

CHAPTER 1

THE FOOD AND AGRICULTURAL SECTOR

The purpose of this section will be to familiarise readers with conditions in the South African agricultural and food sectors. Particular aspects that will be covered will include:

- The policy environment. The focus will be on the large changes that have been made to agricultural policy in the past two decades, and will include a description of the main elements of the current and prospective policy regime facing the sector. This will include a brief review of trade and macro-economic policies that also had a profound impact on the agricultural sector
- The main trends in output, productivity, profitability and foreign trade in the sector
- The degree to which the state intervenes in different parts of the many supply chains that constitute the food and agricultural sector.
- The most important factors shaping the future of the food and agribusiness sectors.
- Understanding the influence of the regional (SADC) market on South African agricultural markets and prices

1.1 Agricultural and food policy

Marketing policy¹

Until early in 1998 the marketing of most agricultural products in South Africa was extensively regulated by statute. Most products were regulated under the 22 marketing schemes introduced from 1931 and especially from the time of the 1937 Marketing Act (consolidated in the Marketing Act of 1968), although some products, including sugar, wine and ostriches, were regulated by those industry's own institutions under separate legislation. These arrangements are summarised in Appendix 1.

Beginning two decades ago, the industry faced increasing pressures for deregulation, a process that was accomplished in two phases over this period. The major change in the first phase was the extensive deregulation of state agricultural marketing schemes within the framework of the Marketing Act of 1968. The steps taken have been extensively recorded by the National Agricultural Marketing Council (NAMC). The origins of this change can be found in the shift in monetary policy in the late 1970s and fiscal strategies in the 1980s, which undermined the complex structure of protection, price support and cross-subsidies on which agricultural support was founded. Yet isolation from the world market, accompanied by the increased isolation of the country in social, cultural, political and intellectual spheres during the 1980s, meant that the deregulation steps that did take place were aimed at the domestic market. Foreign trade still largely consisted of managing imports and exports in order to manipulate domestic prices (e.g. maize, wheat), or of monopoly export schemes (e.g. for fruit). The first real steps in opening the agricultural sector to world market influences came with the Marrakech Agreement of the GATT in 1993, when all direct controls over agricultural imports were replaced by tariffs.

The most sweeping change was, however, brought about by the Marketing of Agricultural Products Act, No 47 of 1996. This new Act represented a radical departure from the marketing regime to which farmers had become accustomed in the period since the 1930s. While far reaching, the deregulation that had taken place since the 1980s was piecemeal, uncoordinated, and accomplished within the framework of the old Marketing Act, with the result that any policy changes could easily be reversed. The new Act changed the way in which agricultural marketing policy would henceforth be managed in South Africa, not least by opening the sector to world market influences in a manner that could hardly have been anticipated a decade earlier. The Marketing of Agricultural Products Act, No 47 of 1996 set up the NAMC, whose immediate task was to dismantle the existing Control Boards, and subsequently to manage and monitor state intervention in the sector. The current state of affairs is summarised in Appendix 2.

Other policy reforms impacting on agriculture

¹ For a more detailed discussion see e.g. Kirsten and Van Zyl, 1996; Vink and Kassier, 1991; Vink, 1993; 2000a & 2000b. See also the Kassier committee report (1992) and AMPEC/Basson committee (1994) on the details of the deregulation proposals

The most important of the other policy initiatives in- and outside of agriculture since 1994 include:

- **Land reform**, consisting of the land restitution, land redistribution and tenure reform programmes. This initiative, launched in 1994, was aimed at settling small farmers on viable farming operations in the commercial farming areas. Recent reviews of the programme show that the pace of reform has been slow, and have resulted in a reorientation of the programme away from a strict focus on poverty alleviation. Nevertheless, progress remains slow.
- **Institutional restructuring in the public sector**. This included the ‘provincialisation’ of the Department of Agriculture, a change in the relationship between the Department and farmer lobby groups, the reorientation of the mission of the Agricultural Research Council, (established in 1993), and the restructuring of important statutory bodies with a development mandate in the rural areas generally such as the Development Bank of Southern Africa and the Land Bank.
- **Labour market reform**. While labour legislation governing working conditions, wage rates, etc. has progressively become applicable to the agricultural sector and the Sector Determination of 2001 will have far-reaching effects, certain aspects of the land reform programme have also impacted on agricultural labour, including the introduction of legislation that governs the occupational rights of workers who live on farms.
- **Infrastructure programmes in the rural areas** that are aimed at the provision of social services (welfare benefits, and health and education services) and physical infrastructure, including water, energy and transport and telecommunications services. These have been accompanied by a transformation of the system of local government in the country, and steps to focus the attentions of local authorities more on development issues.
- **Trade policy reform**. This aspect is discussed in more detail below.

The general purpose of these reforms was to correct the injustices of past policy, principally through land reform, to get the agricultural sector on a less capital-intensive growth path, and to enhance the international competitiveness of the sector.

Trade policy²

Quantitative restrictions, a multitude of tariff lines, a wide dispersion of tariffs, and formula, specific and ad valorem duties and surcharges, characterized South Africa’s trade regime before 1994. In agriculture, quantitative restrictions, specific duties, and price controls, import and export permits and other regulations were found. This changed after South Africa became a signatory to the Marrakech Agreement. Initial progress in rationalizing the tariff regime and with lowering nominal and effective protection was fast (see Table 1). Between 1990 and 1999, the number of tariff lines was reduced from 12 500 in 200 tariff bands to 7 743 in 47 tariff bands or fewer than 2500 in 45 bands if the zero tariffs are ignored. The maximum existing tariff was also reduced from almost 1400% to 55% and the average economy-wide tariff fell from 28 to 7.1%.

The structure of protection also affects agriculture. The data in Table 2 show that the average tariff cascades from a relatively high rate on consumer goods to moderate on intermediate goods and low on capital goods. This pattern, which is typical of protection in many developing countries, implies that less progress has been made in rationalizing *effective* protection.

Table 1: Deregulation of the South African tariff structure

	All rates 1990	All rates 1996	All rates 1999	Positive rates 1999 ¹
Number of lines	12500	8250	7743	2463
Number of bands	200	49	47	45
Minimum rate (%)	0	0	0	1
Maximum rate (%)	1389	61	55	55
Unweighted mean rate (%)	27.5	9.5	7.1	16.5
Standard deviation (%)	n.a.	n.a.	10.0	8.6
Coefficient of variation (%)	159.8	134.0	140.3	52.2

Note: ¹ Rates >0

Source: Lewis, 2001

² This section draws heavily on Lewis (2001)

Table 2: The structure of tariffs in South Africa

	Trade-weighted average	Unweighted average	Maximum rate
Mining	0.1	1.4	15
Agriculture	1.8	4.6	35
Manufacturing	4.4	7.5	55
Food, beverages & tobacco	4.2	11.8	55
Textiles, apparel & leather	10.4	18.4	50
Wood & wood products	8.1	10.3	30
Paper & paper products	7.0	7.3	22
Chemicals	4.2	5.5	40
Non-metallic minerals	6.6	7.4	30
Basic metals	4.1	4.5	15
Metal products and equipment	3.8	5.1	54
Other manufacturing	4.7	8.3	30
All sectors	3.9	7.3	55

Source: Lewis, 2001

The export growth performance of the South African economy has strengthened further since 1999, although there are evident concerns about the effect of the slow-down in economic growth that is expected among the G-8 countries from 2001 on. Schüssler (2001), for example, shows that South Africa's exports grew by 7% per annum in US\$ terms (and 25% in rand terms) during the 12-month period October 2000 to September 2001³. This achievement has also resulted in a restructuring of the country's export portfolio. Exports of motor vehicles, for example, increased by 36% in rand terms during this period, while exports of processed food and beverages grew by 47%. Overall, exports of manufactured goods grew by 11% in US\$ terms. During this period imports grew by only 17% in rand terms, which suggests that the growth rate in US\$ has been negative. As a result, the surplus on the trade balance has doubled from last year, while the country recorded a surplus on the services balance for the first time in 39 years.

Trade in Southern Africa

The three most important trade relations in the Southern African region include SACU, which exhibits the deepest level of integration, SADC and the South Africa-Zimbabwe bilateral agreement. Of the extra-regional influences, the Lomé (and now Cotonou) preferences, the Africa Growth and Opportunity Act (AGOA) of the USA, and South Africa's separate bilateral Agreement with the EU are most influential.

The fourteen member countries of SADC represent a total population of approximately 200 million people (World Bank, 2001). Three countries (the DRC, South Africa and Tanzania) account for almost two thirds of the total. Total SADC Gross Domestic Product (GDP) was around US\$182bn in 2000, while average GDP *per capita* was US\$1761. However, there are wide variances. Seven SADC countries are classified as least-developed economies (Angola, the DRC, Lesotho, Malawi, Mozambique, Tanzania and Zambia).

Most SADC countries are still reliant on agricultural and mineral raw materials. Industrial output in the region is heavily concentrated in resource-intensive activities such as food, beverages, tobacco and textiles, which account for half the regional manufacturing value-added. Manufactures make up more than 70% of total imports, but only 10% of exports. Total imports from the rest of the world into SADC amounted to \$32 052.4 in the late 1990s, of which South Africa accounted for two thirds. Non-SACU intra-SADC trade amounts to only 0.9% of total imports.

1.2 The effects of deregulation

The effects of these changes in policy can be measured in terms of the main trends in outputs, input use, productivity, profitability and foreign trade in the sector.

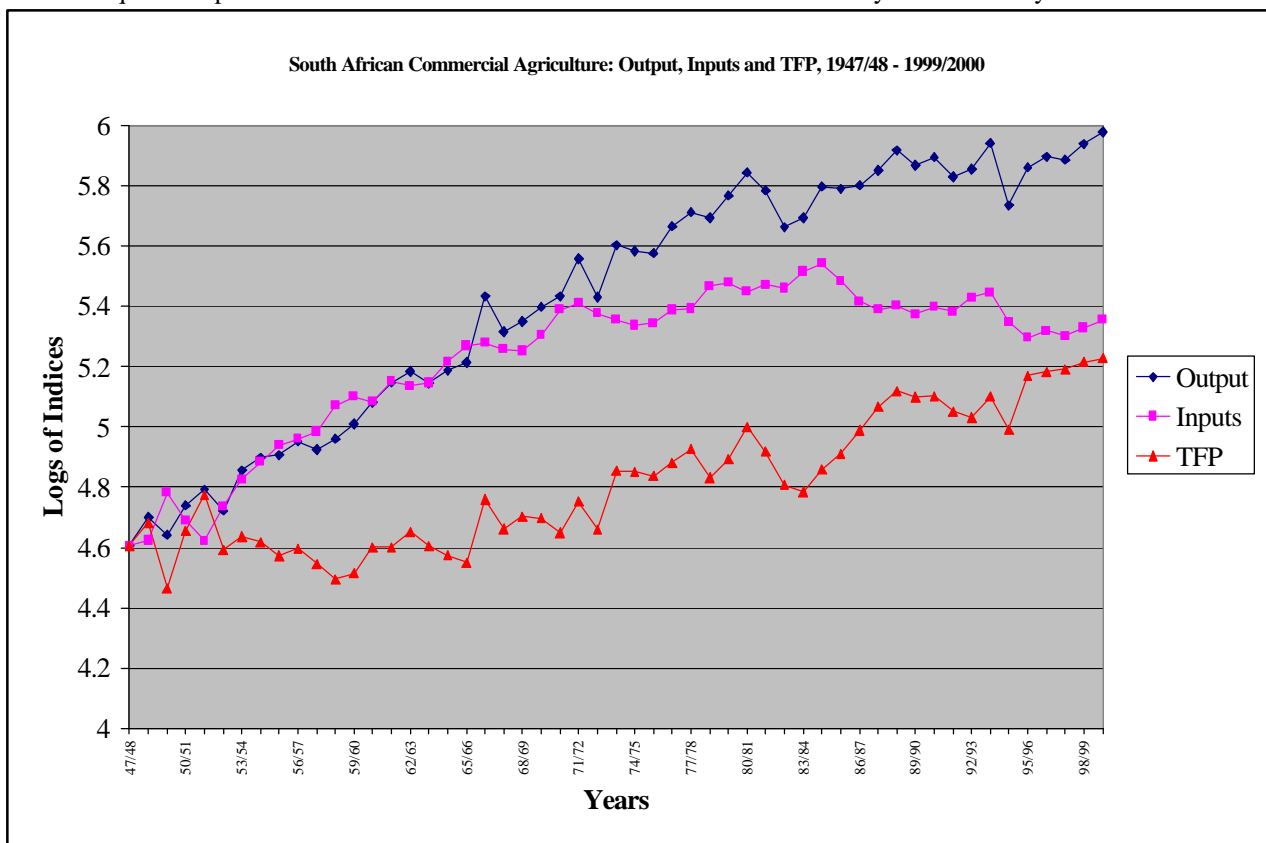
Outputs, inputs and productivity

The best measure of the effects of deregulation is the Total Factor Productivity ratio. This

³ This growth achievement had been in process for 27 months by November 2001.

conceptually simple but comprehensive indicator of productivity, which measures the ratio of the total value of output to the total value of inputs used in agriculture, is a measure of the efficiency with which resources are being used in the sector. The Figure shows that:

- Total output in agriculture had been increasing for most of the past six decades. The data in Table 3 shows that most of this growth came from the increase in the production of horticultural products, where growth is measured as a simple multiple of the output in the most recently available year over the base year⁴. Figure 2 shows that this growth in horticultural output was sufficient to increase its share of total farm output by 10 percentage points since 1978/79.
- There has been a levelling out in the value of total inputs used in farming since the early 1980s. This is the net result of a decline in the numbers of people employed on farms (although a relatively high growth in wages has resulted in an increased total wage bill), a decrease in the capital stock used in agriculture and an increase in the use of intermediate inputs. Figure 3 shows the most important result, which is that the amount of capital required to produce a unit of Net Farm Income has decreased substantially since the early 1970s.



Source: Vink, N, 2000.

⁴ These data were not adjusted for inflation, as comparisons are within the same sector and the emphasis is on relative performance within the sector.

Figure 1: Outputs, inputs and TFP in South African agriculture, 1947-1999

Table 3: The composition of growth in farm output, 1965/66 to 2000/01

	Field crops	Horticulture	Animal production	Total
1965/66	407,2	181,2	487,8	1 076,2
2000/01	16796,6	12708	19485,8	48 990,4
Multiple	41.25	70.13	39.95	45.52

Source: Adapted from the Abstract, 2001.

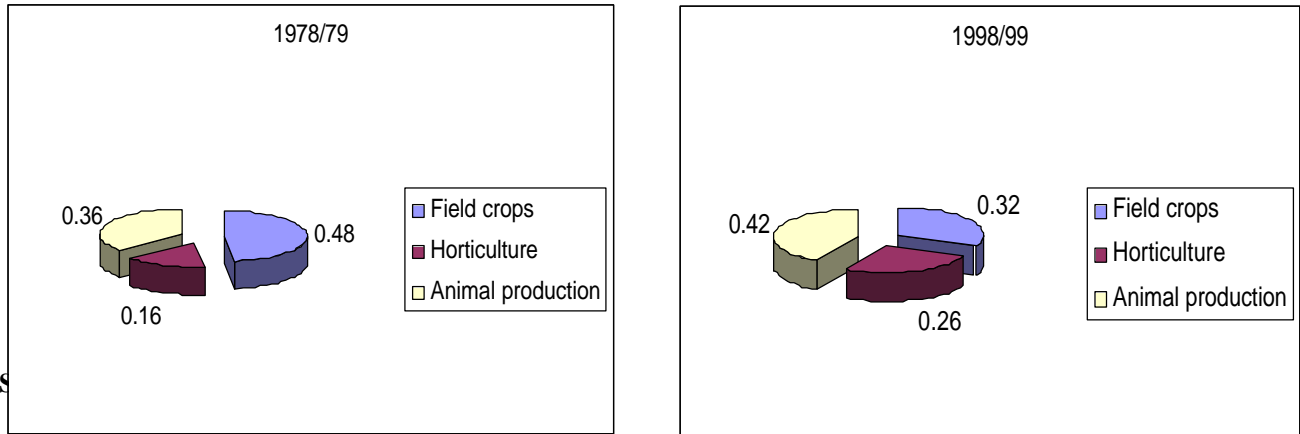
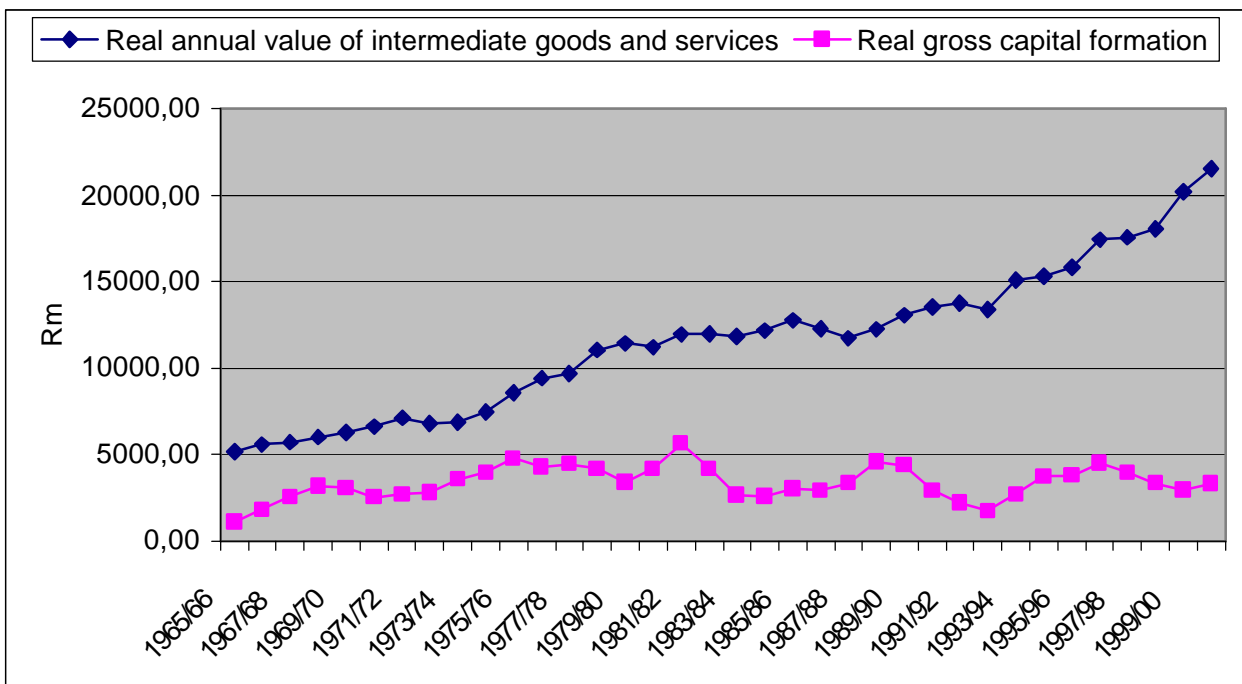


Figure 2: The changing composition of the value of agricultural output in South Africa



Source: Adapted from the Abstract, 2001.

Figure 3: The use of capital in South African agriculture

The net result of these two trends is that productivity has increased in South African agriculture at a sustained rate since 1947, that this seemed to slow down during the first part of the 1990s, i.e. after the first phase of deregulation, but that it has accelerated substantially in the post-1994 period as exports have increased. On average, therefore, the agricultural sector as a whole has gained from these policy shifts.

Profitability

There are a host of different ways of measuring the profitability of an enterprise. In agriculture, the standard measure is Net Farm Income, which is gross revenues minus ordinary costs of production, including depreciation, salaries and wages, interest paid and rent paid. However, because agriculture is so dependent on the climate, NFI fluctuates annually, and is thus less useful as a macro-level indicator of trends in the sector. For this reason, the profitability of the sector is expressed in terms of the amount of capital required to produce R1.00 of Net Farm Income over the past three decades in Figure 4. The data show a considerable change in the relative capital intensity of the sector over this period. Expressed in real terms, the amount of capital required to produce R1.00 worth of output has declined from R4.50 to less than R1.00 over this period, thus the sector as a whole has become less capital intensive.

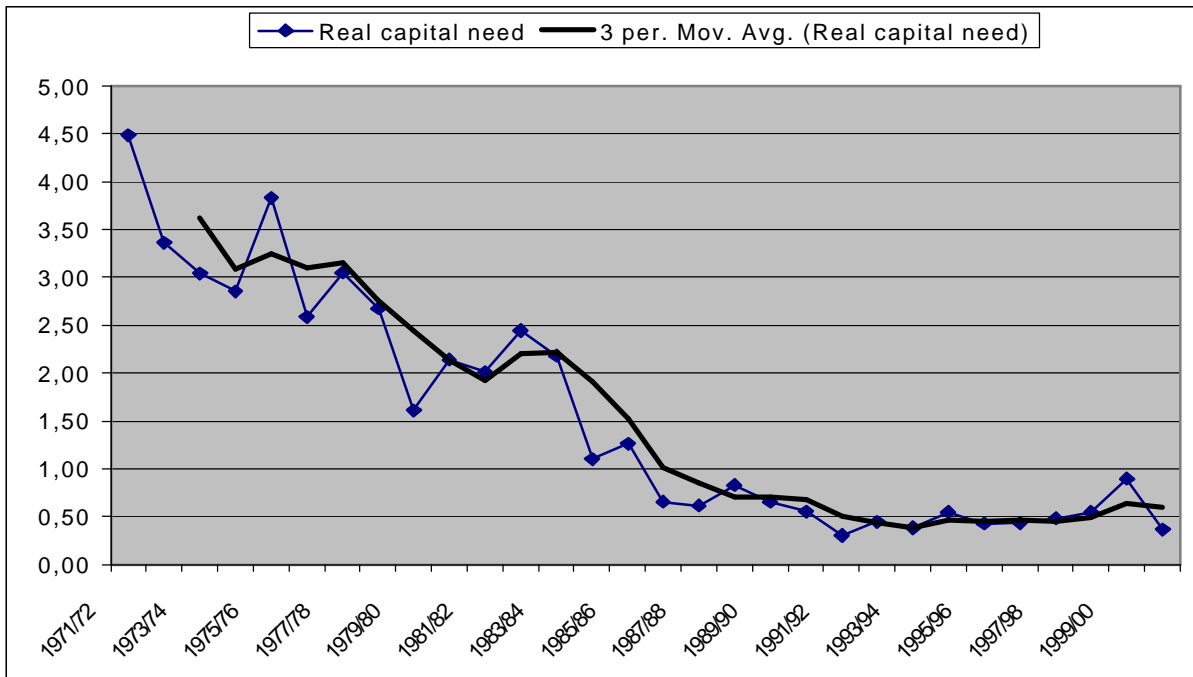


Figure 4: The amount of capital required to produce R1.00 of net farm income, 1971 - 2001

Foreign trade

The data in Table 4 show the trade performance of South African agriculture over the past two decades. The first observation is that agricultural exports have grown rapidly, especially from 1990, but that agricultural imports have grown even faster. The second observation is that, despite this rapid growth in agricultural trade, total exports and imports have been growing even faster. The result is reflected in Figure 5 below.

Table 4: Trends in South Africa's agricultural exports, 1980 - 2000

	1980	1990	2000
Exports			
Total SA exports (Rm)	19 915.4	60 770.0	253 809.0
Total agricultural exports (Rm)	2 052.5	5 289.8	15 819.0
Agricultural exports as % of total exports	10.3	8.7	6.2
Imports			
Total SA imports (Rm)	14 381.3	44 141.5	227 918.0
Agricultural imports (Rm)	369.2	2 203.3	9,643,7
Agricultural imports/total imports (%)	2.6	5.0	4.2
Exports + imports/Total production (%)	34.5	34.5	57.5
Agricultural terms of trade (Ag exports/Ag Imports)	5.56 : 1	2.4 : 1	1.6 : 1

Note: 'Openness is measured as (Exports + Imports)/GDP

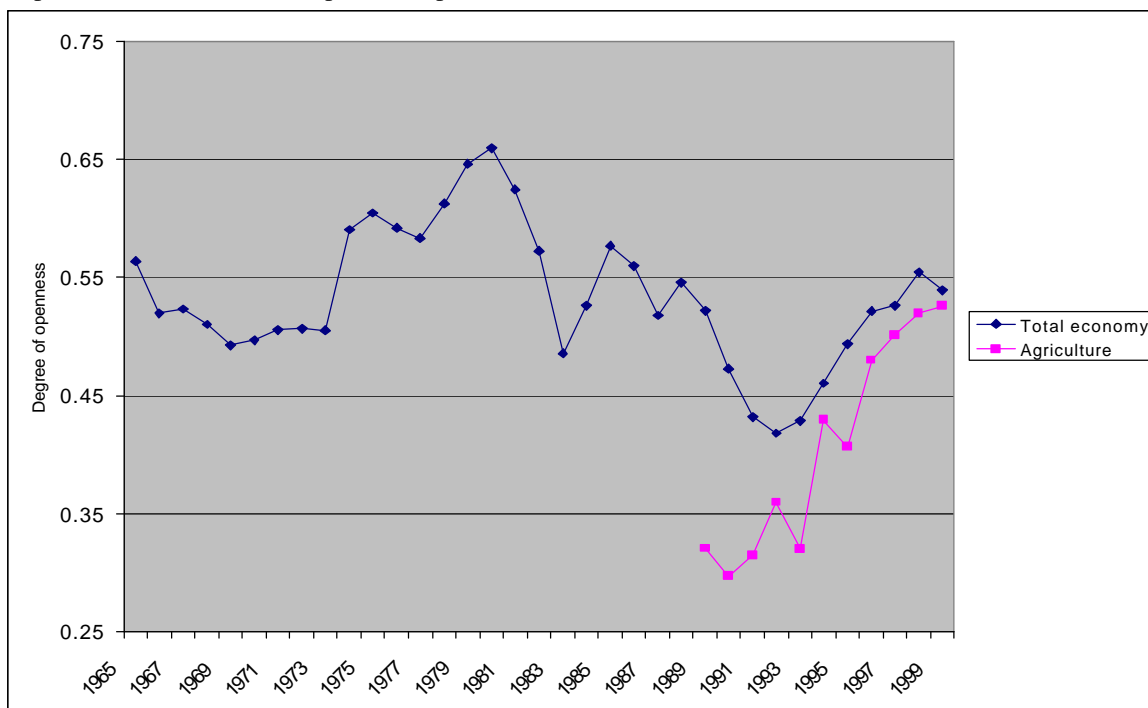


Figure 5: The degree of openness of the South African economy

In Figure 5 total exports plus total imports are measured as a proportion of total production (GDP) for the economy as a whole, while the same calculation is made for the agricultural sector. The graph shows the influence of the high gold price on the total economy in the early 1980s, and the effect of the isolation of the country in the period leading up to 1994. The data for agriculture show the extent to which agricultural trade has opened up as a result of the liberalisation of agricultural marketing, to the extent that the agricultural sector is now almost as exposed to the world economy as the economy as a whole.

Investment

Following the various processes of deregulation the real gross domestic fixed investment in agriculture increased by 24% in real terms in 1996 while investment figures in 1997 were 9% lower than 1996 but still up on 1995 levels by 13%. Investment (or gross capital formation) in agriculture declined during 1997 – 1999 due to a few poor seasons and some elements of rural insecurity. Investment in agriculture increased again in 2000 and 2001 with the 2001 gross capital formation back at similar nominal levels than in 1996.

The extensive liberalisation of agriculture has also led to an increase in the number of new agricultural companies registered per annum since 1985. The fastest growth was experienced in the post 1994 period, with new registrations increasing from 895 per year in 1993 to as many as 1 879 in 1997 – an increase of 209% over the number in 1993.

1.3 State intervention

State spending on the farm sector, measured as the budgeted amounts for the national Department of Agriculture plus the agricultural budgets of the nine provinces, amounted to R2.8bn in 1998. In real terms, this was 46% of the budget of the Department of Agriculture plus that of the budgets of the former homeland departments in 1988. The decline in state spending in agriculture is also illustrated by the rapid decline of government funding of agricultural research. Base line funding for agricultural research (ARC) provided by government through the parliamentary grant system dropped from a high of R337 million in 1997/98 to R262 million in 2001/2002 – equivalent to only 55% in real terms of the parliamentary grant it received in 1992.

Table 5 shows the changes in the magnitude of state intervention in South African agriculture, measured in terms of the Producer Support Estimate (PSE)⁵ calculation as prescribed by the OECD. While a partial measure of government intervention, it has the advantage of allowing cross-country comparisons, as the application of the method is monitored internationally.

Table 5: Total domestic support to South African agriculture (PSE)

	1990/1	1991/2	1992/3	1993/4	1995/6	1996/7	1997/8
Total PSE Rbn	2 848	3 904	7 499	4 119	0,536	3,574	1,351
Percentage PSE	13,69	16,74	31,04	14,50	2,28	8,87	2,72

Table 6: Global comparison between % PSEs

Country	% PSE
Iceland	68.9
Japan	63.2
EU	45.3
USA	21.6
Czech Republic	17.5
Mexico	16.7
Canada	16.1
Hungary	11.8
Australia	6.8
South Africa	2.7
New Zealand	0.8

The increase in PSE in 1992/3 was the result of the final pay-off of drought-related subsidies that were granted during the previous decade. The updated PSEs show (see Table 6 above) that the degree of subsidisation for South African agriculture has reached levels that are lower than those for Australia, and comparable with New Zealand, traditionally the lowest agricultural subsidisers in the world. The conclusion that can be drawn from these data is that the output prices that South African farmers receive are market prices, i.e. that they are **relatively undistorted by government intervention**. This much can be expected after the extensive deregulation of agricultural marketing and the reduction in the budgeted amounts that has taken place.

1.4 Competitiveness in the food and food manufacturing sectors⁶

Sales in the South African manufacturing sector grew by some 2.5% per annum in real terms in the period 1996-2001, a rate close to the overall real rate of growth of the economy (DTI, 2002). By contrast, sales of the food and beverages industries grew by about half that rate, making it one of the worst performers in this sector. However, recent sales growth in this subsector has been third highest among the components of the manufacturing sector. Production in the food and beverages group accounted for about 18.5% of total manufacturing output for the country in 1996, while employment was 15.9% of total manufacturing sector employment and the wage bill 13.5% of total manufacturing sector wages. A more detailed breakdown of the subsector is provided in Table 7. These data show the both imports and exports have increased at a faster rate than industry turnover, and that the most rapid growth has been in exports. The degree of concentration in the industry in 1996 is reflected in Table 8. As expected, these show the oligopolistic structure of the food-processing sector, compared to the atomistic structure of farming. The greatest degree of concentration is found in the manufacturing of dairy products, while the grain mill products market is also relatively concentrated.

Table 7: The South African food and beverage sector

	Sales (Rm)	Employment	Exports (R'000)	Imports (R'000)
1994	78079	225527	6205634	5524284
1995	80131	219155	6752412	6291720
1996	83886	221426	8286938	6625716
1997	83607	209686	8247898	7471358
1998	81896	201594	9061613	6989492
1999	81759	203211	9122024	6468007

⁵ The Producer Subsidy Equivalent (PSE) (later Producer Support Estimate) is an indicator of the level of government support to agriculture in a particular country. The PSE indicates the value of the monetary transfer to agriculture resulting from agricultural policies in a given year.

⁶ This discussion is based on Esterhuizen, 2001

2000	79757	187882	10270184	6556806
2001	84689	184187	12225957	6742894
% growth	1,08	0,82	1,97	1,22

Source: DTI, 2002

Table 8: Food and beverage output in South Africa, 1996⁷

Major group and subgroup	No of firms	Relative contribution of		Herfindahl Hirschman index ¹
		4 largest firms (CR4)	10 largest firms (CR10)	
Meat, fish, fruit, vegetables, oils and fats	480	0,1957	0,3678	188
Slaughtering, dressing, packaging livestock	149	0,4688	0,6358	661
Prepared and preserved meat	119	0,5591	0,7114	989
Canned, preserved and processed fish	46	0,5778	0,7924	1346
Canned and processed fruit and vegetables	157	0,3498	0,5497	482
Vegetables and animal oils and fats	16	0,6520	0,9779	1319
Dairy products	113	0,6843	0,8005	1598
Processing of fresh milk	46	0,7079	0,8350	2430
Butter and cheese	17	0,8199	0,9743	1923
Ice cream and other edible ice	45	0,6007	0,7628	1293
Milk powder & other edible milk products	13	0,8700	0,9986	2742
Grain mill products	283	0,3604	0,5636	457
Flour	209	0,4258	0,6481	648
Breakfast foods, starches & starch products	8	0,9544	-	3005
Prepared animal feeds	72	0,3727	0,6076	522
Other food products	821	0,2613	0,5331	323
Bakery products	522	0,4526	0,6262	609
Sugar, golden syrup and castor sugar	7	0,9856	-	3098
Cocoa, chocolates and sugar confectionery	72	0,7287	0,8237	1676
Coffee, coffee substitutes and tea	15	0,8038	0,9580	2060
Nut foods	31	0,5129	0,7598	920
Other not elsewhere classified	182	0,3719	0,5012	471
Beverages	163	0,4556	0,7455	760
Distilling, rectifying and blending of spirits	97	0,6926	0,7812	1386
Beer and other malt liquors and malt	23	0,9195	0,9756	3777
Soft drinks; mineral waters	43	0,7355	0,9142	1876

¹Note: This is a commonly accepted measure of market concentration, calculated by summing the squared market share of each firm in the market. An index of between 1000 and 1800 represents a moderately concentrated market, while the score for a concentrated market is in excess of 1800.

Table 9 shows that the South African food and agricultural industry as a whole is marginally competitive when measured by the Revealed Trade Advantage, a measure based on the share of the country's net trade in a specific commodity relative to its total international trade. The RTA for 1998 was 0.33, although it has improved from 1992 onwards, a period that coincides with the deregulation of agricultural marketing.

Table 9: Comparative advantage in the South African agro-food industry

	RTA 1998	RTA 1997	Trend 1980 – 98	Trend 1992 - 98
National competitiveness	0.33	0.17	=	+

Note: '+' Positive trend; '-' negative trend; '=' constant trend

⁷ The concentration ratios (CR4, CR10) indicate the % of industry sales contributed by the largest 4 and 10 firms respectively. The HHI is the sum of the squared market shares of all the firms in the market. HHI values below 1000 involve no significant monopoly power, whereas those over 1 800 may raise concern

In Table 10 the competitive status of selected agro-food commodity chains is shown, according to the RTA measure.

Table 10: Comparative advantage of selected agro-food chains in South Africa

Chain	Product	RTA 1998	RTA 1997	Trends 1980 - 98	Trends 1995 - 98
Cotton chain	Cotton seed	-6.23	-5.62	-	-
	Oil of cotton seed	-0.53	-2.55	-	-
	Cake of cotton seed	-26.74	-12.01	-	-
	Cotton lint	-1.59	-1.24	=	-
	Cotton carded and combed	0.31	-1.70	-	+
	Cotton linter	0.42	0.21	=	+
Tobacco chain	Tobacco leaves	0.06	-0.83	=	+
	Cigarettes	0.59	0.42	+	+
	Tobacco products	-0.15	-0.03	=	=
Potatoes chain	Potatoes	0.85	0.86	+	+
	Potatoes, frozen	0.07	0.05	=	=
Tomatoes chain	Tomatoes	0.13	0.07	=	=
	Tomato juice	0.36	-0.08	+	+
	Tomato paste	-0.07	-0.06	=	=
	Peeled Tomatoes	-0.57	-0.78	=	=
Beef chain	Cattle	-1.46	-3.76	-	+
	Beef and veal	0.23	-0.13	=	+
	Beef dried salt smoked	0.19	0.34	=	+
Maize chain	Maize	2.44	3.72	+	+
	Flour of Maize	28.55	10.10	+	+
Soybean chain	Soybeans	0.17	-0.11	=	+
	Oil of Soya beans	-0.85	-0.43	=	=
	Cake of Soya beans	-1.62	-1.53	-	-
	Soya sauce	-0.30	-0.27	=	=
Sugar chain	Sugar (Centrifugal, Raw)	8.88	3.00	+	+
	Sugar refined	2.08	1.86	+	+
	Sugar confectionery	0.32	0.39	=	=
	Maple sugar and syrups	-0.02	-0.03	=	=