelons; Tea; Milk	Recovering: Wheat; Soybeans; Sunflower seeds; Cotton seeds; Dry beans; Coffee; Grapefruit; Honey; Onions; Pineapples; Eggs; Beef; Wool; Pork
	Negative (-)	Struggling: Asparagus; Avocados; Mangoes; Mushrooms; Peas; Sweet potatoes; Mohair	Crisis: Maize; Sorghum; Barley; Apples; Garlic; Olives; Pears; Chickens; Sheep; Hides and skins;

Source: Own calculations based on RTA indexes

Table 4.9: Trends in the competitiveness of value-added products

		Long term trend (1961 – 2002) in competitiveness	
		Positive (+)	Negative (-)
Short term trend (1993 – 2002) in competitiveness	Positive (+)	Stars: Bread; Flour of maize; Flour of potatoes; Sugar refined; Margarine; Cotton carded combed; cotton linter; Cigarettes; Cigars cheroots; Essential oils; Orange juice; Grape juice; Raisins; Wine; Dried mushrooms; Fresh cream; Cheese; Dry whole milk; Hair coarse	Recovering: Bran of wheat; Macaroni; Breakfast cereals; Bran of maize; Oil of maize; Sugar confectionery; Groundnuts shelled; Cake of groundnuts; Oil of sunflower; Malt of barley; Coffee extracts; Onions, dry; Peas, dry; Pineapples, canned; Eggs liquid; Canned chicken; Wool scoured; Prepared pork
	Negative (-)	Struggling: Flour of wheat; Oil of groundnuts; Beer of barley; Apple juice; Dried apricots; Plums, dried; Eggs dry whole yolk; Dry skimmed milk; Hides dry salted	Crisis: Pastry; Oil of soybeans; Cake of soybeans; Cake of sunflower; Oil of cotton seed; Cake of cotton seed; Cotton lint; Coffee roasted; Canned mushrooms; Oil of olives; Pineapple juice; Butter; Hides wet salted; Leather

Source: Own calculations based on RTA indexes

- (v) **Agribusiness “winners” and “losers”:** Table 4.10 illustrates the trends and the status in the competitiveness of the primary products in the agribusiness sector of South Africa. As previously explained, the matrix is divided into six blocks. The competitiveness of the products, with 1993 as the base year for comparison, is shown on the vertical axis and the trend in competitiveness for the period 1993 to 2002 on the horizontal axis. If the competitiveness of the product in the agribusiness sector in 1993 was positive and there was an increase in competitiveness in the period from 1993 to 2002, the product is classified as a “winner”. If an industry was not competitive in 1993, but there was an increase in competitiveness in the period 1993 to 2002, the product is classified as a “turn-around”. A “losing” product was not competitive in 1993 and has a decreasing trend in competitiveness from 1993 to 2002, etc.

From the Table 4.10 it is clear that most of the products have positive trends in competitiveness from 1993 to 2002. The following primary products in the agribusiness sector can be classified as “winners”: Sugar, groundnuts, oranges, apricots, grapefruit, grapes, lemons, pineapple, plums and wool. Maize, apples, avocados, mangoes, pears, sweet potatoes, mohair and hides and skins are classified as “declining high performers”. Wheat, cotton seed, dry beans, tea and beef have turned their competitiveness around. Most of the primary products in the agribusiness sector are busy catching up with the competition. Eggs and peaches have increased their marginal competitiveness status in 1993 to a positive competitiveness status in 2002. No “losers” are identified.

Table 4.10: “Winning” and “losing” primary products in the agribusiness sector of South Africa

Trends in competitiveness 1993 -2002			
Competitiveness in 1993		Increase	Decrease
	Competitive	<u>Winners:</u> Sugar; Groundnuts; Oranges; Apricots; Grapefruit; Grapes; Lemons; Pineapple; Plums; Wool	<u>Declining high performers:</u> Maize; Apples; Avocados; Mangoes; Pears; Sweet potatoes; Mohair; Hides and skins;
	Marginal	<u>Rising moderate Performers(catch-up):</u> Potatoes; Sunflower; Tobacco; Tomatoes; Soybeans; Green beans; Bananas; Cabbages; Carrots; Chillies and peppers; Coffee; Honey; Lettuce; Onions; Papayas; Peaches; Strawberries; Watermelons; Eggs; Milk; Pork	<u>Declining moderate Performers:</u> Asparagus; Sorghum; Barley; Garlic; Hops; Mushrooms; Peas; Chicken meat; Mutton and lamb;
	Not Competitive	<u>Turn-around:</u> Wheat; Cotton seed; Dry beans; Tea; Beef;	<u>Chronic underperformers (losers):</u>

Source: Own calculations based on RTA indexes

Table 4.11 describes the trends and the status in the competitiveness of value added products in the agribusiness sector of South Africa. From Table 4.11 it is clear that most of the products have positive trends in competitiveness from 1993 to 2002. Flour of maize, groundnuts shelled, grapefruit juice, grape juice, raisins, pineapples canned, scoured wool, and coarse mohair are classified as “winners”.

Flour of potatoes, macaroni, breakfast cereals, oil of maize, frozen potatoes, sugar refined, sugar confectionery, maple sugar and syrups, prepared groundnuts, margarine, cigarettes, cigars cheroots, tomato paste, essential oils, orange juice, coffee extracts, wine, dried mushrooms, eggs liquid, canned chicken, boneless beef and veal, dry whole milk, cheese, cream, ice cream, pork prepared and pork sausages can be classified as “rising moderate performers”. Oil of maize, sugar refined, essential oils, orange juice, wine and eggs liquid have increased their marginal competitiveness status in 1993 to a positive competitiveness status in 2002.

Flour of wheat, oil of groundnuts, beer of barley, apple juice, dried apricots, pineapple juice, eggs dry whole yolks, hides dry salted and hides wet salted are classified as “declining high performers”. Bran of wheat, bran of maize, cake of groundnuts, oil of sunflower, cotton carded and combed, cotton linter, malt of barley and dried peas have turned their ability to compete around. Oil of cotton seed, cake of cotton seed and cotton lint are classified as “losers” in the agribusiness sector of South Africa.

Table 4.11: “Winning” and “losing” value-added products in the agribusiness sector of South Africa

Trends in competitiveness 1993 -2002			
Competitiveness in 1993		Increase	Decrease
	Competitive	<u>Winners</u> : Flour of maize; Groundnuts shelled; Grapefruit juice; Grape juice; Raisins; Pineapples canned; Wool, scoured; Mohair, coarse;	<u>Declining high performers</u> : Flour of wheat; Oil of groundnuts; Beer of barley; Apple juice; Dry apricots; Pineapple juice; Eggs dry whole yolks; Hides dry salted; Hides wet salted;
	Marginal	<u>Rising moderate Performers(catch-up)</u> : Flour of potatoes; Macaroni; Breakfast cereals; Oil of maize; Potatoes, frozen; Sugar refined; Sugar confectionery; Maple sugar and syrups; Prepared groundnuts; Margarine; Cigarettes; Cigars cheroots; Tomato paste; Essential oils; Orange juice; Coffee extracts; Wine; Dried mushrooms; Eggs liquid; Eggs liquid, dried; Canned chicken; Beef and veal, boneless; Dry whole milk; Cheese; Cream; Ice cream; Pork prepared; Pork sausages;	<u>Declining moderate Performers</u> : Pastry; Oil of soybeans; Cake of soybeans; Soya sauce; Cake of sunflower; Tomato juice; Peeled tomatoes; Coffee roasted; Canned mushrooms; Plums dried; Beef preparations; Beef dried salt smoked; Dry skim milk; Butter; Chocolate products; Yoghurt; Leather; Bacon-ham of pigs;
	Not Competitive	<u>Turn-around</u> : Bran of wheat; Bran of maize; Cake of groundnuts; Oil of sunflower; Cotton carded and combed; Cotton linter; Malt of barley; Dried peas;	<u>Chronic underperformers (losers)</u> : Oil of cotton seed; Cake of cotton seed; Cotton lint;

Source: Own calculations based on RTA indexes

An industry that is not competitive will not attract investment, and vice versa. In a study of 400 agribusinesses, a correlation analysis indicated a correlation coefficient of 78% between investment and competitiveness - which confirms this phenomenon (Van Rooyen & Esterhuizen, 2000). In Figure 4.3, this pattern is illustrated for the South African agribusiness sector.

Investment levels closely follow the aggregate competitiveness index of the agribusiness sector. However, in some years there is a definite lag period. As in

the case of competitiveness, levels of investments have dramatically declined since the early 1980's. This early period is no longer representative of the agribusiness sector within the global economy, and it is thus less relevant. Since 1992, when South Africa entered the reality of the new deregulated and globalised economy, increases in investment and competitiveness has been observed. Trends in investment, however, declined from 1996 to 1999.

This decline in investment can mainly be related due to the sharp increase in real interest rates from 1997 to 1999. However, the impact on competitiveness during this period was not that dramatic, but there was a definite drop in competitiveness from 1997 to 1998 and no growth in competitiveness between 1999 and 2000. The increase in competitiveness in the agribusiness sector during the last three years goes hand in hand with the increase in investment in the sector in the same period. Real investment in the agribusiness sector of South Africa, however, dropped in 2003 – the lag effect of this will probably be a decrease in the competitiveness of the sector in the coming year.

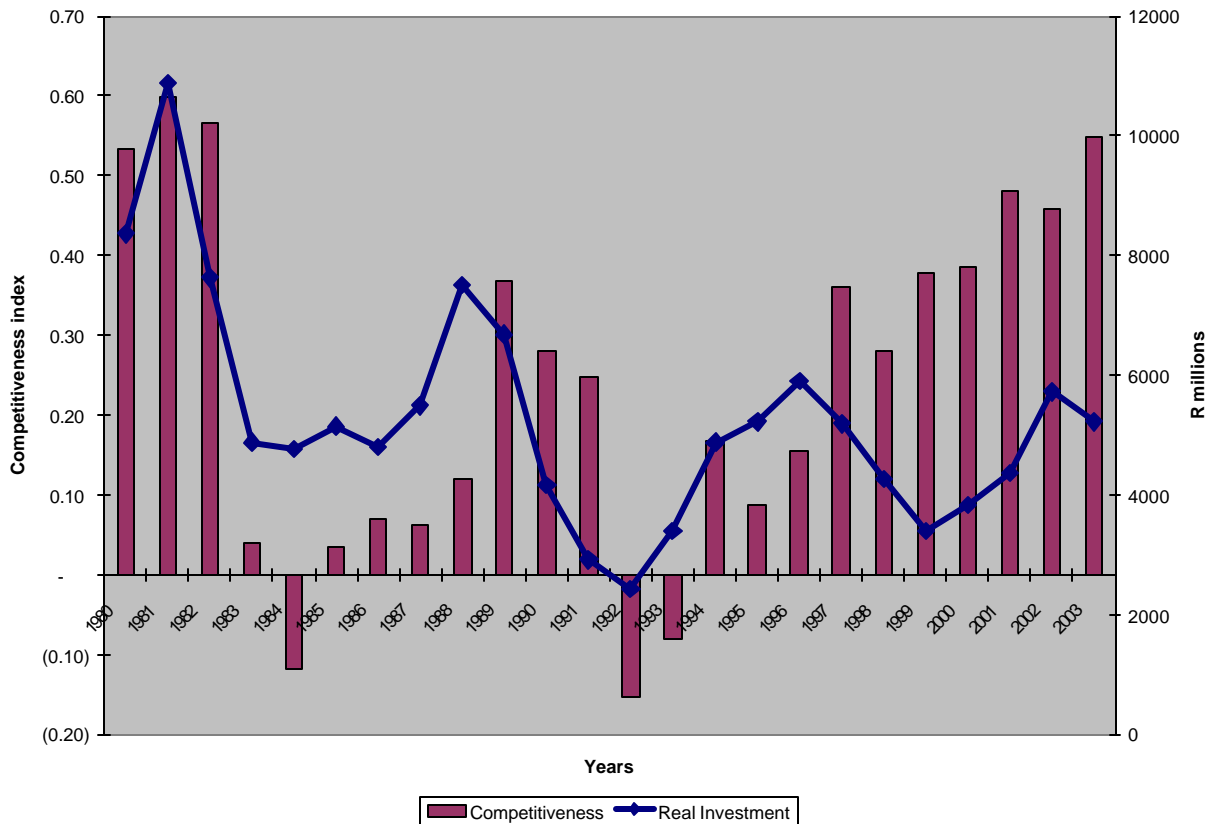


Figure 4.3: The link between competitiveness and investment in the agribusiness sector of South Africa

Source: Own calculations based on data from the National Department of Agriculture (2004) and the agribusiness sector’s competitiveness index

Table 4.10 and Table 4.11 can also be used to indicate in which industries new investments are likely be made, if we assume investors will invest in industries that are internationally competitive and have a positive trend in competitiveness that is likely to continue in the years ahead. Such industries in the agribusiness sector of South Africa will be, for example, the **sugar, groundnuts, oranges, apricots, grapefruit, grapes, lemons, pineapple, plums, wool, flour of maize, grapefruit juice, grape juice, raisins, pineapples canned and coarse mohair** industries.

Table 4.10 and Table 4.11 can also be used to indicate the industries in the agribusiness sector where investments are unlikely to be made. These will be industries with a negative competitiveness status as well as a negative trend in competitiveness that is likely to continue in the years ahead, unless new developments and research take place. An example of such an industry is the cotton industry in South Africa.

The next chapter will build on the analyses in this chapter and explore interesting relationships and opportunities for South African agribusinesses locally.