

Food Pricing Monitoring Committee

PART 1

Summary Report

Executive summary

Introduction

Despite national food security, many South African households experience continued food insecurity, malnutrition and unemployment. According to data from StatsSA, approximately 14.3 million South Africans are vulnerable to food insecurity. These are the households that seem to have been severely affected by the price increases of basic foods during 2002. The dramatic impact of rising food prices on these households, and also the effect of food price inflation on South Africa's inflation rate, compelled the Government to investigate ways and means to deal with this crisis.

Suspicion about manipulation in the commodity market, and concerns about concentration and market power in the food manufacturing and retail sector created the perception amongst consumers and Government that the role players in the food sector were unfairly increasing the prices of basic foods. All of this pointed to the need for an investigation into pricing behaviour in the food sector.

Terms of reference

On 28 November 2002, the Minister for Agriculture and Land Affairs, Ms Thoko Didiza, announced that Cabinet had approved the establishment of a Food Pricing Monitoring Committee (FPMC). The Committee held its inaugural meeting on 20 January 2003. Following an initial briefing by the Hon. Minister, the Committee deliberated on the terms of reference, the scope of its operations as well as its plan of action. The Committee then agreed on amended terms of reference:

- To monitor the prices of a basket of 26 basic food items (Reported in Part 3 of the main Report);
- To investigate any sharp or unjust price increases (Reported in Part 3 of the main Report);
- To investigate price formation mechanisms in selected supply chains. This would include the following (Reported in Parts 4 and 5 of the main Report):
 - Determining the numbers of producers and processors and levels of concentration;
 - Determining the extent of vertical/horizontal integration and concentration in the food supply chain;
 - Gross margin analysis at each node of the food chain;
 - Establishing the magnitude of difference between urban and rural pricing structures;
 - Reporting on the pricing structure of certain food chains;
 - Determining the ratios of prices to costs and profits;
- To review the effectiveness of government monitoring of and information dissemination on food prices (Discussed in Part 7 of this Report)
- To establish and maintain a national food pricing monitoring database (Discussed in Part 7 of this Report)
- To monitor the regional SADC food situation (Reported in Part 6 of this Report)
- To investigate incidents of predatory and monopolistic tendencies in collaboration with the Competition Commission.

Outline of the Report

The report of the FPMC has been divided into seven parts. In Part 1, a summarised report on the main activities, findings and recommendations of the Committee is presented. This is followed in Part 2 by three Chapters on the background to the appointment of the Committee, and an explanation of the manner in which the Committee approached its terms of reference.

In Part 3 the Committee approached its key task of monitoring food prices from five different angles, that is, using time series from StatsSA (Chapter 1); actual prices from time series of aggregate data (Chapter 2); data from 6 monitoring points (two in rural areas, two in peri-urban areas (townships) and two in main cities or towns) in each of the 9 provinces as well as data extracted from pay point scanners in retail stores (Chapter 3); and, lastly, data on the differences between prices in urban stores and those of spazas/general dealers in remote rural areas (Chapter 4).

Part 4 addresses the ‘investigation’ element of the Committee’s terms reference. The first Chapter deals with the agricultural commodity market and with aspects related to potential manipulation of the market. This is followed by eight Chapters discussing selected food value chains in detail with the aim to determine how prices are formed at each stage of the value chain.

Part 5 continues the ‘investigations’ and addresses issues related to the causes of food price increases. Chapter 1 considers the influence of price increases of farm requisites. Chapter 2 considers the role that is played by other exogenous factors such as transport costs and the perceived collusive behaviour of silo owners vis-à-vis the cost of basic food. Chapter 3 addresses practices related to the relationships between food manufacturers and retail stores, while in Chapter 4 aspects related to market structure and market power are analysed, and how these influence the transmission of prices through the value chain.

In Part 6 of the Report the Committee brings into effect point 6 of its terms of reference, namely to “...monitor the regional SADC food situation”.

Part 7 of the Report contains the concluding chapters as well as the recommendations of the Committee.

Main findings from price monitoring

The various analyses of food retail prices reported in Part 3 of this Report clearly confirm the initial sharp increase in basic food commodity prices (notably maize). This initial shock then spread through several food value chains followed by a levelling off of price increases for virtually all food items, and even a decline for some products (red meat, maize meal, samp and cooking oil). However, while it is true that these prices came down from their peaks in 2002 and early 2003, in all cases the decline was not as large as the initial increases during 2001/2002. When considering the period (Jan – Oct 2003) over which the Committee monitored food prices, the trends reflect price declines for 11 out of 24 monitored by the Committee. The data do show a few anomalies, for instance for products such as milk powder, peanut butter, margarine and onions, of which the prices have increased to far above the current rate of food price inflation.

The analysis of food price inflation for different income groups shows that poor households experienced higher inflation rates than wealthier households. At its peak, in October 2002, poor households were confronted with a year-on-year food price inflation of 23.1% while richer households experienced a food price inflation of 19%. The benefit to the poor of the recently lowered prices for most staple foods is reflected in a food inflation rate of 3.35% compared to that of richer households of 4.21%.

Rural households experience food prices and food price inflation differently from urban households. The analysis in Part 3 (Chapter 5) has shown that prices in rural stores are generally higher than in urban centres. This applies largely to processed goods. Fresh produce prices, and sometimes milk prices, at these stores are lower. Mark-ups between retail and wholesale prices are fairly high; they are largely due to transport costs between wholesale outlets and trading stores. Price trends in rural stores also show some levelling off, with decreases being notable in prices for maize meal, dry beans and red meat.

The fact that the Committee received virtually no inputs and complaints from the public through the toll-free number and e-mail line after June 2003 may have been some indication that food price inflation abated, and that consumers did not pick up any extraordinary increases. The monitoring process by the Committee also found no ‘sharp’ increases in food prices in the period since its appointment. The existence of a monitoring mechanism, increased public awareness as well as improved and more stable macro-economic conditions all assisted in achieving slower food price inflation and even resulted in food price reductions in some cases.

Lower food price inflation does not necessarily translate into cheaper food. Since lower inflation implies only a lower rate of increase in prices this is to be expected. In other words, prices are on average still increasing, albeit at a lower rate than the year before. As indicated earlier, only certain food products are now cheaper than in 2002. Others have become more expensive, which is why there is still a common complaint that the consumer’s monthly food bill has not declined. The Committee’s analysis in Part 3 (Chapter 2) shows that in September 2003 the total cost of the basket of food items monitored by the Committee was only 1.5% cheaper than in September 2002, which confirms the sentiment expressed by consumers.

The future of price monitoring

The Committee found the monitoring process a useful exercise that assisted in the understanding and monitoring of food price trends of specific food items. This promotes the protection of consumer rights and it provides valuable information for policy analysis, which should lead to a better understanding of the variation in prices of similar products in rural and urban settings. As one observer commented: “The one good thing about the Food Pricing Monitoring Committee is that there is a Monitoring Committee”. The advantage of this system of monitoring price trends is that it allows qualitative observations of a variety of factors and behaviours that influence food prices in different social environments.

The Committee is of the opinion that the National Department of Agriculture should implement a reliable and consistent price monitoring network throughout the country, as this affords policy makers the opportunity to gain first-hand qualitative and quantitative data on price trends, and enables the Department to make informed decisions and implement appropriate actions.

Main findings from the supply chain analysis

Any analysis of food supply chains has to start with an analysis of producer prices at the farm gate (i.e. agricultural commodity prices). Increasing commodity prices (aided by world prices and the exchange rate) were largely responsible for the increases in retail food prices during 2002. On the other hand, the subsequent sharp decline in commodity prices back to pre-2001 levels did not have the same dramatic effect of lowering the retail prices.

Trading positions

Sharp rises in commodity prices, and the fact that they remained high for a number of months after the 2002 harvest, created suspicion about trader behaviour on the agricultural futures market (SAFEX). Large losses by one trading house early in 2003, and an investigation by the Financial Services Board into trading practices of this firm, confirmed this suspicion. The investigations of the Committee have shown that a combination of factors, including a large open trading position on the futures market, inexperienced traders and incomplete information about the real size of the South African crop, as well as the supply and demand situation in the SADC region, created a situation where hoarding of the market was possible for a certain period during 2002, after which the market corrected itself. New rules on trading positions on the futures market as well as improved, unbiased and timely access to information are clearly required.

Price flexibility

The analysis of the various supply chains in Parts 4 and 5 of the Report provides some explanation for the downward stickiness of retail prices. Other costs such as processing costs, wages, and distribution costs also increased with the normal inflationary trend, making it difficult for manufacturers to reduce prices fully. The ability of manufacturers to recuperate losses and/or to prevent losses through appropriate pricing policies and, therefore, not passing on the full benefit of cheaper raw materials to the consumer, can partly be explained by the oligopolistic structure in most of the food industries. This aspect came out fairly clearly in the investigations of the Committee and is highlighted in Part 4 and Part 5. The analyses presented provide substantial evidence of oligopolistic behaviour and monopolistic competition. Brand loyalty by consumers, a limited number of competitors, market segmentation by supermarkets and manufacturers, and also the nature of demand often put the supermarket/manufacturer in a position where price could be dictated.

The Committee holds the view that the long period of correction of food prices indicates the role of many factors. These include market power/structure as well as supply and demand forces and lag effects. High prices and high margins were detected in certain markets and during certain months. It is true that the market eventually corrected itself, but in the process poor households were adversely affected. This should be a major concern to Government and to society as a whole. The effect of high prices on food affordability vis-à-vis the right of people to sufficient food is a reality, which needs to be addressed.

The Committee's work presents a much clearer understanding of the working of various food supply chains in South Africa. For the first time the monitoring results yield a clear understanding of costs and structure within food supply chains. Nevertheless, the information remains very sketchy since most of the analyses were based on industry averages. It is, therefore, difficult to link any changes in prices to specific behaviour by particular role

players. Confidentiality and the proprietary nature of detailed financial information of companies made it difficult for the Committee to pick-up any ‘unjust’ price increases.

Thus, although the market structure allows the opportunity for predatory and unjust pricing, there is limited evidence that this actually happened. What the analyses of the Committee do show is that all price increases seemed to follow trends in the prices of raw materials, other costs and the exchange rate. This, plus the results of most of the supply chain investigations provide sufficient evidence that collusive and unfair business practices are not prevalent.

Despite finding only limited evidence of unjust price increases and collusive and unfair practices, Government still has a duty to address some of the imperfections in the market. It is against this background that recommendations on potential interventions are made in Part 7 of the Report. The Committee made 16 recommendations along five main themes:

- Strategic grain reserves
- Direct government programmes
- Improved agricultural information systems
- Increasing competition and reducing barriers to entry
- SAFEX rules, transport and logistics

The details of the recommendations are contained in Chapter 6 of Part 7 and are also listed from page 28 onwards in the Summary Report that follows the Executive Summary.

The Committee’s recommendations must be seen against the argument that Government has an important role to play in the food sector. The sole objective of Government’s engagement with the role players in the food chain is to ensure food security at household level. It is the duty of Government to ensure that all its citizens have access to basic food because it is a fundamental human right, which is also entrenched in the Constitution.

TABLE OF CONTENTS OF SUMMARY REPORT

| | |
|---|-------------|
| Executive summary | i |
| Introduction | i |
| Terms of reference | i |
| Outline of the Report | ii |
| Main findings from price monitoring | ii |
| Main findings from the supply chain analysis | iv |
| List of Tables | vii |
| List of Figures | vii |
| Glossary | viii |
| | |
| 1. THE ESTABLISHMENT AND PURPOSE OF THE COMMITTEE | 1 |
| 1.1 Introduction | 1 |
| 1.2 Research methods | 2 |
| 1.2.1 Price monitoring | 2 |
| 1.2.2 Pricing behaviour | 3 |
| 1.2.3 Data sources | 4 |
| 1.3 Outline of the report..... | 4 |
| 2. INFLATION AND FOOD PRICE INFLATION IN SOUTH AFRICA, 1991 – 20035 | |
| 2.1 Annual retail food price movements..... | 7 |
| 2.2 National average monthly retail prices: 2000 to 2003..... | 7 |
| 2.3 Prices of selected food products at rural stores | 8 |
| 3. PRICE DETERMINATION ON SAFEX | 9 |
| 3.1 Investigating the agricultural futures market | 9 |
| 3.2 Summary of the ‘evidence’ presented to the FPMC during interviews | 9 |
| 3.2.1 The opinion of SAFEX’s CEO..... | 9 |
| 3.2.2 Large milling companies and their maize trading activities..... | 10 |
| 3.2.3 Big trader dominance during 2001/02 | 10 |
| 3.2.4 Supply and demand ‘fundamentals’ and the SAFEX market..... | 10 |
| 3.3 Potential problems regarding price formation on SAFEX..... | 11 |
| 3.4 Debating possible recommendations..... | 12 |
| 3.4.1 Strategic grain reserves..... | 12 |
| 3.4.2 Changing SAFEX rules | 12 |
| 3.4.3 Improving information and access to information..... | 13 |
| 3.4.4 Expanding demand side support..... | 13 |
| 3.5 Concluding remarks | 13 |
| 4. ANALYSIS OF SELECTED FOOD VALUE CHAINS | 13 |
| 4.1 Maize to maize meal | 14 |
| 4.2 Wheat to bread | 15 |
| 4.3 Red meat..... | 15 |
| 4.4 The dairy supply chain..... | 16 |
| 4.5 Sunflower seed to cooking oil | 16 |
| 4.6 Sugar | 17 |
| 4.7 Potatoes..... | 17 |
| 4.8 Dry beans..... | 18 |
| 5. INVESTIGATING OTHER ASPECTS OF THE FOOD CHAIN | 18 |
| 5.1 Trends in agricultural input prices..... | 18 |
| 5.1.1 Fertiliser prices | 18 |
| 5.1.2 Seed prices | 19 |
| 5.1.3 Animal feed prices | 19 |

| | |
|---|----|
| 5.1.4 Packaging costs | 20 |
| 5.2 The effect of exchange rate volatility on input prices..... | 20 |
| 5.3 The behaviour of silo owners..... | 20 |
| 5.4 Transport costs and food prices | 21 |
| 5.5 Relationships between food manufacturers and retailers..... | 22 |
| 5.6 Market structure, asymmetry and price transmission in the food chains | 23 |
| 6. MONITORING THE SADC FOOD SECURITY SITUATION..... | 23 |
| 7. DEALING WITH HIGH FOOD PRICES | 24 |
| 7.1 Strategic grain reserves..... | 24 |
| 7.2 Options for direct government action..... | 25 |
| 7.3 Improving information systems in the agricultural and food sector | 26 |
| 7.3.1 StatsSA..... | 27 |
| 7.3.2 The National Department of Agriculture..... | 27 |
| 7.3.3 South African Grain Information Service (SAGIS)..... | 28 |
| 7.3.4 Establishing a permanent food price monitoring system | 28 |
| 7.3.5 Investments to improve crop estimates and agricultural information | 28 |
| 7.3.6 Increasing competition and reducing barriers to entry | 29 |
| 8. RECOMMENDATIONS | 29 |
| 8.1 A food price monitoring system | 29 |
| 8.2 Poverty alleviation | 32 |
| 8.3 Monitoring the competitive environment..... | 33 |

List of Tables

| | |
|---|---|
| Table 1: List of 26 food products identified by the Committee..... | 3 |
| Table 2: Year-on-year food price inflation for different income groups..... | 6 |

List of Figures

| | |
|--|---|
| Figure 1: Change in CPI, CPI-food and CPI ex-food: Jan 1991 – Sept 2003 | 6 |
| Figure 2: National average retail price for 10 kg maize meal: Jan 2000 to Oct 2003 | 8 |

Glossary

| | |
|------------|--|
| AFMA | Animal Feed Manufacturing Association |
| AMT | Agrimark Trends |
| BLS | Bureau of Labor Statistics of the US Department of Labor |
| CBRTA | Cross Border Road Transport Agency |
| CPI | Consumer Price Index |
| CPIF | Food Price Index |
| CPIX | CPI excluding interest rates on mortgage bonds |
| DPO | Dry Bean Producers' Organisation |
| DRC | Democratic Republic of the Congo |
| ERS | Economic Research Service of the United States Department of Agriculture |
| FEWSNET | Famine Early Warning Systems Network |
| FOB | Free on Board |
| JSE | Johannesburg Stock Exchange |
| NAMC | National Agricultural Marketing Council |
| NCEC | National Crop Estimates Committee |
| DoA | Department of Agriculture |
| PPI | Producer Price Index |
| SADC | Southern Africa Development Community |
| SADC REWU | SADC Regional Early Warning Unit |
| SADC FANR | SADC Food, Agriculture and Natural Resources Development Unit |
| SADC GIEWS | SADC FAO Global Information and Early Warning System on food and agriculture |
| SAFEX | South African Futures Exchange |
| SAGIS | South African Grain Information Services |
| SAMIC | South African Meat Industry Company |
| SAMPRO | South African Milk Producers Organisation |
| SARS | South African Revenue Services |
| SASA | South African Sugar Association |
| StatsSA | Statistics South Africa |
| WFP | World Food Programme |

1. THE ESTABLISHMENT AND PURPOSE OF THE COMMITTEE

1.1 Introduction

On 28 November 2002 the Minister for Agriculture and Land Affairs, Ms Thoko Didiza, announced that Cabinet had approved the establishment of a Food Pricing Monitoring Committee (FPMC) as one of the strategies to deal with the continuing problem of high food prices, first triggered by the rapid increase in food prices at the end of 2001. A public call was made for the submission of names of interested individuals, for consideration as members of the Committee, who possessed the necessary technical knowledge in analysing the food chain. Subsequently, on 8 January 2003, the Minister announced the appointment of the following individuals to serve on the Committee:

- Prof. Johann Kirsten – Chairperson
- Dr. Fikile Mazibuko - Deputy Chairperson
- Prof. Johann Potgieter
- Prof. Sibusiso Vil-Nkomo
- Ms. Josephilda Nhlapo-Hlope
- Prof. Herman van Schalkwyk
- Mr. Lumkile Mondi
- Ms. Nonia Rampomane¹

The Committee was established in terms of Section 7 of the Marketing of Agricultural Products Act, No 47 of 1996 (as amended) and it acts under the auspices of the National Agricultural Marketing Council (NAMC), which advises the Minister for Agriculture and Land Affairs.

The Committee was charged with the following Terms of Reference:

- Monitor the pricing of basic foodstuffs;
- Investigate any sharp or unjustified price increases;
- Determine the competitiveness of production operations;
- Investigate price formation mechanisms within the value chain of basic foodstuffs;
- Recommend required productivity improvements;
- Investigate collusive, discriminatory or any unfair business practice in the basic food value chain;
- Investigate and make recommendations on market inefficiencies and distortions;
- Investigate incidents of predatory pricing and monopolistic tendencies.

The FPMC held its inaugural meeting on 20 January 2003. Following an initial briefing by the Hon. Minister, the Committee deliberated on the terms of reference, the scope of its operations as well as its plan of action. The Committee then agreed on slightly amended terms of reference:

¹ Unfortunately Ms Rampomane passed away on 16 August 2003.

- To monitor the prices of a basket of 26 basic food items (The results are reported in Part 3 of the main Report);
- To investigate any sharp or unjust price increases (The results are reported in Part 3 of the main Report);
- To investigate price formation mechanisms in selected supply chains. This would include the following (The results are reported in Parts 4 and 5 of the main Report):
 - Determining the numbers of producers and processors and levels of concentration;
 - Determining the extent of vertical/horizontal integration and concentration in the food supply chain;
 - Gross margin analysis at each node of the food chain;
 - Establishing the magnitude of difference between urban and rural pricing structures;
 - Reporting on the pricing structure of certain food chains;
 - Determining the ratios of prices to costs and profits.
- To review the effectiveness of government monitoring of and information dissemination on food prices (Discussed with recommendations in Part 7 of this Report)
- To establish and maintain a national food pricing monitoring database (Discussed with recommendations in Part 7 of this Report)
- To monitor the regional SADC food situation (The results are reported in Part 6 of this Report)
- To investigate incidents of predatory and monopolistic tendencies in collaboration with the Competition Commission.

1.2 Research methods

1.2.1 Price monitoring

The Committee immediately commenced with the monitoring of food prices of a selected basket of basic products (see Table 1) in order to bring into effect the first two points in the Terms of Reference. This involved the following activities:

- The NAMC was requested to continue their process of monitoring the retail prices of the basket of food items on a monthly basis;
- The Committee was able to tap into an existing database on food price changes over the past 30 years. The results of the annual Cost of Living survey of September 2003 were added to this database;
- The Committee established channels of communication with the public, with consumer groups, and with other elements in civil society, in so doing enabling the public to report sharp increases of food prices. Inputs were substantial during the first 2 months but dropped in number as prices of key products were reduced;
- Official data on retail food prices and time series on the consumer price index were obtained from StatsSA.
- The Committee was able to access the database of retail prices extracted from the pay point scanners in retail stores. This independent database, managed by AC Nielsen on behalf of the retailers and manufacturers, provides valuable data for most major urban stores.

The Committee was therefore able to monitor retail prices of the most important foodstuffs from at least 5 sources.

The SADC food security situation (Item 6) was also monitored through collaboration with the NDA and various food security organisations in the SADC region.

Table 1: List of 26 food products identified by the Committee

| | |
|------------------------------|---------------------|
| 250g Margarine | 1 litre Milk |
| 750ml Sunflower Oil | Chicken/kg |
| 410g Peanut Butter | 1 Dozen Eggs |
| White Bread | 425g Pilchards |
| Brown Bread | Potatoes/kg |
| 250g Tea Leaves | Onions/kg |
| 250g Instant Coffee | Tomatoes/kg |
| 2.5kg and 12.5 kg Maize Meal | Cabbage/head |
| 1kg Samp | Apples/1.5kg bag |
| Stewing Beef/kg | Oranges/kg |
| Bananas/kg | Sugar beans (500g) |
| 2kg Rice | Butter Beans (500g) |
| 2.5 kg White Sugar | Sorghum meal |

1.2.2 Pricing behaviour

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**. In this respect particular attention was given to:

- Market power as determined by the level of concentration and the extent of vertical and horizontal integration;
- Price formation at different points in the supply chain;
- Costs and margins at each stage of the value chain.

In order to comply with points 3 and 7 of the Terms of Reference, the Committee addressed these aspects in a comprehensive manner. The Committee was aware, however, that research into behaviour in food supply chains must be seen against the background of the changing nature of the agricultural and food industry worldwide, and also in South Africa. Essentially, supply chains of vertically related oligopolies have emerged either through ownership, strategic alliances, or contractual relationships. This presents a challenge for governments to ensure that potential social welfare losses resulting from the misallocation of resources and possible abuse of market power are avoided.

In this new structure the transmission of prices between vertical stages of the supply chain are likely to happen via proprietary information. This entails that missing market price information makes an investigation into anti-competitive behaviour difficult. At the same time, the potential benefits of the new agri-food structure should not be ignored. These benefits include potential efficiency gains through reduction of transaction costs, minimising wastage, etc.

An in-depth analysis was completed for each of eight separate, identified supply chains (maize-maize meal; wheat-bread; sunflower seed-cooking oil; sugar; red meat; milk; dried beans; and potatoes). This incorporated a) a structure/conduct analysis, b) the analysis of farm-to-retail-price spreads, c) an investigation of price transmission mechanisms and the role of market power. These analyses were also extended to retail stores/spaza shops and general trading stores in remote rural areas in four provinces.

1.2.3 Data sources

Most participants in the food industry gave full cooperation to the investigation, often providing information normally regarded as proprietary. The various industry associations provided data in the form of industry average processing and distribution costs, etc. As the investigation progressed, it became apparent that many detailed processing costs were not provided. Despite this, sufficient data were obtained to establish, for the first time in South Africa, a comprehensive database on various aspects of the food industry. This database could form the basis for a recommended annual “South African Food Cost Review”, which is discussed in the recommendations of the Committee.

The Committee was also able to draw on the earlier report to the Treasury on pricing behaviour (Vink and Kirsten, 2002)² and on the databases used there.

1.3 Outline of the report

The report of the FPMC has been divided into seven parts. In Part 1 (Summary Report), a summarised report on the main activities, findings and recommendations of the Committee is presented. This is followed in Part 2 (The Government responding to the food price crisis) by three Chapters on the background to the appointment of the Committee, and an explanation of the manner in which the Committee approached its terms of reference.

In Part 3 the Committee sets out its approaches to the Committee’s key task of monitoring food prices from five different angles. In Chapter 1 the Committee uses various time series of aggregate data depicting food price inflation on a national scale, while in Chapter 2 actual prices for the month of September 2003 are compared for individual products at different localities throughout the country. The Committee, in collaboration with the NAMC, also set up 6 monitoring points (two in rural areas, two in peri-urban areas (township) and two in main cities or towns) in each of the 9 provinces to monitor the prices of a basket of 26 food products. Chapter 3 deals with the results of this monitoring activity. As another avenue for monitoring retail prices, the Committee utilised the data extracted from pay point scanners in retail stores. The results from the trend analysis of these monthly data are presented in Chapter 4. Finally, since the majority of poor households reside in remote rural areas and because the data sources listed above have a relative strong urban bias, it was decided to also monitor the difference between prices in urban stores and those of spazas/general dealers in remote rural areas.

Part 4 addresses the causes of food price increases in Chapter 1, while from Chapter 2 onwards eight food value chains are analysed in great detail in order to understand the pricing behaviour in each chain and to understand the factors contributing to various movements in prices within each of the chains.

² Vink, N and JF Kirsten, 2002, Pricing behaviour in the South African food and agricultural sector. A report to the National Treasury, Pretoria

Part 5 continues with issues related to the core aspect of the terms of reference, namely to understand the causes of food price increases. Chapter 1 considers the influence of price increases of farm requisites, while Chapter 2 considers the role that is played by other exogenous factors such as transport costs and the perceived collusive behaviour of silo owners vis-à-vis the cost of basic food. The Committee assumed that certain practices related to the relationships between food manufacturers and retail stores could potentially lead to extra costs for the consumer. This aspect is investigated in Chapter 3. In Chapter 4 aspects related to market structure and market power, and how these influence the transmission of prices through the value chain are analysed.

In Part 6 of the report the Committee gives effect to point 6 of its terms of reference, namely to “...monitor the regional SADC food situation”. Part 7 of the Report contains the concluding chapters as well as the recommendations of the Committee.

2. INFLATION AND FOOD PRICE INFLATION IN SOUTH AFRICA, 1991 – 2003

In Part 3 of the main report a broad overview of general inflation trends in South Africa, as measured by the Consumer Price Index (CPI), is presented. The CPI measures how the price level of consumer goods and services purchased by households changes between two periods. Currently StatsSA compiles and disseminates a number of different CPI aggregates, each serving a number of different analytical purposes. These 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 include 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. This 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), 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 index is regarded as useful to assess the impact of price increases on poverty, as food is the single biggest item in the total basket for the CPI.

South Africa battled with double-digit inflation from the 1970s until, in the early 1990s, the CPI was eventually brought below 10% on a sustained basis (see Figure 1). Subsequently, inflation remained below 10% after 1995 and even reached figures of around 5% until it increased to the above 12% in 2002. The data in Figure 1 also reflect the trend in the CPIF, which fluctuates more widely than the CPI, reaching around 30% in 1991/92 and then declining and stabilising gradually until the sudden surge to 20% in 2002. However, by September 2003 CPIF was only 4.2%, and CPI had declined to 3.7%.

The data in Figure 1 show that when CPI-food was growing at a relatively constant rate (up to the end of 1999), the overall inflation rate was declining. It is clear, however, that between the end of 1999 and the middle of 2000, and again from the middle of July 2001 the increase in CPI-food preceded an increase in the overall rate of inflation. This interpretation is emphasised by the difference between the CPI and CPI ex-Food, illustrating the important contribution of food price inflation to total inflation during the early part of 2002. Figure 1, however, also shows how the effect of food price inflation on total inflation has diminished over the past year. Whereas the difference was almost 2 percentage points in September 2002, there was virtually no difference in September 2003 indicating that the impact of food price inflation on total inflation has diminished.

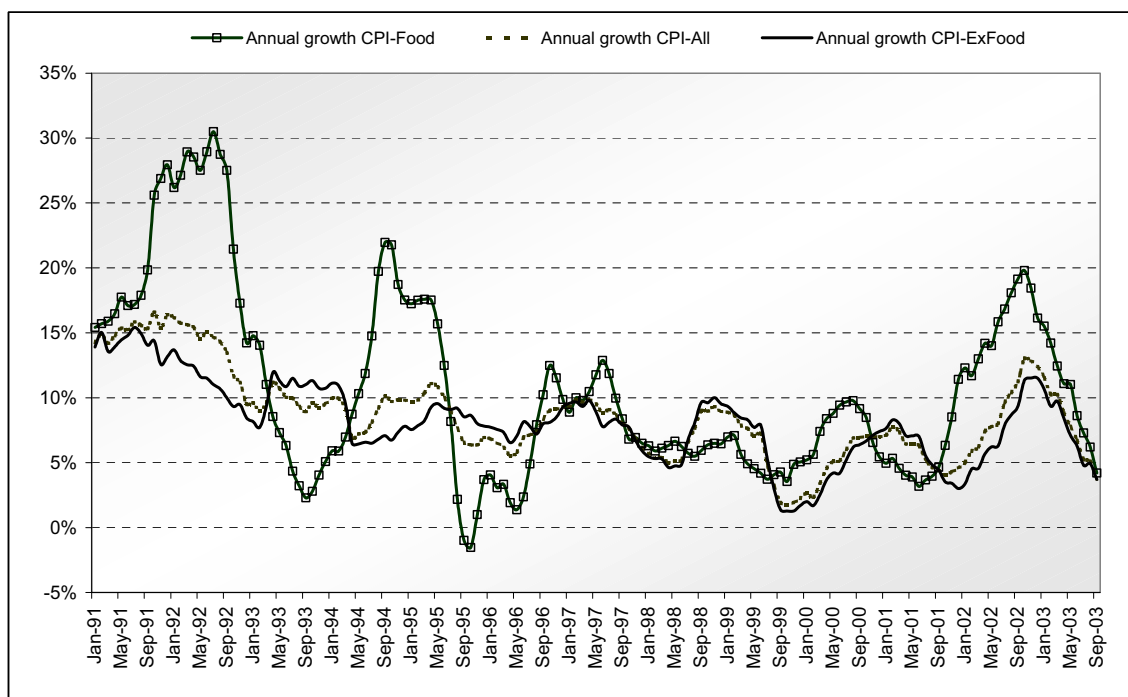


Figure 1: Change in CPI, CPI-food and CPI ex-food: Jan 1991 – Sept 2003

A disaggregation of the various CPI series in the StatsSA database shows an interesting dichotomy between food price inflation in rural and urban areas, with the CPIF generally at a higher level in rural areas, while the CPI is generally higher than in urban areas. Finally, the concern about rising food prices also relates in many ways to the impact that rising costs have on poorer households, who spend a much larger share of their monthly budget on food. The effect of food price inflation on the urban poor is illustrated in Table 2, confirming that poorer households were more severely affected by the rate of food price increases during 2002 than more affluent households.

Table 2: Year-on-year food price inflation for different income groups

| Income group | October 2002 | January 2003 | September 2003 |
|------------------|--------------|--------------|----------------|
| | % | | |
| Very low income | 23.13 | 17.21 | 3.35 |
| Low income | 22.72 | 16.42 | 3.89 |
| Middle income | 21.77 | 16.07 | 4.15 |
| High income | 20.88 | 15.84 | 4.17 |
| Very high income | 18.99 | 15.26 | 4.21 |

2.1 Annual retail food price movements

The Institute for Planning Research, a research Institute attached to the University of Port Elizabeth, started a longitudinal research project in April 1973 to determine the cost of basic needs of low-income households. The survey was originally conducted in eleven urban centres (later increased to 15). The cost of 18 food items (later increased to 23) formed part of the survey. The surveys were originally carried out during March/April and updated in August/September of each year, but six years ago, this was changed to an annual survey for the August/September period.

In the first section of Chapter 2 in Part 3 of the Report, the findings of the last four survey updates (2000 – 2003) were analysed in order to illustrate price trends over the crucial period of high food price inflation. These data show annual price increases of as high as 103.2% for maize meal and 53.8% for samp.

In the second section of this Chapter, the information for eleven centres is used to illustrate price trends during the period 1995 to 2003. Both analyses confirm that there is a wide variation of price movements for food products and that, while the rate of price increases has declined significantly since the middle of 2003, the general trend is still upwards at a rate higher than that of the general rate of inflation.

2.2 National average monthly retail prices: 2000 to 2003

The FPMC was able to reach an agreement with the Consumer Goods Council of South Africa through which they gained access to an independent database on retail prices managed by AC Nielsen. These data originate from retail scanner data as well as from a monthly audit of 7 000 stores across the country. The price series covers the period January 2000 up to October 2003 and provides the lowest, highest and average prices for a large range of food products. In Chapter 4 of Part 3 of the Report, the average monthly retail prices for all the products monitored by the Committee are analysed. The key commodity in the surge in food price inflation that started at the end of 2001 was maize meal. This analysis shows that, after the initial surge, maize meal prices have actually dropped since reaching their peak at the beginning of 2003. The trend is illustrated in Figure 2. Given the normal 3-4 months time lag in the milling chain, maize meal prices are expected to decrease further as a result of the large drop in the producer price of white maize.

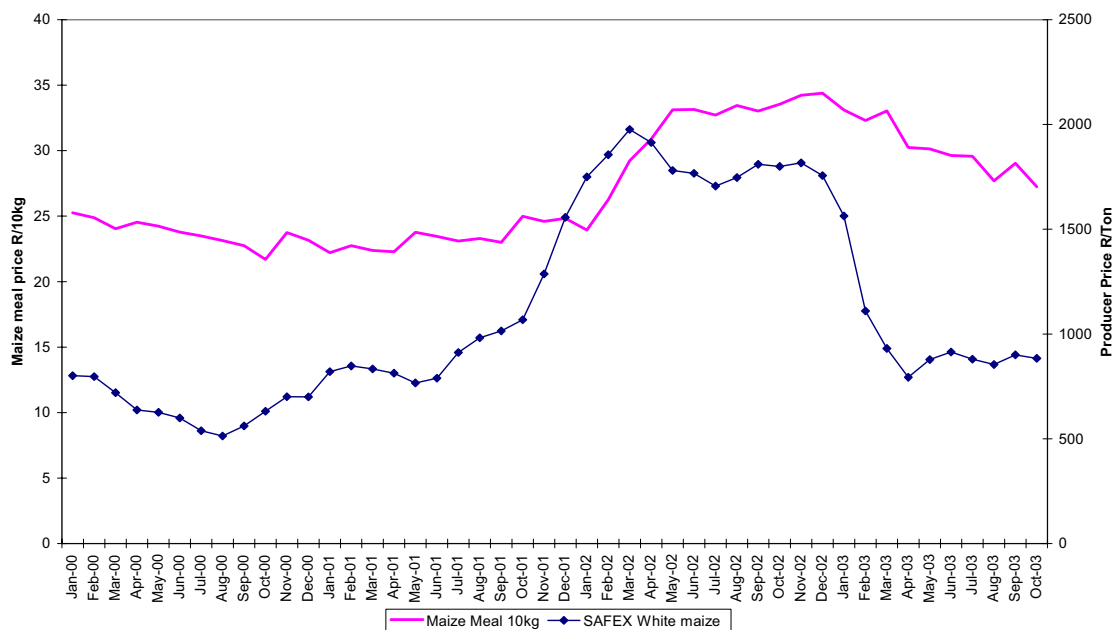


Figure 2: National average retail price for 10 kg maize meal: Jan 2000 to Oct 2003

2.3 Prices of selected food products at rural stores

The aim of Chapter 5 of Part 3 of the Report was to trace and record the mark-up as food products move from wholesalers (or sometimes supermarkets) to small shops in rural areas of the Free State, Northern Cape, KwaZulu-Natal, Eastern Cape and Limpopo Provinces. Wholesale-to-retail price spreads were determined over the period April – July 2003 for selected commodities. Prices were monitored at spaza shops in rural areas as well as at wholesalers where spaza shop owners source commodities. Most of the stores are located considerable distances away from major towns. Store owners buy stock at wholesalers and usually use their own transport.

The major objective of this exercise was to determine how and by how much rural prices differ from the price of the same product in the nearby town or city, and more particularly, whether the difference between prices in rural and urban stores reflect true transport and distribution costs and a normal profit margin.

The results clearly indicate that:

- For most processed products, prices tend to be higher at rural stores than the national average, while fresh products like milk, dry beans and potatoes, which require less processing, are cheaper at rural stores than the national average;
- In some commodities and in some provinces a decrease in prices was noted indicating that rural storeowners were passing on decreases at wholesale level to their customers;
- Mark-ups are very high but even more so in the rural areas of KwaZulu-Natal.

3. PRICE DETERMINATION ON SAFEX

Parts 4 and 5 of the Report address a core aspect of the terms of reference, namely to understand the causes of food price increases. The investigation commences with an analysis of the main trends in producer prices as well as a detailed investigation on how producer prices are determined through the SAFEX futures market. This is followed by an analysis of eight food value chains (See Section 4) with the purpose of gaining an understanding of pricing behaviour in each chain, and of the factors that contribute to movements in prices.

3.1 Investigating the agricultural futures market

The functioning of the futures market is explained in detail in Chapter 1 of Part 4 of the Report, drawing on the Vink and Kirsten (2002) report. The key aspects, namely the influence of import and export parity prices, the world price and the exchange rate, and the functioning of SAFEX are described in order to show how the farm gate pricing mechanism works. In their earlier analysis, Vink and Kirsten (2002) concluded that the domestic price of maize reacted in a predictable fashion to the change in the exchange rate and the international price of maize, to market perceptions of the relative scarcity of maize in Southern Africa, and to the food crisis in Zimbabwe at the end of 2001. According to their findings there was no evidence of price manipulation or of unfair price policies in determining the price of the basic commodity.

Nevertheless, suspicions about the functioning of the SAFEX market continued, and were amplified by a Financial Services Board investigation into alleged irregularities by a broker firm losing large sums of investor's money on the SAFEX market. In addition, the FPMC received a number of complaints regarding trader behaviour, as did the office of the Deputy Minister for Agriculture and Land Affairs. Role players in the market were therefore requested to provide the Committee with their understanding of price trends in the markets.

3.2 Summary of the 'evidence' presented to the FPMC during interviews

3.2.1 The opinion of SAFEX's CEO

The Chief Executive Officer accepts that there are gaps in the SAFEX rules for trading; for example, rough estimates of the price increasing effect of the lack of position limits (on the size of trades and their volume) range from 2% to 10%. SAFEX maintains that position limits will resolve this problem in much the same way that speed limits aim to control speeding.

The CEO believes that SAFEX prices have remained high for so long because of the predictions about the exchange rate and the reports of poor rains from GrainSA. By implication they feel that the lack of position limits did not play a substantial role. The CEO recommends that a greater investment needs to be made in the National Crop Estimates Committee (NCEC).

The CEO points out that if the State were to operate a strategic reserve on SAFEX, it would also be subject to position limits. He was not able to provide any guarantees that position limits would work effectively. SAFEX's CEO is aware of the risk that trading entities may be split up under the maximum ceilings, but would not make any commitments regarding the need for improved monitoring and reporting.

3.2.2 Large milling companies and their maize trading activities

According to traders acting on behalf of the grain millers, and according to general market gossip, millers instructed their traders to 'buy at all costs' during 2002 because they believed there was going to be a shortage of maize, and, consequently, they feared losing their brand-based market share. To some extent this appears to have led to a situation where large mills locked part of their overall maize grain purchases at high SAFEX prices compared to prices available to smaller millers who only entered the milling industry once prices dropped in early 2003.

Large millers aimed to save on margin costs, and therefore got involved in 'exotic' options (e.g. barrier options). Thus, prices may have overshot on the futures market because of what was happening on the options market. There is a lack of trader skill and expertise in using exotic options.

3.2.3 Big trader dominance during 2001/02

Several traders reported on aspects of the trading activity of one large trading house that was described as 'the market leader' in 2002. This particular firm was well known on the trading board and adopted a controversially large position in support of higher maize prices from May 2002 onwards, which most traders and market participants followed. The firm's activities were supported by its ability to trade on behalf of the Joint Municipal Workers Pension Fund with backing from ABSA. The size of the position held by this firm led to a situation where it was improbable that other market participants would counter the position.

Certain trades by this firm may also have been in contravention of SAFEX trading rules, which, however, requires further independent verification and legal advice. Related to this, verbal complaints made to the SAFEX management do not appear to have been followed up effectively. It should be noted that the firm, WJ Morgan, was expelled and fined by the JSE for contravening certain trading rules in October 2003. It is not clear whether these contraventions led to an unrealistic increase in prices on the SAFEX market.

3.2.4 Supply and demand 'fundamentals' and the SAFEX market

During interviews, much use was made of the term 'fundamentals', with many traders indicating that they did not suspect foul play, rather that the market had reacted according to the 'fundamentals'. The following demand and supply 'fundamentals' were identified:

Demand

- Although the domestic demand for white maize is understood by all market participants to be relatively stable from year to year. Previously it was thought that if grain prices broke above approximately R1000 per ton, consumers would switch to yellow maize. This assumption proved wrong as consumers continued to buy white maize, even though it was supplied at a higher price. Despite a substantial price differential between SAFEX yellow and white maize prices in South Africa at the time, the 'market' does not appear to have made yellow maize meal or blends of yellow and white available. Previous experience with blends sold by larger millers during the 1991/92 drought seems to have created the fear that supplying less than 100% white maize meal would result in a loss of brand-based market share.

- This brings the debate about the reliability of import and export parity figures into closer focus, since the tariff for white maize and most import-parity figures are calculated on the basis of a yellow maize price series reported on the Chicago Board of Trade. No similar price series exists for white maize, and market information on the international white maize market and, particularly, the premium on white maize is dominated by one company in the US, which has close ties to some trading houses based in South Africa. It is, therefore, conceivable that graphs could show SAFEX spot prices rising above the import parity price of yellow maize when there is a \$20/30 premium for white maize. It is also conceivable that SAFEX prices could rise above import parity for short time-periods because of time lags in actualising import orders from distant markets.
- International trading houses estimated that demand volumes in the region were grossly overstated well before December 2002. Their suggestion is that anybody who knows anything about the process of international aid would have assumed that the actual aid demand was much lower than the volume reported by the international aid agencies. As soon as orders for regional maize began in May 2002, it became clear that the regional demand was for the cheapest maize available regardless of its colour.

Supply

- Some concerns were expressed about the uneven ability to estimate the maize crop accurately because of uneven access to information. Many of those interviewed felt that the NCEC was not investing enough to make the official estimates reliable.
- The reasons for the 1 million ton official ‘underestimate’ of the 2001/02 maize crop by the NCEC were not established during the interviews, and neither could the actual impact on prices be ascertained when the news of a revised crop size became available via SAGIS in August/October 2002³.
- Crop estimates in the region are less reliable than crop estimates in South Africa.
- Traders involved in supplying to the region appeared to be more aware of the extent to which regional demand was being filled by overseas imports well before December 2002. Despite this information being freely available in May 2002, it was not widely communicated in the South African press. Some large imports also went unnoticed by those not involved in the monitoring activity at South African and regional ports.
- Some traders argued that imports of genetically modified white maize were not possible in early 2003. However, this is not borne out by SAGIS information or by the records of GMO permits granted during February 2002.

3.3 Potential problems regarding price formation on SAFEX

In interpreting this evidence, the Committee was of the opinion that the SAFEX maize price formation system could, in the abstract, lead to the following problems:

- SAFEX could potentially exaggerate price fluctuations (and prices could thus overshoot);
- In an environment where a credible and reliable public information service on the weather as well as on maize supply and demand does not exist, it is possible that

³ The NCEC admitted to its error in 2003 as follows: “The committee (NCEC) last week acknowledged it had underestimated last season's maize crop by 1-million tonnes. The size of the crop for the 2001-02 season was 9,7-million tonnes compared to the Committee's prediction of 8,7-million tonnes.” <http://www.businessday.co.za/bday/content/direct/1,3523,1326874-6079-0,00.html>

market participants exaggerate prices in a certain direction by releasing biased or misleading information, or by ignoring or underemphasizing information;

- Regardless of whether there is a credible and reliable public information service, there may still be serious information asymmetries between large market participants involved in input supply and grain trading, and others who are not in a position to collect detailed information from their maize producing clients or to influence their hedging behaviour through loan repayment conditions;
- In an environment where there are no restrictions on the size of trading positions, it may be possible for larger traders to ‘corner’ the SAFEX market through their access to pension funds and overseas hedge funds, etc.;
- In an environment where SAFEX does not spend sufficient resources on monitoring and enforcing its rules, trading professional or their clients could exaggerate prices by flouting SAFEX rules;
- SAFEX maize futures and options may contribute to financial and currency market volatility;
- Equitable participation on the SAFEX market could be problematic, as it could create barriers to entry for small-scale producers or millers of maize, thereby promoting concentration of ownership in the medium to long-term;
- In an environment where activities on the SAFEX market are not properly monitored and some self regulation is not implemented, and where, in addition, the normal surveillance procedures of the JSE are not implemented, problems could occur related to fair adjudication when a member of SAFEX lodges a complaint against another member; and
- SAFEX prices may give a misleading picture of actual average maize grain prices because of the existence of forward contracts entered into between larger farmers and millers.

3.4 Debating possible recommendations

The Committee discussed a number of options to improve the functioning of the market with traders, and addresses these in the final part of this Report. The main issues addressed include:

3.4.1 Strategic grain reserves

Some traders were in favour of a ‘virtual’ strategic grain reserve, as it would increase their turnover and profitability as trading houses. Several traders, however, expressed concern whether a virtual grain reserve would have a meaningful impact on SAFEX prices because of position limits. The Committee is of the opinion that, in light of the concerns about the costs of implementing a physical strategic grain reserve and the difficulties of administering it, it may be more strategic to introduce a limit on the volume of maize held in storage by any one party. This option, however, would have to be accompanied by strict reporting requirements.

3.4.2 Changing SAFEX rules

There was consensus on the need for SAFEX to introduce position limits. However, there appeared to be less comfort with SAFEX’s ability/willingness to monitor its own rules at a decentralised level. There may also be a need for an independent body such as the JSE surveillance unit to monitor SAFEX traders more actively and to create a mechanism to provide for independent adjudication of complaints.

3.4.3 Improving information and access to information

There are several areas where improvements in information may result in less volatility on SAFEX:

- Some proposals, such as the timeous reporting of import and export orders, are already being implemented by SAGIS. Others related to the weather and rainfall patterns have not been addressed yet. For example, one way of preventing weather predictions from unduly influencing prices in the future would be to improve official reporting of **actual** rainfall in the grain producing areas. It is also important to ensure that weather reports specifically tailored to maize production are produced independently and are subject to greater scrutiny and technical criticism from a range of experts who are not funded by Maize Trust money. At present there is no reliable system to adjust rainfall predictions based on actual rainfall and soil moisture information;
- Given the confusion over who actually **owns** maize in storage, it is also necessary to require SAGIS to report information at a much more disaggregated level than it does at present; and
- As part of the PPI and CPI basket of prices, accurate millers' raw material costs (as opposed to wholesale maize-meal prices) and final retail/wholesale selling prices should also be collected and disseminated by StatsSA.

3.4.4 Expanding demand side support

Several traders were in favour of Government introducing a system of food stamps as a way to address high food prices by subsidising 'the poor'.

3.5 Concluding remarks

Although this investigation has highlighted some specific trader behaviour that potentially could have caused SAFEX prices to overshoot, it was not possible, and it is unlikely that it ever will be possible, to link specific price movements to specific actions by individual players in the market. The Committee is, however, satisfied that the new rules adopted by the JSE in response to broader social concerns and in response to the Committee's attention and that of the FSB will help to diminish the risk that the market could be cornered. The fines and suspension issued by the JSE and the FSB investigation are an indication that they are serious to deal with potentially opportunistic behaviour by traders which could result in 'unjust' price increases. Nevertheless, despite these reported irregularities, the Committee is of the opinion that lack of proper market information played a central role in creating a situation where manipulation was made possible. The Committee is satisfied that there is enough evidence that much of the producer price trends accurately reflected the market fundamentals, which suggests that manipulation had a minimal effect on broader price trends. The Committee is also satisfied that the necessary regulations are now in place to prevent the abuse of the futures market which might ultimately be to the detriment of society.

4. ANALYSIS OF SELECTED FOOD VALUE CHAINS

An in-depth analysis was completed for each of eight separate supply chains (maize-meal; wheat-bread; sunflower seed-cooking oil; sugar; red meat; milk; dried beans; and potatoes), incorporating a) a structure/conduct analysis; b) the analysis of farm-to-retail-price

spreads; and c) an investigation of price transmission mechanisms and the role of market power.

4.1 Maize to maize meal

There have been many questions around who makes the ‘super profits’ in the maize value chain in the period since the end of 2001. In terms of value, maize is the single largest agricultural commodity in South Africa, and maize meal being a staple food, maize has high trading volumes.

Although many independent sources report on the level of concentration in the industry, no figures could be quoted to indicate this level of concentration. It is furthermore also difficult to determine exactly at what stage in the value chain the level of concentration influences the pricing of the final product. It was however determined that the maize milling industry exhibits the typical characteristics of an oligopolistic structure where monopolistic competition based on brands and market segmentation exists, which does have an impact on the retail price.

Calculation of the miller-to-retail margin has shown that profits, as well as some losses, were realised during the period under review. However, the results also suggest that fundamentals in the maize market will force the market to fluctuate around an equilibrium, which is established by demand and supply forces. It is not easy to determine how fast the market returns to equilibrium after an upward or downward shock in prices. A certain degree of “downward stickiness” in the retail price of maize meal during 2003 was identified while millers, interestingly, did increase the price of maize meal almost immediately and sharply followed the increases in maize producer prices in December 2001. The normal time lag of 4 months was, therefore, not observed in the upward phase. At the same time, since April 2003, the time lag effect of producer price trends was clearly noticeable in the downward trend in retail prices. Hence, it can be argued that some level of concentration might exist in the processing and retailing sector of the maize industry that could move the market in a certain direction for a period of time before market forces kick in and self-correct. Whether this structure must be seen as operating to the detriment of consumers’ welfare is a point of contention. Yet, it is not absolutely clear that they have profited by means of inducing sharp increases in the price of maize meal during the period under review.

The calculations in this Report show that normal to low, but stable, profits are made in the maize-to-maize meal supply chain. The Committee is confident that no profiteering on these basic foodstuffs has occurred, as is evidenced by the fact that the retail price of maize meal has adjusted downwards, albeit after a considerable time lag.

However, subsequent analysis has shown three main trends in real wholesale-to-retail margins (defined as the difference between the retail price of maize meal and the price at which millers purchase maize, after accounting for extraction rates and the value of by-products produced in the milling process). The first analysis of a ‘long-term’ trend over the period 1976 – 2003 shows that the real margin has increased. The second trend (1991 – 2003) is stable and slightly negative. The third analysis for the immediate past (2000 – 2003) shows that real margins calculated on a monthly basis have increased. More detail analysis showed that during the period of exchange rate depreciation the real margins as defined above increased from R1 190 per ton of maize meal in June 2001 to R1805 per ton in March 2002. Since then real margins dropped to R1124 in April 2003 as millers absorbed most of the costs

of expensive white maize bought in the previous 6 months. But when maize prices plummeted during early 2003 real margins increased to a high of R1733 per ton in July 2003. Since then margins declined and have stabilised around the R1500/ton mark.

The Committee is therefore, concerned about the level of competition and the oligopolistic structure of the maize meal industry. It is therefore important to maintain competition in the industry, especially from small-scale millers, as a means of countering the market power of the larger millers. Proposed measures such as the regulations on food fortification could, however, put many small-scale millers out of business and thus contrary to this objective.

4.2 Wheat to bread

The analysis of the wheat to bread chain raised the issue of the relative price of white vs. brown bread. Because of the different extraction rates, it costs less to produce a loaf of brown bread than it does to produce a loaf of white bread, a difference of approximately 13.66 c/loaf. Because it is cheaper to produce brown bread, and because brown bread is zero-rated for purposes of VAT, the retail price of brown bread should be lower, by at least 14%, which is, in fact, the case. The data clearly indicate, however, that this 'gap' between the two retail prices is getting smaller, from 22% in February 2000 to 10% in July 2003. At the same time the profit margin on brown bread has increased at a much faster rate than that of white bread, hence there is evidence that someone in the supply chain is pushing up the price of brown bread at a rate faster than that of white bread.

Although it was not possible to establish the profit margins at the various stages of the supply chain, it is clear from the Committee's analysis that the profit shared from miller to retailer has increased over the past three years. This largely explained by the continuous increase in retail prices. Considering various confidential pieces of information, it is possible that a large share of the miller to retail margin goes to the retailer.

4.3 Red meat

The Committee came to the following conclusions in its analysis of the red meat supply chain:

- It is ironic that red meat reached the end of its last price cycle (which normally lasts from 6 to 7 years) at the end of 2002, to coincide with the high grain prices of that time. In this regard, 2002 was in all probability the end of the last true price cycle, i.e. real producer prices reached a cyclical high and hence real prices are expected to decline over the next couple of years before increasing to reach a high again in 2009.
- While the analysis showed a large degree of concentration in the feedlot industry, issues related to economies of scale and the biological nature of the production system make it difficult to manipulate market prices for beef. This is underpinned by the fact that feedlots in most cases experienced large losses in 2002, i.e. they were not able to cascade input cost pressures down to downstream role players.
- An analysis of the producer-retail price spread used a block test to estimate wholesale and retail prices, which were then compared with actual retail prices. This analysis showed that the producer and the retail price tended to move in tandem, although there was some downward stickiness in retail prices.

In summary, the Committee was satisfied that there was no evidence of price manipulation in the red meat supply chain.

4.4 The dairy supply chain

The study of the dairy supply chain clearly shows the dominant bargaining power of dairy companies buying from farmers. The fact that twelve factors, in varying combinations, are included in raw milk payment systems is indicative of the fact that raw milk producers are price takers. They are also more numerous (although declining) than milk buyers and milk processors and have no alternative markets. On the farmers' input side the power of suppliers is also dictating as the farmers are to a lesser or larger degree, continuously caught in a price-cost squeeze.

Rivalry amongst milk processors, between processors and retail buyers, and amongst retailers is high. However, milk processors and retailers operate in an oligopolistic market, meaning there are a few buyers and suppliers and, consequently, they can influence (negotiate) price levels. The net effect of this situation is that, in general, farmers and small retailers have to accept the prices they are offered. Usually the raw milk and list price of small to medium sized retailers price is a derivative of prices negotiated by processors and retailers. Processors and/or retailers are in a position to pass the effect of price increases on to the consumers. This entails that price formation in the latter two cases is on a cost plus basis. To explain: During periods of raw milk shortages and subsequent producer price increases, retail prices increase. During periods of raw milk price contraction, however, a ratchet effect operates in the retail market indicating a reluctance to follow the downward trend. Processors strong in the export market purport that the US\$/Rand exchange rate plays a dominant role in raw milk pricing. Retail price increase of, for instance, UHT milk and cheese are exponential, while in the raw milk market it is not the case. This is characteristic of an oligopolistic market. It is also apparent that dairy processors succeed in transmitting at least some cost increases to retailers.

From the analysis of the dairy supply chain it has been deduced that the structure of the dairy supply chain is such that processors and retailers operating in an oligopoly situation can retain more of the increase in added value. The opposite is also true, namely when volume shrinks they are in a position to sustain their net income position from dairy products or at least protect their position more successfully.

The analysis of price trends and profit margins in the dairy industry show continuous increases in retail prices of all dairy products while producer prices for raw milk started to decline in recent months. At the same time the Committee found that the manufacturer-retail margin remained healthy and growing during the period under review. The analysis of the manufacturer-to-retail margin for cheapest UHT milk show some alarming trends. After accounting for all factory costs and extraction rates it was estimated that the margin between the factory gate and the end consumer has increased from 213,6 cents per litre in March 2003 to 303.8cents in October 2003 – a 142% increase in 7 months.

4.5 Sunflower seed to cooking oil

The key findings in this analysis are that:

- Only 65% of the local crushing capacity for sunflower oil in South Africa is being utilised at present;

- Local crushers have to compete in the international market, where crude oil is traded in high volumes, hence they have little pricing power;
- Most importantly, statistical tests show that retail prices of sunflower oil have been as flexible downwards as upwards in responding to shifts in raw material costs.

For these reasons, the Committee is confident that healthy competition exists between domestic producers and processors in the sunflower seed to cooking oil supply chain.

4.6 Sugar

Under the current regulatory regime, the domestic sugar price in South Africa can move as high as import parity. Because the South African Sugar Association (SASA) is able to practise price discrimination, sugar millers are protected behind a high tariff wall. Moreover, there is a local market proceeds-sharing agreement, which implies that millers would lose national market share to imports if they tried to raise the net miller selling sugar price above import parity. These mechanisms provide stability in terms of local market proceeds for growers and millers, and a regulated 'base' level from which the nominal domestic retail price of sugar is ultimately derived.

The main reason for recent retail price increases seems to be an increase in both the nominal and the real value of the transport, handling, wholesale and retail spread (the link from the point of final despatch of refined sugar from the millers to the customer), with the main cost drivers probably being rising transport and labour costs. It is not clear what, precisely, is driving these increases.

4.7 Potatoes

Two major shifts in the production and processing of potatoes will have a significant impact on the potato industry in the future. The first is the continuation of the shift from dry land production towards irrigation. Because over and under production during good and poor seasons will be eliminated, this will ensure a more constant supply and, therefore, greater price stability within the sector.

The second shift is the continuation of the present increase in production of processed potatoes at the cost of fresh potatoes. As their per capita income increases, consumers tend to prefer processed food. The movement towards processed potatoes might enable more producers to enter into forward contracts with processors. An increase in the number of contract farmers and irrigation cultivation will ensure a much more stable industry with less supply and price volatility than in the past.

The analysis of price trends in the potato industry indicates that the major price determinant is the normal supply and demand forces as expected in a marketing system that is relatively free of government intervention. Exogenous factors such as export prices or imports do not play a major role, nor does the exchange rate have any significant impact on potato prices at farm gate level and at the fresh produce markets. Thus, the steep increase in potato prices during the second half of 2002 was mainly due to an under supply of potatoes on the fresh produce markets during that period. It seems however, that processing costs and other factors contributed towards the increase in output prices in the processing industry. Information obtained thus far is not sufficient, however, to determine the variables that influenced the increase in producer prices for processed potatoes.

4.8 Dry beans

During 2002, when South Africa experienced large increases in the prices of most agricultural commodities, dry bean prices also showed an upward trend. However, this increase started well in advance of the general increase in agricultural product prices. The main reason for this is that farmers tend to substitute areas cultivated with dry beans for maize, i.e. an increase in the area planted with maize translates, on average, in lower plantings of dry beans, which in turn leads to lower supply of dry beans and hence to an upward pressure on prices. Thus, there was an entirely predictable surge in dry bean producer prices at the end of 2002 when farmers were reacting to the high maize prices, and bean prices had reached their seasonal peak in December.

5. INVESTIGATING OTHER ASPECTS OF THE FOOD CHAIN

Part 5 of the Report continues with issues related to the core aspect of the terms of reference, namely to understand the causes of food price increases. The Chapter 1 considers the influence of price increases of farm requisites, while Chapter 2 considers the role played by other exogenous factors in the cost of basic food, including transport costs and the perceived collusive behaviour of silo owners. The Committee was also of the opinion that certain practices and behaviour related to the relationships between food manufacturers and retail stores could potentially have led to extra costs for the consumer. This aspect is investigated in Chapter 3, while in Chapter 4 aspects are considered related to market structure and market power and how these influence the transmission of prices through the value chain.

5.1 Trends in agricultural input prices

It is often argued that rising farm input costs might be contributing to higher food prices. Strictly speaking, this is only possible if farmers can pass on cost increases to the next level in the supply chain, which they cannot do because they are price takers (it is only possible under contract farming arrangements). However, rising production costs affect farmers' decisions to plant or to invest in a particular farming activity. In other words, if the marginal cost of production increases above marginal revenue, farmers may decide to pull out of a particular industry, thereby reducing the domestic supply, which, in turn, will lead to higher prices.

Although production costs did increase during the second half of 2002 because of the weakening in the exchange rate, nevertheless, there is no evidence to suggest that the level of farm production costs influenced the 2002 food price crisis. When the exchange rate appreciated during late 2002 and 2003, farmers began to complain that the benefits of the appreciating exchange rate had not been passed on to them. Various farmer lobby groups then requested the FPMC to, also, monitor the prices of farm inputs, an aspect which the Committee then added to its terms of reference.

5.1.1 Fertiliser prices

The South African fertilizer market is relatively small in global terms. It has remained at roughly the same size for the last 20 years, and is not expected to grow significantly in the medium term. These factors, plus the high cost of capital, have already resulted in significant

production capacity being permanently shut down over the past few years. These closures have resulted in new demands on the distribution infrastructure of the country of a particularly seasonal nature. The fertiliser market is considered to be highly competitive but at the same time concentrated.

The market is also characterised by ad-hoc imports of standard commodities by independent players. This is possible since no import duties or tariffs are levied on fertiliser products.

Given the potential of fertiliser imports, price levels are influenced by the landed price of international fertiliser commodities. This is mainly determined by the following: international 'free on board' (FOB) price, which is usually volatile; freight to a South African port (where maritime freight rates have increased dramatically over the last year); the exchange rate; and distribution costs from the port to the market within South Africa.

Fertiliser prices are generally determined through negotiation with the end user, thus list prices are more of an internal guideline than a reflection of actual selling prices, which are determined by factors such as competitive conditions in the market, the volume purchased and the level of value-added services used by the customer. The list prices also vary for different geographic areas and the sales mix differs from year to year and from season to season depending on agricultural conditions, with the sales mix influencing the 'average' list price.

Foskor is currently the sole supplier of phosphate rock, a key raw material for the production of phosphate fertilisers. In order to enhance low-cost production of fertilisers, a unique pricing formula is used which allows the local industry to purchase phosphate rock at about 30% below import cost levels.

5.1.2 Seed prices

At the request of the Committee, several seed suppliers provided information on seed price increases over the past few years. Most seed companies increased their prices in response to the changes in the exchange rate but also as a result of increased demand during the 2002 season.

5.1.3 Animal feed prices

Feed costs play an important role in the total input costs of the livestock sector. In the broiler and layer industries, for instance, the costs of feed constitute over 60% of total input costs. This section analyses the recent trends in the costs of feed and will determine how closely the trends in feed costs have traced the trends in the prices of grains and oilseeds over the past three years. The Animal Feed Manufacturing Association (AFMA) provided data on the costs of feed and the inclusion rates of the various grains and oilcakes in specific feed rations. AFMA members produce 97% of the total broiler feed in South Africa, 89% of all layer feed, 47% of all dairy feed, 39% of all pig feed, and 25% of all beef and sheep feed.

Yellow maize constitutes well over 50% of the total volume of feed produced, while oilcakes make up around 20% of the volume. There is, therefore, an expectation that feed costs should track changes in the prices of maize and of oilseeds. However, the analyses show that the prices of animal feeds have not responded to lower grain and oilseed prices. In the case of broiler mash, pig meal and cattle finisher, prices have even increased over the past year

despite the fact that the average prices of yellow maize, sunflower oilcake and soybean oilcake have decreased by 33%, 16% and 17% respectively.

5.1.4 Packaging costs

The South African packaging industry grew by 3.2% during 2002 to a volume of 2.4 million tonnes, while the value of output increased by 14.1% to an estimated R21.2bn. Growth was primarily attributed to the positive performance of exports during 2002, particularly in the fruit and wine markets. The data show that packaging costs have increased for four products selected for analysis by the Committee (a 10kg bag of maize meal increased by 60% from the 2000/01 average; a 1kg bag of rice increased by 41% in the same period; while the packaging costs of 750ml of cooking oil and 1 litre sachets of milk increased by 31% and 39% respectively).

5.2 The effect of exchange rate volatility on input prices.

There are two main arguments to explain the sources of changes in the prices of agricultural commodities. The macroeconomic argument considers the exchange rate volatility as one of the major determinants of change in commodity prices, while the microeconomic argument takes large demand and supply mismatches and weather unpredictability as the main causes of volatility. The South African experience of the past few years lends credence to the macroeconomic argument, hence the Committee analysed the likely impact of the exchange rate volatility on input prices in the agricultural sector. To achieve this, trends in the prices of selected agricultural inputs that incorporate imported components in their cost of production, such as fertiliser, agricultural chemicals, and tractors, were analysed in relation to the exchange rate.

The results show that the prices of fertiliser, agricultural chemicals, and tractors have increased over the past decade, and that the rate of increase accelerated after the collapse in the value of the Rand at the end of 2001. Econometric tests confirm that this accelerating price trend was caused by the increased volatility in the exchange rate rather than by other factors.

5.3 The behaviour of silo owners

The owners of grain silos (generally co-operatives and other agribusinesses) have been accused of trying to influence the market price for agricultural commodities through hoarding.

According to the Grain Silo Industry (2002), the total grain silo storage capacity in South Africa is estimated at 17.5 million tonnes, comprising of 14.5 million tonnes in the northern provinces, 970 000 tonnes in the south and 2.1 million tonnes in the harbours and with private owners. There does exist a fair amount of concentration, with three silo owners owning 70.3% of all the domestic storage facilities.

These silo owners keep four different types of grain in their facilities: farmer's stocks; grain pools; back-to-back contracts; and hedge stocks:

- In the case of **farmer's stock**, the producer is the owner of the grain (e.g. maize). When the farmer delivers the maize, the silo owner does not know whether the maize

has been sold or not since the sale of the grain takes place by means of a 'silo certificate'. When the maize is delivered to the silo, a silo certificate is issued and the producer can decide when to sell this certificate. The producer is exposed to the price risk and can hedge against this risk. The silo owner merely supplies the services of storage and handling at a specific cost per month. The delivery (i.e. movement out of the silo bin) of the physical stock of grain to a trader will only take place through an instruction from the owner of the silo certificate.

- **Grain pools** arise when a group of producers deliver their maize in a pool. A silo-owner can be appointed by the group of producers to administer the pool and provides services in terms of handling and storage, and, possibly, even to market the maize. The stock belongs to the producers participating in this pool. The pool is exposed to price risk and, therefore, has to hedge itself. All price risks and hedging costs are for the account of the specific pool.
- **Grain stocks related to 'back-to-back contracts'**. In this case the silo owner acts as the agent of the buyer of maize (usually millers/processors) and purchases the maize from the producer. The buyer determines the price and quality of the grain. The stock belongs to the buyer (the milling company/processor and NOT the silo-owner). The buyer will also determine where/when this stock will be utilized. After the maize has been purchased the silo owner acts as the supplier of storage and handling services.
- **Hedged stock** arises when the silo owner purchases maize from the producer. The silo owner is now exposed to price risk, which can/will be hedged on the futures market. As soon as this has been done, the silo owner is no longer exposed to price fluctuations.

The silo owner only has control over this latter category of grains. The Committee estimated that these 'hedged stocks' make up at most 3% of the total amount of all grains stored in silos in South Africa over the past three years, thus making it impossible for silo owners to influence the market.

5.4 Transport costs and food prices

Recent studies have shown that retail and transport margins have the largest impact on food prices in South Africa. There is also a view that South African transport policy, as currently implemented, is eroding the competitiveness of South African goods. The problem with transport costs seems to arise from a number of factors:

- The high maximum gross vehicle mass allowed: at above 55 tonnes, this is unusually high by international standards;
- The greater flexibility of road transport, and the economies of scale present when trucks are heavily loaded;
- Poor inspection by road traffic inspectors has resulted in systematic overloading by heavy vehicle users at the expense of other road users;
- Poor service delivery by Spoornet as a result of its ageing fleet;
- Increased prices by Spoornet to maintain its old fleet resulting in an increase of transport costs;
- The State's failure to recover the costs that heavy vehicles impose on the road system, with the result that lighter vehicles are cross-subsidising heavy vehicles.

The Committee believes that there is a need to recapitalise Spoornet. More importantly, there is a need to change legislation in order to remove the bias in favour of road transporters; and to change the macroeconomic policy to allow for direct subsidisation of Spoornet to enable it to keep rural transport networks alive. Also, the State has a responsibility to also ensure that food is accessible to all and that there is mobility to reach out to the poorest groups in society in times of food insecurity. Investment in rail transport will reduce the cost of transport, thus leading to more affordable food prices while revitalising rural networks; in doing so it will foster local economic development.

5.5 Relationships between food manufacturers and retailers

Following interviews with retailers and food manufacturers the Committee gained the impression (rightly or wrongly) that there are several practices within the supplier-retailer relationship that have the potential to contribute to inefficiencies and extra costs to the consumer, thus making food more expensive. These include:

- Confidential rebates;
- Returns on no sales and in-store breakage and losses;
- Poor management of the cold chain for perishables (temperature regulation in delivery areas, shelves, fridges);
- Poor management and care of supplier packaging material (such as crates) and thus losses to suppliers;
- Long periods before payment;
- Price being the only issue in the relationship – no quality, collaboration in product development and other soft issues are considered which could be important in establishing long term and sustainable supplier-retailer relationships.

Since suppliers usually factor such costs into their selling prices, it was hypothesised that these factors could well increase the costs of food. Submissions from various food manufacturers were requested by the Committee with the aim of developing a notion of how improved relationships and greater efficiency, and reduced losses and wastage could benefit consumers, suppliers, retailers and the South African economy as a whole. Manufacturers/suppliers were also invited to provide the Committee with their vision of the ideal and most beneficial supplier-retailer relationship.

Few manufacturers could provide an indication of how much would be saved if the factors listed above were not present in current transactions, although there was some agreement that there were potential cost savings.

From the many responses that were received from food manufacturers a clear dichotomy emerged. Relationships between the major food companies and the large chain stores have matured; they co-operate to achieve an efficient supply chain management, or effective consumer response. Negotiations are tough, still, but the relationships have matured. Smaller suppliers have a different view, however, with many complaining heavily about the practices of the retailers. Many of these smaller suppliers sent anonymous submissions to the Committee fearing ‘de-listing’ or ‘blacklisting’. This phenomenon clearly illustrates a relationship that is not build on partnership but on antagonism.

The Committee believes that such practices by retailers act as an entry barrier for smaller suppliers, and could result in a greater concentration in the food manufacturing and retail

sector, which might become a serious concern for consumers and the State. This could well act against the Government's objectives of promoting small-scale business as well as obstruct achieving Black Economic Empowerment.

5.6 Market structure, asymmetry and price transmission in the food chains

Price is the primary mechanism through which various levels of the market are linked. The extent of adjustment and speed with which shocks are transmitted among producer, wholesale, and retail market prices is an important factor reflecting the actions of market participants at different levels. The transmission of changes in producer price to changes in consumer price depends greatly on the type of product. Products that are perishable and undergo minimal processing such as vegetables, fruit, and fresh milk are expected to have a relatively quick price transmission mechanism. This is particularly noticeable for commodities such as maize, wheat and sunflower seed that can be stored relatively easily and are traded on the futures market, so that processors can hedge against large price fluctuations. It is largely due to storability and hedging strategies that various time lags exist between changes in commodity prices and consumer prices.

In assessing food prices in the South African economy, the Committee conducted various econometric tests on aspects such as the lag structure of prices, price volatility, and price transmission. The following main conclusions are drawn from this analysis:

- The correlation between maize and maize meal prices, and of wheat and bread prices, is the highest when the SAFEX price is lagged 4 months. The correlation between sunflower seed and cooking oil prices is the highest when sunflower seed prices are lagged 3 months, i.e. it takes 4 months for a sudden change in the commodity price to be reflected in the price of the final product.
- An analysis of the prices of a wide range of foods shows that there has been an increase in the volatility of prices since the latter part of 1999. The volatility since 2001 can largely be explained by the volatility in the exchange rate.
- There is considerable econometric evidence of asymmetries in food prices resulting in a more rapid and a fuller transmission of price increases than of price declines. This happens because firms will react faster to decreases in profit margins than to increases. This is largely so because of the presence of search costs in locally imperfect markets, and because retailers (and manufacturers) have market power. The empirical tests conducted by the Committee confirm that price increases are more readily and more rapidly transmitted to the retail prices than price reductions.

6. MONITORING THE SADC FOOD SECURITY SITUATION

Point 6 of the terms of reference charged the Committee with the responsibility "To monitor the regional SADC food situation". In this regard, the Committee focused on the food security situation in SADC with respect to maize, sorghum and wheat. Data collection and analysis of the selected products were carried out for each of the SADC countries (excluding DRC and Seychelles) within three time-frames: trends over the last 3 years, the current situation and future estimates.

After a serious food crisis in 2001/02, the food supply situation in southern Africa eased somewhat, with harvests in 2002/03 being above the average for the period 1997/98 to 2001/02, with maize showing a 10% increase in volume produced. As a result, the regional maize deficit in 2003/04 is expected to be in the order of 1.1 million MT, compared to the 3.5 million MT deficit of 2002/03. Nevertheless, prevailing drought conditions in large parts of SADC remain a cause for concern.

According to the latest SADC Regional Early Warning Unit (REWU) cereal balance sheets, the 2003/04 cereal predictions are:

- Production (gross harvest): 22.934 million tonnes.
- Consumption (gross domestic requirements): 27.269 million tonnes.
- Total commercial imports: 3.477 million tonnes.
- Total food aid imports: 0.334 million tonnes.

Furthermore, the latest maize balance sheets show the following predictions for the 2003/04 maize season:

- Production (gross harvest): 18.4 million tonnes (increase from 16.265 million tonnes in 2002/03)
- Consumption (gross domestic requirements): 19.2 million tonnes (increase from 18.864 million tonnes in 2002/03).
- Total commercial imports: 1.2 million tonnes. (decrease from 2.579 million tonnes in 2002/03).
- Total food aid imports: 0.2 million tonnes. (decrease from 0.856 million tonnes in 2002/03).

Within the countries of the SADC region there are various levels of food emergencies. The countries with no food emergencies are Mauritius, Namibia and South Africa; those with some food supply problems are Botswana, Malawi and Zambia, while Angola, DRC, Lesotho, Mozambique, Swaziland, Tanzania and Zimbabwe are considered to have serious food supply problems.

In Part 6 of the Report a comprehensive list of resources is discussed where information could be obtained on the SADC food situation. It is important that this information is updated regularly in order to carefully monitor the SADC food supply and demand situation. It is important to note that extensive information is available on the subject, and that coordination with other institutions working on SADC food security will prove to be a valuable approach.

7. DEALING WITH HIGH FOOD PRICES

7.1 Strategic grain reserves

The Committee debated a number of issues regarding the establishment of a strategic grain reserve, which are set out in Chapter 2 of Part 7 of the Report. These include:

- The composition of the reserve: Should the Government hold physical grain or rather a cash or 'virtual' reserve?

- The size of the reserve, bearing in mind that storing maize and other grains is expensive.
- The costs and financing of the reserve: Establishing and maintaining a reserve is a costly exercise and needs to be determined with great care. A grain reserve is likely to be a continued cost burden to the State.

Given the international experience with (physical) strategic grain reserves, the maturity and openness of the South African economy, and especially the agro-food system, it is unlikely that setting up a grain reserve outweighs the stabilising effect of international trade in South Africa. The country has sufficient foreign exchange reserves, a sound financial system and a strong private sector, and can therefore rely on world markets to perform the storage duty if ever such reserve stocks were required.

However, given the strategic importance of white maize and the fact that limited quantities (not always of the desired quality) are traded internationally, there is potentially a justification for strategic grain reserves in the event that the country is hit by a devastating drought such as those of the early 1990s and 1982-83, when virtually the entire crop was wiped out. Yet the probability of such droughts has been estimated as occurring once every 10 years, which makes it difficult to justify the expense, and even more difficult to decide on the size and cost of the reserve. In addition, milling companies generally keep 4 months of stock, which is de facto, the equivalent of the size of a typical grain reserve.

According to the literature, grain reserves are typically established to counter food shortages and to stabilise prices, and not often to lower consumer prices. Given that stability of prices at retail level is the ultimate objective of a grain reserve, the Committee deemed it necessary to determine the extent of price instability. The Committee, through its monitoring duties, has established that retail prices are relatively stable (despite the sharp increase during 2002). These prices are more stable than commodity prices, which indicates that food manufacturers and retailers take a lot of volatility out of the system.

Nevertheless, sharp increases in prices of staple foods remain a concern. In the view of the Committee there remains the possibility for Government to use structured portfolios to hedge the inflationary risk of the price of raw materials, which they could use for relief programmes. Such a structured portfolio (or simple hedge position) could potentially generate profits that could also be used in government food programmes. The management of such a portfolio requires specific skills, however, and presents a number of potential dangers related to insider trading, etc. Thus, the implementation of such a proposal will require considerable preparation and will present relative large risks to Government.

It is the contention of the Committee that a strategic grain reserve (virtual or physical) will not be the best route to provide relief for the poorest households. More direct interventions, such as discussed in Part 7, Chapter 3, might be a better option to ensure affordable food for communities.

7.2 Options for direct government action

Food price increases have a devastating impact on the poor and affect their 'right to food' which 'entails an obligation of the State to respect, protect and fulfil the access to adequate food of all its people at all times'.

In this context, Government has a duty to act. This duty is further emphasised by the existence of mass poverty and unemployment in the country. In the spirit of building a strong and productive population and of fostering social cohesion, a reduction of crime, and encouragement of investment, it is important for Government to act and to ensure that all households do have access to food.

While a number of programmes are already in place to assist food insecure households, the Committee debated whether these and other potential measures were sufficient, or could be operated in a more efficient manner to ensure that the poorest people are protected from hunger. Examples of programmes discussed include:

- Price controls and rationing to ensure that sufficient quantities of staple foods are available at a reasonable cost. The Committee is aware that in the past most interventions of this nature collapsed when the subsidies were withdrawn, and that they were not necessarily successful in ensuring food security for the poor;
- Providing food to the needy through various means e.g. food for work, school feeding schemes, food parcels, and agricultural starter packs;
- Provision of social welfare grants to needy families; and
- Establishment of a comprehensive social security system e.g. food stamps, income grants, etc.

On the supply side the following programmes could address food security problems:

- Increase of the availability of land and other farming inputs such as water, fertiliser to small and emerging farmers. Improved agricultural support and agricultural research systems could also enhance agricultural output;
- Reinvestment in agriculture on a massive scale, i.e. investing in technology, irrigation infrastructure, human capacity and improved storage systems to reduce post harvest losses;
- Elimination of violent conflict and political instability in the Southern African region;
- Improvement of transport infrastructure between agricultural areas, large urban centres, and other areas of large population concentrations.
- Lobbying for a liberalised global trade, with a special focus on the levels of subsidisation enjoyed by farmers in the rich countries.

The Committee focussed its discussion on the merits of direct government interventions such as school nutrition programmes, food stamps and some form of income grant within the framework of a much stronger government commitment to agricultural development. The Committee concluded that such interventions would address the problem of food security and the affordability of food more effectively compared to what has been accomplished to date. Recommendations in this regard are made in the final section of the Report.

7.3 Improving information systems in the agricultural and food sector

Another aspect of the Committee's terms of reference was to look into the effectiveness of current government research and information systems re agricultural and food prices. The Committee's investigations into the various supply chains and the futures market clearly highlighted a general problem about reliable access to information. It became evident that market information and information about food processing costs is not readily available and

not evenly distributed, creating the potential for opportunistic behaviour by role players in the food supply chain.

To this end, the Committee assessed current government systems in place to monitor food prices and the cost of food distribution in South Africa. The following discussion summarises the role of the main providers of statistics in this field.

7.3.1 StatsSA

Statistics on food prices are mostly grouped in the CPI or the production price index (PPI), with over 155 different CPI indices and over 116 different PPI indices for food, as well as major food groups. These results are published regularly. The CPI indices are available for different expenditure groups and according to metropolitan, metropolitan & urban, and rural areas. CPI indices are also calculated for specific food groups, including meat, milk products, grain products, and processed and unprocessed foods. PPI indices are further divided into production price indices for the manufacturing of food products as well as for the major food groups. StatsSA also provides information on the volume of retail trade in food and processed food products on a monthly basis.

Although these data sources are comprehensive, the Committee is aware of a number of shortcomings:

- There does not seem to be any information on actual food prices (as opposed to indices), making the calculation of farm-to-retail price spreads impossible;
- Although information is available for producer prices as well as consumer prices of food, there does not seem to be any information available on the distribution or marketing costs of food;
- PPI does include indices on manufacturing prices of food and food groups, but there is no breakdown of processing and distribution costs.

7.3.2 The National Department of Agriculture

The National Department of Agriculture is responsible for the dissemination of statistics on agriculture and agricultural output through its Directorate: Agricultural Statistics. The Directorate, through the Crop Estimates Committee (CEC), also provides information on all major grain crops in South Africa. The Directorate provides information on private consumption expenditure, the producer price index; agricultural imports and exports; the food basket of farm products; sales of fresh produce on markets; and the intake of agricultural products for processing.

All the above information is available from the Directorate upon request and is available free of charge. The Directorate also publishes the *Abstract of Agricultural Statistics; Crops and Markets*; and *Statistics on Fresh Produce Markets*. These publications are also available on the website of the Department.

The information produced by the Directorate mainly focuses on the producer price level, and little, if any, information is available on the cost of processing, distribution and marketing of food products. The food basket of agricultural products that the Directorate provides is only based on weights and it only expresses the farmers' share of the total consumer Rand.

7.3.3 South African Grain Information Service (SAGIS)⁴

The stakeholders in the grain industry have, through a collective effort, established a Section 21 Company, the South African Grain Information Service (SAGIS), which operates a well developed and co-ordinated market information system on all the grain markets. Information on deliveries at silos, export and import parity prices, tariffs, etc., is provided through the SAGIS website and through regular market bulletins. One major shortcoming is that actual export and import data on all grains are not available on a weekly basis. Such information is crucial for the effective functioning of the market, because this kind of information can prevent opportunistic behaviour on the commodity markets.

7.3.4 Establishing a permanent food price monitoring system

The Committee believes that its own output provides an important and useful foundation based upon which the State can introduce a permanent mechanism to monitor trends in food prices, food processing costs and farm to retail price spreads. In this regard, the Committee analysed the monitoring system established within the Economic Research Service (ERS) of the US Department of Agriculture.

The Committee is of the opinion that South Africa has all the machinery and systems in place to copy the system of the USDA to the letter. For example, the Committee has experienced good collaboration from AC Nielsen, which is a typical commercial data firm that collects and provides retail price data. This company processes all till-point data of all the major supermarkets and should be able to provide aggregate data on sales volumes and retail prices per month. With all systems moving increasingly to scanners, there should soon be a database in place that is free of enumerator or respondent bias, thus providing value-free and unbiased information. Forming an alliance with this company will provide the first step to ensuring sufficient and reliable data to set up such a monitoring mechanism. Government should, however, assess the cost of purchasing such data, as well as ensure the approval of the Consumer Goods Council of which the members supply the data to AC Nielsen.

7.3.5 Investments to improve crop estimates and agricultural information

The problems in the commodity market in 2002 were largely influenced by perceptions about the size of the harvest. This was caused by some discrepancies in the market between the actual deliveries as recorded by SAGIS and the estimated final crop size as issued by the Crop Estimates Committee. When it was finally confirmed that the total crop including retained stocks (on farms) was 1 million tonnes more than anticipated, the market corrected very quickly. This information only became known 6 months after the harvest, which resulted in the sharp drop in prices in December 2002/January 2003. Had this information been known earlier, and had the crop estimates not been so far off target, the market might have behaved differently during the period June to December 2002.

The Committee, therefore, concurs with the general sentiment in agricultural circles that a substantial investment in the system of crop estimates is required to avoid similar problems in future. In this regard, the Committee has specific recommendations on the methods of data

⁴ The Committee is aware of similar information systems such as SAWIS in the wine industry and DFPT's system for the deciduous fruit industry. Since information regarding the grain market remains an important issue for stability in the protein and starch market we only discuss issues related to SAGIS here.

collection, the types of data to be collected, and the institutional responsibilities in the areas of:

- Crop estimates for grain products;
- Agricultural production statistics for all agricultural commodities;
- Information on retention of grain on farms;
- Information on grain imports and exports.

7.3.6 Increasing competition and reducing barriers to entry

The analyses of the Committee presented in Parts 4 and 5 of this Report provide substantial evidence of oligopolistic behaviour and monopolistic competition in the food sector. Increasing concentration in the food value chain is a global trend, caused by increasingly demanding consumers, concerns about food safety, etc. The competition is fierce, and based on economies of scale, small margins but high volumes, and fast turnover. This structure makes it very difficult for smaller players to enter the market, either as retailers, or as food processors and distributors. Smaller players do not have the scale of operation to compete effectively. Volatility in commodity prices and in the exchange rate also has a clear impact on smaller suppliers and manufacturers, who find it difficult to absorb such shocks. This has the potential to bring about further concentration in manufacturing and retailing. In this regard, the Committee has made recommendations on the following aspects:

- Monitoring of the competitive environment;
- Means of increasing competition/participation;
- Food fortification legislation: creating barriers to entry;
- Providing a measure of order in the agricultural futures market;
- Transport infrastructure as a key constraint to participation.

8. RECOMMENDATIONS

The Committee has been aware since its appointment that its terms of reference represent but one initial step in a long-term process that is aimed at the maintenance of fair competition in the food and agricultural sectors of the South African economy. In this respect, the Committee's recommendations will focus in the first instance on the institutionalisation of the key functions required to establish such a food pricing monitoring system.

8.1 A food price monitoring system

The Committee found that the monitoring process was a useful exercise in fostering the understanding of price trends for specific food items, and price determination at the different levels of the food supply chain. This promotes the protection of consumer rights; it provides valuable information for policy analysis and leads to better understanding of the causes of price variation for similar products in rural and urban settings. The advantage of this system of monitoring price trends is that it also allows qualitative observations of other factors that influence food prices in different social environments.

Recommendation 1

The Committee is of the opinion that the National Agricultural Marketing Council in collaboration with the Department of Agriculture should implement a reliable and consistent price monitoring network throughout the country, as this affords policy makers the opportunity to gain first hand qualitative and quantitative information on price trends, and will enable the Department to make better informed decisions regarding food policy in this country.

In light of shortcomings in the provision of data required for the monitoring of food prices, the Committee recommends that:

Recommendation 2

StatsSA join forces with the Department of Agriculture to find ways to make detailed information on average monthly food retail prices and margins more readily available to the public and to all government departments. An alliance with AC Nielsen and the Consumer Goods Council should also be considered to supply scanner data on retail food prices and volumes.

The Committee also concurs with the general sentiment in agricultural circles that a substantial investment in the system of crop estimates is required to avoid any similar problems in future. Although the government has already started to address this during 2002 there are still specific issues related to crop estimates that need to be addressed. This include:

Recommendation 3

- Increasing the sample of farmers should to approximately 3500 farmers that provide monthly inputs;
- Improving the analytical and modelling capacity to determine the impact of weather variables and trends (as well as soil moisture levels) on the size of the local crop needs to be improved.
- More objective inputs from experts in the industry such as traders, importers and exporters, seed and fertilizer sales should be obtained on a monthly basis.
- Although the crop estimation methodology has been improved through the appointment of the ARC Consortium, the continued funding and future continuation of the project is not guaranteed. As a result the project is increasingly treated from season to season and not as a long-term statistical process. This is of major concern to the Committee, and it is recommended that the Government ensure long-term commitment for this process to avoid the problems of 2002.
- The shortage of expertise on the new methodology of crop estimation also poses a problem. More investment in trained staff is needed, especially for enumerators collecting field data.
- The only “cross check” data for crop estimates is SAGIS’s delivery figures (obtained from the Grain Silo Industry, millers, processors, traders and exporters) and, although very helpful with the reconciliation of production data, these data remain insufficient for the purpose of calculating areas of production. An end of season survey remains necessary to determine the actual area harvested as opposed to area planted. Funding is currently insufficient to enable such a survey. Investment in the latest satellite technology could also help in obtaining accurate area data.

Apart from the positive moves to improve crop estimates through increased budgetary funding under the MTEF it is of concern to the Committee that there is still a lack of comprehensive and statistically correct data on general production statistics and prices for the agricultural sector in its totality. It is the view of the Committee that the development of a complete and accurate statistical system for the agricultural sector in general is crucial in the long term. It is therefore recommended that:

Recommendation 4

The Department of Agriculture should increase its budgetary allocation for agricultural information and statistics.

Although SAGIS provides an important, accurate and reliable information service to the grain industry, there are a number of ways in which information delivery can be improved. It is recommended that:

Recommendation 5

The State investigate ways to support SAGIS, which ultimately provides the key statistics on which many commodity brokers trade, and which ultimately influences commodity prices and so food retail prices.

The Committee received reports that there is currently roughly 600 000 tonnes of grain storage capacity on farms. Without proper knowledge of how much is actually stored on farms, it will be difficult to determine the true size of the crop. It is recommended that:

Recommendation 6

The Department of Agriculture investigates whether accurate information on on-farm storage is necessary and whether it can be obtained in a comprehensive but cost effective manner.

The Committee's investigations into the grain market highlighted concerns re the lack of accurate and real-time information on actual trade in whole grain and grain products at any specific point in time. Only the big role players know what quantity of grain is being exported, imported, or planned for export or import. This situation of asymmetric information is not healthy and can create opportunities to corner the market. Inaccurate information (rumours) create instability in the commodity market and it can be argued that it is Government's duty to ensure that more accurate and up-to-date information is available to prevent this from happening. It is therefore recommended that:

Recommendation 7

The State introduce a statutory measure compelling all grain traders to report on a weekly basis on realised and planned (i.e. a finalised contract) imports and exports of whole grain and grain products. The information can effectively be managed by the current SAGIS structures and disseminated on a weekly basis. The Committee is of the opinion that such a system, in combination with an accurate crop estimate, will contribute much to avoid unnecessary volatility in the agricultural commodity markets.

Although approached, SARS has not been able, for a variety of reasons, to provide up to date information to the Department of Agriculture or SAGIS. From this it is gleaned that information about cross border movements of grain (at border posts and via the harbours) is a

general problem. In addition to the statutory measure listed above, the Committee also recommends that:

Recommendation 8

The State ensure that the following government agencies provide monthly information on cross border trade in grain:

- Portnet
- South African Revenue Services (SARS)
- Cross Border Road Transport Agency (CBRTA).

The purpose of these eight recommendations is to guarantee a system that will provide unbiased, reliable and up-to-date information on market fundamentals such as supply and demand factors, regional market information, and trade deals. Information on retail prices and the cost of food processing should be released at least every six months to act as an ‘early warning’ system. To this end, the Committee recommends that:

Recommendation 9

An annual publication, to be known as the ‘*South African Food Cost Review*’ is published by the National Department of Agriculture to disseminate information on food costs and trends in retail prices and farm-retail price spreads, and distributed as widely as possible. Such a publication can also be used to inform the public about food safety issues, food regulations and minimum specifications for food items.

8.2 Poverty alleviation

The Committee has debated at length the establishment of a strategic grain reserve, but is, on balance, not convinced that this is necessary for the South African economy and that the funding for such an approach could more wisely be spend on direct interventions at household level. In this respect, the Committee debated the relative merits of direct State intervention to reduce poverty and improve food security, such as school feeding schemes, a food stamp programme, etc., and has the following three recommendations:

Recommendation 10

The Committee favours the expansion of school feeding programmes, and argues that:

- School feeding programmes should be targeted at areas with the highest poverty gap;
- Best Practice requires that all children in a school should be provided with food once the school has been targeted;
- School feeding should begin at the level of Early Childhood Learning Centres and should continue up to Grade 12;
- Responsibility for school feeding programmes should be transferred to the Department of Education;
- The financial resources for the school feeding programmes should be provided to the school governing body on a monthly basis, and should be based on enrolment numbers and feeding days per month; and
- Only those schools with the necessary infrastructure (kitchens, fenced land, water, secure storage etc.) should attempt to augment the feeding programme through food gardens.

Although food stamps and the basic income grant scheme have merit as potential mechanisms to address household food security, there are aspects related to the logistics and management of such programmes that argue against the implementation of these initiatives. It is for this reason that the Committee recommends that:

Recommendation 11

The State investigates a poverty alleviation grant based on a means test, which will enable households to access food. Such a grant will deal with problems of food security at a household level as well as with other income poverty issues, thus allowing families to take risks and acquire assets.

Recommendation 12

The implementation of such a grant should be accompanied by a deliberate effort to increase agricultural output in areas where the poor reside. Thus, households receiving these grants can buy food from local farmers, which will also promote local economic growth. This implies that small-scale agricultural production should be made a central strategy for production at local level for the various social development initiatives such as the school feeding programmes and any form of income grant.

8.3 Monitoring the competitive environment

The State seems to have ‘its work cut out’ to ensure effective policing of the competitive environment through the Competition Commission. Therefore, the Committee recommends that:

Recommendation 13

The Competition Commission is requested to annually conduct a thorough investigation into the market structure of one or two food value chains (including the agricultural input industry). The findings of the Committee reported here should provide a useful basis from which to start such an investigation. The results of these annual investigations, done in collaboration with the Department of Agriculture, should be published as part of the annual “South African Food Cost Review”. This arrangement will put the Competition Commission in a position to monitor competitive behaviour in the food industry on a continuous basis.

An important intervention by the State would be to increase participation and competition in the market by reducing barriers to entry for smaller suppliers, manufacturers and retailers. Innovative programmes under the Black Economic Empowerment programme (BEE), such as preferential procurement systems, can be used effectively to promote increased participation. Government will, however, have to look at programmes to assist such new entrants with start-up capital.

Although the farming sector is exposed to market competition, there are entry barriers for previously disadvantaged farmers. Currently these are addressed by the State in partnership with the private sector through a range of strategic programmes. Accelerating land reform and improving government support structures are important to stimulate local production of food.

This should enhance the availability of food in remote rural areas and so create the potential for cheaper food for poor rural communities.

In the post-deregulation era, a large number of small-scale millers has entered the maize meal market, creating substantial competition for the five large milling groups. Recently, however, regulations on the fortification of basic foodstuffs have been announced, which, while noble in intention, will have the unintended consequence of reducing competition in the milling industry. When the competition created by the small millers is reduced, the price of maize meal will inevitably increase over time.

The new regulations on food fortification have potentially large negative consequences for the smaller operators who:

- Cannot afford the mixing equipment, which costs as much as the mill itself;
- Do not have the administrative or technical expertise to administer the fortification ingredients;
- Will be running illegal operations due to the regulations, which will make it possible to close them down when they interfere in competing markets.

It should be noted that small mills generally do not remove the germ from the maize meal, in so doing they dramatically improve the wholesomeness of the final product. Most vitamins, with the exception of vitamin A, are fat-soluble and are therefore concentrated in the germ. Highly refined super white maize meal was used as a benchmark to calculate the amount of fortification needed, and no consideration given to the much healthier product produced by smaller mills.

The Committee notes this with concern and recommends that:

Recommendation 14

The Government investigate whether the survival of small-scale millers are affected by the food fortification legislation. If this is the case it could negatively affect healthy competition, which the Committee argues is necessary to keep retail prices at bay. Government will thus have to consider measures to accommodate these millers.

The Committee's investigation into the agricultural derivatives market of the JSE (SAFEX) also pointed to the need for rules to prevent opportunistic behaviour by commodity traders. The potential for manipulation of this market lies in the large open positions of traders, which makes it possible for larger traders to corner the market and to lead the market (especially inexperienced traders) into a particular direction. As a result,

Recommendation 15

The Committee is of the opinion that rules to manage open positions of traders are needed. Fortunately, the JSE has also recognised this shortcoming and has, since the start of the Committee's investigation, announced the introduction of 'position limits'. The Committee welcomes this pro-active move.

It is hoped that this ruling, plus much stronger monitoring of the ethical conduct of traders, will ensure that competition is brought within bounds so that the 'wild west' character of this market will disappear.

Efficiently functioning transport networks are important to any competitive economy, and are the key to a successful food security strategy. The gradual movement to road transport of most grains because of poor efficiency (slow turn around time, limited number of trucks) of the rail network has contributed to increased costs of raw material at the mill door or factory gate. These costs are eventually recuperated from the consumer, implying higher food prices. It is in this context that the Committee recommends that:

Recommendation 16

The process to recapitalise Spoornet in terms of rolling stock and locomotives, as well as the revitalisation of rural rail sidings should get urgent attention and needs to gain momentum. The reopening of rail sidings in rural areas will also form an important component of increasing market participation by small farmers in disadvantaged communities. In this respect, the Committee argues that improving the rail network represents a national asset for economic development in the rural areas, which should not be subjected to the same standards of profitability as purely commercial ventures.

At the same time, strong enforcement of load per axle regulations will help to stem the large shift to relatively more expensive road transport. The social and economic costs of increased road transport in terms of accidents and damage to the road network are very high, which makes it even more important for Spoornet to be revitalised.

The Committee therefore supports the Government's plans in this regard and argues that improvement of the railroad infrastructure should have positive food security as well as economic development impacts. An improved transport network can, thus, make an important contribution to more competitive environment, increased market participation by emerging farmers, and, perhaps, lower food distribution costs.