About this publication

In October 2002 the Cabinet approved the establishment of a food price monitoring mechanism (Food Pricing Monitoring Committee) in accordance with the Agricultural Marketing Act. The Food Price Monitoring Committee was appointed in January 2003 with specific terms of reference. A central part of the terms of reference of the Committee related to the analysis of the **price formation mechanism in supply chains of basic foodstuffs**. After having conducted some extensive casual and empirical research, the Committee found that some South African food supply chains contained several asymmetries with respect to price transmissions:

(1) Changes in farm and wholesale prices are either not fully or more than fully transmitted to consumer prices.
(2) Changes in consumer prices are not related to short-term changes in farm prices and follow medium- and long-term changes with a time lag.
(3) Down stream changes in consumer prices, show a longer time lag than upstream changes do. Depending on the market structure and the nature of the product several possible explanations can be put forward to explain this asymmetry.

Of the three asymmetries, the one that appears to be of particular interest is the asymmetry in the adjustment process, namely whether agro-food processors and retailers pass on price increases, while decreases in price are not completely passed on to the consumer. Evidence from studies done elsewhere shows that this is in fact the case, particularly with agricultural products. One of the reasons price increases are passed on to the consumer faster than decreases is that firms will react faster to decreases in profit margins than to increases. Another reason for the asymmetric price adjustments is the presence of search costs in locally imperfect markets. In particular, consumers may observe a price increase at one local retail outlet, but are uncertain if others have also increased their prices. Given this scenario, firms can quickly raise prices as upstream prices rise and they can slowly decrease prices as the upstream prices decline.

The Committee concluded that the established data base could form the basis for an annual "South African Food Cost Review" which could be updated and monitored on a regular basis to search for any "unjust increases" in prices and/or marketing costs.

The research output of the Committee provided a useful foundation upon which the state can monitor trends in food prices, food processing costs and farm- to- retail price spreads. Such a mechanism of continuous monitoring should not take the form of *ad hoc* arrangements, but should rather be incorporated in normal government structures, either within the Department of Agriculture or the National Agricultural Marketing Council.

This report is the second publication of the South Africa Food Cost Review and it provides a specific overview of trends in food price inflation and food prices at retail level. The report, furthermore defines the methodologies, which are used in establishing the farm values and the farm- to- retail price spreads of products which have not been included in the previous edition. Secondly, the report presents the estimates of food marketing costs, farm values, some marketing margins and farm-to-retail price spreads of a specific group of products.

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July 2006

The South African Food Cost Review: 2005

National Agricultural Marketing Council

and

Department of Agriculture

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1. Introduction: General overview of the South African Economy in 2005 with a specific focus on food prices

South Africa's economy performed well in 2005 with the economy's real GDP increasing further in the third quarter of 2005, albeit at a slower pace than in the second quarter. Real economic growth slowed from an annualised rate of 5.5% in the second quarter to 4% in the third quarter of 2005. The slower pace of growth was evident in the primary and secondary sectors, while the growth in the tertiary sector maintained its momentum. Despite the lower growth rate in the third quarter, the real gross domestic product was 5% higher in the first three quarters of 2005 compared to the same period in 2004, thereby exceeding the average growth rate of 4.5% for 2004 as a whole (SARB, 2005).

The aggregate real gross domestic expenditure recorded an average growth rate of 7% in the first quarter of 2005, after which it saw a 6% growth rate in the second, followed by a 7.5% growth rate in the third quarter and slowing down to 4% in the fourth quarter . On average real gross domestic expenditure grew by 6% in 2005. The sudden increase in real domestic expenditure was the result of faster growth in gross capital formation (SARB, 2006).

Final consumption expenditure by households increased by 6% during 2005. The first and third quarters saw an increase of around 6%, whilst the second and fourth quarters increased by an average of 6.5%. Figures indicate that there was a definite slowdown in the growth for the demand for durable goods, which more than offset the stronger growth in the real outlays in semi-durable goods. The household expenditure on the other major spending categories held firm in the third quarter of 2005 (SARB, 2005).

The repurchase rate was reduced by 50 basis points on 14th of April 2005, and it remained unchanged at 7% and was also left unaltered at the October 2005, December 2005 and February 2006, Monetary Policy Committee's meetings. With the repurchase rate constant at 7% the private banking sector kept their prime overdraft rate and the predominant rate on mortgage loans constant at 10.5% since April 2005 (SARB, 2006).

The nominal effective exchange rate of the Rand, reached a low point on the 2nd June 2005, when it was down more than 12% from its relatively high base level at the end of 2004. The following months leading up to September 2005, saw the exchange rate trend upwards and on balance it strengthened by almost 10%. The main factors that have contributed to this renewed strengthening of the Rand included a sizeable inflow of direct investment capital as well as a strong non-resident investor increase in South African share prices. The nominal effective exchange rate of the Rand increased marginally by 0.1% from October 2005 up until November 2005. It is interesting to note that the Rand depreciated relatively more against the US dollar than against any other currency. The 13% depreciation was largely due to interest rate increases in the US followed by investor sentiment shifting away from South Africa, in favour of American assets (SARB, 2005).

The real effective exchange rate of the Rand declined by an average of 3.4% between December 2004 and September 2005. Indicating changes in the international competitiveness of the South African manufacturing industry, the real effective exchange rate has in fact moved sideways since August 2004, with little variability, apart from the outliers in December 2004 and June 2005 (SARB, 2005).

Food Price Inflation in South Africa: 1991 – 2005

This section focuses on general inflation trends in South Africa from 1991 until 2005. Table 1 represents the weights with which Statistics South Africa compiles and disseminates a number of different Consumer Price Index aggregates, each serving a number of different analytical purposes. The various CPIs calculated for South Africa include:

- **Consumer Price Index**: This index is used to calculate the official or headline rate of inflation and consists of price increases for all goods and services in the main metropolitan areas of the country.

- **Core Index**: Certain items are excluded from the CPI basket on the basis that their prices are highly volatile, subject to temporary influences, or affected by government policies. These exclusions are fresh and frozen meat and fish, fresh and frozen vegetables, fresh fruit and nuts, interest rates on mortgage bonds and overdrafts/personal loans, and changes in VAT and assessment rates, and a few other items. The Core Index is used to calculate core inflation and is a reflection of the underlying inflationary pressures in the economy.

- **CPIX**: The CPI excluding interest rates on mortgage bonds (CPIX), is a measure designed to assist with inflation targeting.

- **CPIF, or the Food Price Index**: Only the food items appearing in the CPI basket are included. The CPIF is regarded as useful to assess the impact of price increases on poor households since food is the single biggest item in the total basket for the CPI.

Table 1: The weighting of food items in the CPI

Product	Weight
CPI	
CPI Excluding food	79,01
Food (total)	20,99
Grain products	3,81
Meat	5,66
Fish and other seafood	0,69
Milk, cheese and eggs	1,96
Fats and oils	0,76
Fruit and nuts	1,09
Vegetables	2,00
Sugar	0,50
Coffee, tea and cocoa	1,07
Other	3,45

Source: *Statistics South Africa*

Inflation trends

The Consumer Price Index (CPI) for all items, also termed the general index, displayed the following trends during the period under review. During the early 1990's the *CPI all items*, was at a high of 15% after which it consistently followed a decreasing trend and reached its lowest level towards the end of the 1990's, at nearly 2%. During the escalation in food prices during late 2002, the CPI for all items followed the same trend, as it increased to nearly 12% over a period of 3 months, after which it took another three months until it had subsided to its previous levels and continued with its downward trend. The CPI all items rose steadily during 2005 and peaked in September, reaching its highest level in 24 months at 4.59%. Thereafter the index levelled off again and ended the year on 3.26%.

The Consumer Price Index of Food (CPIF) followed a similar trend, yet variations in the trend were a lot greater. The early 1990's, or more specifically July 1992, saw an escalation of nearly 30% of this index. This was followed by an investigation into the rise of food prices by the Board on Tariffs and Trade. The CPIF peaked at that time and thereafter fell to 2.28% in September 1993. The CPI-food rose again to an 22% annual growth in September 1994, and then fell to reach a negative growth rate or deflation in November 1995, of –1.54%. Thereafter the trend followed a relatively constant variation, between 12% and 3.55% of annual growth. This changed during 2002 when the annual growth in the CPIF rose to 19.8% during October 2002. This sudden rise in food inflation prompted another investigation into the rise in food prices. The CPIF remained relatively constant throughout 2004, falling gradually as the year progressed. The CPIF fell from 15.51% during January 2003 to 2.73% during January 2004. The annual change in the CPIF during 2004 averaged around 2.73% for the entire year, with its largest change of 3,28% occurring during February 2004, , and its smallest change of 1,50% during December 2004. . During 2005 the CPIF remained relatively constant at below 2% for the first half of the year, but increased during the second half of 2005, finishing the year at 4.35%.

Not surprisingly, the CPI-excluding food, followed a similar trend to that of the CPI all items, in that it continuously varied with its main peaks in annual growth occurring during May 1995, November 1998 and November 2002. The CPI – excluding food rose on a continuous basis during 2004, peaking at 4.25% during November 2004 and then dropping off slightly during 2005 to reach 4.35%, its highest peak in 24 months.

Table 2: CPIX percentage change over twelve months

Description	Weight	Average 2004	Average 2005
Alcohol & tobacco	3.1	10.1	8.1
Services	16.5	6.5	6.2
Housing services	13.4	8.7	5.9
Transport running costs	5.7	10.2	14.0
Other goods	17.5	3.6	3.1
Transport services	3.9	3.5	1.9
Food	**26.9**	**2.0**	**2.1**
Furniture and equipment	3.2	0.5	-0.5
Vehicles	5.7	-0.8	-1.2
Clothing and footwear	4.1	-3.8	-3.4
Total CPIX	**100**	**4.3**	**3.9**

Source: *SARB, Quarterly Bulletin March 2006.*

During 2005 inflation remained relatively low. The CPIX goods, for example, recorded a twelve-month increase of 2.7% from April 2004 up until April 2005, with the prices of clothing, footwear and vehicles declining marginally. The increase in the petrol price did, however, cause the CPIX inflation to rise from its most recent low of 3.1% in February to 3.8% in April 2005. The sharp rise in crude oil prices and its derivative products also impacted on the Producer Price Index as well as the CPIbasket, but has not yet filtered through to the prices of consumer goods. This was tested by excluding the crude oil and petrol prices from the indices, which showed that inflation remained subdued and that there was no evidence of secondary round inflationary affects arising from the oil price increase. The CPIX accelerated to a high point of 4.8% in August 2005 and then subsequently receded to 4.4% in October, remaining comfortably within the South African Reserve Bank's target range of 3 to6%. The annual average CPIX for 2005 was 3.9% and this was 0.4% lower than the average for 2004.
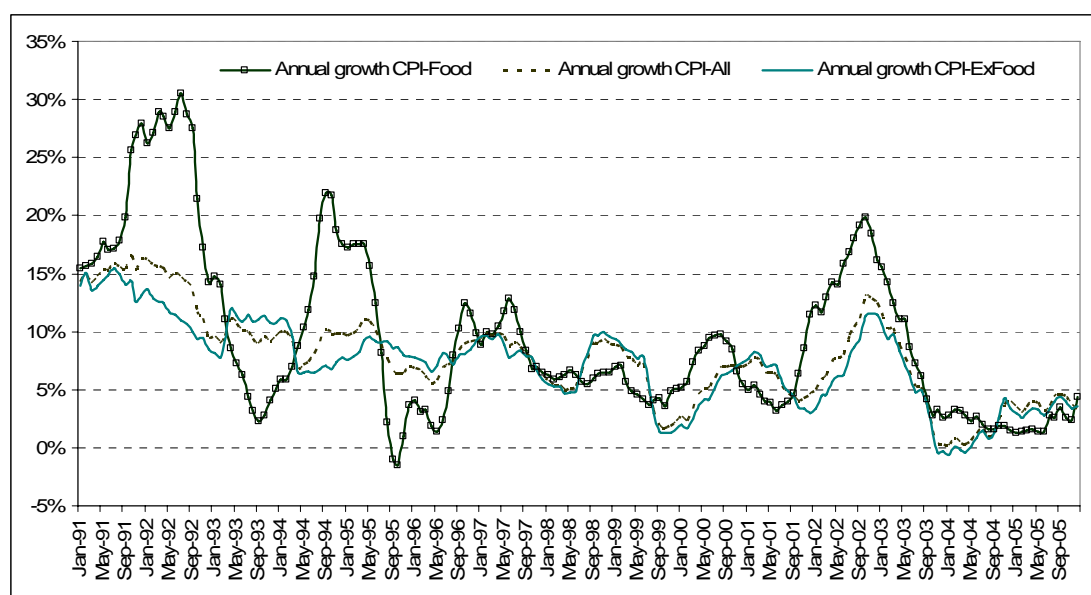
Figure 1: Change in CPI, CPI-food and CPI ex-food: January 1991 – December 2005.
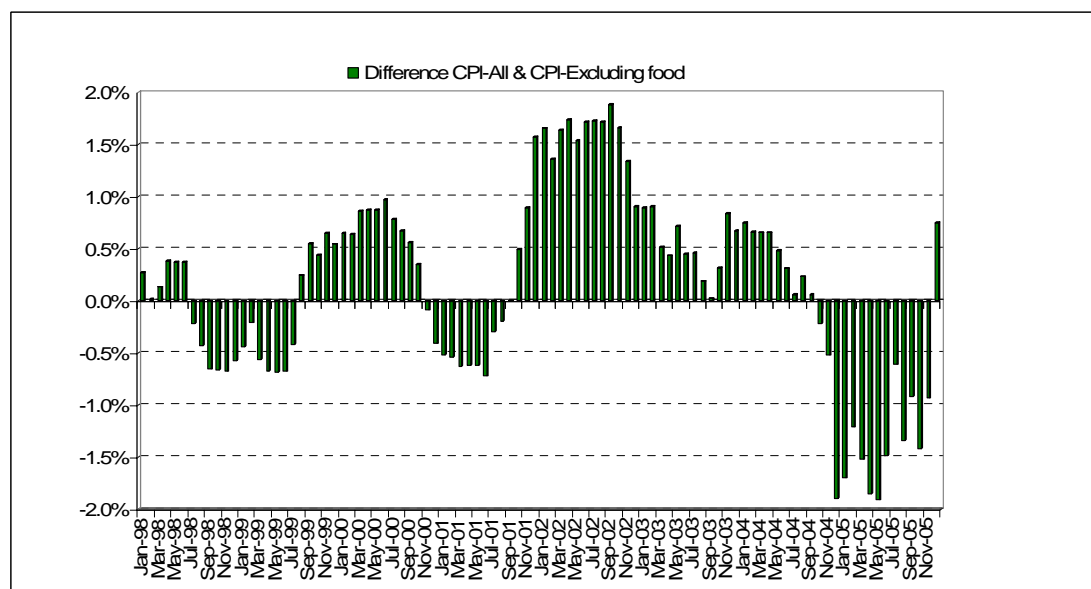
Figure 2: The difference between annual increase in CPI-all and CPI ex-food: January 1998 - December 2005 (% points)

Figure 2 provides an indication of what the difference between, the annual change in the Consumer Price Index and the annual change in the Consumer Price Index – excluding food, was. As the Figure indicates, the difference decreased constantly during 2004, and finally became negative for most of 2005. This therefore reflects that food inflation did not contribute to higher inflation during 2005, but has actually assisted in containing the overall inflation rate . The reason can partly be found in Figure 3 below showing the deflationary trend of the PPI for all food items
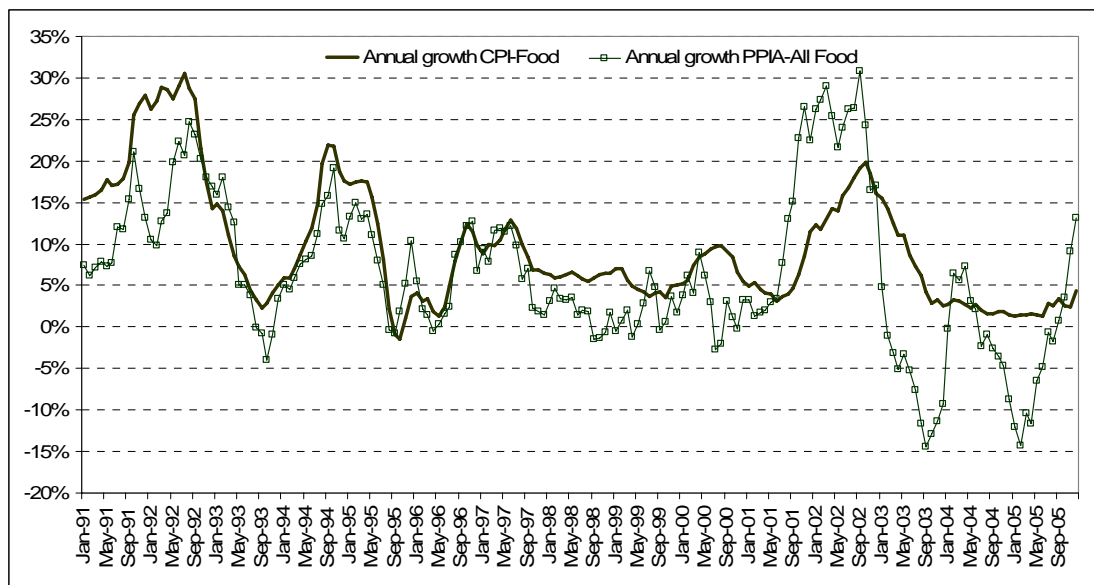
Figure 3: Annual change in CPI-food and PPI Agriculture - food: January 1991 - December 2005.

Unpacking food price inflation for different commodity groups

The next series of figures (Figures 4 to 7) are self-explanatory and provide more detailed and up-to-date analyses of the trends in the CPI and PPI for selected food groups, namely grain products, fruits and nuts, tea, coffee and sugar, and processed and unprocessed food products. Most of the commodities and food products show a similar trend with relatively stable and low inflation between July 1996 and November 2001. The high growth rates in the CPI and PPI series in 2002 are noticeable in all the commodities except for vegetables and fruits and nuts. The sharp depreciation of the Rand took place towards the end of 2001 and the beginning of 2002. The appreciation took place over the course of 2003 until 2005.
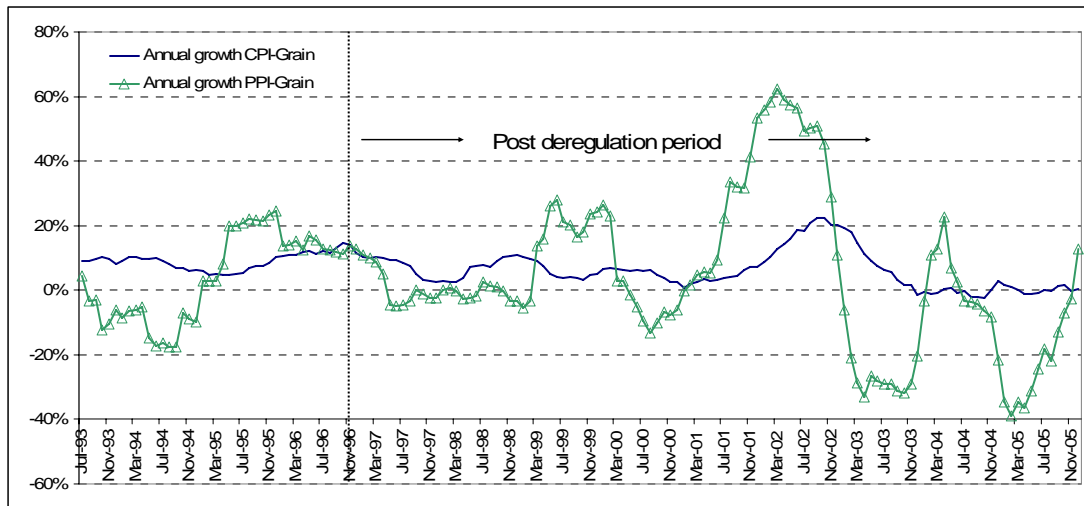
Figure 4: PPI and CPI for grain products: July 1993 - December 2005.
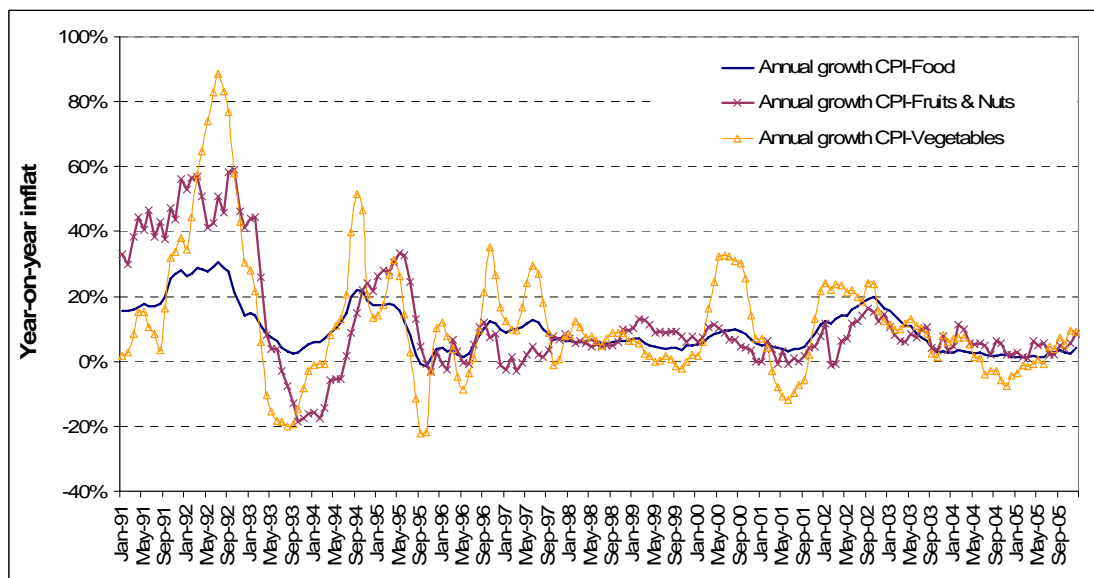
Figure 5: CPI for vegetables and fruits and nuts: January 1991 - December 2005.
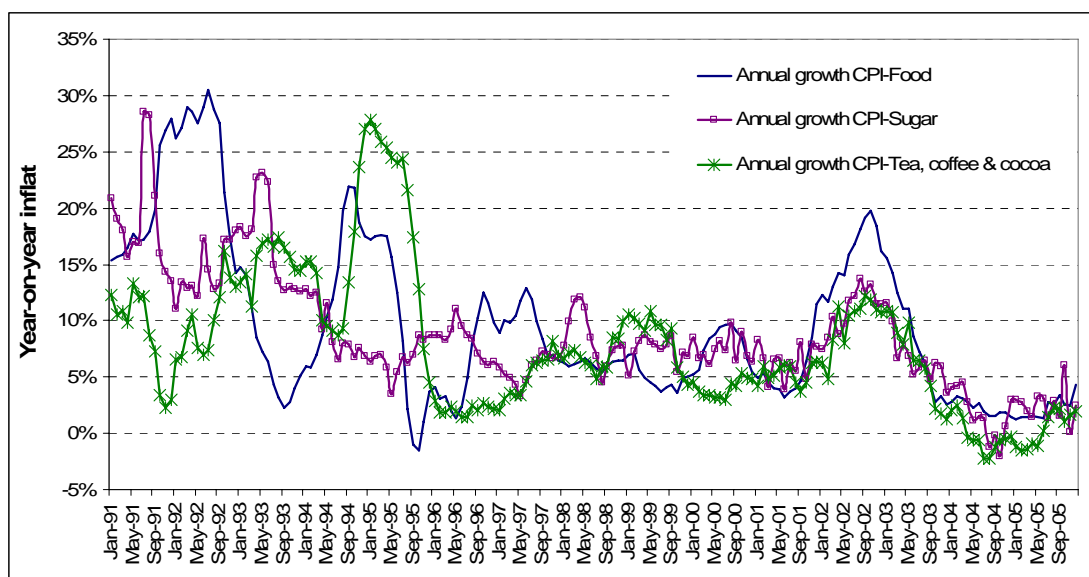
Figure 6: CPI for sugar and coffee, tea and cocoa: January 1991 – December 2005.
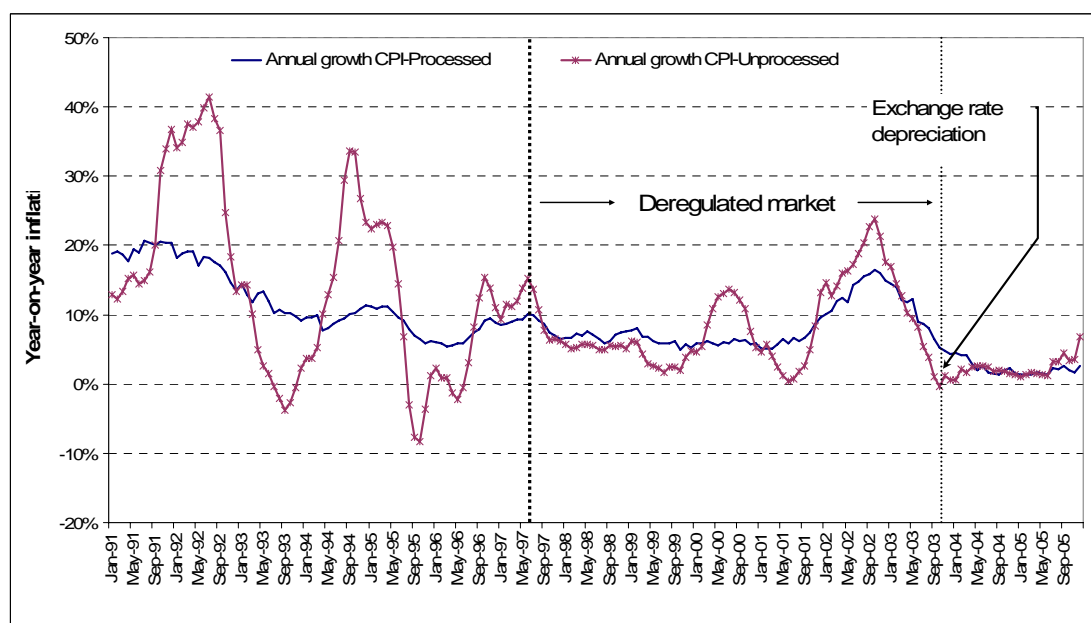
Figure 7: CPI for processed and unprocessed food products: January 1991 – December 2005.

Food price inflation and rural communities

When one unpacks the various CPI series in the Statistics South Africa data base, an interesting dichotomy between food price inflation in rural and urban areas emerges. The Consumer Price Index for food (for most commodities) in rural areas is generally higher, with inflation (year-on-year) being generally higher than in urban areas. This is illustrated in Table 3 and Figures 8 to 11.

Table 3: The relationship between food price inflation in rural and urban areas

	January 2003		January 2004		January 2005		January 2006	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
CPI-food	129.7	137.5	135.4	139.1	137.2	139.7	142.9	143.7
Inflation: Total Food	15.1%	22.5%	2.73%	-0.57%	1.33%	0.43%	4.15%	2.86%
Inflation: Grain Prod	19.0%	30.4%	-0.61%	-10.48%	1.61%	-2.69%	-0.23%	-1.74%
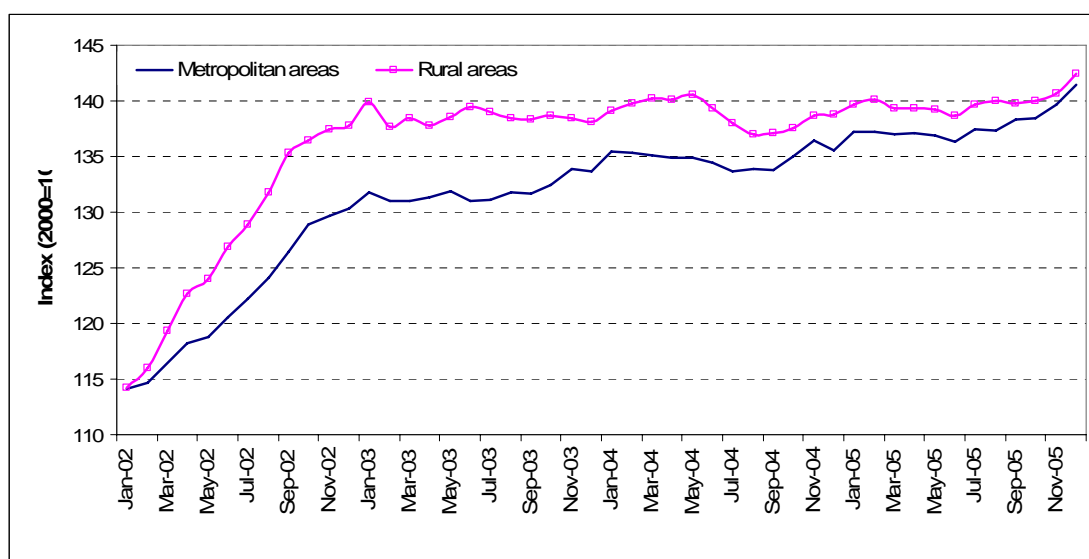
Figure 8: CPI food for rural and metropolitan areas: January 2002 - December 2005.
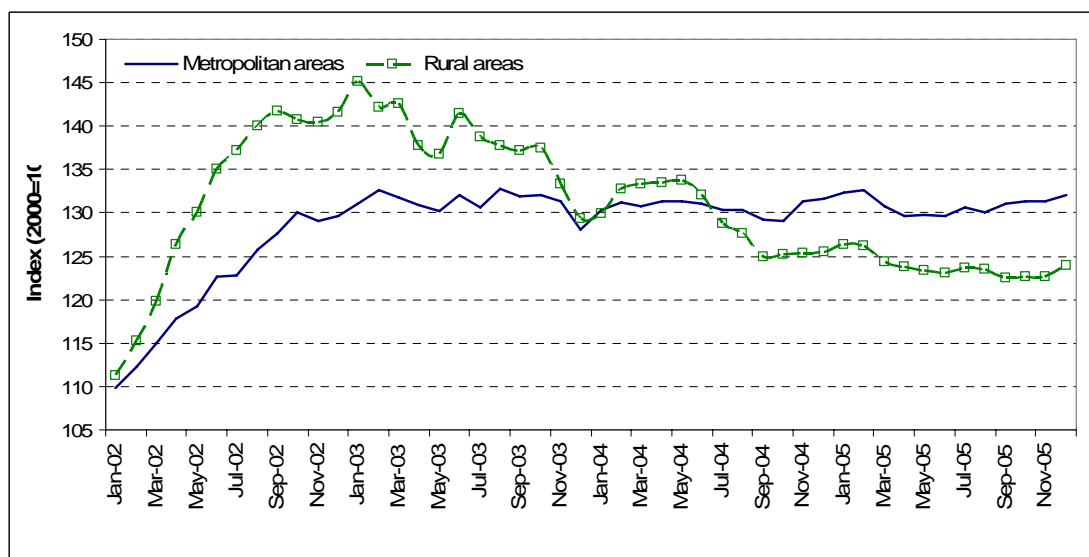
Figure 9: CPI for grain products for rural and metropolitan areas: January 2002 - December 2005.

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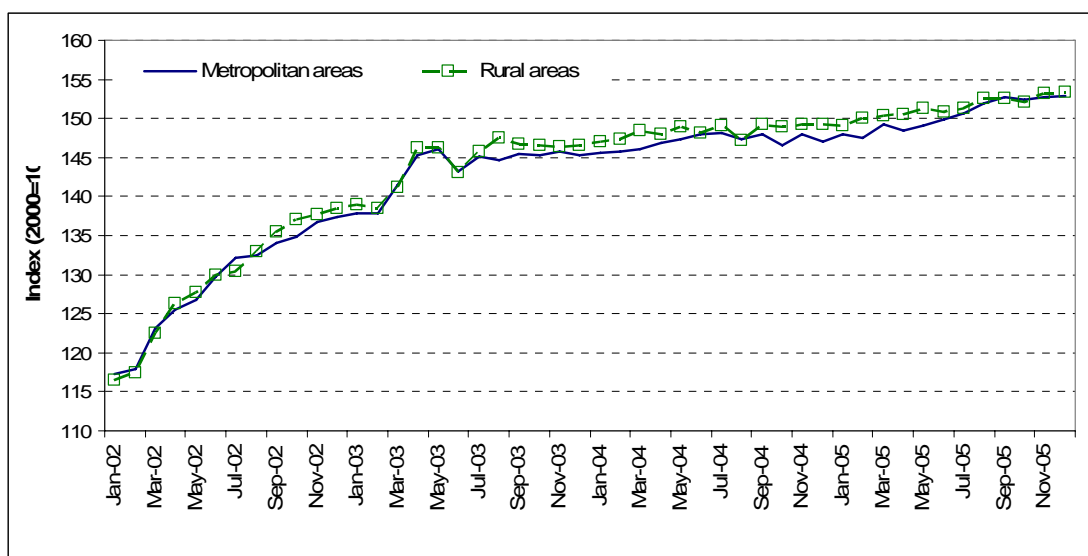
Figure 10: CPI for dairy products and eggs for rural and metropolitan areas: January 2002 - December 2005.
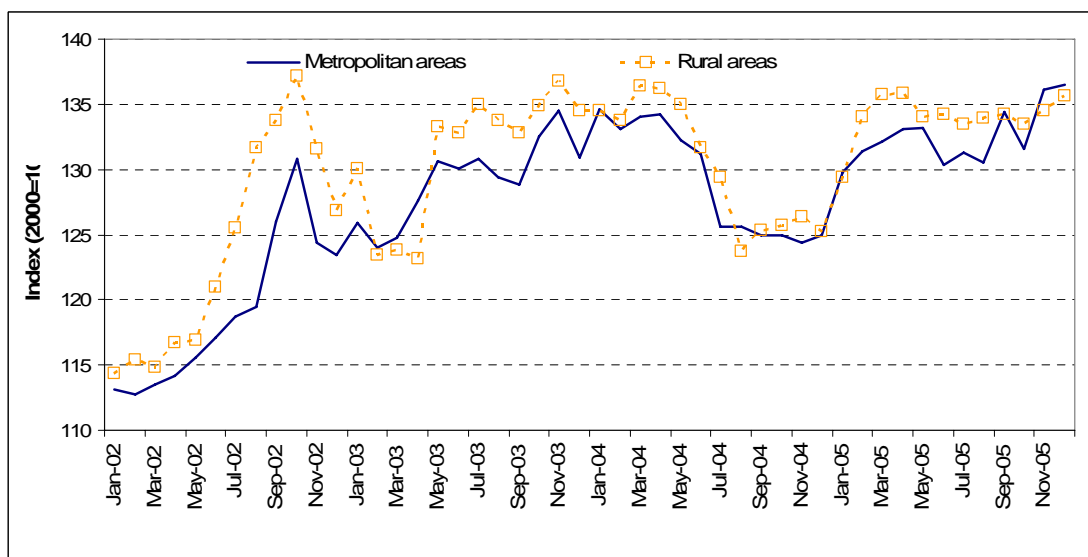
Figure 11: CPI for vegetables for rural and metropolitan areas: January 2002 - December 2005.

2. The farm value, farm-to-retail price spread and the retail value of the products contained in the food basket

Consumers for the most part do not buy food directly from farmers. The price consumers pay for food is almost invariably higher than that received by farmers. The **farm-to-retail price spread** is the difference between what the consumer pays and what the farmer receives. The price spread also provides some indication of the various activities that take place along the supply chain until the product reaches the consumer's table – also known as the marketing bill. The annual **food marketing bill** is a descriptive macro-economic measure showing the absolute and relative size of aggregate expenditures for farm-originated foods, marketing costs, and farm values. Changes over time in the marketing bill may result from changes in food prices, the quantity of marketing services (the amount of transportation, processing, and distribution by food sector firms), or the product mix or product quantities.

This section has been designed with the intention of calculating and explaining the farm value of each category, the farm-to-retail price spread of each category as well as the eventual movement of the retail price of the individual products. A specific section has been included to describe the costs of producing the various products and how these costs have changed over time.

With consumers mostly worried about retail prices and farmers being more directly affected by farm prices, why would either care about price spreads? Basically, producers can expect two things out of a price spread reporting system. The first is that the system could help them with the marketing of their products and this can be done by improving their knowledge of what the consumer wants, and secondly the producers can also measure the efficiency of the food marketing system and thereby ensure that they get their fair share of the consumer expenditure on food products. Consumers are also concerned about the efficiency of the marketing system since they would prefer lower prices (Hahn, 2004).

In order to develop the process of calculating farm-to-retail price spreads a person needs to understand a few key terms. One critical aspect is coming up with a definition of the farm and retail products so that they can effectively be compared.

- **Farm value:** The farm value is the value of the farm product's equivalent in the final food product purchased by the consumers. Farm values are calculated by multiplying disappearance quantities on a farm-weight basis with prices received by farmers. The farm value does not include the value of by-products. The **farm value share** is computed by dividing the farm value by consumer food expenditure, and is reported as a percentage. Over time, this share reflects relative changes in expenditure on farm products, food marketing services, and retail food products.

- **Farm-to-retail price spread:** The farm-to-retail price spread is the difference between what the consumer pays for the retail food product and the value of the farm products used in that product. Price spreads measure the aggregate contributions of food manufacturing, distribution, wholesaling and retailing firms that transform farm commodities into final food products. The values of

extraction rates as well as those of by-products produced during processing are all taken into account.

- **The market basket:** The market basket concept is used to analyse the changes in grocery store food prices by separating the two major components of food prices, namely the prices received by farmers for food products and charges for marketing services. The South African market basket contains a number of commodities that are generally purchased by the everyday consumer for consumption at home. The retail values or retail prices of the different commodities are those, which the consumers pay at retail level when they purchase the product. These are the prices from which the Consumer Price Index is derived.

2.1 Retail level price analysis

In order to analyse the farm-retail price spreads a person needs to first determine the trends in retail food prices. This section reviews the change in retail prices of some of the most important consumer food items in South Africa. The analysis is based on 75 of South Africa's most important food items that have been monitored by the NAMC since the beginning of 2004. The products are categorised into the following categories: wheat products, maize products, sunflower products, processed vegetables, fresh vegetables, red meat and poultry, dairy and eggs, fruits, fish and others. Tables 4 to 13 present an overview of price changes during the last 12 months (December 2004 to December 2005).

Interesting developments in the retail price levels during 2005 are the retail prices of brown bread and special maize meal. These items are interesting because very similar products have had quite different year-on-year price changes. The price of brown bread increased by 4.2% year-on-year, while the price of white bread increased by only 0.5%. A similar scenario is highlighted in maize products with the price of super maize meal decreasing by 8.8%, while the price of special maize meal increased by 5.6% year-on-year. Similarly, amongst the sunflower products, only margarine experienced a price increase of 6.4%, while all the other products whose main ingredient originates from sunflower seed, decreased. There are several possible explanations for these comparatively odd price changes. The first is that stores may be running specials on one of the commodities and not the other; this would show a year-on-year price decrease for that item. Similarly, stores could have run specials in December 2004 and thus a year-on-year price change would show a marked increase in those prices. The second possible explanation, in particular maize meal, is that there may have been high stocks of super maize meal relative to special maize meal, and thus supply and demand mechanisms would allow for such price changes. The third possible explanation is that processors or retailers, in light of increasing costs and therefore prices, use one item to "subsidise" the other similar item.

Table 4: National average weighted retail prices of selected wheat products

Wheat Products		DEC 04	DEC 05	DEC 04-Dec 05
		R / unit	*R / unit*	*% change*
Bread - White Sliced	700g	4.59	4.62	0.5%
Bread - Brown Sliced	700g	4.04	4.22	4.2%
Flour	2.5kg	10.96	10.57	-3.7%
Spaghetti Plain	500g	4.55	4.42	-3.1%
Macaroni Plain	500g	4.55	4.43	-2.6%
Average				-0.9%

Table 5: National average weighted retail prices of super and special maize meal

Maize Meal		DEC 04	DEC 05	DEC 04-Dec 05
		R / unit	*R / unit*	*% change*
Maize Super	5kg	14.04	12.91	-8.8%
Maize Special	5kg	10.47	11.09	5.6%
Average				-1.6%

Table 6: National average retail prices of selected sunflower seed derived products

Sunflower Products		DEC 04	DEC 05	DEC 04-Dec 05
		R / unit	*R / unit*	*% change*
Cooking Oil	750ml	6.14	5.99	-2.5%
Medium Fat Spread	1kg	11.64	11.49	-1.3%
Margarine Brick	500g	6.91	7.38	6.4%
Average				0.9%

The products in the fresh and processed vegetable categories that experienced year-on- year weighted average price increases during 2005 are: Butter beans in brine 410g cans (5.7%), canned peas 410g cans (4.1%), frozen baby carrots 1kg packet (4.7%), frozen corn 1kg packet (5.9%), frozen sliced beans 1kg packet (7.1%), cauliflower per head (27%), onions per 1kg (4.3%), cabbage per head (13.1%), potatoes per 7kg bag (15.1%), tomatoes per kg (3.6%) and sweet potatoes per 1kg (2.8%). Supply and seasonal factors play an important role in the price of fresh produce. However in most cases one would expect that the year on year price changes reported here should take care of the usual seasonal price variations. Another factor that contributes to seemingly large price fluctuations in the price of fresh produce is the fact that products like cabbage, pumpkins, cauliflower, and broccoli are sold per head or per item and not per kilogram. These sales units make it difficult to accurately determine price changes as the size of each unit may in fact change from one year to the next, thus a person are not always effectively comparing the same items

Table 7: National average retail prices of selected processed vegetables

Vegetables, Processed		DEC 04	DEC 05	DEC 04-Dec 05
		R / unit	*R / unit*	*% change*
Baked Beans in Tomato Sauce	410g	3.93	3.84	-2.2%
Butter Beans in Brine	410g	5.93	6.29	5.7%
Chopped Peeled Tomato	410g	6.25	6.09	-2.6%
Tomato & Onion Mix	410g	6.09	5.52	-10.2%
Canned Peas	410g	4.57	4.77	4.1%
Frozen Green Peas	1kg	18.02	13.61	-32.4%
Frozen Baby Carrots	1kg	19.79	20.77	4.7%
Frozen Corn	1kg	18.70	19.86	5.9%
Frozen Sliced Beans	1kg	19.54	21.03	7.1%
Average				-2.2%

Table 8: National average retail prices of selected fresh vegetables

Vegetables, Fresh		DEC 04	DEC 05	DEC 04-Dec 05
		R / unit	R / unit	% change
Cauliflower - Each (Head)	Head	5.91	8.09	27.0%
Carrots 1kg Pack	1kg	6.27	5.80	-8.2%
Onions 1kg Pack	1kg	4.89	5.11	4.3%
Cabbage - Each (Head)	Head	3.55	4.09	13.1%
Potatoes BS - 7kg	7kg	16.72	19.69	15.1%
Tomatoes per kg	/ kg	8.80	9.13	3.6%
Sweet Potatoes 1kg	1 kg	6.90	7.09	2.8%
Average				8.2%

Amongst the products in the red meat and poultry category, an average retail price increase of 5.3% was recorded. Lamb chops, brisket and whole fresh chicken were the products which recorded 'double digit inflation', whilst the retail prices of boerewors, beef mince, meatballs in gravy, picnic ham, French polony, streaky and rindless back bacon as well as whole frozen chicken all increased with less than 10%. Pork chops and beef stewing meat were the only two products in this category that experienced a decrease in retail prices.

Table 9: National average retail prices of selected red meat and chicken products

Red Meat and Chicken		DEC 04	DEC 05	DEC 04-Dec 05
		R / unit	R / unit	% change
Meatballs in Gravy	400g	7.98	8.32	4.2%
Picnic Ham	300g	13.74	14.91	7.9%
French Polony	1kg	15.98	16.90	5.4%
Rindless Back Bacon	250g	13.63	14.39	5.3%
Streaky Bacon	250g	12.60	12.65	0.4%
Pork Chops	/kg	37.61	32.78	-14.7%
Lamb Chops	/kg	44.02	50.64	13.1%
Boerewors	/kg	29.52	31.82	7.2%
Brisket	/kg	25.92	30.82	15.9%
Beef Mince	/kg	26.88	28.88	6.9%
Beef Stewing	/kg	29.94	28.19	-6.2%
Chicken - Whole Frozen	unit	16.92	18.24	7.2%
Chicken - Whole Fresh	unit	17.61	21.03	16.2%
Average				5.3%

Table 10: National average retail prices of selected dairy and egg products

Dairy and Eggs		DEC 04	DEC 05	DEC 04-Dec 05
		R / unit	R / unit	% change
Butter	500g	16.01	16.24	1.4%
Cheese – Cheddar	/ kg	35.47	32.65	-8.6%
Fresh Milk Full Cream	2 lt	9.49	9.71	2.3%
Fresh Milk Low Fat	2 lt	9.68	10.10	4.2%
Skimmed Powder Milk	1 kg	47.17	49.96	5.6%
LongLife Milk Full Cream	1 L	6.44	6.15	-4.7%
Fresh Milk Low Fat Sachet	1L	4.62	4.79	3.6%
Fresh Milk Full Cream Sachet	1L	4.35	4.58	5.1%
Eggs 30's	Unit	25.49	24.12	-5.7%
Average				0.3%

The retail prices in the dairy and eggs category increased on average by 0.3%. The retail price of cheddar cheese (-8.6%), long life full cream milk (-4.7%) and eggs (-5.7%) were the only ones which experienced a decline. Butter (1.4%), fresh milk

(4.2%) as well as skimmed milk powder (5.6%) showed marked price increases during 2005.

Table 11: National average retail prices of selected fresh and processed fruits

Fruit		DEC 04	DEC 05	DEC 04-Dec 05
		R / unit	R / unit	% change
Sliced Peaches	410g	5.46	5.04	-8.5%
Pears Halves	410g	6.78	7.04	3.7%
Strawberry Jam	450g	10.23	9.99	-2.5%
Apricot Jam	450g	7.72	7.24	-6.6%
Granny Smith Apples	1.5 kg	8.53	9.59	11.0%
Bananas	1 kg	4.91	6.27	21.7%
Oranges (Bag)	2.5 kg	8.40	11.40	26.3%
Average				6.5%

The data in Table 11 shows that fruits, on a year-to-year basis, experienced the largest increases in retail prices. On average the retail price of the different fruit products increased by 6.5%. The decrease in the retail prices of processed fruits such as sliced peach halves and strawberry and apricot jams is noteworthy. The data also reveals that fresh fruits, such as apples, bananas and oranges experienced retail price hikes of 11%, 21.7% and 26.3%, respectively. The hike in the retail price of oranges was caused by excessive rains, which hampered the farmer's ability to harvest and then resulted in a shortage in the supply of early ripening oranges for the local market (NAMC, 2006).

Table 12: National average retail prices of selected fish products

Fish		DEC 04	DEC 05	DEC 04-Dec 05
		R / unit	R / unit	% change
Pilchards in Tomato Sauce	425g	6.04	6.41	5.8%
Tuna Shredded in Brine	170g	6.80	6.72	-1.3%
Average				2.3%

Table 13: National average retail prices of other products

Other		DEC 04	DEC 05	DEC 04-Dec 05
		R / unit	R / unit	% change
King Korn	1 kg	6.69	6.59	-1.5%
Jungle Oats	1 kg	12.85	12.21	-5.3%
Cornflakes	750g	18.96	18.76	-1.1%
Rice Crispies	400g	15.88	15.82	-0.3%
Sugar	2.5kg	12.15	12.26	0.9%
Rice	2kg	8.44	8.85	4.6%
Ricoffy Regular	750g	25.82	25.91	0.3%
Glen Tea	100's	10.08	9.88	-2.0%
Coca Cola Regular	2L	9.11	8.90	-2.3%
Peanut Butter Smooth	410g	9.47	8.85	-7.0%
Soya Mince Tomato & Onion		6.09	5.76	-5.6%
Average				-1.8%

Most of the products in the last two categories (fish and other products), in general, experienced a decline in their retail prices during 2005, with the exception of pilchards in tomato, sugar, rice and regular Ricoffy. The decreases in retail prices varied from -0.3% for a packet of Rice Crispies to a 7.0% decline in the retail price of smooth peanut butter. The retail price of Jungle Oats decreased by 5.3%, whilst the retail price of soya mince with tomato and onion flavour by 5.6%. All in all the fish category experienced an average increase of 2.3% in the retail price, whilst the other goods category experienced an average decrease in the retail price of 1.8%.

2.2 Farm value

The farm value is the measure of the return, or payment, which the farmers receive for the farm-product equivalent of retail food sold to consumers. For example, the value of the quantity of raw maize required to manufacture a 12.5 kg of super maize meal. Before the farm value can be calculated, it is necessary to estimate the quantity of a farm product that must be purchased from the farmer to sell a unit of the product at retail. The farm value is calculated by multiplying the farm price with the quantity of farm product equivalent of food sold at retail. The farm value usually represents a greater quantity than the retail unit, because the product that farmers produce loses weight through storage, processing and distribution (USDA, 1997).

In this year's Food Cost Review detail is provided on the farm value calculations for dairy products (fresh milk, butter and cheese), poultry and pork chops. Readers are requested to refer to the 2004 Food Cost Review for the detail on the farm value calculations for maize meal, bread, a selected variety of beef cuts and other fresh products such as fruit and vegetables. The farm value time series of these products will only be updated in this year's report.

2.2.1 Farm value – Dairy products

General overview

The South African dairy industry has recently experienced a decline in the number of producers . The total number of dairy producers dropped from 7 077 in 1997 to 5 170 in 2002 and finally to 4 184 producers in 2006. On the other hand the average daily production increased from 774 litres per producer in 1997 to 1 288 litres in 2004 (Coetzee, 2005). This increase of 66% indicates that in general dairy farmers are managing to produce more milk per livestock unit. The annual total production of milk also increased over time, but at a decreasing rate. During 2005/06 slightly less milk was produced than during the previous season and the expected surge in production, on the back of lower grain prices, did not materialise. It is believed that the decrease in the producer prices at the beginning of winter and the adverse production conditions in many areas were responsible for this sudden decline in production. Total production for the 2006/07 production season is expected to increase by 1% from the production of 2005/06 (Coetzee, 2005).

The South African producer price of milk decreased sharply at the beginning of 2005 by approximately 10 cents per litre as milk buyers positioned themselves for an expected increase in production. The price averaged around R1.78 / litre and was still comparatively lower than in many other countries.

Farm value of dairy products

Milk is the raw input for a number of dairy products. This report focuses specifically on the dairy items contained in the South African food basket, namely fresh milk, both full cream and low fat, as well as cheddar cheese and butter.

Farm value – Fresh milk, full cream and low fat

The methodology used in this report is based on information gathered directly from the United States Department of Agriculture (USDA) and the South African Milk Producer's Organisation (SAMPO). Milk, at retail level, is required to contain a certain percentage of milk fat and skim solids. Milk fat at retail level usually averages around 3.3%, whilst skim solids average around 9%. In the USA as well as in South Africa, raw milk contains around 3.67% milk fat and 8.99% milk solids. Full cream retail milk, on a milk fat basis, will thus have an extraction factor of around 0.9, given a simple calculation of 3.3/3.67. What this means is that from 1 litre of raw milk, 90% will reach the retail store. The other 10% is removed from the batch as regulations dictate that the milk fat content only needs to be at a level of 3.3%. The same principle applies to low fat milk, which, in South Africa, has a milk fat basis of 2%, and will thus have a factor of 2/3.67 or 0.545 and therefore from 1 litre of raw milk, 54.5% will be converted to low fat milk, which is then sold at retail level. It is important to note that it is not the pasteurisation process or other heat treatments that lead to this result, but rather the decision of the processors on what the content of milk fat and solids should be in the final products. The fat that is taken out during the processing of fluids is then again added to other products, where the producer receives some value. This indicates that the farm value will differ noticeably between the different dairy products.

In the case of dairy this would entail that the farm value of one litre full cream milk would represent the return that the farmer receives for a litre of unprocessed milk equivalent of retail milk, which is sold to the consumer. The farm value is therefore calculated by multiplying the conversion factor, or the quantity of original milk that is retained during processing, with the farm gate price or the price, which the farmer receives from his sale. Figure 12 represents the farm values for both fresh full cream and low fat milk based on prices from the industry and using the assumptions that have been made in the paragraph above.
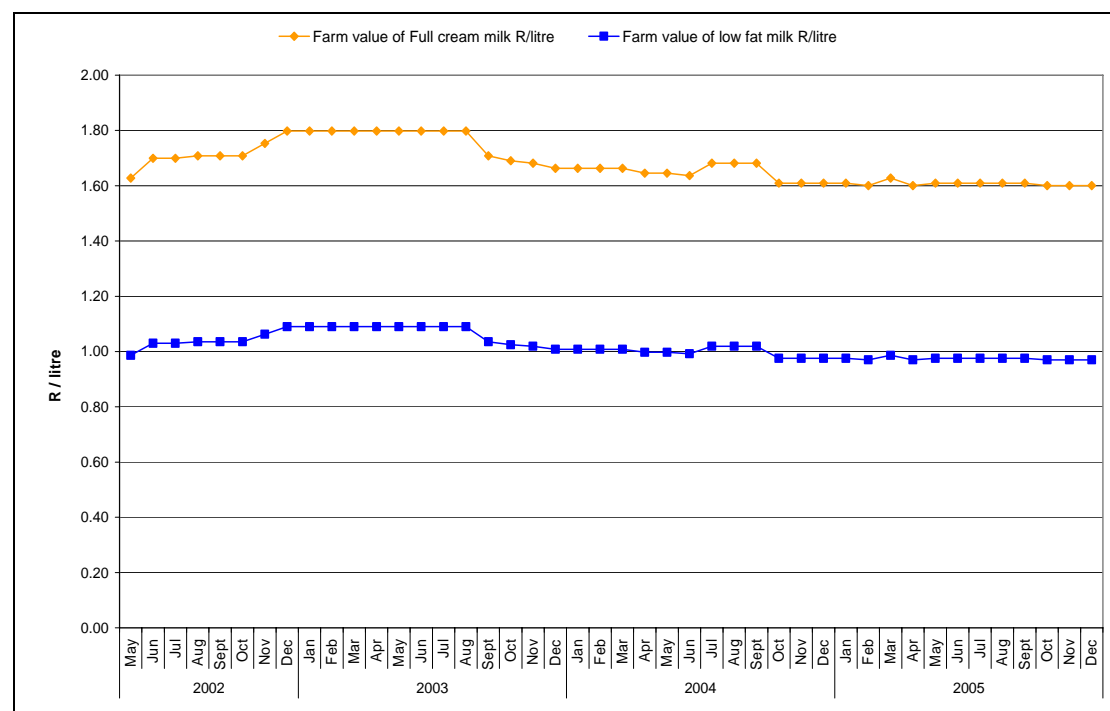
Figure 12: Farm value of low fat and full cream milk, May 2002 – December 2005.

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Figure 12 shows that the farm value, i.e. the measure of return which the farmer receives for the farm product equivalent of retail food sold, has not significantly increased, from levels of R0.90 / litre for low fat and R1.48 /litre for full cream milk, since May 2002. The biggest spike was experienced during mid 2003, but the farm value then levelled off again ending 2005 on R0.94 / litre for low fat milk and R1.55/litre for full cream milk.

Farm value – Cheddar cheese

The calculation of the farm value of cheese follows the same principle as that of all other agricultural commodities. The first step is to make an assumption as to what did the farmer received for the original unprocessed farm product equivalent of retail food that has been sold to the consumer? Information from industry experts and other dairy industry guidelines state that approximately 10 litres of raw milk are required to produce a single kilogram of standard cheddar cheese. Based on this information it can be concluded that the conversion factor of cheese is equal to 10. The farm price for processed milk is then multiplied by the quantity of raw milk required, which is represented by the conversion factor of 10, and this is then equal to the farm value of the product. Figure 13 represents the change in the farm value from 2004 up until the end of 2005.
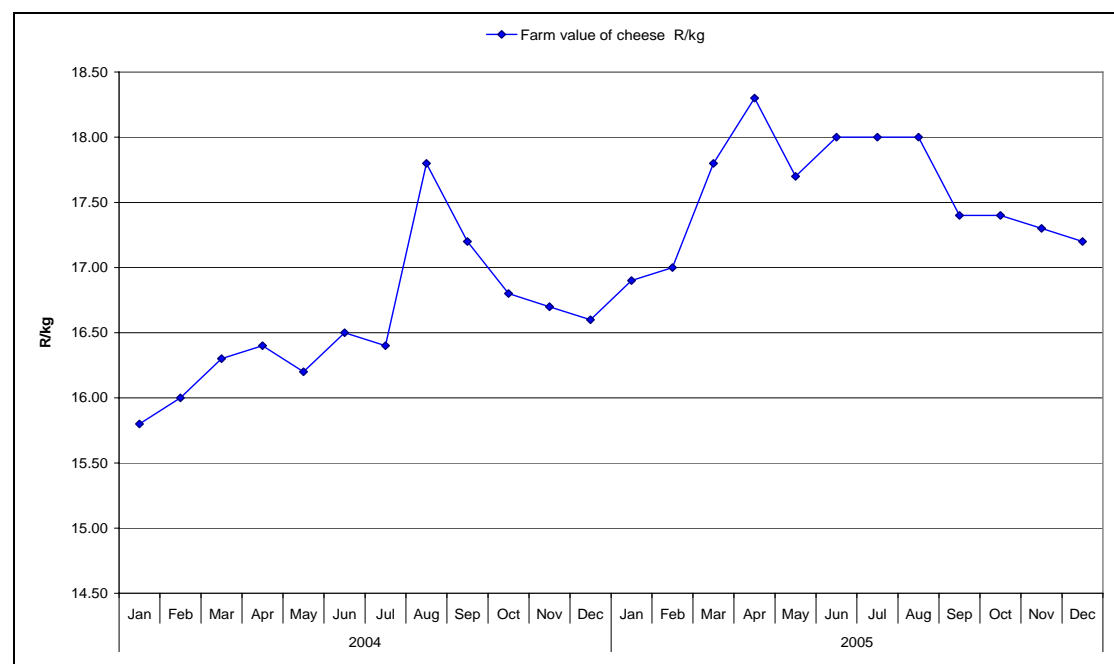
Figure 13: Farm value of cheese January 2004 – December 2005.

As Figure 13 indicates, the farm value of cheese increased slowly from January 2004 but then levelled off again towards the end of 2005, this on the back of lower milk producer prices. What the graph reveals is that farmers are earning relatively less per kg of cheese sold than was the case a few months ago.

Farm value – Butter

The farm value of butter posts a similar problem as the farm value calculation of cheese. The extraction rate is again the crucial factor that represents how much the value is of the farm product equivalent which is purchased by the consumer at the point of sale. Experts in the field estimate that approximately 14 litres of raw milk are needed to produce 1 kg of butter. The farm price for processed milk is then multiplied with the quantity of raw milk required, which is represented by the conversion factor of 14 and this then equals the farm value.
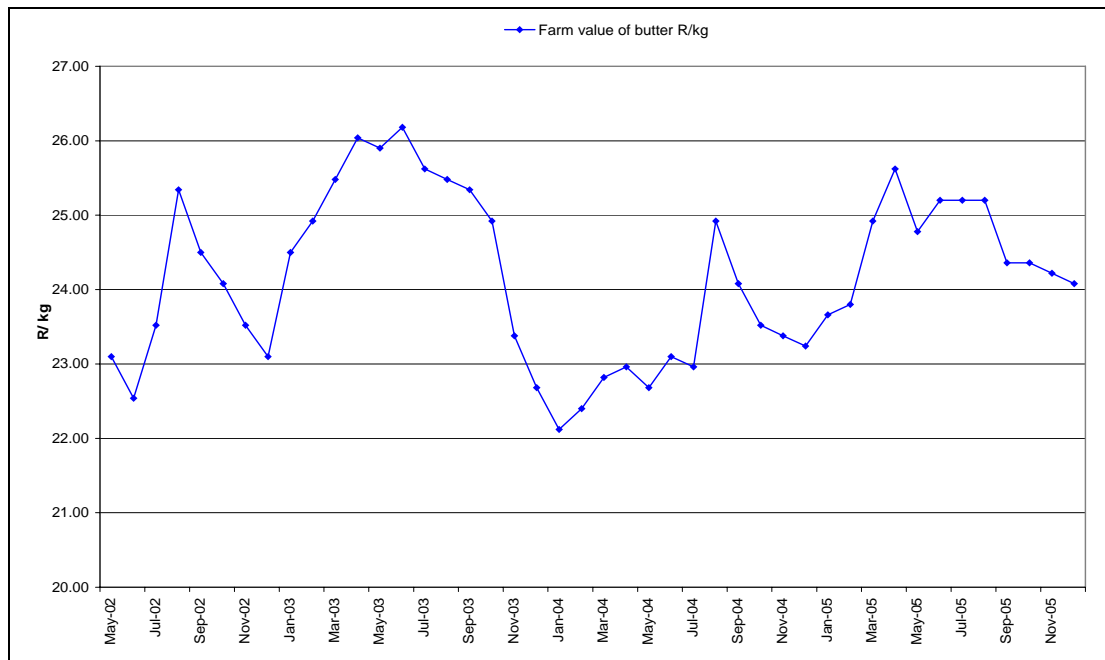
Figure 14: Farm value of butter, May 2002 – December 2005.
Source: *Calculation from MPO data*

Figure 14 represents the change in the farm value of butter since 2002. As can be seen from the Figure, the farm value rose sharply during the middle of 2003 and then fell again sharply towards the end of 2003. 2004 saw the farm value reaching a peak and thereafter continuing on an upward trend, after which it reached its turning point in July 2005. The second half of 2005 saw the farm value of butter declining even further.

2.2.2 Farm value - Poultry (Fresh and Frozen)

The methodology used in estimating the farm value for chicken (fresh and frozen) is similar to that applied in the case of other meat products. As is the case with beef and pork, a number of assumptions regarding the standard chicken carcass need to be made. As this report only investigates whole birds, the standard weight is irrelevant and therefore the farm value is calculated on a per kilogram basis.

The farm value for a chicken carcass represents what the farmer earns, or what the measure of his return is, given the farm product equivalent of retail food sold to the consumer. In simple terms the farm value is equal to the average producer price

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received by the farmer, given the nature of the product. Figure 15 represents the trend in the poultry farm value, expressed in R / kg.
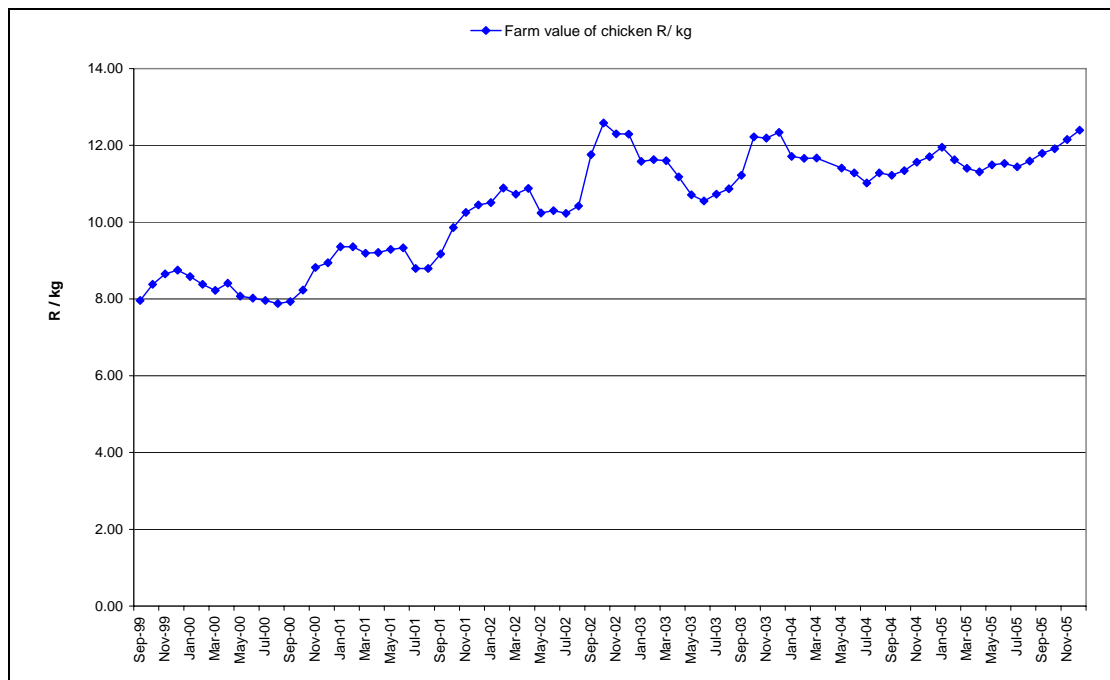
Figure 15: Farm value of chicken: from September 1999 December 2005.

The farm value of chicken increased over time peaking towards the end of 2002 and again towards the end of 2003. The farm value has steadily increased over time indicating that the farmer's measure of return, which he receives for his farm product equivalent sold to the consumer, has increased over time.

2.2.3 Farm value - Pork

  In South Africa there are no formal publications on the methodology as to how the farm value and the farm-to-retail price spread of pork is to be calculated. A similar approach as the one which was demonstrated in the case of beef (Food Cost Review 2004) will be followed in the case of pork.

The USDA follows an approach in which a standard animal is dissected using a standard method and it is then sold in a standard form or package by the retail store. The total value of the carcass at farm level is then compared to the total value of the carcass, which has been built up from the different pieces, which are for sale in a retail store.

As in the case with all of the other commodities, assumptions need to be made so that the farm value and farm- to- retail price spread of pork chops can be calculated. The reason why only pork chops are analysed, is that they are the only pork product contained in the South African food basket. The data used in these calculations is made up of slaughter prices for the four main pork meat quality groups as supplied by the Red Meat Abattoir Association. The average slaughter weights of each of the meat classes differs and, based on historical data, the following assumptions have been

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made. The average weight of a carcass in the BO class is 74.38kg, in the BP class 71.68kg, in the BR class 77.39kg and in the PP class 51.57kg (RMAA, 2005).The second assumption concerns the percentage mass which is made up by the pork products contained within the food basket. Again this differs from class to class as different carcasses of different quality have different weights. Pork chops, for example, are divided into Rib chops and Loin chops, both of which make up 10.58% and 7.4% of the average carcass weight, respectively (SAMIC, 2005). What this means is that a standard pork carcass in the different quality classes contains on average 17.98% chops. In short the farm value of these products is representative of the value of the farm products equivalent to food purchased by or for consumers at the point of sale by the farmers.
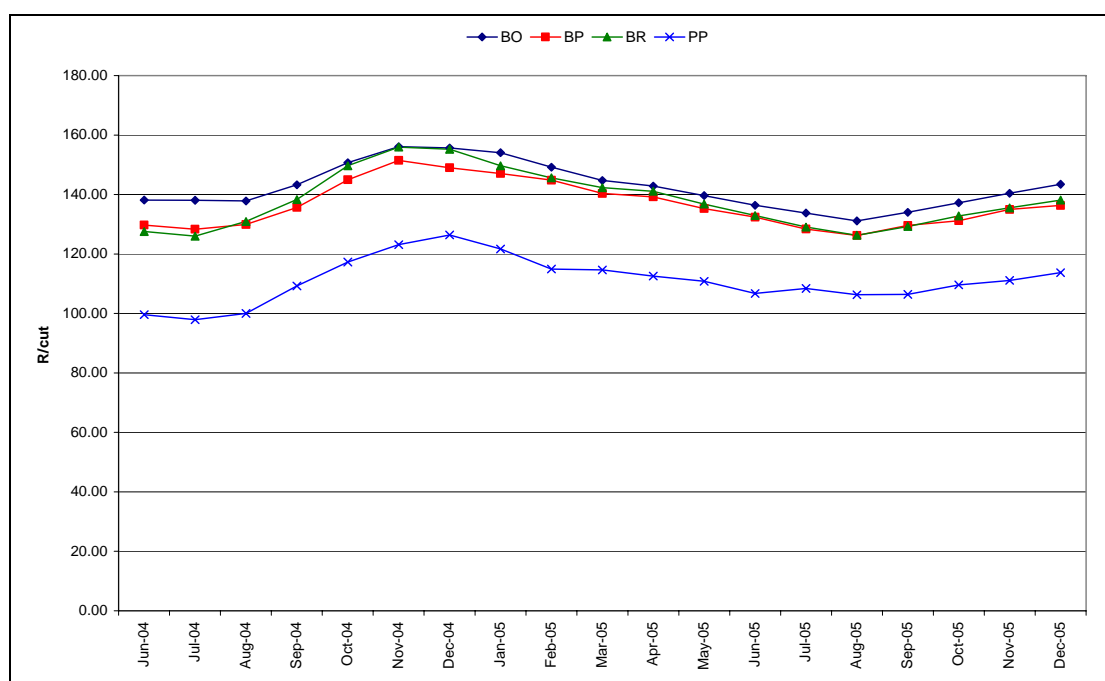
Figure 16: The farm value of pork, June 2004 – December 2005.
Source: *Calculations done from RMAA data, 2006.*

2.2.4 Farm value – Beef and beef cuts

The 2004 Food Cost Review defined the methodology for calculating the farm value of meat cuts in great detail. The section below briefly recaps the assumptions that have been made previously and quickly defines what percentage of the entire carcass each one of the selected cuts represents.

The first assumption defines the average slaughtering weight of one head of cattle as equal to 220 kilogram. Of the 220 kilogram, 42.24 kilogram consist of parts, which do not form part of any direct food related items, and include off- cuts, fat, kidneys and bones. The second assumption relates to allocating certain weights to the different meat cuts: Rump steaks are allocated a weight of 16.72kg, sirloin steaks 11.22kg, topside beef 16.94kg, chuck 23.09kg and brisket 17.6kg.

The farm value of beef was thus calculated by firstly determining the average weight of the specific cuts in question. This would mean that from a 220 kg carcass weight, 85.57 kg are made up from the cuts represented in StatsSA's food basket. To calculate

the farm value the weight of the cuts, that is 85.57kg was multiplied with the weighted average annual slaughter price of A2 quality beef (per kilogram), which is calculated from the Red Meat Abattoir Association's data base.

Since the Food Cost Review of 2004 reported the farm value of the selected cuts of beef from 2002 up until mid 2004, it is important that this report focuses on the 18-month period from June 2004 up until December 2005. July 2004 saw the farm value of beef at its lowest point of R1 141.04 for the selected cuts, after which it increased to a value of R1 254.92 during December 2004. During 2005 the farm value of the selected cuts of meat increased constantly throughout the year, reaching its maximum point of R1 364.90 during December 2005. On average the farm value of the selected cuts increased by 7.91% from 2004 up until 2005. In actual terms the farm value increased from a 2004 average of R1 196.36 for the selected cuts to a 2005 average of R1 291.48.

2.2.5 Farm value - Maize meal (super and special)

During 2005 the farm value of both super and special maize meal decreased from R1 285.10 per ton and R1 020.57 per ton during January to R849.89 per ton and R 674.49 per ton during December, respectively. This means that the 2005 average farm values for super and special maize meal were around R927.89 per ton and R736.89 per ton, respectively. This is a significant decrease from the 2004 annual average of R1 502.81 per ton for super and R1 187.11 per ton for special maize meal. This 38.26% and 37.93% decrease in the farm value of super and special maize meal, respectively, from its 2004 average can, to a large extent, be attributed to a relatively large maize harvest, large carry- over stocks and resultant low maize producer prices.

Table 14: Farm value of super maize meal, monthly 2002 - 2005

Month	2002	2003	2004	2005
	R/ton maize meal	**R/ton maize meal**	**R/ton maize meal**	**R/ton maize meal**
January	1470.14	2660.08	1280	1285.1
February	1557.92	2648.76	1252.80	1244.64
March	1585.52	2722.96	1295.76	1375.2
April	2340.17	2629.47	1588.80	1096.77
May	2631.23	2289.38	1922.37	993.17
June	2833.36	1594.64	1962.72	674.08
July	3076.62	1268.8	1583.47	670.16
August	2945.84	1107.65	1616.98	691.12
September	2706.91	1243.81	1518.78	717.1
October	2672.17	1257.6	1422.08	750.62
November	2580.94	1166.4	1248.94	786.85
December	2645.87	1212.8	1341.02	849.89

Table 15: Farm value of special maize meal, monthly 2002 - 2005

Month	2002 R/ton maize meal	2003 R/ton maize meal	2004 R/ton maize meal	2005 R/ton maize meal
January	1167.52	2112.52	1010.17	1020.57
February	1237.22	2103.53	988.56	988.44
March	1513.28	2146.12	1022.68	1092.12
April	1858.46	2088.21	1255.40	871.00
May	2089.61	1818.12	1520.30	788.73
June	2250.13	1266.39	1552.35	535.32
July	2443.32	1008.77	1251.17	532.21
August	2339.45	879.89	1277.78	548.86
September	2149.71	987.78	1199.80	569.49
October	2122.12	998.73	1123.00	596.11
November	2049.67	926.30	985.50	624.88
December	2101.23	963.15	1058.63	674.94

2.2.6 Farm value – Bread (White and Brown)

The farm value of white bread, taking a four-month lag in the producer price into account, followed an increasing trend during 2005. The farm value peaked during July 2005 when it reached R1 905.14 per ton and then decreased ending the year on R1 672.70 per ton. On average the farm value of white bread decreased from R1 855.87 per ton during 2004 to R1 705.40 per ton during 2005. This represents a decrease in the annual average farm value of 8.11%.

The farm value of brown bread followed a very similar pattern, increasing towards the middle of the year and then decreasing again towards the end of the year. As in the case of white bread, the farm value of brown bread also peaked during July 2005, only to level off again towards December. On average the farm value decreased from a 2004 average of R1 741.31 per ton to an average of R1 600.12 per ton during 2005. This meant that the farm value of brown bread, similar to that of white bread, also decreased by 8,11%.

Table 16: Farm value of white bread, monthly 2002 – 2005.

Month	2002	2003	2004	2005
	R/ton	R/ton	R/ton	R/ton
January	1616.27	2515.98	2072.37	1515.39
February	1719.79	2507.89	2114.47	1543.29
March	1977.21	2231.70	2086.84	1537.23
April	2380.12	2049.24	2098.68	1626.97
May	2319.98	1905.50	2088.16	1715.85
June	2221.64	1657.76	1868.42	1893.80
July	2217.04	1718.33	1734.21	1905.14
August	2298.75	1703.11	1735.71	1757.00
September	2348.92	1671.67	1694.99	1848.57
October	2285.32	1745.19	1672.22	1700.38
November	2350.97	1843.06	1603.11	1748.44
December	2435.53	2053.62	1501.25	1672.70

Table 17: Farm value of brown bread, monthly 2002 – 2005.

Month	2002	2003	2004	2005
	R/ton	R/ton	R/ton	R/ton
January	1516.5	2036.67	1944.44	1421.85
February	1613.63	2353.08	1983.95	1448.02
March	1855.16	2093.94	1958.02	1442.34
April	2233.2	1922.74	1969.14	1526.54
May	2176.77	1787.87	1959.26	1609.94
June	2084.51	1555.43	1753.09	1776.90
July	2080.18	1612.26	1627.16	1787.54
August	2156.85	1597.97	1628.57	1648.54
September	2203.93	1568.48	1590.36	1734.46
October	2144.25	1637.47	1569.00	1595.42
November	2205.85	1729.29	1504.15	1640.52
December	2285.19	1926.85	1408.58	1569.44

2.2.7 Farm value – Sunflower oil

The farm value of sunflower oil declined slightly during the first half of 2005 after which it increased again to reach a 2005 maximum of R5 310.81 per ton. On average the farm value of sunflower oil decreased by 12.32% from R5 404.63 per ton during 2004 to an average of R4 738.82 per ton during 2005.

Table 18: Farm value of sunflower oil, monthly 2002 - 2005

Month	2002	2003	2004	2005
	R/ton	R/ton	R/ton	R/ton
January	5825.20	6574.36	4828.21	5105.49
February	6093.36	6235.16	5582.31	5255.59
March	6919.66	5867.21	6507.82	4589.26
April	7121.68	5596.62	6999.77	4424.49
May	6175.64	4733.33	6335.26	4728.21
June	5867.34	4384.62	5641.95	3795.93
July	5691.70	4041.03	5120.95	4146.86
August	5590.21	3838.46	5200.85	4580.72
September	6045.48	4300.00	4769.10	4815.38
October	6227.42	4153.85	4241.15	4845.64
November	6731.03	4058.97	4652.38	5310.81
December	6659.87	4394.87	4975.85	5267.52

2.2.8 Farm value - Vegetables

The CPI basket contains a variety of fresh vegetables. The vegetables that are included in the basket are potatoes, onions, tomatoes, green beans, cabbages, carrots, pumpkins and gem squashes. Many of the vegetables that have been included in the basket have a farm value equal to the farm gate price, with the farm gate price being the producer price less the transport cost. The methodology for calculating the national producer prices of vegetables, has been altered this year to include a more relevant picture. Statistics from the fresh produce markets have again been used, but for this report a national weighted average producer price was calculated. This means that the producer prices at the different markets have been weighted according to the quantity of the product which has been sold. The higher the quantity sold the greater the weight of that price with respect to the overall national average.

It should, however, also be noted that not all of the produce is delivered to the fresh produce market. There are in fact farmers who are contract growers and who deliver their products directly to retail stores. A recent study indicates that these contract growers might experience less variability in prices as would be the case if they were delivering their products to the fresh produce market. The same study indicated that the retailers do, however, mostly base the price which they pay to the producers on the fresh produce market's price plus an agreed premium.

The weighted average producer price of potatoes, as recorded on the three largest fresh produce markets in South Africa, increased from R1 536.35 per ton during 2004 to R1 761.80 per ton during 2005. Due to the seasonality of the product, 2005 saw the producer price of potatoes increasing steeply from September 2005 onwards and peaking in December at R2 522.95 per ton on the Tshwane market, R2 559.94 per ton on the Johannesburg market and R2 674.60 per ton on the Bloemfontein market.

The weighted average producer price of cabbages also increased between 2004 and 2005. In 2004 a ton of cabbages cost R616.54, whilst 2005 saw the average producer price increase to R786.88 per ton. On most of the markets the producer price of

cabbages peaked at around R1000 per ton during the first months of 2005, and then decreased and followed a relatively constant trend for the remainder of the year.

Green beans, on average, experienced a 12.44% increased in the weighted producer price between 2004 and 2005. The price increased from an average of R3567.58 per ton during 2004 to R4011.60 per ton during 2005. In general, the producer price of green beans increased at a relatively constant rate throughout the year.

Carrots also experienced an increase in the weighted average producer price from 2004 up until 2005. The price increased from an average of R1 180.66 per ton during 2004 to an average of R1 436.53 per ton during 2005.

Pumpkins were the only fresh produce products to experience a decline in the average producer price during the period under review. The weighted producer price of pumpkins declined from a 2004 level of R809.81 per ton to a 2005 level of R781.41 per ton.

Gem squash, onions and tomatoes all experienced increases in the weighted average producer prices. The weighted average producer price of gem squashes increased by 13.5%, the producer price of onions by 11.2% and the producer price of tomatoes by a mere 1.09%. In actual terms the 2005 weighted average price for gem squashes equalled R1 647.42 per ton, for onions R1 318.9 per ton and for tomatoes R2 453.9 per ton.
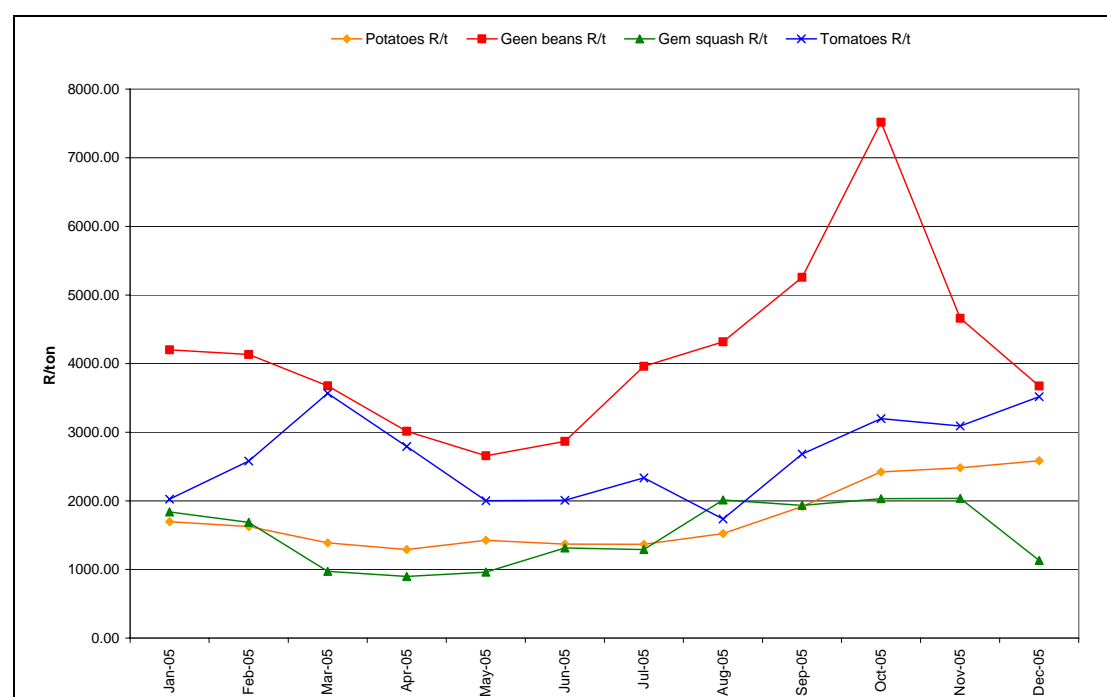
Figure 17: Weighted average fresh produce market producer prices for potatoes, green beans, gem squashes and tomatoes during 2005.
Source: *Calculation done from DoA data, 2006.*

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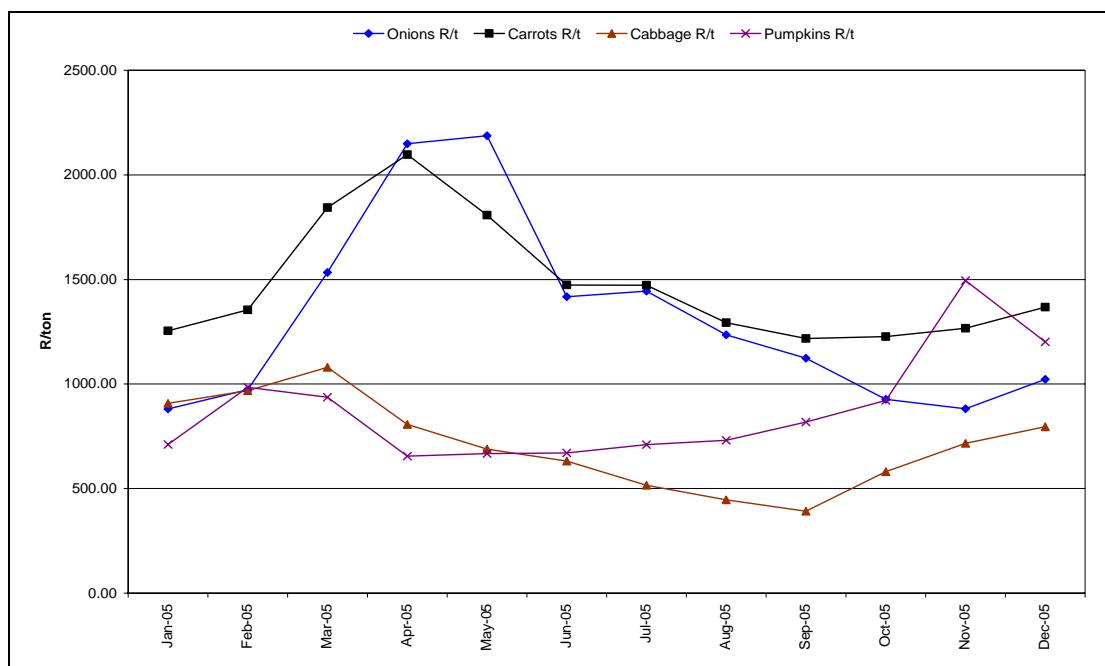
Figure 18: Weighted average fresh produce market producer prices for onions, carrots, cabbages and pumpkins during 2005.
Source: *Calculations done from DoA data, 2006.*

2.2.9 Farm value – Fruits

The CPI basket also contains a selection of fruits consisting of apples, oranges and bananas. Again the farm value is very similar to their producer prices, as very little value is added to the products before they reach the consumers. As is the case with vegetables, the farm value will be equal to the farm gate price, producer price less the transport differential.

The weighted average producer price of apples increased from its 2004 value by 14.33%, to reach a new weighted average price of R3 015.63 per ton in 2005. In general the price trend followed an upward pattern throughout the year and reached its peak of R3 824.89 per ton in December 2005.

Oranges and bananas both experienced similar trends in their weighted average producer prices. In both instances the producer prices followed a downward trend decreasing by 1.7% and 7.1%, respectively. During 2005, oranges and bananas sold for R1 132.45 per ton and R2 438.95 per ton, respectively, taking the prices on the main fresh produce markets into account.

2.3 The farm-to-retail price spread and farm value share of products contained in the food basket.

Farm- to- retail price spread and farm value share

The <u>farm-to-retail price spread</u> is the difference between the farm value and the retail price. It represents the payments for all assembling, processing, transporting and retailing costs added to the value of the products after they leave the farm gate. Price spreads are sometimes confused with marketing margins. Marketing margins represent the difference between the sales of a given firm and the cost of goods sold. There is often a time lag between the receipts and the final sale of merchandise involved in the calculation of this figure. Spreads, on the other hand, represent the difference between the retail and farm prices of a specific product at a given point in time (USDA, 1997).

The <u>farm value share</u> is computed by dividing the farm value by consumer food expenditure, and is reported as a percentage. Over time, this share reflects relative changes in expenditure for farm products, food marketing services, and retail food products.

2.3.1 Farm-to-retail price spread and farm value share – Dairy products

The farm- to- retail price spread of dairy products differs between products. As discussed in the farm value section of this report, the extraction factor differs amongst products, depending on the degree of processing and as a result the farm value will differ from product to product.

The farm- to- retail price spread of fresh full cream milk increased from May 2002 up until December 2005. As Figure 19 indicates, the source of the retail prices was changed in 2003, but apart from this it can still be concluded that the farm- to- retail price spread followed an increasing trend. The spread reached a height of R3.09 per litre during August 2005, after which it decreased slightly to end the period on R2.98 per litre.

The farm value share, on the other hand, followed a slightly decreasing trend from 2004 onwards. The farm value share peaked in August 2004 at 37.96%, after which it slowly declined to end the year on 34.02%. This means that the actual percentage which the farm value makes up of the retail price declined, indicating that the value received by the farmer made up less of the price for which the product sold at retail level.
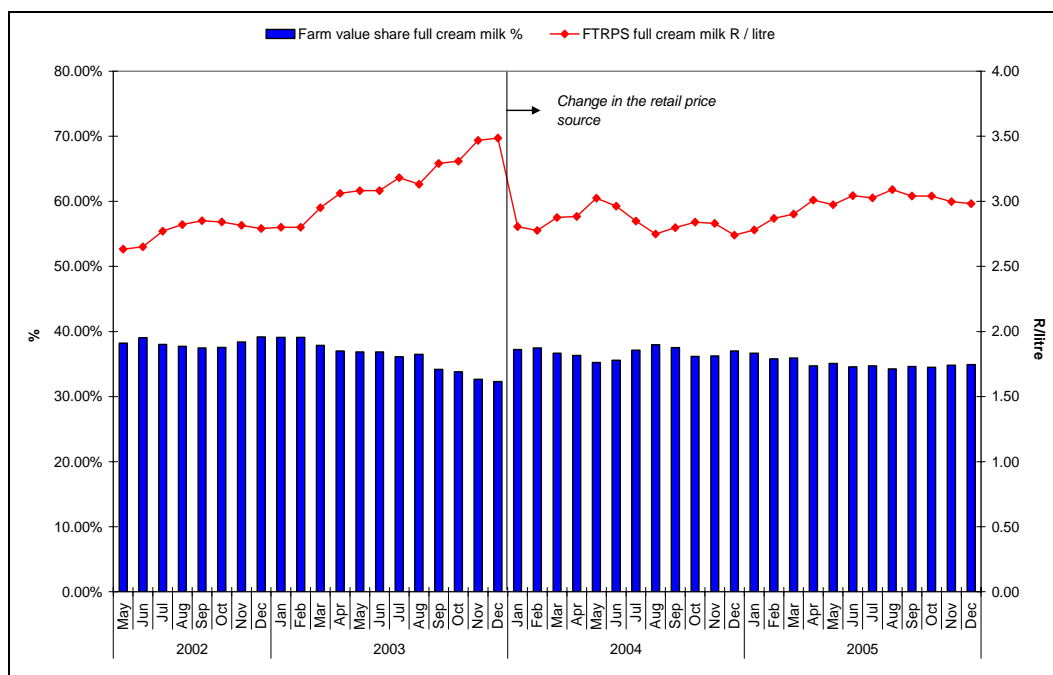
Figure 19: The farm- to- retail price spread and farm value share of full cream milk.
Source*: Calculations done from MPO / ACNielsen data, 2006.*

As a restriction in the data only allows for tracking the farm- to- retail price spread of low fat milk from January 2004, it is analysed separately. Low fat milk has a lower milk fat concentration and therefore is processed to a greater extent. It is observed that the farm- to- retail price spread of low fat milk remained relatively constant throughout the 24month period. The spread had a value of R 3.85 per litre in January 2004, and then decreased to R 3.82 per litre in December 2005.

The farm value share remained relatively constant, peaking during September 2004 at 22.06% and ending the year on 20.24%. The farm value share of low fat milk followed a similar trend as that of full cream milk, indicating that in both instances the farm value share of the retail price declined.
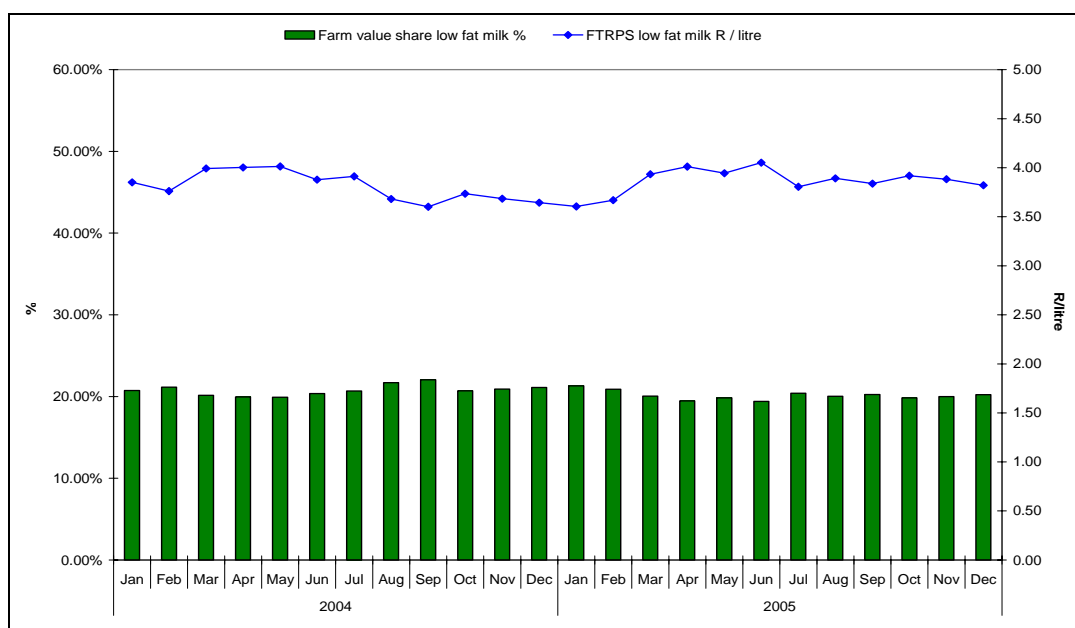
Figure 20: Farm- to- retail price spread and farm value share of low fat milk
Source: *Calculations done from MPO / ACNielsen data, 2006.*

The farm-to-retail price spread of cheese varied between R 15 and R27 per kilogram with the last few months of 2005 on a downward trend. The farm-to-retail price spread reached its peak of R 25.95 per kilogram during April 2004. It is again important to note that the source of the retail prices was changed from January 2004.

The farm value share of cheese remained relatively constant from 2004 onwards. This means that the farm value, in terms of the retail price, has not increased significantly. The farm value share peaked at 52.68% during December 2005 and averaged around 47.38% in 2005.
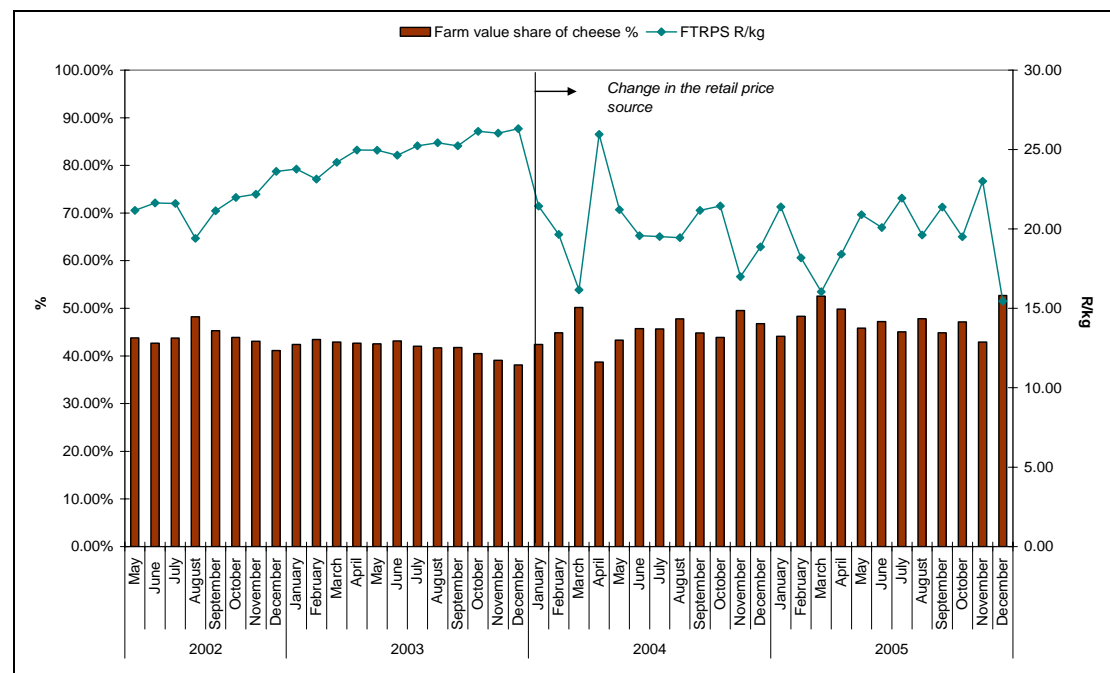
Figure 21: Farm- to- retail price spread and farm value share of cheddar cheese, R/kg
Source: *Calculations done from MPO / ACNielsen data, 2006.*

The farm-to-retail price spread of butter followed a relatively constant trend and fluctuated around the R8 mark during 2005. During the period under review the spread fluctuated around the R8 mark. The spread reached a maximum of R11.66 during January 2004 and R10.53 during January 2005.

The farm value share of butter increased during the 24month period peaking during August 2005 at 75.48%, after which the value decreased again slightly to reach 70.70% in December 2005. It seems that butter was one of those dairy products where the farm value share actually increased during the period under review. This means that the farm value increased in terms of the product's retail price.
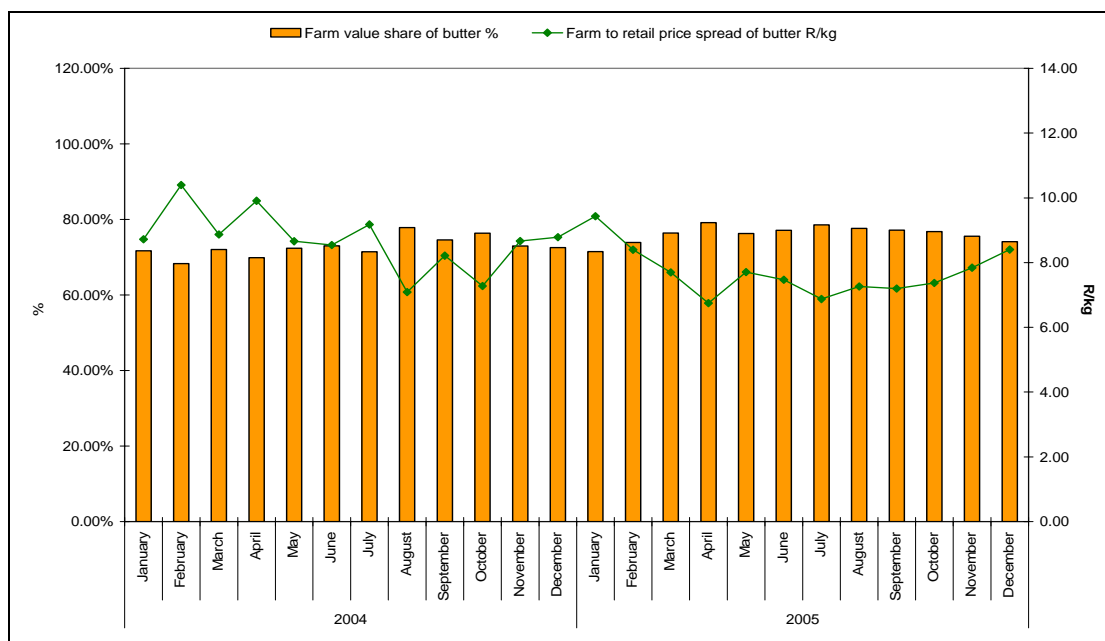
Figure 22: The farm-to-retail price spread of butter
Source: *Calculations done from MPO / ACNielsen data, 2006.*

The processing costs of fresh milk

Figure 20, which represents the farm-to-retail price spread of low fat milk, suggests that the industry is experiencing fluctuations in the spread and it seems as if 2005 has seen the spread of low fat milk widening constantly.

Analyses at the retail level suggests that the retail prices of both 1 litre low fat and 1 litre full cream milk sachets have increased by 3.6% and 5.1%, respectively, during 2005. At the same time producer prices have fallen dramatically since December 2002.

Table 19: Decline in the producer prices of fresh milk

Years	Change in producer prices
Dec 2002 / Dec 2003	-7.50%
Dec 2003 / Dec 2004	-3.24%
Dec 2004 / Dec 2005	-0.56%
Dec 2002 / Dec 2005	-11.00%
Average	**- 3.70%**

Source: *MPO, 2006.*

The Milk Producers' Organisation collects producer price data on a national basis. Table 19 represents the year-on-year changes that have occurred in the producer prices since 2002. From the Table it can be seen that 2002/03 saw the biggest decrease in the producer price of milk, declining by 7.5% compared to the 2003/04 decline of 3.24% and the 2004/05 decline of 0.56%. In total the producer price of milk has fallen by 11.00% from R2.00 per litre in December 2002 to R1.78 per litre in December 2005.

The producer price index of milk and egg products, at processor level, indicates that the prices as well as production costs have increased and at the same time shows, as can also be seen in Table 19, that the farm gate prices of raw milk have fallen. Figure

23 gives a clear indication of what trend the different production costs have followed in comparison with the raw milk producer prices.
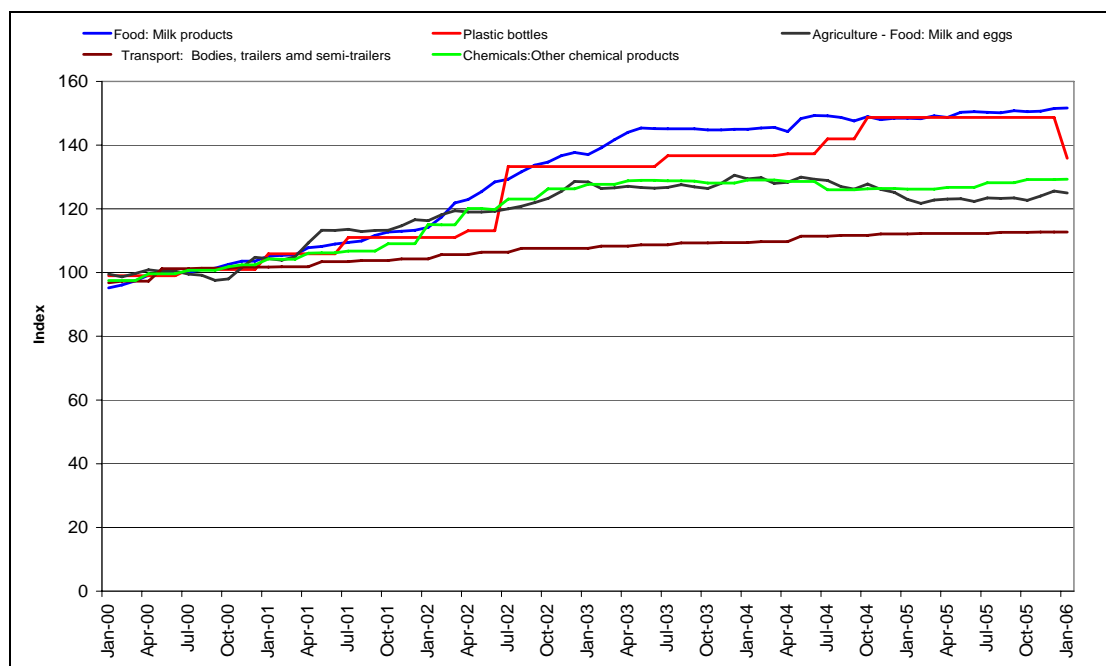
Figure 23: Price indices of inputs in the fresh milk supply chain.
Source: *Statistics South Africa, 2006.*

The indices are for most of the production inputs, which are used in the dairy processing industry, and as the graph shows these increased at a greater percentage rate than the producer price of dairy, indicated by the yellow series. The rate of change in the cost of transport and transport equipment increased at a slower rate than any of the other input costs, but increased in 2005 as a result of higher oil prices.

Actual cost figures from the dairy processing industry suggest that the main cost components of a typical processing plant are still the raw material and transport costs averaging around 69.09%, followed by packaging materials at 16.74%, labour costs at 3.45% and general overheads at 10.7% of the total costs. It is, however, interesting to observe that the composition of the entire cost bundle has changed, with raw material and transport costs decreasing by 2% from their previous 2002 level of 71%, whilst packaging, labour and overheads all increased by approximately 0.5% from their 2002 levels.

Since transport and all other cost components, which the dairy processing industry incurs, have been increasing since 2002, it has become obvious that given their decline in the percentage of total costs, which the raw material and transport component holds, and comparing this to the other cost components of the industry, that the producer price has become a smaller part of the total processing plant's cost setup, and therefore milk producers seem to be somewhat worse off than in 2002.

2.3.2 Farm-to-retail price spread – Poultry

The farm-to-retail price spread of fresh and frozen whole birds followed a similar trend during the 18month period, with the spread of the fresh whole chicken, however, experiencing greater spikes than the spread of frozen whole chicken. Figure 24 illustrates this graphically.

During 2004 and 2005 the farm value share of fresh chicken averaged around 65.61%, whilst the farm value share of frozen chicken averaged around 68.27%. The reason for this is that it is assumed that both products receive the same producer prices, but both sell at a different retail prices, mainly due to the nature of the final product. As Figure 24 indicates, the farm value share of fresh whole chicken, in green, was mostly lower than that of frozen chicken, which is presented in red.
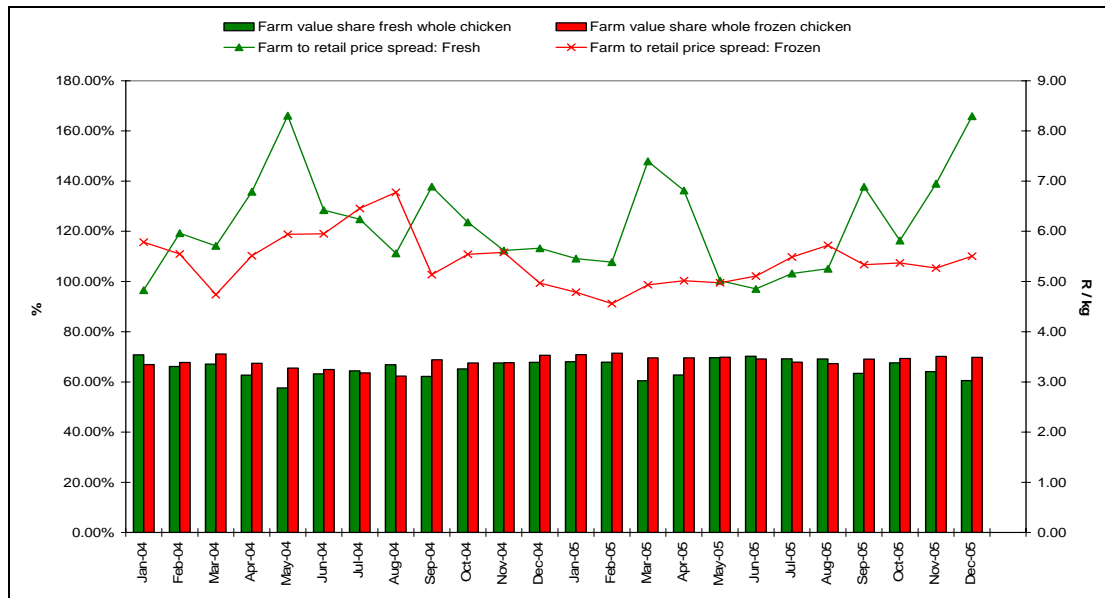
Figure 24: Farm-to-retail price spread and farm value share of fresh and frozen whole birds.
Source: *Calculations done from ACNielsen, DoA and StatsSA data, 2006.*

2.3.3 Farm-to-retail price spread – Pork chops
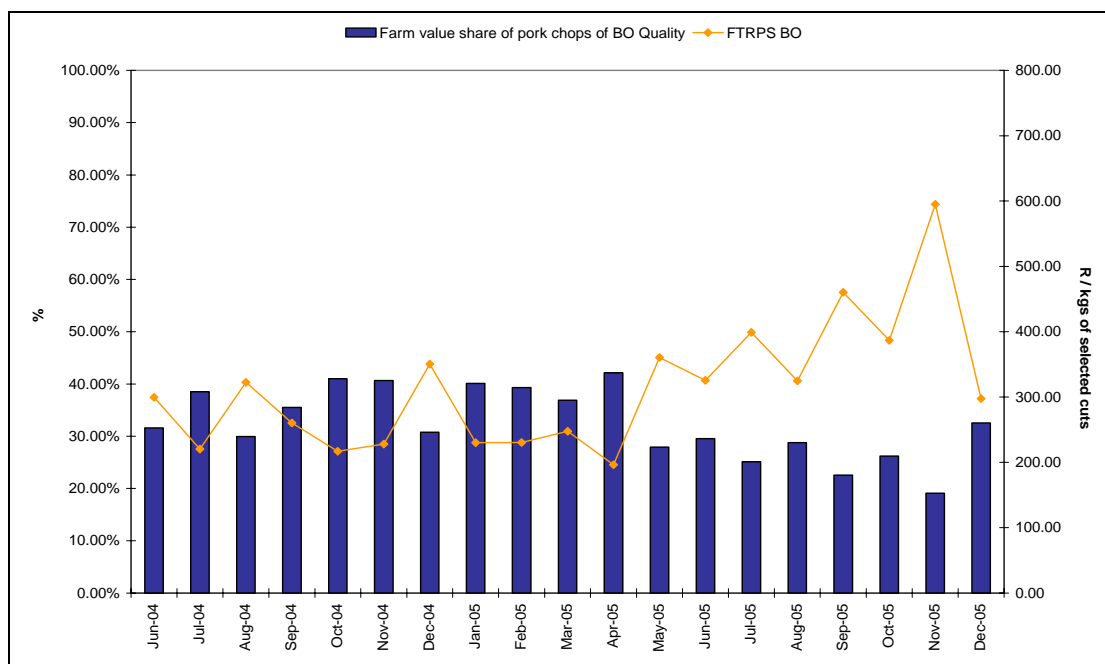
Figure 25: Farm-to-retail price spread and farm value share of BO quality pork.
Source: *Calculations done from RMAA data, 2006.*

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The farm-to-retail price spread of BO quality pork is represented in Figure 24. The spread remained relatively constant during the latter half of 2004, and then increased constantly during 2005, peaking in November when the average weighted retail price of pork chops hit a high of R 54.65 per kilogram (ACNielsen, 2005). The spread then levelled off again towards the end of the year.

The farm value share increased at first and then declined as the farm-to-retail price spread continued towards its peak during November 2005. The farm value share for BO quality pork peaked at 42.10% during April 2005, and averaged 30.84% in 2005.

2.3.4 Farm-to-retail price spread – Maize meal

The farm-to-retail price spread, as depicted in the 4 month lagged supply chain, for both super and special maize meal, increased by 18% and 48%, from December 2004 up until December 2005, respectively. The price transmission model indicates that these increases in the supply chain occurred as a result of the low maize producer prices, which were experienced towards the end of 2005. Figure 26 represents the change in the farm-to-retail price spread from January 2002 onwards.

The farm value share of super maize meal was mostly higher than that of special maize meal. This is to be expected as super maize meal, which is more refined and therefore of a higher quality, fetches a higher retail price. The farm value share of super maize meal reached its maximum level for 2005 during March 2005 when it reached 54.44% compared to the farm value share of special maize meal of 52.41% during the same month. During 2005 the farm value share averaged 36.92% for super maize meal and 35.22% for special maize meal.
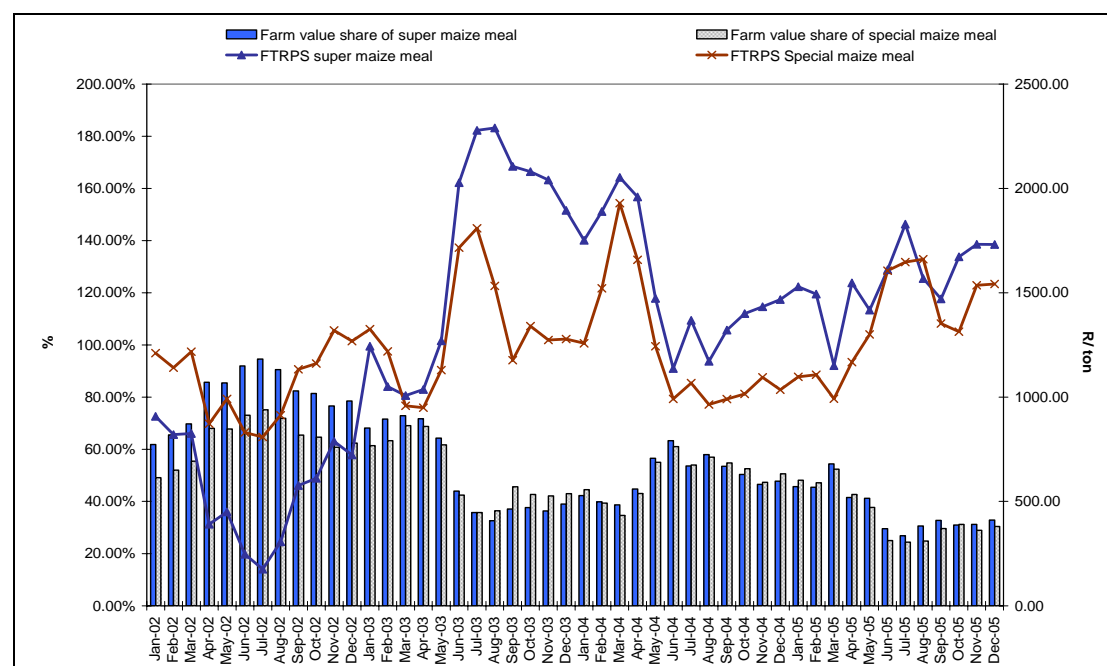
Figure 26: Comparison between the farm-to-retail price spread and farm value share of super and special maize meal.
Source: *Calculations done by partially using ACNielsen data, 2006.*

2.3.5 Farm-to-retail price spread – Bread, white and brown

The farm-to-retail price spread of white and brown bread often moves closely together. In the current Food Cost Review the methodology concerning the calculation of the farm-to-retail price spread has been changed somewhat. Instead of calculating a retail price per ton of bread produced from one ton of wheat, the methodology has been altered to calculate an average retail price for the number of loaves of bread that are produced from one ton of either white or brown bread flour. Two Other factors that need to be considered here are that, on average, 2135 loaves of white bread and 2275 loaves of brown bread are produced from one ton of white and brown bread flour, respectively (SACB, 2002).

As Figure 27 indicates, the farm-to-retail price spread of white and brown bread followed a slightly upward trend from January 2004 onwards, this irrespective of the change in methodology. The farm-to-retail price spread for white bread increased from R7 283.01 per ton during January 2004 to R8 182.62 per ton during December 2005. The farm-to-retail price spread of brown bread followed a very similar trend increasing from R6 548.05 per ton during January 2004 to R8 020.29 per ton during December 2005.

The farm value share of white bread averaged 17.36% during 2005, whilst that of brown bread average 17.07% for the same period . 2004 saw these values being slightly higher, as the farmer's share of the retail price was 19.47% for white bread and 19.43% for brown bread. In 1999 the NAMC also released a document relating to the wheat to bread value chain. Table 20 indicates how much the farmer's share in the retail price of both white and brown bread has declined since 1990/91.

Table 20: Farmer's share in the retail price of brown and white bread.

Farmer's share	1990/91	1996/97	1998/99	2004	2005
Farmer's share white bread	33.3%	24.2%	17.9%	19.47%	17.36%
Farmer's share brown bread	32.4%	23.4%	16.7%	19.43%	17.07%

Source: *NAMC, 1999.*

As indicated, the farm value share of both white and brown bread declined at a rather constant pace from 1996/97 onwards with a slight increase in 2004. In more recent times the farm value share of white bread has decreased to 17.36% and that of brown bread to 17.07% in 2005. This means that the farmer's share in the retail price of bread is steadily declining as the cost of value added by other role- players in the supply chain becomes more significant regarding the overall retail value.
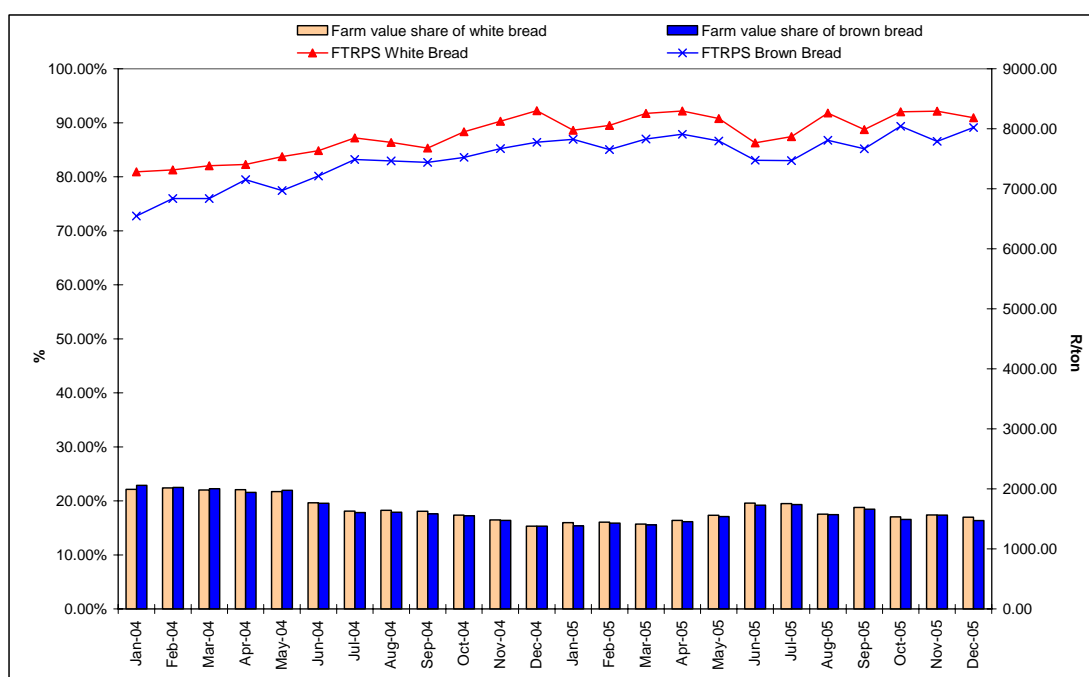
Figure 27: Comparison between the farm-to-retail price spread and farm value share of white and brown bread.
Source: *Calculations done by partially using ACNielsen data, 2006.*

2.3.6 Farm-to-retail spread – Sunflower oil

In the context of a declining farm value of sunflower oil during 2005, it is expected that this change will be reflected in the farm-to-retail price spread. If the farm value decreases at a rate of 12.3% per annum and the retail price declines by 2.5% per annum a general widening of the farm-to-retail price spread is to be expected. Figure 28 represents this change in the spread, but at the same time indicates that the changes in the spread became less severe from 2005 onwards. It should, however, be noted that a change in the source of retail prices took place from January 2004 onwards.

The farm value share, represented by the bar chart in the graph, follows a constant declining trend from 2002 onwards. The farm value share averaged 58.49% in 2004 and this declined to 56.68% in 2005. During the 24 months from 2004 onwards the farm value share of sunflower oil peaked at 73.90% in April 2004 and at 63.56% in 2005.
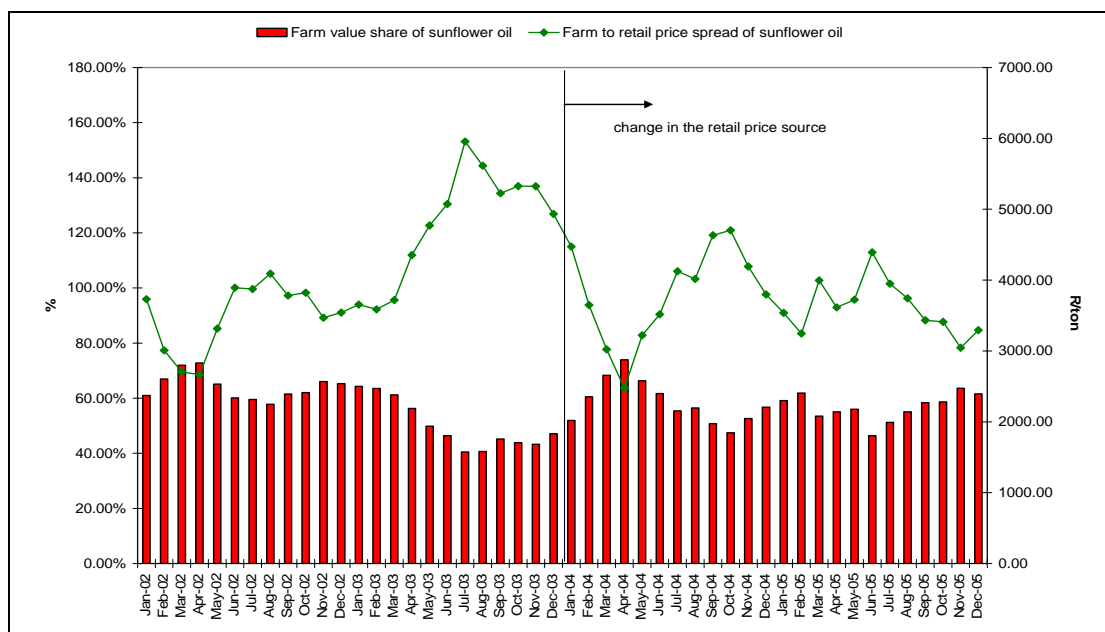
Figure 28: Farm-to-retail price spread of sunflower oil
Source: *Calculations done by partially using ACNielsen data, 2006.*

2.3.7 Farm-to-retail price spread – Beef

The farm-to-retail price spread of the selected beef cuts that are contained in the market basket remained relatively constant during 2005. As figure 29 indicates, the spread remained relatively constant from 2005 onwards, increasing slightly towards the end of the year. The farm value share also remained relatively constant during 2005, but following an increasing trend from 2002 onwards. It can therefore be concluded that the farm value share has, on average, over the past few years increased its share of the final retail price.
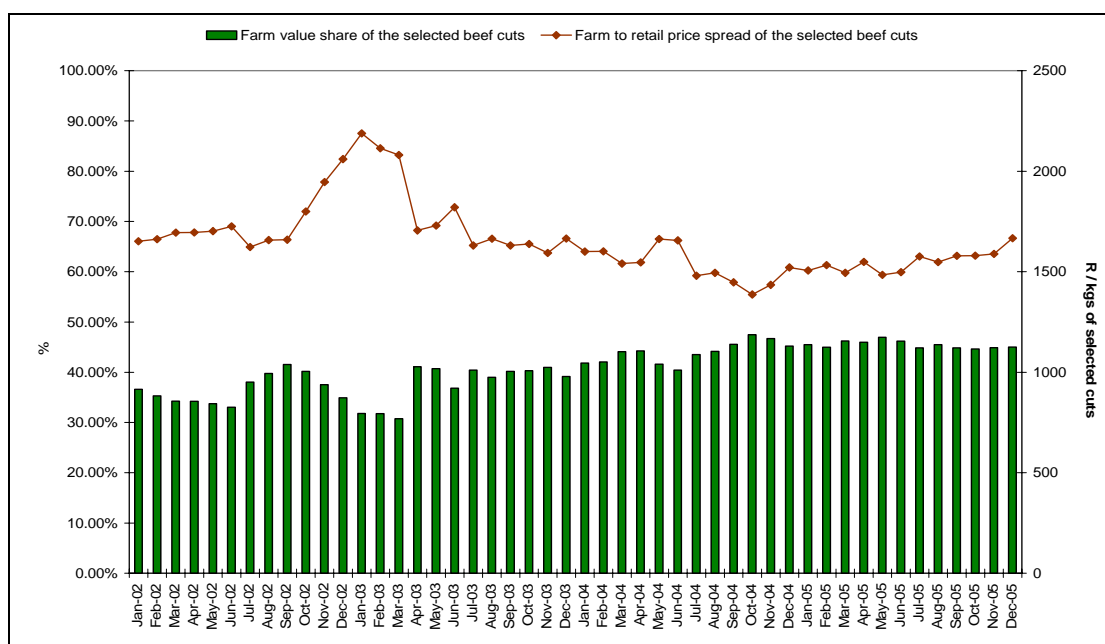
Figure 29: Farm-to-retail price spread of the selected cuts included in the market basket and the farm value share of the selected cuts.
Source: *Calculations done from RMAA, Statistics South Africa and ACNielsen data.*

2.3.8 Farm-to-retail price spread – Other products

Figure 30 represents the spread between the producer price and the retail price of potatoes. The graph indicates a relatively constant spread, meaning that there is very little or even no degree of abnormal behaviour within the industry.

The margins and spreads of the other fruits and vegetables have also been calculated, summarized and documented in Appendix A of this report.
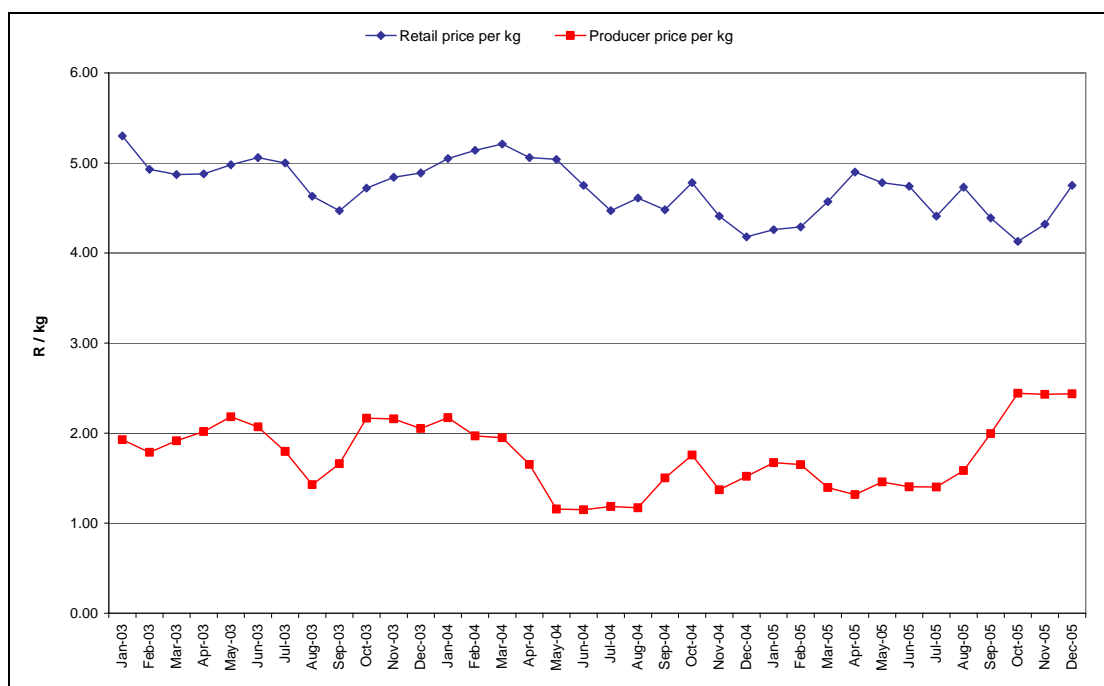
Figure 30: The spread in the case of potatoes: 2003 – 2005.
Source: *ACNielsen and Department of Agriculture, 2006.*

3. Trends in the prices of marketing inputs

It is one thing to estimate the farm- to- retail price spread but it is another to explain changes in the size of the spread. In this section some indication of the trends in the main inputs that could impact on the size of the farm- to- retail price spreads of the various products.

The impact of oil price fluctuations on the CPIF

The price changes of crude oil are important to discuss as oil or energy is one of the major inputs of all production processes and this is especially true in the case of agriculture. The following exercise has been conducted in order to determine what the impact of an ever-increasing oil price might be on the Consumer Price Index of Food.

Due to various political instabilities the price of Brent crude oil has increased by almost 30% in US dollar terms and 46% in Rand terms for the period December 2004 to December 2005. The effect of this price increase has, however, a limited effect on the Consumer Price Index of Food (CPIF) which in the same period increased by only 4.3%.

Table 21: Average Price and Percentage Change.

Month	Brent Crude Oil price	Rand/$ exchange rate	Brent Crude Oil price in Rands	CPIF
Dec-04	$43.96	R5.91	R259.66	135.70
Dec-05	$57.11	R6.66	R380.11	141.60
% Change	29.9%	12.7%	46.4%	4.3%

Source: *Calculations made using data from the JSE and STATS SA*

An Ordinary Least Squares regression was performed on the various price series in order to calculate the price elasticity of the Brent crude oil price and the Rand US dollar exchange rate on the CPIF. The table indicates the price elasticities given different lag structures. From the table below it is clear that an oil price increase has a very small effect on the CPIF. These low elasticities are due to the fact that although transport and mechanization are important factors in the production and processing of food, their overall contribution to the total cost of production in terms of fuel cost is low.

Table 22: CPIF price elasticities.

	Brent Crude Oil	Rand/$ exchange rate	Brent crude oil price in Rands
no lag	0.047*	-0.184*	0.089
1 lag	0.036*	-0.206*	0.075
2 lags	0.028*	-0.224*	0.062
3 lags	0.066*	-0.172*	0.052

* significant at the 95% level.

Figure 31, indicates the impact that a increasing petrol price has on the Consumer Price Index of Food in urban as well as rural areas.
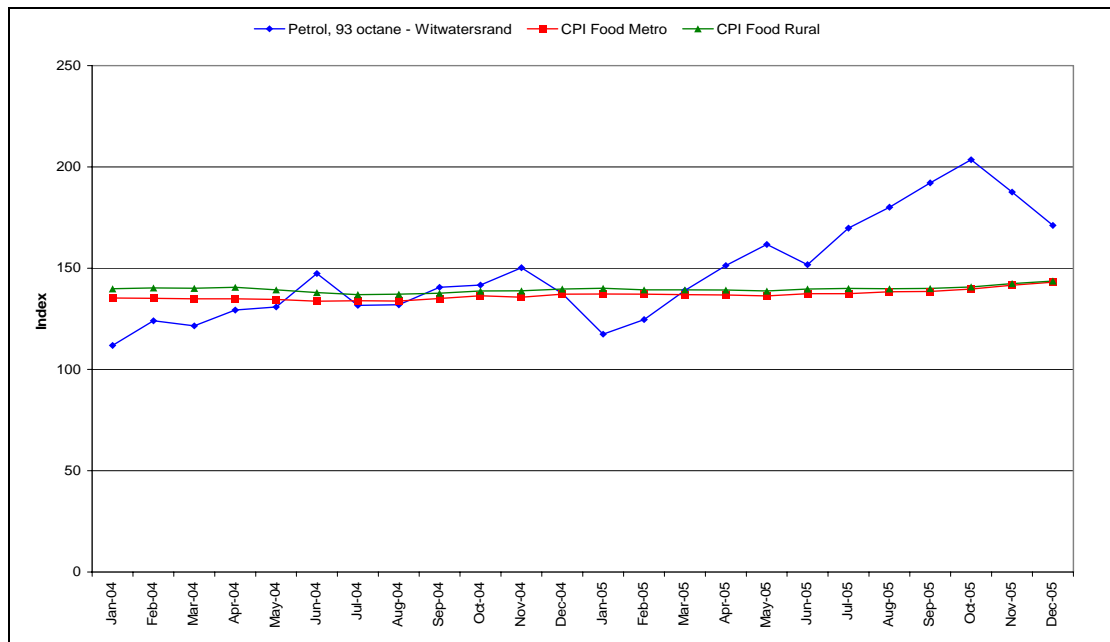
Figure 31: Impact of an increasing petrol price on the Consumer Price Index of Food in rural and urban areas.
Source: *Estimated using data from Statistics South Africa, 2006.*

As Figure 31 indicates, the increase in the fuel price seems to have a very small effect on the Consumer Price Index in both the rural and urban areas. It seems as though a high oil price will need to be sustained for a longer period of time until the effect thereof filters through to the consumer.

Price trends of other input costs

Packaging containers and materials have increased on a constant basis since 2002. Figure 32 does, however, indicate that the indices of the three product categories either leveled off or declined in 2005. Since packaging material is an important part of any food supply chain, a levelling off in the rate of change in prices should then, to a large extent, decrease the widening of the farm-to-retail price spread. The index indicates that the prices of corrugated cardboard boxes declined earlier and at a greater rate than the prices of plastic and glass products.
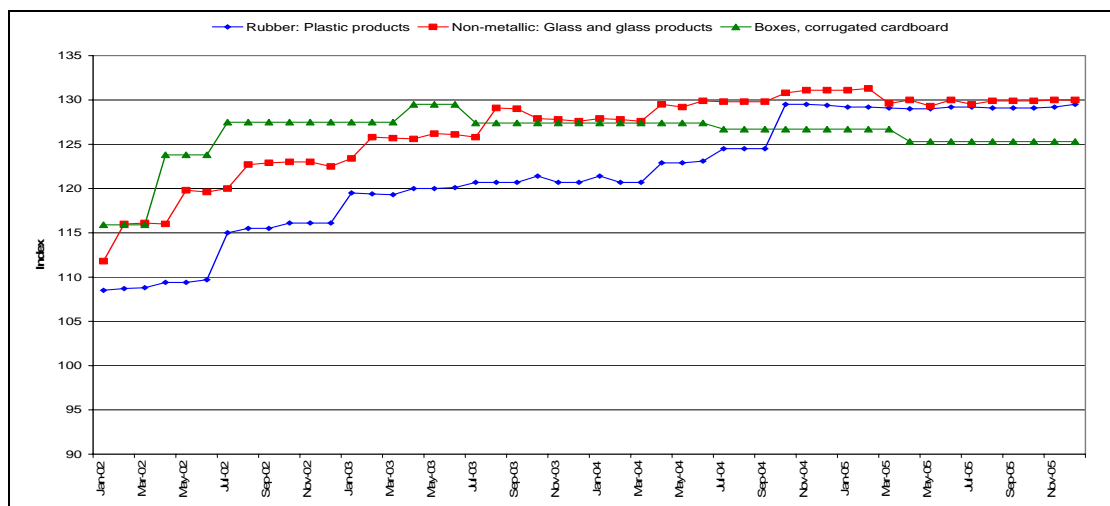
Figure 32: The price indices of plastic products, glass products and corrugated cardboard boxes.
Source: *Estimated using data from Statistics South Africa, 2006.*

At farm level there are different input costs which farmers have to monitor and which will be of great importance to their financial success. These inputs include, for example, the price of fertilisers, electricity, fuel, animal feeds, maintenance and repairs. Figure 33 indicates that the prices of oil-derived products, such as fertilisers and transport costs, have increased together with the oil price, whilst grain products have become cheaper since the end of 2002. Electricity prices on the other hand have increased slowly, but still seem to follow a relatively constant trend with peaks during the South African winter months.
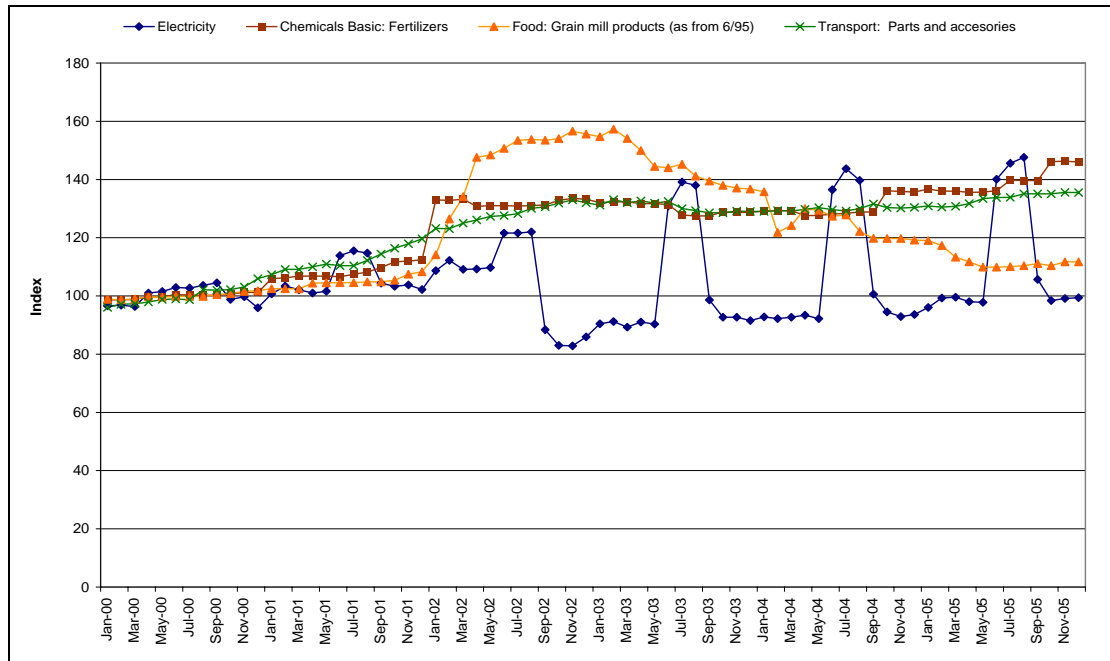
Figure 33: Indices of general farm inputs which are used in everyday operations.
Source: *Estimated using data from Statistics South Africa, 2006.*

4. Special section on Case Studies and Industries

This is a new section added to the report in which some more empirical evidence obtained from anecdotal evidence is provided and also by physically tracking the product from the farm to various retail outlets. The case studies included here focus on tomatoes and onions.

4.1 Case Study: Tracking tomato cases and fresh pockets of onions from the fresh produce market to the grocery store

The case of tomatoes

In this case study we investigated the flow of fresh grade 1, grade 2 and grade 3 tomatoes produced in the Limpopo Province. The farmers' organisation that delivers tomatoes of all three grades to the fresh produce market packs all of its produce into wooden crates. They also make use of different crates for the different grades of products and mark them accordingly.

The grade 1 products stand at the main entrance to the market floor. They are nicely packed on their pallets and represent a clean, fresh and of higher quality 'look' compared to the lower grade products. These products generally use their packaging to attract the customer's attention.

The grade 2 products generally occupy the centre of the selling floor. Even though they often use the same packaging as the grade 1 products, one gets a distinctive feel that their quality is somewhat lower. Every product is marked with a grade 2 label and customers have the right to inspect them, if they so wish.

The grade 3 products differ from the grade 1 and grade 2 products, in that their quality as well as their price is somewhat lower. Again the grade of the product is distinctly marked on the packaging. Other than that, grade 3 products are also sold in big cardboard crates, which are filled to the brim with tomatoes. The result is that the buyers, who are to a large extent street vendors, get more value for their money as they purchase a greater quantity at a cheaper price and on top of that the product comes in the right type of packaging material that's required for their specific purpose. Another factor that influences the buying decisions of the grade 3 customers is the colour of the product.

The Buyers

During the days that were spent on the fresh produce market the following was observed. Approximately 90% of the customers purchasing products from the marketing agents were mainly street vendors. These buyers mostly focus on the lower quality (grade 3) products with specific focus on the colour and the shape of the item. The reason for this is that they need to sell the product on the same day as they do not have access to refrigeration or other storage facilities. What was obvious from an outside perspective was that these buyers did not really mind the packaging in which the product came. As long as the product had the correct colour, bright red in the case of tomatoes, and the correct shape and size, usually nice and round, they were more than satisfied with their purchase.

Other buyers included some green grocers and retail stores. The first case of following a batch of purchased tomatoes involved a green grocer in a northern suburb of Pretoria. This grocer only purchased products of grade 1 quality and as discovered when investigating the retail prices in the store at the time, does not increase the price of the product by an unreasonable amount. The grocer purchased the product at a price of R16 per box of tomatoes and he retailed the same box of tomatoes, in the same packaging, at a price of R18.99 per box. This mark up of R2.99 per box therefore covers the transport differential, which the grocer incurred, as well as the additional profit margin, which he has decided is most suitable for his business.

The case of onions

The second visit to the Tshwane fresh produce market took place during the Spring of 2005. The aim of this visit was again to follow a different type of product from the point of purchase up until the point where the product is sold to the consumer.

These specific onions, lets call them Farmer A's onions, which are of first grade quality, were selling at R1700 per pocket. This meant that the monitored product sold for R4 more than some of the lower grade rival products. What was interesting to see was that the rival products of lower grades were stacked in the same vicinity as the higher quality product and suddenly the better quality products were associated with lower quality.

The investigation followed a batch of the higher quality onions of "Farmer A" from the fresh produce market to the final destination ending up at a green grocer in Zambezi road, where these first grade onions were for sale to the general public. The management at the store confirmed that these grade1 products were purchased at the Tshwane fresh produce market and that there had in fact been no real change in the type of packaging of the product. The products retailed at R18.99 per pocket, a mark-up of R1.99 per pocket, which does not seem to be abnormal. The distance of the retail store from the market is around 8 km. This would imply that the cost of transporting one pocket of onions from the market to the retail store would be expressed in Rand per kilometre.

What was also interesting to see was that the same green grocer store also sold onions in smaller quantities, namely 2 kg packets. These smaller packets retailed for R3.99 per unit, giving these products an approximate profit margin of 50 cents per unit. Since these products have been repacked into smaller packets the cost of these also needs to be taken into account. The cost of such a packet is rated at around 7 cents, leaving a profit margin of 43 cents per packet.
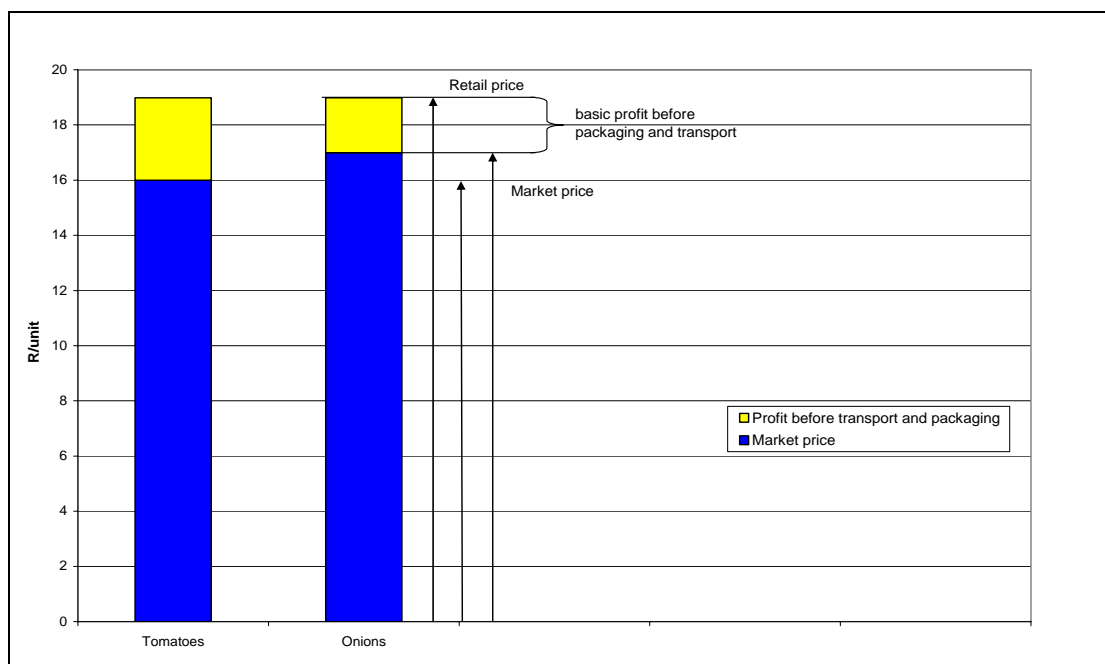
Figure 34: Market price and profit component of the final retail price of both tomatoes and onions.

In order to calculate the farm-to-retail price spread of the products, the packaging and transport component which the farmer incurs needs to be established so that the actual farm gate price of the product can be calculated. In the tomato case study, the location of the farm is in the north-western part of the Limpopo Province. The transport differential from the farm to the Tshwane market is around a R100 per ton, given a standard means of transport and other guidelines from the transport industry. The packaging consists of a wooden crate produced from pressed wood and this box holds approximately 5kg of tomatoes. The cost of a box is estimated to be around R4 a box.

Similar guidelines apply in the case of onions, except that onions come in mesh bags and a pocket weighs in at around 7kg. The cost of a mesh bag is estimated at around R1.50 a bag. The transport differential is similar to those of tomatoes, as the products are harvested by the same group of farmers.

Table 23: Farm gate calculations of the tomato and onion case study

Product (grade 1)	Transport differential (R/ton)	Packaging cost (R/ton)	Total cost to the farmer (R/ton)	Farm gate price (R/ton)
Tomatoes	100	800	900	2300
Calculations *Tomatoes*	Given	(1000kg/5kg)xR4.00	**TC** = Transport differential + Packaging	**FGP** = R16 x 200 boxes – Total Cost
Onions	100	214.3	314.3	2114.3
Calculations *Onions*	Given	(1000kg/7kg)xR1.50	**TC** = Transport differential + Packaging	**FGP** = R17 x142.85 bags – Total Cost

The spread between the farm gate price and the retail price for the products can thus be calculated by subtracting the farm gate price as given in Table 23 from the retail price. The retail price has to be converted to a ton basis before this can be done. In the case of tomatoes it needs to be multiplied by 200 and in the case of onions by 142. 85.

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Based on the above factors, the farm-to-retail price spread of tomatoes is R1 498 per ton and in the case of onions it is R598.58 per ton.

When comparing this spread to that of the national average of 2005, which can be seen in Appendix A of this report, it is obvious that the spread from the case study is a whole lot lower. There are a number of factors that can influence this spread and cause the deviation from the national average. The main factor is that the retail prices, which have been gathered from the national data base, are a lot higher than those in the case study. The national weighted average retail price taken from the data base for 2005 shows that a kilogram of tomatoes retails at R9.13 compared to the R3.79 per kilogram in the case study. The reason for this deviation in the retail price is that the retailer, who purchased the tomatoes directly from the market, sells them to his customers in a larger quantity and therefore asks a lower price than if he were selling them loose. It can therefore be concluded that the farm-to-retail price spread in this case study is not abnormally large and therefore there's a possibility that few or no abnormalities exist in the supply chain.

5. Appendix A:

Table 24: Farm-to-retail price spread of apples, bananas and oranges.

Month	Apples (R/1.5kg) FTRPS	Bananas (R/kg) FTRPS	Oranges (R/kg) FTRPS
January 2002	1.93	1.01	2.58
February	2.13	1.16	2.61
March	3.06	1.21	5.49
April	2.91	1.11	5.04
May	3.11	1.12	3.82
June	2.97	1.42	3.61
July	3.05	1.62	3.31
August	2.69	1.27	3.21
September	3.46	1.62	3.94
October	3.36	1.29	3.82
November	3.13	1.54	4.23
December	2.98	0.82	4.32
January 2003	3.02	1.44	5.76
February	4.21	1.46	5.70
March	3.90	1.67	7.18
April	3.32	1.22	4.99
May	3.32	1.34	5.07
June	3.76	1.38	5.10
July	3.36	1.32	3.79
August	2.26	1.35	3.85
September	2.95	1.48	3.78
October	2.66	1.49	3.76
November	2.45	1.45	3.87
December	2.18	1.83	3.69
January 2004	4.15	2.19	3.61
February	4.15	2.31	5.45
March	5.90	2.13	6.01
April	2.54	2.36	5.65
May	2.64	2.21	4.94
June	2.43	2.23	4.23
July	2.59	1.90	4.31
August	1.70	2.10	3.73
September	3.83	2.36	3.54
October	2.55	2.13	3.82
November	4.23	2.50	4.58
December	5.07	2.58	4.56
January 2005	3.91	2.41	4.58
February	4.36	2.01	5.50
March	5.39	1.50	5.91
April	2.42	1.91	5.98
May	3.08	2.28	5.10
June	2.97	2.86	4.70
July	2.61	2.59	4.30
August	2.87	2.72	4.46
September	2.68	2.68	4.53
October	2.55	2.82	4.35
November	2.94	3.17	4.23
December	3.73	3.15	3.44

Source: *Data used for calculations from Statistics South Africa and ACNielsen, 2006.*

Table 25: Farm-to-retail price spread of selected vegetables.

Month	Potatoes (R/kg) FTRPS	Tomatoes (R/kg) FTRPS	Carrots (R/kg) FTRPS	Cabbage (R/kg) FTRPS
January 2002	2.86	5.01	2.81	2.86
February	2.79	4.30	2.90	2.74
March	2.91	4.61	2.40	2.73
April	2.92	4.30	2.66	3.04
May	2.66	4.62	3.25	3.01
June	2.61	4.49	3.36	2.98
July	2.38	4.52	3.14	2.96
August	2.50	4.32	2.77	3.29
September	2.48	2.93	2.74	3.24
October	2.71	6.35	2.69	3.19
November	3.26	4.38	2.86	2.17
December	2.90	4.55	2.64	2.14
January 2003	3.18	5.28	2.74	3.04
February	3.25	3.97	2.91	2.98
March	3.09	2.86	2.71	3.11
April	3.10	3.45	2.76	3.40
May	3.05	4.05	3.40	3.21
June	3.29	3.96	3.40	3.25
July	2.80	3.68	3.20	3.36
August	3.05	4.26	3.10	3.48
September	2.78	3.20	3.26	3.29
October	2.49	4.82	3.21	3.08
November	2.70	5.85	2.97	2.84
December	2.80	5.43	2.62	3.02
January 2004	2.88	7.85	4.64	3.75
February	3.17	7.08	4.92	3.73
March	3.24	7.54	3.01	2.15
April	3.43	6.37	4.72	3.69
May	3.89	5.82	4.78	2.15
June	3.60	6.19	4.73	3.15
July	3.29	6.77	4.98	2.65
August	3.46	7.83	4.87	2.87
September	3.02	7.56	5.06	3.08
October	3.01	7.92	4.99	2.90
November	3.02	7.56	5.16	3.29
December	2.65	6.54	4.86	3.02
January 2005	2.91	7.18	5.10	2.94
February	3.14	6.70	5.51	3.37
March	3.39	5.97	4.73	1.63
April	3.44	7.24	4.50	3.91
May	3.38	7.41	4.79	3.72
June	3.68	6.54	5.12	3.97
July	3.28	6.31	4.34	2.44
August	3.17	6.96	4.99	2.80
September	2.74	6.57	3.30	2.96
October	2.43	6.05	4.73	2.16
November	2.58	6.00	4.57	3.68
December	2.60	5.61	4.43	3.29

Source: *Data used for calculations from Statistics South Africa and ACNielsen, 2006.*

Table 26: Farm-to-retail price spread and farm value share of Super and Special Maize Meal.

Month	Super maize meal (R/ton) FTRPS	Farm value share of Super maize meal (%)	Special maize meal (R/ton) FTRPS	Farm value share of special maize meal (%)
January 2002	908.19	61.81%	1210.81	49.09%
February	820.42	65.50%	1141.11	52.02%
March	825.80	69.77%	1218.05	55.40%
April	391.15	85.68%	872.86	68.04%
May	449.76	85.40%	991.39	67.82%
June	247.64	91.96%	830.87	73.03%
July	175.77	94.60%	809.08	75.12%
August	306.56	90.57%	912.95	71.93%
September	576.65	82.44%	1133.85	65.47%
October	611.39	81.38%	1161.44	64.63%
November	788.06	76.61%	1319.33	60.84%
December	723.13	78.54%	1267.77	62.37%
January 2003	1243.42	68.15%	1326.19	61.43%
February	1050.25	71.61%	1219.56	63.30%
March	1007.24	72.85%	958.84	69.12%
April	1036.76	71.72%	949.63	68.74%
May	1270.08	64.32%	1129.35	61.68%
June	2027.58	44.02%	1716.22	42.46%
July	2278.16	35.80%	1808.72	35.80%
August	2290.00	32.61%	1533.09	36.46%
September	2105.79	37.13%	1177.37	45.62%
October	2080.52	37.67%	1340.56	42.69%
November	2041.16	36.36%	1273.62	42.11%
December	1894.30	39.03%	1278.34	42.97%
January 2004	1752	42.22%	1257.84	44.54%
February	1889.20	39.87%	1521.44	39.39%
March	2052.24	38.70%	1929.32	34.64%
April	1959.20	44.78%	1658.60	43.08%
May	1473.63	56.61%	1243.70	55.00%
June	1137.28	63.31%	991.65	61.02%
July	1368.53	53.64%	1066.83	53.98%
August	1171.02	58.00%	964.22	56.99%
September	1321.22	53.48%	990.20	54.79%
October	1399.92	50.39%	1015.00	52.53%
November	1433.06	46.57%	1094.50	47.38%
December	1466.98	47.76%	1035.37	50.56%
January 2005	1528.90	45.67%	1097.43	48.19%
February	1493.3	45.46%	1107.56	47.16%
March	1150.8	54.44%	991.88	52.41%
April	1546.93	41.49%	1168.14	42.71%
May	1416.51	41.22%	1300.58	37.75%
June	1610.69	29.50%	1606.15	25.00%
July	1829.27	26.81%	1646.92	24.42%
August	1568.49	30.59%	1660.79	24.84%
September	1470.71	32.78%	1353.13	29.62%
October	1672.96	30.97%	1313.29	31.22%
November	1731.94	31.24%	1536.64	28.91%
December	1731.80	32.92%	1542.39	30.44%

Source: *Data used for calculations from Statistics South Africa and ACNielsen, 2006.*

Table 27: Farm-to-retail price spread and farm value share of white and brown bread.

Month	Wheat (White bread) (R/ton) FTRPS	Farm value share of white bread (%)	Wheat (Brown bread) (R/ton) FTRPS	Farm value share of brown bread (%)
January 2004	7283.01	22.15%	6548.05	22.90%
February	7314.48	22.43%	6836.61	22.49%
March	7385.73	22.03%	6836.71	22.26%
April	7404.95	22.08%	7150.85	21.59%
May	7534.51	21.70%	6968.92	21.94%
June	7636.43	19.66%	7213.09	19.55%
July	7846.00	18.10%	7487.51	17.85%
August	7771.01	18.26%	7462.09	17.91%
September	7677.19	18.09%	7438.82	17.61%
October	7950.97	17.38%	7524.36	17.25%
November	8126.46	16.48%	7668.79	16.40%
December	8300.36	15.32%	7774.37	15.34%
January 2005	7974.84	15.97%	7823.09	15.38%
February	8055.54	16.08%	7654.58	15.91%
March	8255.43	15.70%	7830.11	15.56%
April	8294.61	16.40%	7906.94	16.18%
May	8171.16	17.35%	7796.54	17.12%
June	7764.57	19.61%	7476.30	19.20%
July	7869.62	19.49%	7468.99	19.31%
August	8261.63	17.54%	7809.38	17.43%
September	7987.60	18.79%	7666.65	18.45%
October	8282.79	17.03%	8040.09	16.56%
November	8291.71	17.41%	7790.54	17.39%
December	8182.62	16.97%	8020.29	16.37%

Source: Data used for calculations from Statistics South Africa and ACNielsen, 2006.

Table 28: Farm-to-retail price spread of dairy products.

Month	Milk full cream (R/l) FTRPS	Farm value share of full cream milk (%)	Milk low fat (R/l) FTRPS	Farm value share of low fat milk (%)
January 2004	2.81	31.78%	3.85	17.72%
February	2.78	32.40%	3.76	18.28%
March	2.88	32.28%	3.99	17.77%
April	2.88	32.55%	4.00	17.87%
May	3.02	31.19%	4.01	17.62%
June	2.96	32.25%	3.88	18.46%
July	2.85	32.55%	3.91	18.13%
August	2.75	36.13%	3.68	20.64%
September	2.80	34.52%	3.60	20.29%
October	2.84	33.95%	3.73	19.44%
November	2.83	33.82%	3.68	19.53%
December	2.74	34.31%	3.64	19.58%
January 2005	2.78	34.62%	3.60	20.11%
February	2.87	34.20%	3.67	19.97%
March	2.90	35.33%	3.93	19.72%
April	3.01	35.69%	4.01	20.02%
May	2.97	34.72%	3.94	19.61%
June	3.04	34.78%	4.05	19.52%
July	3.03	34.91%	3.81	20.52%
August	3.09	34.44%	3.89	20.15%
September	3.04	33.64%	3.84	19.70%
October	3.04	33.71%	3.92	19.39%
November	3.00	33.84%	3.88	19.42%
December	2.98	33.74%	3.82	19.56%

Source: *Data used for calculations from Statistics South Africa and ACNielsen, 2006.*

Table 29: Farm-to-retail price spread and farm value share of cheese and butter.

Month	Cheese (R/kg) FTRPS	Farm value share of cheese (%)	Butter (R/kg) FTRPS	Farm value share of butter (%)
January 2004	21.44	42.43%	11.66	64%
February	19.65	44.88%	11.43	65%
March	16.17	50.20%	9.93	69%
April	25.95	38.72%	10.97	67%
May	21.21	43.30%	9.71	69%
June	19.58	45.74%	9.61	70%
July	19.52	45.66%	10.24	68%
August	19.45	47.79%	8.25	74%
September	21.17	44.83%	9.33	71%
October	21.45	43.92%	8.36	73%
November	16.99	49.57%	9.75	70%
December	18.87	46.80%	9.86	69%
January 2005	21.39	44.13%	10.53	68%
February	18.18	48.32%	9.50	70%
March	16.04	52.60%	8.85	73%
April	18.41	49.86%	7.94	75%
May	20.89	45.86%	8.85	73%
June	20.10	47.25%	8.64	74%
July	21.94	45.06%	8.04	75%
August	19.62	47.85%	8.43	74%
September	21.38	44.87%	8.33	74%
October	19.51	47.14%	8.50	73%
November	23.01	42.92%	8.96	72%
December	15.45	52.68%	9.52	71%

Source: *Data used for calculations from Statistics South Africa and ACNielsen, 2006.*

Table 30: Farm-to-retail price spread and farm value share of pork chops.

Month	Pork chops (R/selected cuts of the carcass (BO)) FTRPS	Farm value share of pork chops (BO quality) (%)
June 2004	437.56	31.57%
July	358.39	38.52%
August	460.36	29.94%
September	403.34	35.51%
October	367.68	40.99%
November	383.97	40.65%
December	506.00	30.76%
January 2005	384.13	40.11%
February	379.45	39.31%
March	392.13	36.90%
April	339.22	42.10%
May	500.20	27.91%
June	462.07	29.52%
July	532.90	25.10%
August	456.00	28.75%
September	594.27	22.56%
October	523.75	26.19%
November	735.27	19.10%
December	441.06	32.52%

Source: *Data used for calculations from Statistics South Africa and ACNielsen, 2006.*

Table 31: Farm-to-retail price spread and farm value share of fresh and frozen broilers.

Month	Broilers (frozen) (R/bird) FTRPS	Farm value share of frozen birds (%)	Broilers (fresh) (R/bird) FTRPS	Farm value share of fresh birds (%)
January 2004	5.78	66.93%	4.83	70.81%
February	5.55	67.76%	5.96	66.17%
March	4.74	71.12%	5.71	67.15%
April	5.51	67.42%	6.79	62.70%
May	5.94	65.50%	8.31	57.59%
June	5.95	64.94%	6.42	63.18%
July	6.46	63.60%	6.24	64.38%
August	6.78	62.35%	5.56	66.86%
September	5.14	68.82%	6.89	62.21%
October	5.54	67.60%	6.18	65.17%
November	5.58	67.72%	5.62	67.56%
December	4.97	70.63%	5.66	67.84%
January 2005	4.79	70.84%	5.46	68.05%
February	4.56	71.43%	5.39	67.92%
March	4.94	69.61%	7.40	60.46%
April	5.02	69.61%	6.82	62.77%
May	4.98	69.85%	5.02	69.67%
June	5.11	69.13%	4.85	70.22%
July	5.49	67.86%	5.16	69.19%
August	5.72	67.33%	5.25	69.18%
September	5.34	69.06%	6.89	63.37%
October	5.37	69.34%	5.82	67.63%
November	5.27	70.19%	6.95	64.08%
December	5.51	69.81%	8.30	60.55%

Source: *Data used for calculations from Statistics South Africa and ACNielsen, 2006.*

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