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National Agricultural Marketing Council
Strategic positioning of South African Agriculture
in dynamic global markets

and the



agriculture,
forestry & fisheries

Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

The South African Food Cost Review: 2008



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EXECUTIVE SUMMARY

1. ABOUT THIS PUBLICATION

The sharp rise in agricultural commodity and food prices in recent years has placed the global agro-food chain back on the radar screens of governments all over the world. The burden on the poor and those caught in the vicious circle of poverty has increased, while many others have become impoverished. Governments across the world have reacted in many different ways, from reducing tariffs, to increasing support to agriculture, to placing bans on exports and increasing social support to the poor.

This is not the first time this decade that a country like South Africa has had to deal with high food prices. The challenging times of 2002 and 2003 are still fresh in the mind, but the circumstances that led to high food prices during this period were very different to those a country like South Africa faces today. This publication attempts to provide more insight into the complex factors driving commodity and food prices. This is the fifth publication of the South African Food Cost Review, emanating from the recommendations by the Food Pricing Monitoring Committee in 2003 to monitor food prices in South Africa on a regular basis.

This publication provides a specific overview of trends in food price inflation and food prices at retail level. An analysis of commodity prices, and farm-to-retail price spreads and margins is included. The publication also reports on different factors that affect the agricultural sector either directly or indirectly. These factors include domestic economic developments, consumer dynamics, climate change, the oil market, biofuels, transport, input costs and agricultural trade. Finally, this publication provides a brief overview of selected topics that warrant further discussion in a publication of this nature.

In a publication of this nature, and given the fact that the agro-food industry worldwide has received much attention over the past two to three years, it is however also important to reflect again on the role of agriculture.

2. ROLE OF AGRICULTURE

Agriculture's role in the economy goes beyond purely economic considerations, as its importance to the economy is not merely an economic contribution. The importance of agriculture is also rooted in its social contribution (as it provides food security and nutrition), it contributes to the environment and may be used as a strategy for poverty alleviation and social integration. This paper however briefly focuses on the role of agriculture in the economy of South Africa. This does not mean that other roles are less important, but for the purposes of this report they are mostly aligned.

- *Contribution to the gross domestic product (GDP)*

The agricultural sector's contribution to GDP normally declines as a percentage share of the total output of an economy as it develops. This has also been the case in South Africa, where agriculture contributed about 10 % to GDP in the 1960s, compared to around 3 % during the last five years. The relatively small contribution of agriculture to

the GDP tends to conceal the sector's true contribution in terms of factors such as food supply, economic linkages and multipliers, agriculture's employment creation capacity and as a foreign exchange earner.

- *Forward and backward linkages*

Approximately 58 % of the value of agricultural products is delivered to processing plants, and these agro-businesses add significant value to the manufacturing, total fixed capital investment and employment in the economy. The GDP multiplier for agriculture is very much on par with the GDP multiplier for the total average economy and in terms of its labour multiplier, the agriculture sector outweighs all other sectors. The capital multiplier for the agriculture sector is higher than the average for the total economy.

- *Contribution to total exports and employment*

Agricultural exports as a percentage of total exports are at approximately 9 %. Agricultural exports have played an essential, equalising role by acting as a counterbalance to net foreign currency outflows by other sectors of the economy.

Approximately 9 % of South African labourers were employed in the agricultural sector in 2007. Although this figure is relatively low, agriculture is an important source of employment because of the large number of benefiting dependants.

- *Contribution to food security*

From 1990 to 2008 field crop production increased by 13 %, horticultural production by 62 %, and livestock production by 29 %. Overall production increased by 30 % over this period. From a food security point of view, the slow growth and significant variations over time in field crop production is of concern.

3. OVERVIEW OF DIFFERENT FACTORS THAT DIRECTLY OR INDIRECTLY AFFECT THE AGRICULTURAL SECTOR

3.1 Macro-economic development and the implications for agriculture

The most severe economic downturn in the post-World War II period started in 2008. Global trade and financial flows started shrinking and credit markets came under severe strain. The financial mayhem in financial markets has seriously impacted on global economic prospects, include the following:

- ~ Economic growth of advanced economies decreased dramatically towards the end of 2008, registering 2.9 % for 2008 (from 4.8 % in 2007). Developing Asia still grew at 7.7 % in 2008 but growth slowed from a high 10.6 % in 2007.
- ~ At 3.1 %, inflation was about 1.2 percentage points higher in the major advanced economies in 2008 than in 2007, while in developing Asia, the inflation of 7.1 % was 1.5 percentage points higher in 2008 than in 2007.

- ~ World trade volumes increased by only 3.3 % in 2008 compared to 7.2 % in 2007. The growth in world demand for major food crops did, however, increased by 0.6 % in 2008, up to 2.6 % from 2 %, and therefore was reasonably stable.
- ~ World trade prices rose significantly in 2008 – noticeably those of commodities. For instance, the average crude oil price rose by 36 % and food rose by 23 %, on average. However, the credit crisis and sharply worsening global economic prospects in the third quarter of 2008 suddenly ended the commodity price boom of the past few years. The financial market turmoil during September, and October 2008 led to accelerated downward price adjustments in commodity prices, until November 2008.

The South African economy has entered a period of economic recession since the final quarter of 2008. The rate of economic expansion slowed from 5.1 % in 2007 to 3.1 % in 2008, with business confidence pulling back accordingly. The domestic economic environment can be summarised as follows:

- ~ The Rand on average depreciated by nearly 15 % against the US dollar in 2008, and by about 13.5 % against a weighted US dollar, British pound and Euro. The real effective exchange rate of the Rand, i.e. taking care of inflation differentials between trading partners, lost some 10 % of its value in 2008. Although negative for imported inflation, the weaker Rand benefited exports. The Rand exchange rate was a critical variable for agriculture in setting food prices, crop prices and input prices in 2008.
- ~ The output of the agriculture, forestry and hunting sector increased by 18 % in 2008 and 3.1 % in 2007, after declining by 5.1 % in 2006. The output of manufactured food and beverages increased by 4.1 % in 2008.
- ~ Real consumption expenditure by households increased at a rate of 2.4 % in 2008. This was much slower than the high 6.6 % of 2007 and the unusual 8.3 % increase in consumption in 2006.
- ~ Credit extension to households slowed markedly to 15.5 % in 2008, in contrast to disproportionate increases of 19.5 % in 2007 and 24 % in 2006. Household debt levels remained high in 2008 (76.7 % of disposable income), slightly down from the 76.9 % of 2007.
- ~ Given the higher interest rates in 2008, debt services payments were 24.2 % higher than in 2007. This propelled households into a difficult position with regard to (especially) discretionary spending, and forced spending on food to be directed to more basic foods.
- ~ In 2008 real spending on non-durable goods, which include food, increased by 1.3 % in contrast to 5.5 % in 2007. The average real increase of household spending on food, beverages and tobacco in 2008 was 2.2 %, which was slower than the 4.4 % of 2007.

Developments in the macro-economic environment of an economy have strong linkages with the agricultural sector. Studies suggest that any changes in macro-economic policy should impact on agricultural prices, farm incomes and agricultural exports. High agricultural price volatility caused partially by macro-economic policy changes increases the uncertainty faced by farmers and affects their investment decisions, which has important implications for farm debt, farm incomes and agricultural productivity. This is

important because monetary policies meant to stabilise the economy may have less desirable impacts on farmers and consumers, especially in the short-run with regards to food security.

3.2 Food for thought

The South African consumer market is dynamic and characterised by “class mobility” to higher wealth levels. The following trends from 2001 to 2008 are noteworthy:

- ~ The share of South African adults in LSM 1 to 3 decreased by 45 %.
- ~ LSM 4 and 5 increased by 14 %, LSM 6 to 8 increased by 40 %, and LSM 9 to 10 increased by 36 %.
- ~ Upward mobility was particularly evident in LSM 6-8, with the so-called “middle class” representing about a third of the population.
- ~ The share of black South African adults in LSM segments 7 to 10 increased significantly.

The cost of a basic food basket expressed as a share of the average monthly income of the poorest 30 % of the population, increased from 22 % in January 2007 to 32 % in December 2008. The cost of the food basket expressed as a share of the average monthly income of the wealthiest 30 % of the population, only increased from 1.8 % to 2.5 % over the same period.

From 2007 to 2008, the highest inflation rates were observed for bread and cereals, hot beverages, fats and oils. The high inflation rate on bread and cereals is of particular concern, especially given poor consumers’ dependence on staple foods such as maize meal and bread.

3.3 Climate change and food security analysis

Due to climate change current predictions allow for 4°C, 5°C, 6°C and even 7°C temperature rises being real possibilities by the end of the 21st century. This could destroy agriculture in many regions. Climate change is expected to affect the physical availability of food production due to shifts in temperature and rainfall (i.e. increased climate variability). The impact of climate change on crop production is also geographically unevenly distributed. Developed countries are expected to experience an increase in production, while developing countries are expected to see a decline in production, with an overall 10 % global reduction in cereals farmed, which will lead to higher food prices. Agriculture also contributes to significant climate change impacts through the release of greenhouse gases such as carbon dioxide, methane and nitrous oxide into the atmosphere.

It is the poor that are the most vulnerable to reductions in agricultural productivity, especially with subsistence farming. The poor also have poor access to alternatives and cannot easily move away from farming options into other sectors to generate alternative incomes.

3.4 Black gold (oil)

The international price of crude oil increased from around \$92/barrel in January 2008 to \$141/barrel in July, after which it receded to levels of around \$42/barrel in December. The trend in lower prices seems to be mainly driven by a slowing demand, but what is more important to remember is that lower prices mean lower investments in the industry.

Most of South Africa's liquid energy is imported and therefore the local price of petrol will be directly linked to the price of fuel quoted in US dollars at the refined petroleum export-orientated centres located in the Mediterranean area, the Arab Gulf and Singapore. There are therefore three main factors that influence the local price of fuel; these include the international crude oil price, the international availability of petroleum products as well as the exchange rate of the US\$ and ZAR.

Agricultural producers in South Africa receive a rebate on the diesel that is used in the production process. This rebate has steadily increased over time and is adjusted each year. In 2008, the total rebate plus the deduction of tax which is payable to the Road Accident Fund amounted to 91 cents per litre, 7 cents per litre higher than in 2007.

3.5 Green energy (biofuels – ethanol & biodiesel)

Even though oil prices have declined strongly during the second half of 2008, overall interest remains relatively high for renewable energies. Governments around the world have continued with their support through implementing mandates and directives. The following trends are noteworthy:

- ~ In the US and Brazil in particular, ethanol production increased during 2008, reaching new high levels of 35 billion litres and 25.2 billion litres, respectively. Consumption of ethanol also increased in most major economies.
- ~ The production of biodiesel also increased in the US and Brazil. While consumption of biodiesel also increased in most major economies.

The decline in the oil price and the occurrences in the feedstock industry during the second half of 2008 had some serious impacts on the profitability of ethanol production; this resulted in some of the capacity being "mothballed".

On the domestic front there is very little activity in the biofuels industry. The present economic climate does not favour biofuel production as lower oil prices, and hence cheaper retail prices of fuel, impact negatively on the potential margins required to make its production economically viable. The basic argument still remains that without a formal mandate to force the uptake of biofuels, biofuel production will probably not take place.

3.6 Transport in agriculture

According to the most recent freight logistics surveys and supply chain forecasts, road transport in South Africa accounts for nearly 90 % of freight logistics movement (tons) as well as the costs. Road transport moves almost 1.4 billion tons of freight a year compared to a mere 205 million tons moved by rail. The absence of credible rail

operations means continued and unrealistic reliance on road transport for conveying commodities not suited for the road. The virtual absence of rail sidings and only a few functional branch lines leaves agriculture struggling and with many challenges to get produce to silos, mills and other bulk destinations, not to mention the further complications experienced by the wide range of produce and products that are exported and imported.

When the percentage change in key cost drivers between January 2008 and December 2008 are reviewed in isolation, the end result appears to be in a narrow range. For example, operating costs, when expressed as a cost per payload ton, were, on average, between 10 % and 12 %, depending on the size of the vehicle and the transport task. However, one needs to remember that the fuel price achieved staggering (if not breath-taking) levels in the middle of the year. For several months of the year the increase was nearer to 20 %, in contrast to when the December cost was compared with January's in 2008. Other costs affecting transport costs increased as follows during 2008:

- ~ New vehicles: 20 %
- ~ Trailers: 3 % – 5 %
- ~ Load bodies: 15 % – 20 %
- ~ Fridge units: 20 %
- ~ Maintenance & repairs: 10 % (replacement parts & labour)
- ~ Tyres: 15 %
- ~ Driver's wages: 8 % – 11 %
- ~ Interest rates went up 50 basis points in April and down by the same margin in December.

The challenges in the South African transport industry are daunting and include:

- ~ The fuel price
- ~ Securing ongoing demand for road transport services
- ~ Limitations imposed by current credit restrictions
- ~ Inflation
- ~ Excess capacity in some important segments
- ~ Ongoing increases in standing and running costs
- ~ A driver shortage and retention problem
- ~ Hours of service (workload)
- ~ Congestion
- ~ Toll fees
- ~ Environmental issues

3.7 Trends in selected domestic input costs

The domestic terms of trade in agriculture indicate the price-cost squeeze situation of primary producers or, stated otherwise, whether prices received by the farmers kept pace with the prices paid for farming inputs. The terms of trade in agriculture deteriorated by 12.9 %, from 1990 to 2008. In the shorter run, the terms of trade recovered between 2005 and 2007, due to higher commodity prices. The terms of trade worsened again in 2008 on the back of lower commodity prices and increased input

costs, which rallied during the latter part of 2008. The following summarised the trends in inputs costs from 2007 to 2008:

~ Farm Requisite Price Index-Total:	22.9 % increase
~ Fertiliser:	76.8 % increase
~ Fuel:	78 % increase
~ Animal health and crop protection:	18.7 % increase
~ Maintenance and repairs:	13.2 % increase
~ Farm feed:	23.5 % increase

3.8 Agricultural trade

The total value of South Africa's agricultural exports in 2008 amounted to R45.3 billion, an increase of 51 % from 2007. The value of the country's total agricultural imports in 2008 amounted to R39.0 billion, an increase of nearly 31 % from 2007. The resulting agricultural trade surplus was R6.3 billion (2008)

The value of primary agricultural exports grew by nearly R9 billion (2008 provisional), a 69 % increase from 2007. Primary agricultural imports indicates a growth of R1.3 billion (2008), an 18 % increase from 2007. The resulting primary agricultural trade surplus was R13.5 billion (2008 provisional), an increase of 105 %. The value of corn (maize), oranges, grapes and apple exports dominated the exports value of primary agricultural products; corn (maize) and oranges dominated the volume of exports. The value of wheat, stemmed tobacco and coffee imports dominated the value of imports of primary agricultural products in 2008.

The value of exports of processed agricultural products increased by R6.4 billion, or 38 %, from 2007 to 2008. The value of imports of processed agricultural products increased by R7.8 billion (or 35 %), from 2007 to 2008. The resulting processed agricultural trade deficit was R7.1 billion (2008), an increase of 3 %. The value of wine, sugar cane, ethyl alcohol, pure sucrose refined, and food preparations exports dominated the value of processed agricultural product exports. The value of rice, soya oilcake and palm oil imports dominated the value of imports of processed agricultural products; this is also applicable to the volume of imports.

4. FOOD PRICE TRENDS

Food prices increased by 16.7 % (y/y) in 2008 as opposed to 10.4 % (y/y) in 2007 and 6.7 % in 2006.

4.1 Farm-to-retail price spread and farm values of selected products

Many factors have contributed to the significant increase in food prices, some of which have been highlighted above. In an environment characterised by inflationary pressures at farm level, as well as between the farm and the retail level, the question frequently arises what is the trends in the farm value of a particular product as well as the farm-to-retail price spread (FTRPS). The farm value and the FTRPSs are

highlighted specifically for the wheat-to-bread-, maize-to-maize meal-, dairy- and chicken value chains.

- *Wheat-to-bread value chain*

The real farm values for brown bread and white bread between January 2005 and December 2008 show a similar trend. The real farm values peaked at R4393/ton and R5029/ton in July 2008, respectively, after which they declined, closing at R3984/ton and R4561/ton in December 2008. The real FTRPSs, which is the difference between the real farm value and the real retail value for brown bread and white bread, increased from R8002/ton and R8081/ton for brown and white bread in January 2008, to their highest levels since January 2005, i.e. R10514/ton and R10861/ton in December 2008, respectively.

- *Maize-to-maize meal value chain*

The difference between the real farm values of super maize meal and special maize meal increased between January 2005 and December 2008. In January 2005 the real farm value of super maize meal was R1775/ton and it increased to R3036/ton in December 2008, while the real farm value of special maize meal increased from R1122/ton in January 2005 to R1919/ton in December 2008. The real farm values of both products moved sideways since late 2007. The average real FTRPS for super maize meal and special maize meal was lower in 2008 than in 2005. The FTRPS for both products however ended strongly in December 2008 well above the average recorded for the year.

- *Milk value chain*

The real farm values for fresh full cream milk and fresh low fat milk moved sideways from January 2005 to January 2007 at around R2/litre and R1.50 per litre, respective. The real farm values for both products increased significant since January 2007 to peak at R3.20/litre and R2.24/litre in May 2008, respectively. Following this peak, the farm values declined to reach R2.59/litre and R1.82/litre in December 2008, respectively. The annual average real FTRPS for fresh full cream milk was R3.48/litre and that of fresh low fat milk was R4.39/litre in 2005. The annual average real FTRPSs increased by 1 % and 3 % to reach R3.52/litre and R4.52/litre in 2008. There was significant variation in the real FTRPS since the beginning of 2007.

- *Chicken value chain*

In 2005 the annual average real farm value of chicken was R12.43/kg and it increased by 35 % to reach R16.75/kg in 2008. The annual average real FTRPS was R7.05/kg in 2005 and it increased by 40 % to reach R9.88/kg in 2008. Cognisance should however be taken that the real FTRPS started to decline significantly since the middle of 2008 to reach R7.17/kg in December 2008.

4.2 Unpacking food inflation for different commodity groups

Changes in the retail prices of selected food items are monitored monthly by the NAMC (information is obtained from Stats SA and AC Nielsen). The following trends are noteworthy for the selected food items in urban areas for the period January 2008 to December 2008:

- ~ All food items in the wheat products category experienced double-digit inflation, with the average inflation for the period being 30.41 %. The South African Futures Exchange (SAFEX) price of wheat was 20.56 %. The increase in prices for this category slowed significantly during the latter part of 2008 (i.e. July 08 - December 08) and averaged 1.24 %.
- ~ Prices in the maize product category increased on average by 16.70 %. The SAFEX price of white maize decreased by 6.78 %. The increase in prices for this category gained further momentum during the latter part of 2008 (i.e. July 08 - December 08) and averaged 17.74 %.
- ~ Prices in the sunflower seed product category increased on average by 36.36 %. The sunflower SAFEX price decreased by 14.92 %. The increase in prices for this category slowed significantly during the latter part of 2008 (i.e. July 08 - December 08) and averaged 2.87 %.
- ~ Most processed vegetables experienced double-digit inflation, i.e. the price of processed vegetables increased on average by 14.91 %. The increase in prices for this category slowed significantly during the latter part of 2008 (i.e. July 08 - December 08) and averaged 0.44 %.
- ~ The price of fresh vegetables increased on average by 11.78 %. The increase in prices for this category gained further momentum during the latter part of 2008 (i.e. July 08 - December 08) and averaged 14.01 %.
- ~ On average, processed meat experienced price inflation of 16.03 %, which slowed during the second half of 2008 to average 8.06 %. The price of fresh meat increased on average by 6.44 % and slowed to average 5.23 % during the latter half of 2008.
- ~ The price of fresh fruits decreased on average by 8.24 %, but gained momentum during the second half of 2008 to average 11.38 %.
- ~ Dairy products experienced an average price decrease of 7.34 %. During the second half of 2008 the price of dairy products decreased on average by 6.92 %.

The NAMC also monitor rural food prices in partnership with the Department of Agriculture, Forestry and Fisheries (DAFF), Stats SA and the provincial DAFF. The following summarises some important trends in rural food prices for the period December 2007 to December 2008:

- ~ The price of bread increased, on average, by 31.55 %, but during the second half of 2008 the price of bread increased, on average, by 4.59 %.
- ~ Maize products experienced an average price increase of 19.21 %. Between July 2008 and December 2008 the price of maize products increased, on average, by 7.40 %.

- ~ Sunflower products experienced an average price increase of 53.72 %. The average price increase for sunflower products was 0.07 % during the second half of 2008.
- ~ On average, the rice price increased by 73.28 %. The rice price increased, on average, by 21.76 % during the second half of 2008.
- ~ The price of dairy products increased, on average, by 9.09 % for the year, but decreased, on average, by 5.15 % during the second half of 2008.
- ~ The average price of tea and instant coffee increased by 24.29 %. During the second half of the year the price of tea and instant coffee increased, on average, by 16.75 %.
- ~ The price of white sugar increased, on average, by 17.13 % for the year.
- ~ The price of peanut butter increased, on average, by 21.54 % for the year.
- ~ The price of pilchards increased, on average, by 25.15 % for the year.
- ~ The price of sorghum meal increased, on average, by 14.18 % for the year.
- ~ The price of beans increased, on average, by 24.23 % for the year.

This report also compares prices of similar products in urban and rural areas. In general the prices of food items are higher in rural areas than urban areas. Monthly comparisons between urban and rural areas for January 2008 show that consumers purchasing the 10 selected food items in rural areas paid R12.91 more than consumers purchasing the same food items in urban areas. In July 2008 this difference was R11.91. This increased to R15.68 in December 2008. In an effort to better explain the differences that exist between urban and rural food prices, the NAMC conducted a study in the Free State, KwaZulu-Natal, North West and Eastern Cape provinces. According to the study, the reasons for the difference in food prices between the rural and urban shops include: (i) transport costs, which includes fuel and maintenance costs, as well as the frequency of trips to and from the suppliers and distance from suppliers; (ii) low or no volume discounts for the rural outlets; (iii) stock losses due to spoilage, breakage, products exceeding their expiry dates and stock theft, and (iv) loading costs, which entails casual labour associated with loading at the wholesale markets.

5. COMMODITY MARKET TRENDS

Most commodity prices started to decline during the latter part of 2008. In most cases prices levelled out at higher prices than the long term average. Apart from the fundamental dynamics in commodity markets due to the variability in supply and demand, it can be argued that a large portion of relatively new ingredients have entered the market and that they contribute to the instability of the agricultural sector and food system at large. These include:

- ~ Biofuel and ethanol production and policies impacting directly or indirectly on it.
- ~ Policy reforms in regions like the EU.
- ~ Favourable prices for competing crops and the nature of price transmission from the international market to the domestic market.
- ~ Growing middle class's income has resulted in a movement towards more high-value products and away from basic foodstuffs.
- ~ Weather conditions.

- ~ The oil price, together with world economic growth, can also be regarded as a main driver of agricultural commodity prices.
- ~ Disease outbreaks and consequent trade restrictions.
- ~ Inflationary pressures and price volatility in intermediate inputs used between the farm gate until the final product is available to the consumer.

6. SELECTED TOPICS

6.1 Agriculture and the national government budget

Agriculture remains one of the most important sectors of the Southern African Development Community (SADC) economies. About 80 % of the population in the SADC region depend on agriculture for food, income and employment; hence, agriculture is arguably the backbone of the economy of the region. Accordingly, at the Dar es Salaam Declaration on agriculture and food security in the SADC region on 15 May 2004, heads of state and governments declared a number of issues as important and committed to short and medium-term undertakings in an effort to strengthen food security in the region. One of the medium-term declarations (between 2004 and 2010) was to progressively increase budgetary allocations for agriculture to at least 10 % of the total national budget in a country. South African agriculture's share of the total national budget has always been less than 1 % of the total national budget. Agriculture's share of the national budget did, however, increase from 0.31 % in 1999/2000 to 0.62 % in 2007/2008, but it appears as if this share has dropped again in 2008/2009, down to 0.44 %.

6.2 Government involvement in the agricultural sector

Direct support to agriculture, as measured by the OECD, is expressed as a percentage of gross farming income. This is referred to as the producer support estimate or PSE, and was as follows for the period of 2005 to 2007: Chile (4 %), Brazil (6 %), South Africa (6 %), China (9 %), Ukraine (9 %) and Russia (14 %). The level of support offered to these producers is considerably lower than the OECD average of 26 %.

Direct support to producers in South Africa shows a declining tendency over the period of 1995 to 2001. The largest part of this support is in the form of price support, for example, tariffs on imports. However, it is worth mentioning that the price gap between international prices declined from 13 % between 1995 and 1997, to only 5 % for the period of 2005 to 2007. In other words, the protection received by agriculture in general by means of tariffs substantially decreased. The value of support to agriculture, which relates to general services to agriculture (this is support that is not specifically linked to a commodity, such as extension services), has increased. The largest amounts can be attributed to general services, and are linked to the implementation of the land reform programme. The total cost of support to the agricultural sector, measured as a percentage of the GDP, decreased from 1 % between 1995 and 1997, to 0.59 % between 2005 and 2007. This is considerably lower than the average of 0.97 % for developed countries.

6.3 The financial position of the South African agricultural sector

In real terms agricultural debt increased from 1980 before peaking between 1984 and 1985, and then declined until around 1994, after which it moved more or less sideways until 2008. Subsequent to the financial crises in the agricultural sector during the early eighties, the use of debt has been much more conservative.

The combined impact of high commodity prices and sufficient volumes to sell improved the ability of the agricultural sector to pay interest on outstanding debt is clearly visible in 2002, and from 2006 to 2008. As far as debt repayment capacity is concerned the agricultural sector in South Africa had significant problems in 1983-1985, 1992 and the period of 1998 to 2000. Periods of high commodity prices benefitted the agricultural sector (e.g. 2002, 2006-2008), and there was a decline in the debt repayment capacity used. The gap between real gross and net farming income has increased substantially since 1981/82 due to the increase in the real expenditure on intermediate goods and services to maintain agricultural operations.

6.4 The impact of research and development on agriculture and the role it can play

A recent study by IFPRI showed the impact of doubling R&D investment in poverty and output growth under poverty minimisation. In Sub-Saharan Africa and South Asia, agricultural growth would lift ± 268.4 million people out of poverty by 2020. In Sub-Saharan Africa alone ± 144 million people would be lifted out of poverty by 2020 if expenditure on R&D is doubled between 2008 and 2013. International food prices will also be affected in expanding agricultural R&D investment.

Noteworthy within the aforementioned context is that there was strong growth in the output of especially the horticultural industries and field crops since 1952, but for field crops (grain, oilseeds and fibre) this growth has stagnated since the early 1980s and is showing no sign of regaining earlier growth trends. The fundamental driver of this growth in productivity has been the technical changes from improved inputs such as seeds, fertilisers and production practices that stem directly from investments in R&D and support programmes to improve the access and use of these technologies.

On aggregate, however, South Africa's agricultural R&D investment has largely stagnated since the 1970s. This is a concern if one considers that lags between investing in R&D and realising a return from that investment are long, matters of decades not months or years. Hence, getting the policies right to stimulate the required public and private provision of new agricultural technologies requires an equally long-term timeframe. Initiatives to stimulate R&D should include, but are not limited to, the following:

- ~ Enhancing Intellectual Property (IP) Rights and tailoring the institutional and policy details of IP protection to best fit local circumstances;
- ~ Increasing the total amount of government funding for national agricultural R&D systems;

- ~ Introducing institutional arrangements and incentives for private and joint public-private funding; and
- ~ Improving the processes by which agricultural R&D resources are administered and allocated.

6.5 Agricultural potential

When looking at agricultural potential one can postulate that although there is room for lateral expansion in crop production, it does not offer much opportunity to make a significant contribution to the food security challenges a country like South Africa faces. The main challenge is to optimally utilise the good potential land that is available and to ensure that such land is used on a sustainable basis. The question can rightfully be raised whether this is currently the case in South Africa given the many socio-economic-political challenges facing the country. This needs to be determined and addressed if land is not used optimally and sustainably.

Moreover, maintaining future food security will depend on how well South Africa succeeds in the process of optimising land capability. A holistic approach is necessary that includes among others:

- ~ Control to prevent losses through rezoning and neglect of productive agricultural land;
- ~ Adoption of improved technologies, particularly input cost-reducing eco-technologies such as conservation agriculture, in especially sensitive areas;
- ~ Re-building of capacity for appropriate R&D; and
- ~ Creation of an enabling environment.

The long-term sustainability of food supply will depend on the interrelationship of the natural resource base (affected by global warming and climate change), energy supply (which is finite), international food production and competitive trends, demographic trends, levels of technology, levels of fixed investment and the research capability of the country, among other things.

7. CONCLUDING REMARKS

During the latter part of 2008, commodity prices started to decline significantly on the back of the economic crisis, but in most cases they levelled out at prices higher than the long-run average. In addition, retail prices have been exceptionally reluctant to follow the trend in commodity prices. This is most probably indicative of agriculture having entered a new era within a rapidly changing global socio-economic environment characterised by, *inter alia*, changing power relationships between countries, as well as between stakeholders in the food chains, along with evolving consumer tastes and preferences, and more volatile markets and environmental challenges. This emphasises the urgent need to rethink and redesign the way in which we approach the importance of the agricultural sector and its development so that it may play its rightful role in a country like South Africa, especially when it comes to ensuring food security

(and possibly food self-sufficiency) and the socio-economic revitalisation of rural economies.

Key to the above will be the creation of an enabling environment where, amongst other things:

- ~ Farming, processing, wholesaling and retailing is profitable and competitive;
- ~ Support through extension and information provision is provided to all farmers;
- ~ R&D excellence is non-negotiable, and where capacity development is a priority and a continuous process;
- ~ Government at national and provincial level improve on coordination pertaining to programmes and policies that impact directly or indirectly on the agricultural sector;
- ~ Public-private sector initiatives are used to cement policy imperatives into beneficial and tangible outcomes for society as a whole; and
- ~ Young talent can be nurtured and developed to enter the agricultural sector as a preferred livelihood option.

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Acronyms

ABARE	Australian Bureau of Agricultural and Resource Economics
AMT	Agrimark Trends
BEE	Black Economic Empowerment
BFAP	Bureau for Food and Agricultural Policy
BFP	Basic Fuel Price
BLNS	Botswana, Lesotho, Namibia, Swaziland
DAP	Di-Ammonium Phosphate
DAFF	Department of Agriculture, Forestry and Fisheries
DRC	Debt repayment capacity
DRCU	Debt repayment capacity used
CAP	Common Agricultural Policy
CPI	Consumer Price Index
CPI-Food	Consumer Price Index for Food
CPIX	Consumer Price Index excluding bond rates
EAGF	European Agricultural Guarantee Fund
EAFRD	European Agricultural Fund for Rural Development
EBIT	Earnings before interest and taxes
EISA	Energy Independence and Security Act
EU	European Union
FAO	Food and Agriculture Organization
FAPRI	Food and Agricultural Policy Research Institute
FAS	Foreign Agricultural Service of United States Department of Agriculture
FOB	Free on board
FPM	Fresh Produce Markets
FRPI	Farming Requisites Price Index
FTRPS	Farm-To-Retail Price Spreads
GDP	Gross Domestic Product
IFPRI	International Food Policy Research Institute
IMF	International Monetary Fund
IP	Intellectual Property
IPCC	Intergovernmental Panel for Climate Change
MAP	Mono-Ammonium Phosphate
MLA	Meat and Livestock Australia
MOP	Muriate of Potash
MPO	Milk Producers' Organisation
MT	Metric ton
NAMC	National Agricultural Marketing Council

NDOT	National Department of Transport
OABS	Optimal Agricultural Business Systems
OECD	Organisation for Economic Co-operation and Development
OPEC	Organisation of Petroleum Exporting Countries
PPECB	Perishable Products Export Control Board
PPI	Producer Price Index
PPP	Public, Private Partnerships
RUAF	Refocus and Upliftment Foundation
R&D	Research and Development
RV	Recoverable Value
SADC	Southern African Development Community
SAFEX	South African Futures Exchange
SAPIA	South African Petroleum Industry Association
SAPA	Southern African Poultry Association
SAPS	South African Police Service
SARB	South African Reserve Bank
SARS	South African Revenue Service
SASA	South African Sugar Association
SASP	Strategic Agricultural Sector Plan
Stats SA	Statistics South Africa
TASC	Technical Assistance for Specialty Crops
UAE	United Arab Emirates
UK	United Kingdom
UN	United Nations
USA	United States of America
USDA	United States Department of Agriculture

1. INTRODUCTION

The sharp rise in agricultural commodity and food prices in recent years has placed the global agro-food chain back on the radar screens of governments all over the world. The burden on the poor and those caught in the vicious circle of poverty has increased, while many others have become impoverished. Governments across the world have reacted in many different ways, from reducing tariffs, to increasing support to agriculture, to export bans and increasing social support to the poor.

Most international commodity prices, however, reached a peak during the middle of 2008 and then started to decline sharply, but in many cases levelled out above price levels previously seen in 2005 and 2006. In addition, food prices reacted much more slowly, and in countries like South Africa food inflation was still strong at the end of 2008. Added to this, the world economy has entered a recessionary period that is regarded by most economists as the most severe since the Second World War. The global economic recession has brought many new and complex dynamics and challenges that the public and private sector have had to face globally in an attempt to maintain economic sustainability (some economies are less affected and others more). The fact remains, however, that all countries have to deal with the global economic recession in some way or another, while facing the legacies of the food price crisis.

This is not the first time this decade that a country like South Africa has had to deal with high food prices. The challenging times of 2002 and 2003 are still fresh in the mind, but the circumstances that led to high food prices during this period were very different to those a country like South Africa faces today. This publication attempts to provide more insight into the complex factors driving commodity and food prices. This is the fifth publication of the South African Food Cost Review, emanating from the recommendations by the Food Pricing Monitoring Committee in 2003 to monitor food prices in South Africa on a regular basis. This publication provides a specific overview of trends in food price inflation and food prices at retail level. An analysis of commodity prices and farm-to-retail price spreads and margins is included. This year an addition section on the deciduous fruit industry was included. The publication also reports on different factors that affect the agricultural sector either directly or indirectly. These include domestic economic developments, consumer dynamics, climate change, the oil market, biofuels, transport, input costs and agricultural trade. Finally, this publication provides a brief overview of selected topics that warrant further discussion in a publication of this nature.

However, before discussing the different issues mentioned above, it is important to consider the role of the agricultural sector in the economy and social foundation of a country, in this case South Africa. It is no coincidence that many countries around the world support and protect their agricultural sectors as they provide the basic

foundation of social and economic wellbeing and stability. Hence, in a publication of this nature, and given the fact that the agro-food industry worldwide has received much attention over the last two to three years, it is important to reflect again on the role of agriculture.

The third section provides an overview of different factors that directly or indirectly affect the agricultural sector. In the fourth section trends in food prices are discussed, while section five elaborates on supply, demand and price trends for selected commodities. In section six selected topics are briefly discussed, namely the government budget allocated to the agricultural sector, the support provided to the agricultural sector, the financial position of the agricultural sector, the importance of research and development and agricultural potential. Section 7 concludes this publication.

2. THE ROLE OF AGRICULTURE IN THE ECONOMY OF SOUTH AFRICA

Agriculture's role in the economy goes beyond purely economic considerations as its importance to the economy is not merely an economic contribution (Vink, 2003). The Refocus and Upliftment Foundation (RUAF, 2009) argues that the importance of agriculture is rooted in its economic contribution and social impact, as it provides food security and nutrition and contributes to the environment. It further argues that agriculture may be used as a strategy for poverty alleviation and social integration. In light of global warming, agriculture has its own role to play in balancing the ecology. This section aims to define the role of agriculture in the economy of South Africa. This does not mean that other roles are less important, but for the purposes of this report they are mostly aligned.

- *Contribution to the gross domestic product (GDP)*

The agricultural sector's contribution to GDP normally declines as a percentage share of the total output of an economy as it develops. This has also been the case in South Africa, where agriculture contributed about 10 % to GDP in the 1960s, compared to around 3 % during the last five years (DoA, 2008). According to Meyer *et al.* (2008), the average annual growth rate of the economy has exceeded that of the agricultural sector since the 1940s, mainly because of the high degree of diversification of the economy. The lower growth rate of the agricultural sector relative to that of the overall economy resulted in its share in the GDP steadily declining. Meyer *et al.* (2008) stated that this has been part of a broader transformation of the economy over the past century, from being one dependant on the primary sector (agriculture and mining), to a broadly diversified manufacturing and services economy. Faux (1990) argues that the relatively small contribution of agriculture to the GDP tends to conceal the sector's true contribution in terms of factors such as food supply, economic linkages and multipliers, agriculture's employment creation capacity and as a foreign exchange earner. This is confirmed by Vink (2003).

- *Forward and backward linkages*

In terms of its forward linkages, agriculture supplies raw materials as inputs for other primary and secondary sectors, but also creates a demand for goods and services through its backward linkages. According to Meyer *et al.* (2008), approximately 58 percent of the value of agricultural products is delivered to processing plants, and these agro-businesses add significant value to the manufacturing, total fixed capital investment and employment in the economy.

Moreover, Mullins (2004) shows that the GDP multiplier for agriculture is 1.51¹, which is very much on a par with the GDP multiplier for the total average economy of 1.58. In terms of its labour multiplier, the agriculture sector outweighs all other sectors with its labour multiplier of 24.17²; the same multiplier for the economy as a whole is 8.16. The capital multiplier for the agriculture sector is 3.07 and is higher than the average for the total economy, namely 2.89.

- *Contribution to total exports and employment*

Agriculture plays an important role as an earner of foreign currency. Agricultural exports as a percentage of total exports are at around 9 %. Brand's (1969) observation that agricultural exports have played an essential, equalising role by acting as a counterbalance to net foreign currency outflows by other sectors of the economy still holds true today, and hence cannot be ignored. Brand (1969) stated that while agricultural exports cannot claim to have been South Africa's 'engine of growth' during the twentieth century, it at least helped to provide the lubrication, without which the engine may have grounded to a halt. Agricultural trade is discussed in more detail later in the report.

Agriculture is also an important source of employment. Around 9 % of South African labourers were employed in the agricultural sector in 2007. Although this figure is relatively low, agriculture is an important source of employment because of the large number of benefiting dependants. As mentioned, the agricultural sector also has a labour multiplier that outperforms all other sectors.

- *Contribution to food security*

The Refocus and Upliftment Foundation (RUAUF, 2009) argues that the contribution of agriculture to food security and healthy nutrition is probably its most important asset. Figure 1 shows the production of agricultural commodities in South Africa. From 1990 to 2008 field crop production increased by 13 %, horticultural production by 62 %, and livestock production by 29 %. Overall production increased by 30 % over the depicted period; this increase in overall production can mainly be attributed to increased production in the horticultural sector. From a food security point of view, the slow growth and significant variations over time in field crop production is of concern. One can safely postulate that these variations are largely derived from the variability in maize production (a vitally important staple food in South Africa), which is in turn influenced by climatic conditions and producers' willingness to plant maize (i.e. whether it will be profitable).

¹ This implies that an increase of one rand in production by the agriculture sector will result in an R1.51 increase in the GDP of the country.

² An increase of R1 million turnover by the agricultural sector will result in 24.17 more jobs.

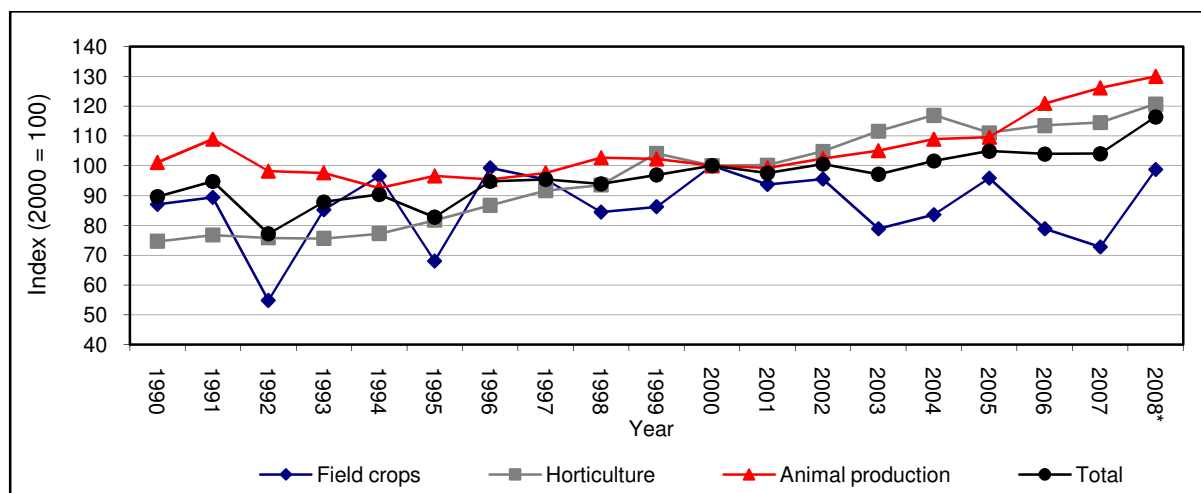


Figure 1: Indices of the volume of agricultural production (calendar year)

Source: DAFF, 2009.

It is also useful to compare population growth with the growth in agricultural production. The South African population increased by 32 % between 1990 and 2008, while production increased by 30 %. However, as mentioned, the increase in agricultural production was largely due to the increase in horticultural production, generally regarded as having high value products, a large portion of which are exported. This leaves the livestock and field crop industries, and although livestock production expanded satisfactorily, the expansion of production in the field crop sector is reason for concern if one considers the trend in population growth and its importance in terms of food security.

3. OVERVIEW OF DIFFERENT FACTORS THAT DIRECTLY OR INDIRECTLY AFFECT THE AGRICULTURAL SECTOR

3.1 Macro-economic development and the implications for agriculture

A major part of the market for agricultural products and the agriculture sector supply chain is based locally, and domestic macro-economic developments therefore have important implications for the agricultural sector and food prices. International trade and price developments, however, are playing an increasingly important role in agriculture and food prices. Global economic developments and international commodity prices are therefore of critical importance to local agriculture. It is essential to note these trends and position activities and policies accordingly.

- *International economic developments*

The most severe economic downturn in the post-World War II period started in 2008. Global trade and financial flows started shrinking and credit markets came under severe strain.

The economic downturn is highly synchronised in the majority of advanced economies and is connected to the severe financial crisis. Fifteen of the twenty-one advanced economies found themselves in recession at the end of 2008. The current recessions in the affected economies are already more relentless and longer than previous recessions.

It is doubtful whether the over-borrowed economies can bounce back swiftly from strong growth in domestic private demand. Renovating the strength and confidence of the financial sector is important to turn the economic situation around. A turnaround involves the restoration of the balance sheets of financial institutions and on eradicating uncertainty about capitalisation. The recuperation of the global economy is therefore anticipated to be slow and weak.

The financial mayhem in financial markets has seriously impacted on global economic prospects. Economic growth of advanced economies slowed dramatically towards the end of 2008, registering 2.9 % for 2008 – down from 4.8 % in 2007. Developing Asia still grew at 7.7 % in 2008 but growth slowed from a high 10.6 % in 2007 (see Table 1).

Table 1: Global Economic Growth

Economic Growth	2006 %	2007 %	2008 %
World:	4.9	4.8	2.9
United States	2.8	2.0	1.1
Euro Area:	3.0	2.6	0.7
Germany	3.0	2.5	1.3
France	2.4	2.1	0.7
Italy	2.0	1.6	-1.0
Developing Asia:	9.0	10.6	7.7
China	11.6	13.0	9.0
India	9.8	9.3	7.3
Africa	6.6	6.2	5.2

Sources: IMF and SARB, 2009.

At 3.1 %, inflation was about 1.2 percentage points higher in the major advanced economies in 2008 than in 2007. Table 2 shows that in developing Asia, the inflation of 7.1 % was 1.5 percentage points higher in 2008 than in 2007. Exuberant commodity price hikes played a primary role in pushing inflation higher. The crude oil price, for instance, averaged 97 US dollars in 2008 and was 36 % higher than in 2007.

Table 2: Consumer Inflation

Consumer Inflation	2006 %	2007 %	2008 %
United States	3.2	2.9	4.2
European Union:	2.2	2.1	3.5
Germany	1.8	2.3	2.8
France	1.9	1.6	3.2
Italy	2.2	2.0	3.5
Japan	0.3	0.0	1.6
Developing Asia:	3.8	5.6	7.1
China	1.5	4.8	5.6
India	6.2	6.4	8.3
Africa	6.3	6.3	10.1

Sources: IMF and SARB, 2009.

Table 3 below summarises the global trade developments of the past three years. World trade volumes increased by only 3.3 % in 2008 compared to 7.2 % in 2007. A dramatic slowdown of 11 % for world trade is predicted for 2009. Imports by advanced economies hardly increased (0.5 %) in 2008, after rising by 4.5 % in 2007, resulting in export growth from developing and emerging markets slowing to 6 % in 2008 from 9.5 % in 2007. The growth in world demand for major food crops did, however, increase by 0.6 % in 2008, up to 2.6 % from 2 %, and therefore was

reasonably stable. To a large extent, the higher demand was due to an increase in food demand by emerging and developing economies.

Table 3: Global Trade Developments

World Trade	2006	2007	2008
Goods and Services Trade Volumes			
World - %Δ	9.3	7.2	3.3
South Africa exports - %Δ	6.1	7.5	11.5
Imports by advanced economies - %Δ	7.5	4.7	0.4
Exports by developing countries - %Δ	11.0	9.5	6.0
Demand for major crops - %Δ	2.3	2.0	2.6
Terms of Trade Africa - %Δ	10.2	0.7	12.6
World Trade Prices in US\$			
Oil - %Δ	20.4	10.6	36.4
Average oil spot price in US\$ per barrel	64.3	71.1	97.0
Non-fuel primary commodities -			
Food - %Δ	10.5	15.2	23.4
Raw agricultural materials - %Δ	8.8	5.0	-0.3
Metals - %Δ	56.1	19.0	-8.3

Sources: IMF and SARB, 2009.

World trade prices rose significantly in 2008 – noticeably those of commodities. For instance, the average crude oil price rose by 36 % and food rose by 23 % on average (see Table 3). However, the credit crisis and sharply worsening global economic prospects in the third quarter of 2008 suddenly ended the commodity price boom of the past few years. The financial market turmoil during September and October 2008 led to accelerated downward price adjustments in commodity prices, up until November 2008. As a result of high commodity prices in 2008, the terms of trade for Africa increased substantially in 2008, by 12.6 %, after being virtually unchanged in 2007.

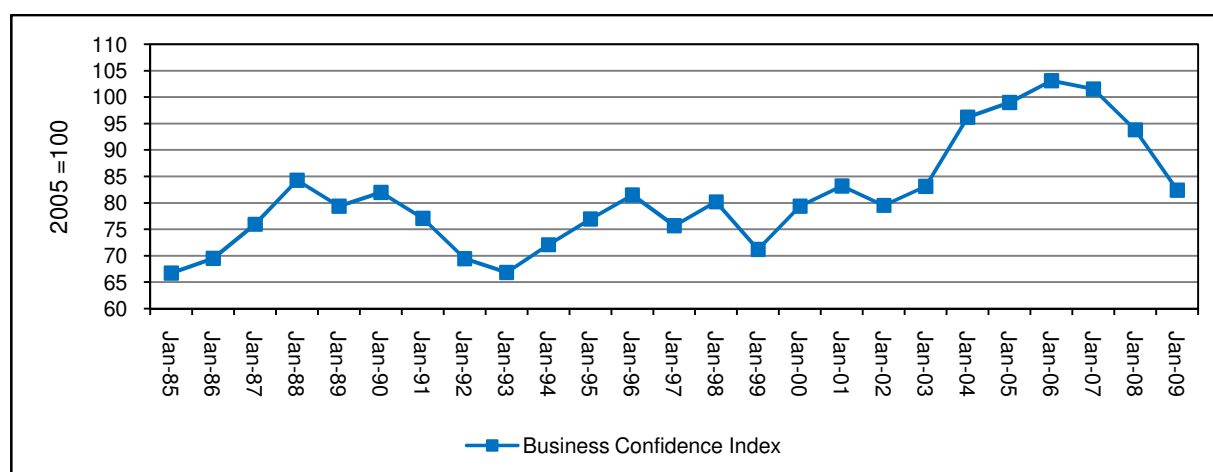
- *Domestic situation*

The South African economy has entered a period of economic recession since the final quarter of 2008. An economic recovery is only expected towards the end of 2009 and is anticipated to be sluggish and frail. As seen in Table 4, the rate of economic expansion slowed from 5.1 % in 2007 to 3.1 % in 2008, with business confidence pulling back accordingly, as shown in Figure 2.

Table 4: Domestic Economic Performance

Economic Aggregate	2006	2007	2008
Economic growth %	5.3	5.1	3.1
Household consumption expenditure - %Δ	8.3	6.6	1.0
Household expenditure on food, beverages and tobacco - %Δ	5.3	5.1	1.6
Rand/US % average (cents)	801	969	854
Prime overdraft rate end of year - %	12.50	14.50	15.00
Consumer inflation - %	3.2	6.1	9.8

Source: SARB, 2009.

**Figure 2: Business confidence**

Source: SA Chamber of Commerce and Industry, 2009.

~ Domestic supply

The output of the agriculture, forestry and hunting sector (1.8 % of GDP) increased by 18 % in 2008 and 3.1 % in 2007, after declining by 5.1 % in 2006. The output of manufactured food and beverages increased by 4.1 % in 2008, and 4.8 % in 2007.

~ Domestic consumption

Real consumption expenditure by households increased at a rate of 2.4 % in 2008. This was much slower than the high 6.6 % of 2007 and the unusual 8.3 % increase in consumption in 2006. Figure 3 shows real household consumption expenditure.

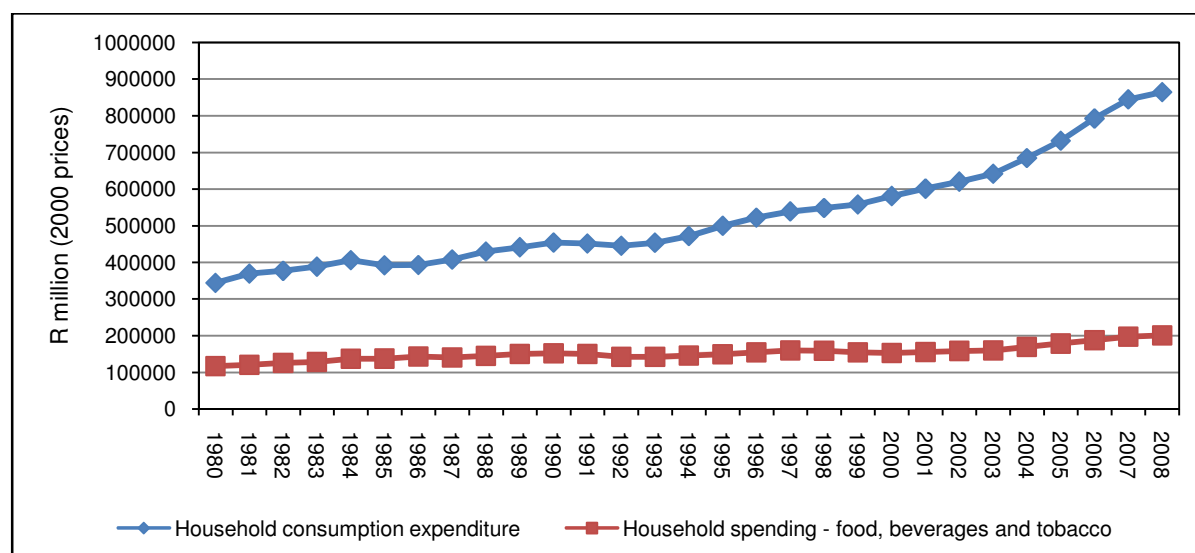


Figure 3: Real household consumption expenditure

Source: SARB, 2009.

Credit extension to households slowed markedly to 15.5 % in 2008, in contrast to disproportionate increases of 19.5 % in 2007 and 24 % in 2006. A high rate of households' credit extension occurred, with inflation at only 7.2 % in 2007 and 4.6 % in 2006. Household debt levels remained high in 2008, at 76.7 % of disposable income – slightly down from the 76.9 % of 2007.

Given the higher interest rates in 2008, debt services payments were 24.2 % higher than in 2007. This propelled households into a difficult position with regard to (especially) discretionary spending, and forced spending on food to be directed to more basic foods. Interest rates, however, started to decline in December 2008 as the predominant prime overdraft rate was lowered by half a percentage point to 15 %, and started to provide some relief to households.

Unemployment remained constant in 2008 and did not have a serious impact on household consumption in 2008. Households' nominal disposable income grew by 13.1 % in 2008, i.e. 1.6 % in real terms.

Expenditure on non-durable goods, which includes food, on average rose above 'normal', by about 4.6 % per year from 2003 to 2007 (see Figure 4). In 2008 real spending on non-durable goods increased by 1.3 % in contrast to 5.5 % in 2007. The average real increase of household spending on food, beverages and tobacco in 2008 was 2.2 %, and although slower than the 4.4 % of 2007, it is better than the decline of 5 % in spending on durable goods in 2008.

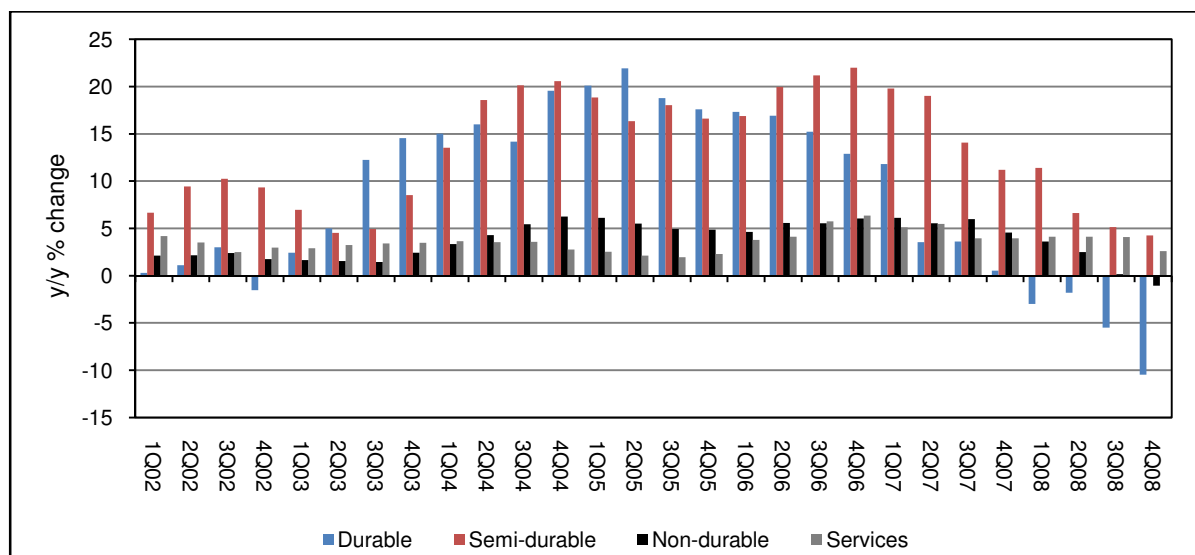


Figure 4: Household consumption expenditure

Source: SARB, 2009.

~ Exchange rate

Smaller food producing countries like South Africa have to take their cue from the international markets as well as settle payments with volatile and vulnerable currencies. The Rand on average depreciated by nearly 15 % against the US dollar in 2008, and by about 13.5 % against a weighted US dollar, British pound and Euro. The real effective exchange rate of the Rand, i.e. taking care of inflation differentials between trading partners, lost some 10 % of its value in 2008. Although negative for imported inflation, the weaker Rand benefited exports. The Rand exchange rate was a critical variable for agriculture in setting food prices, crop prices and input prices in 2008.

~ The macro-economy and implications for agriculture: Monetary policy

A recent study by Rodrik (2006) within the framework of ASGISA emphasises the importance of monetary policy in enhancing economic growth in South Africa. The question that arises is the extent to which changes in monetary policy affect the agricultural sector. Several studies provide evidence of significant linkages between money supply, interest rate, exchange rate, agricultural and manufacturing prices (see for example, Schuh, 1974; Tweeten, 1980; Orden and Fackler, 1989). More importantly, these studies suggest that any changes in macro-economic policy should impact on agricultural prices, farm incomes and agricultural exports. For instance, high agricultural price volatility caused partially by macro-economic policy changes increases the uncertainty faced by farmers and affects their investment decisions, which has important implications for farm debt, farm incomes and agricultural productivity (Kargbo, 2005).

Asfaha and Jooste (2007) investigated the short- and long-run impacts of monetary policy changes on relative agricultural prices in South Africa. The results showed the existence of a long-run relationship between South African agricultural and industrial prices, the exchange rate and money supply, and that the rate of increase in prices is not unit proportional to the rate of increase in money supply (i.e. changes to macro-economic variables find their way into the agricultural sector). Their study further shows that agricultural prices adjust faster than industrial prices to innovations in money supply, providing evidence for the hypothesis that agricultural prices overshoot³ their long-run values in the short-run. The overshooting of agricultural prices can at least partially explain the relatively high agricultural price volatility. Agricultural price volatility in turn increases the uncertainty faced by farmers and affects their investment decisions, productivity and income. Therefore, when a monetary shock occurs, the agriculture sector will have to bear the burden of adjustment, reducing the financial viability of South African farmers. Consumers also have to absorb short-run price volatility and overshooting of prices, which in turn impacts on their ability to manage their cash flow optimally; this could be a substantial challenge in poor households (Asfaha and Jooste, 2007).

Due to the linkages between monetary policy variables and relative agricultural prices, there is a significant challenge for agricultural policy-makers and monetary authorities to work closely in designing and implementing monetary policy in the country. This is important because monetary policies meant to stabilise the economy may have less desirable impacts on farmers and consumers, especially in the short-run with regards to food security.

3.2 Food for thought

3.2.1 *The SA consumer: Market structure, dynamics and disposable income*

This section provides an overview of the structure and dynamics in the South African consumer market, as well as income trends among different wealth groups.

The structure of the South African consumer market presented in this section is based on the widely used market segmentation tool developed by the South African Advertising Research Foundation (SAARF); it is based on the socio-economic status of adult consumers in South Africa and is called the Universal Living Standard Measures (SU-LSM) (SAARF, 2009). Consumers in the lowest socio-economic status form the segment LSM 1 and those in the highest socio-economic status LSM 10. In order to facilitate the discussion of trends, this section will group the ten LSM segments into four wealth levels, consisting of LSM 1-3, LSM 4-5, LSM 6-8 and LSM 9-10 (as illustrated in Figure 5):

³ Overshooting of prices is defined as a temporary change in its value beyond its long-run equilibrium (for example, when agricultural prices change more than proportionally in response to monetary changes).

- ~ The poorest 22 % of South African adults are classified into LSM segments 1 to 3, with an average household income as low as R1071 per month for LSM 1 households.
- ~ Adult consumers in LSM segments 4 and 5 represent 30 % of the population, with an average household income of R3085 per month for LSM 5 households.
- ~ The largest share of the adult population is in LSM 6 to 8 ('middle class'), with the average monthly household income ranging broadly from R5396 (LSM 6) to R12291 (LSM 8).
- ~ The wealthiest consumers are grouped into LSM segments 9 and 10, with an average monthly household income of R23102 for LSM 10 households.

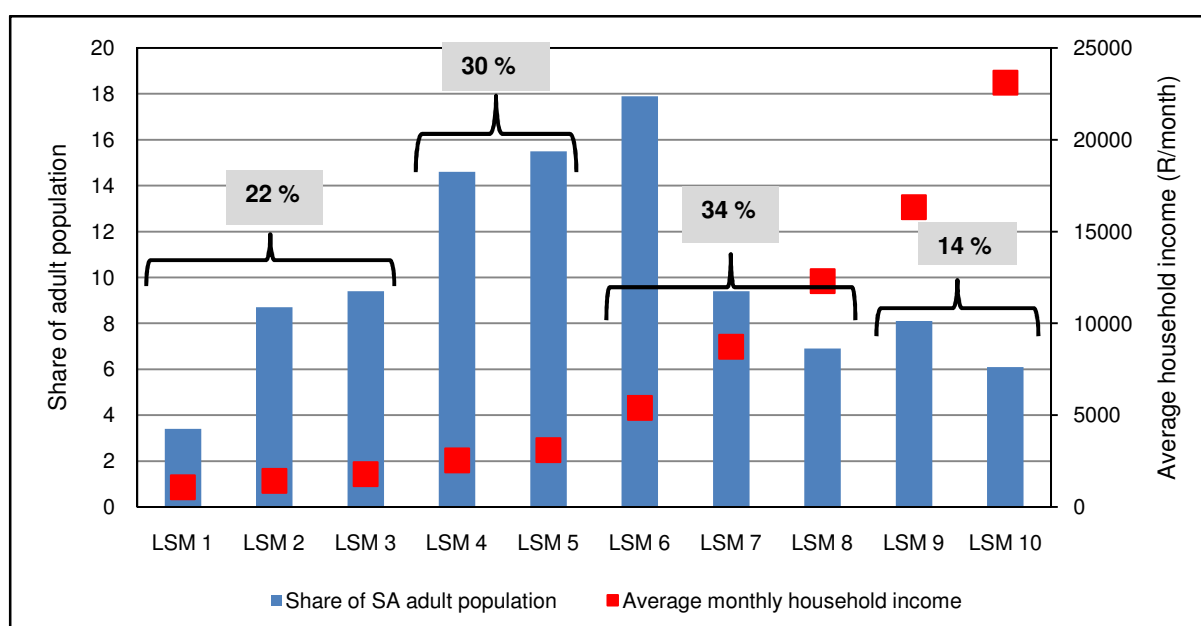


Figure 5: Total South African adults by level (2008)

Source: AMPS, 2008.

The South African consumer market is dynamic and characterised by 'class mobility' to higher wealth levels. From 2001 to 2008 the share of South African adults in LSM 1 to 3 decreased by 45 % and was accompanied by increases in the other LSM groups – LSM 4 and 5 increased by 14 %, LSM 6 to 8 increased by 40 %, and LSM 9 to 10 increased by 36 %. Upward mobility was particularly evident in LSM 6-8, with the so-called middle class representing about a third of the population. A prominent sub-segment within the middle class making a major contribution to upward class mobility is known as the 'new/emerging black middle class'. From 2001 to 2008 the share of black South African adults in LSM segments 7 to 10 increased significantly.

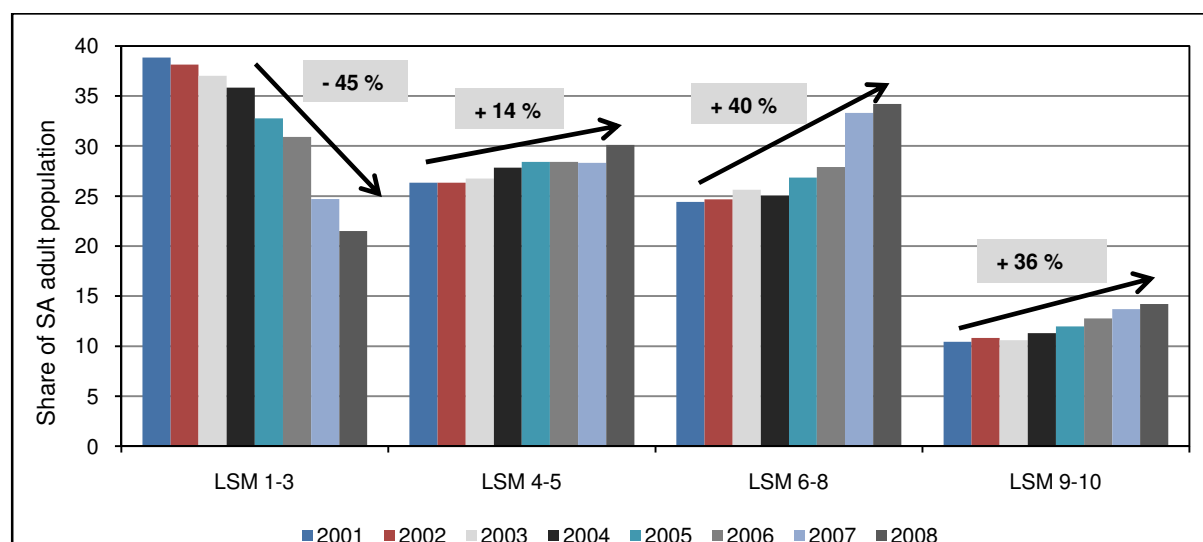


Figure 6: Class mobility in South Africa, 2001 - 2008

Source: AMPS, 2001 – 2008.

3.2.2 Impact of food inflation on consumers

The purpose of this section is to illustrate the impact of food inflation on consumers. The analysis presented in the first part of this section (Figure 7) is based on the monthly cost of a basic food basket⁴ (as selected by the Food Price Monitoring Committee in 2003) for the period of January 2007 to December 2008. From January 2007 to December 2008, the cost of a basic food basket rose steadily in nominal terms by R110 (44 %), to R362. The cost of a basic food basket expressed as a share of the average monthly income⁵ of the poorest 30 % of the population increased from 22 % in January 2007 to 32 % in December 2008, while the cost of the food basket expressed as a share of the average monthly income of the wealthiest 30 % of the population only increased from 1.8 % to 2.5 % over the same period.

⁴ Composition of the food basket: loaf of white bread (700g), loaf of brown bread (700g), super maize meal (5kg), special maize meal (5kg), rice (2kg), tinned butter beans (410g), onions, cabbage, potatoes, tomatoes, apples, bananas, oranges, whole fresh chicken, stewing beef, long life full cream milk (1l), extra large eggs (1.5 dozen), sunflower oil (750ml), brick margarine (500g), peanut butter (410g), regular instant coffee (750g) and black/Ceylon tea - tagless tea bags (62.5g), and canned tuna (replacing canned pilchards due to data limitations).

⁵ The cost of the typical food basket was expressed as a share of estimated average monthly income of Income Deciles 1 to 3, the poorest 30 % of the population, as calculated from the Stats SA survey: 'Income & Expenditure of households 2005/2006' (calculations exclude imputed rent on owned dwellings).

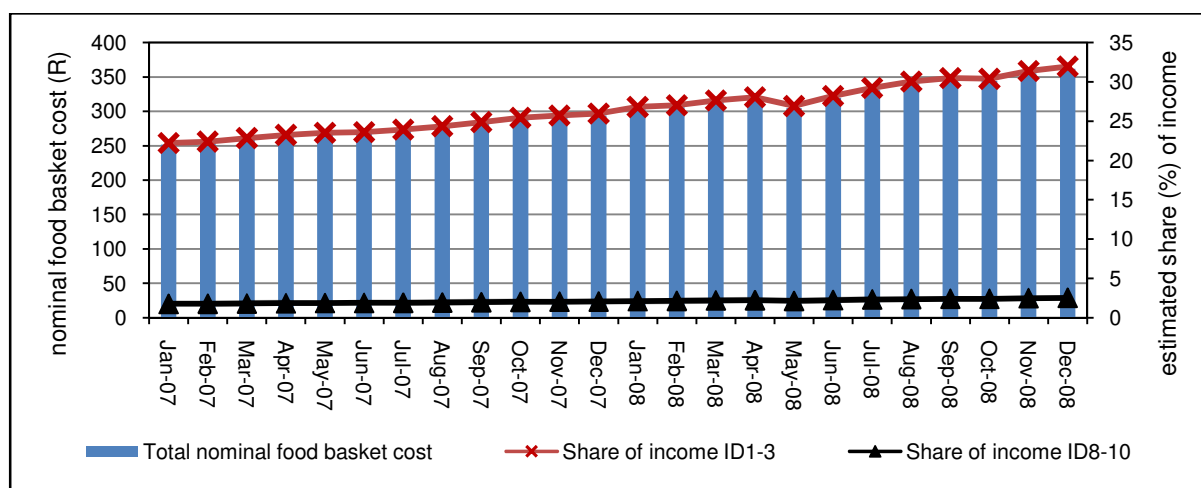


Figure 7: The monthly cost of a typical consumer food basket for the period of January 2007 - December 2008, expressed in nominal terms and as a share of the average income of the poorest and wealthiest 30 % of households (Income Deciles [ID] 1 to 3 and [ID] 8 to 10)

Source: NAMC Food Price data.

To further explore the impact of inflation on consumers, Figure 8 presents an illustration of the average annual nominal cost of specific food groups within the basic food basket for 2007 and 2008. Figure 8 illustrates the dominance of animal protein foods, as well as breads and cereals within the cost of the basic food basket. Furthermore, it is clear that from 2007 to 2008, the highest inflation rates were observed for bread and cereals, hot beverages, fats and oils. The high inflation rate on bread and cereals is of particular concern, especially given poor consumers' dependence on staple foods such as maize meal and bread.

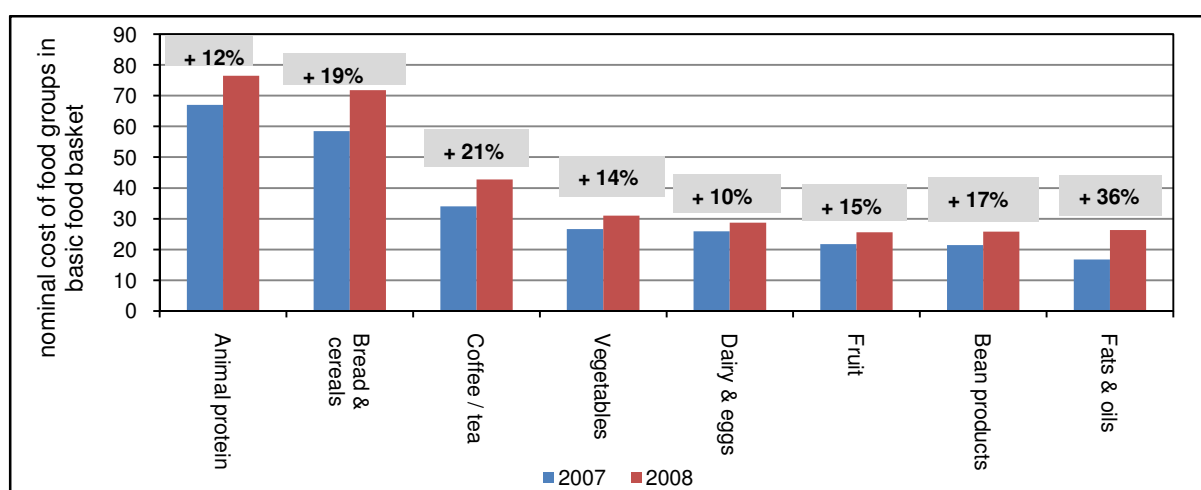


Figure 8: Average nominal monthly cost of specific food groups within the basic food basket, expressed on an annual basis for 2007 and 2008

Source: NAMC Food Price data.

The impact of inflation on very poor consumers is further explored below, based on the typical portion sizes for very poor consumers for the five most widely consumed food items in South Africa, namely maize porridge, brown bread, sugar, tea and full

cream milk (National Food Consumption Survey – Steyn and Labadarios, 2000; Oldewage-Theron *et al.*, 2005). Figure 9 illustrates the average portion costs for these foods, based on average monthly data for 2007 and 2008. The significant impact of staple food inflation (particularly maize meal inflation) on the poor during 2007/2008 is emphasised by the data presented in Figure 9.

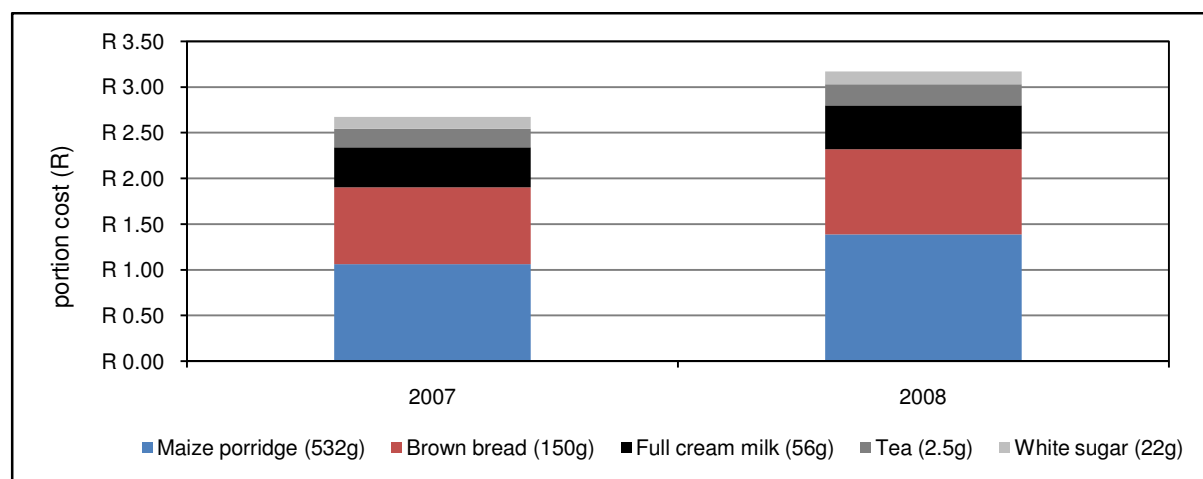


Figure 9: Average nominal cost for the typical portions of the five food items most widely consumed by very poor consumers in South Africa

Source: NAMC Food Price data, 2008.

3.3 Climate change and food security

As indicated in the 2007 Food Cost Review, climate change is now a widely accepted concept globally. It is defined as any long-term significant change in the 'average weather' that a given region experiences. These changes include: average temperature; precipitation and wind patterns that may be caused by dynamic processes on the earth; external forces, including variations in sunlight intensity, and human activities. In 2001, the Intergovernmental Panel on Climate Change (IPCC, 2001) provided strong evidence of accelerated global warming, but only later, when they released their Fourth Assessment of Climate Change in 2007, which scientifically proved the link between human activity and global warming, did the global community consider the importance of implications for various countries, income groups and economic sectors (Cooper *et al.*, 2008). In 2006, the Stern report predicted a 2°C to 3°C change in global temperatures over the current century if no mitigation plans were implemented. Lord Stern (2009) now recognises that these impacts were underestimated, and current predictions allow for 4°C, 5°C, 6°C and even 7°C temperature rises being real possibilities by the end of the 21st century. This would effectively destroy agriculture in many regions. The costs of taking no action to mitigate climate change were also estimated at the upper end to be about 20 % of global GDP (a fifth of the world's wealth) in 2006; this cost is now expected to amount to a third of the world's wealth, or a 30 % plus reduction in consumption per capita if no action is taken (Lord Stern, 2009).

Climate change is expected to affect the physical availability of food production due to shifts in temperature and rainfall (i.e. increased climate variability) (Future Water, 2008). The impact of climate change on crop production is also geographically unevenly distributed. Developed countries are expected to experience an increase in production, while developing countries are expected to see a decline in production, with an overall 10 % global reduction in cereals farmed, which will lead to higher food prices. It is also expected that there will be a reduction in the availability of irrigation water by about 4 %, mainly as a result of water shortages (Future Water, 2008). If nothing is done to curb emissions, the stock of greenhouse gases is expected to grow substantially over the next century, largely due to burning fossil fuels but also from land use changes (IPCC, 2007). One of the largest impacts of climate change is expected to be on agriculture (Cline, 2007).

Climate change and agriculture are interdependent processes occurring on a global scale. Agriculture and food security face significant impacts from the effects of global warming and climate change. While sustainable agriculture depends on reliable temperature and precipitation predictions, both of which are changing rapidly as the impacts of climate change are being realised, agriculture also contributes to significant climate change impacts through the release of greenhouse gases such as carbon dioxide, methane and nitrous oxide into the atmosphere.

Some of the impacts of climate change are already visible and are advancing fast. The effects of climate change on food production are mentioned in the 2007 Food Cost Review and include (FAO, 2003):

- ~ Regional temperature rises at high northern latitudes and in the centre of some continents;
- ~ Increased heat stress to crops and livestock, for example, higher night-time temperatures, which could adversely affect grain formation and other aspects of crop development;
- ~ A possible decline in precipitation in some food-insecure areas such as Southern Africa and the northern parts of Latin America;
- ~ Increased evapo-transpiration rates caused by higher temperatures and lower soil moisture levels;
- ~ Concentration of rainfall into a smaller number of rainy events, with increases in the number of days with heavy rain, which will increase erosion and flood risks;
- ~ Changes in seasonal distribution of rainfall, with less falling in the major growing crop season;
- ~ Aggravation of the rising sea level by subsidence in parts of some densely populated, flood-prone countries, displacing millions; and
- ~ Food production and supply disruption through more frequent, severe and extreme events.

The impacts of climate change will add significantly to the development challenges of ensuring food security and poverty reduction. It is the poor that are the most vulnerable to reductions in agricultural productivity, especially with subsistence farming. The poor also have poor access to alternatives and cannot easily move away from farming options into other sectors to generate alternative incomes (Jones and Thornton, 2003).

The 2001 IPCC Third Assessment Report concluded that the poorest countries would be hardest hit, and would experience reductions in crop yields in most tropical and sub-tropical regions due to decreased water availability and new or changed insect pest incidence. In Africa and Latin America many rain-fed crops are near their maximum temperature tolerance, so yields are likely to fall sharply with even small climate changes. Agricultural productivity is projected to decrease by up to 30 % during the 21st century, and climatic change will further entrench the existing problems experienced in poor countries.

In the long-run, the climatic change could affect agriculture in several ways (FAO, 2003):

- ~ *Productivity*, in terms of quantity and quality of crops;
- ~ *Agricultural practices*, through changes of water use (irrigation) and agricultural inputs such as herbicides, insecticides and fertilisers;
- ~ *Environmental effects*, in particular in relation to frequency and intensity of soil drainage (leading to nitrogen leaching), soil erosion, and reduction of crop diversity;
- ~ *Rural space*, through the loss and gain of cultivated lands, land speculation, land renunciation, and hydraulic amenities; and
- ~ *Adaptation*, which could possibly cause organisms to become more or less competitive, and compel humans to urgently develop more competitive organisms such as flood-resistant or salt-resistant varieties of rice.

Analyses of adaption indicates that farmers in Africa and South America adapt proactively in response to climate variations by choosing whether to grow crops or livestock and whether to irrigate, and they change their crop choices or mixes (Mendelsohn and Seo, 2007; Mendelsohn, 2009). Highlighting this, Mendelsohn (2009) states that smaller farmers may not necessarily be more vulnerable to climate change than large commercial farmers, as they can adapt more easily by switching from livestock to crops as temperatures rise, and can switch again when temperatures drop. Irrigation, however, appears to be one of the most effective tools in dealing with the harmful effects of either warming or drying caused by climate change. Irrigation farmers' incomes are less vulnerable to climate change than those of rain-fed farmers, as these farmers have greater options available for adaption. Irrigation is also affected by climate change and any agricultural adaption strategies considering using irrigation need to take into account catchment

management as part of their broader strategy (Mendelsohn, 2009). This is critical in countries such as South Africa where more than half of the catchments are already facing water supply deficits.

As the 2007 Food Cost Review also pointed out, many opportunities exist for cost-effective reductions in emissions. Mitigation prospects differ in each sector, between regions, and there are advantages and barriers to each strategy. Some of the commercially available options for mitigating climate change are outlined in Table 5, the viability of which will depend on region-specific responses.

Table 5: Climate change mitigation options applicable to agriculture

Improved land and livestock management	May reduce methane and nitrous oxide emissions
Soil restoration	Can reduce soil carbon loss
Improved rice cultivation techniques	Reduces methane and has synergies with sustainable agriculture
Dedicated crops for liquid fuels and electricity	High transport energy demands (production and distribution), electricity demand and water availability
Improved water management and irrigation practices	May prolong limited water supplies, recycle existing supplies or improve water applications.

Source: UCS, 2008.

Farmers can also adopt coping mechanisms that withstand climate variability through activities such as planting drought-resistant or salt-resistant crop varieties, efficiently using water resources, improving pest management, changing cultivation patterns, reducing fertiliser use, and effectively using land policies. Options also exist for rural employment through carbon reduction programmes. Agriculture could also reduce the global demand for fossil fuels and the resultant impact on greenhouse gas emissions through the implantation of non-food crop biofuels, although this approach does have implications for food security in many parts of the world.

Calzadilla *et al.* (2009) recognise that without specific adaption strategies, climate change would negatively impact on agriculture in Sub-Saharan Africa, as total food production would fall by 1.6 % and by 2050, sugarcane and wheat would experience losses of 10.6 % and 24.1 %, respectively. The number of people facing increasingly severe food shortages would increase by almost 2 million over this time period. One of the adaptive strategies Calzadilla *et al.* (2009) considered to manage these impacts was the use of water, and they compared rain-fed and irrigated crops. Irrigated crop scenarios tended to fare better but were seen as less viable in the context of Sub-Saharan Africa where water supply scarcity was increasing and accessibility to suitable water supplies was poor.

Effective policy responses combined with technological and institutional changes are required to effectively address food security in the face of increasing climate change threats (Future Water, 2008).

3.4 Black gold (oil)

3.4.1 International markets

- *Supply trend developments*

The price of crude oil increased from around \$92/barrel in January 2008 to \$141/barrel in July, after which it receded to levels of around \$42/barrel in December and almost crashed. Price volatility has been the order of the day, with prices rising by more than \$10/barrel in one day and falling by more than \$16/barrel on another. The trend in lower prices seems to be mainly driven by a slowing demand, but what is more important to remember is that lower prices mean lower investments in the industry. Reductions in the level of investment in global oil production capacity can have a serious future impact on the overall availability of supply should the economies worldwide, and with that demand, recover in future. At the Organisation of Petroleum Exporting Countries (OPEC) meeting in October of 2008, it was decided to cut production even more as the market seemed to be over-supplied. Total output was reduced by 1.5 million barrels per day, with Saudi Arabia, Iran, the United Arab Emirates (UAE) and Kuwait contributing the most to the overall reduction (OPEC, 2008). The Non-OPEC supply averaged 50.57 million barrels per day, which is an increase of 80 thousand barrels per day from 2007, with an upward trend in the supply of oil taking place in the USA, UK, Canada and Colombia; countries such as New Zealand, Russia and Brazil decreased their output. The total oil output from OPEC averaged 31.9 million barrels per day but declined towards the end of 2008, averaging only 30.2 million barrels in December. Global oil supply averaged 85 million barrels per day in December, which is lower than the highs experienced in July, when it averaged 87 million barrels per day (OPEC, 2009). Lower demand also impacts negatively on developments in the refining capacity. The uncertainty with respect to the economic crisis has already stalled higher volumes of refining capacity, and in addition, the risk of more discretionary cuts by refiners in the wake of persisting weaker demand could in fact lead to higher stock levels and a weakness of market fundamentals in the future (OPEC, 2009).

- *Demand trend developments*

The demand for oil has been severely affected by the world economic crisis as well as extremely high oil prices during the first half of 2008. Figures indicate that world oil consumption has declined for the first time since 1983, by an average year-on-year decrease of 0.05 million barrels per day. Interestingly, however, is that oil

consumption increased during the first two quarters of 2008 but started its strong declining trend during the second half of the year.

It seems that the Organisation for Economic Co-operation and Development (OECD) countries were worst affected by the changes in the macro-economy. Decreases in consumption have been largest in the USA, with consumption decreasing by 1.8 and 1.1 million barrels per day during the third and fourth quarter, respectively. The decline in consumption is mostly related to higher prices and the financial crisis, while similar declines have been taking place in both Europe and the Pacific, with total oil consumption decreasing by 0.1 and 0.4 million barrels per day, respectively (OPEC, 2009).

The impact on the non-OECD countries was slightly different and these countries experienced increases in consumption of 0.8 and 0.6 million barrels in the third and fourth quarter, respectively. Taiwan, Thailand, Singapore and Malaysia as well as India and Indonesia showed signs of weaker consumption, while other countries, such as Brazil, Latin America and Venezuela, dominated the bulk of oil demand growth in 2008. Oil consumption in the Middle East increased by 0.4 million barrels per day, and Saudi Arabia and Iran were the main contributors, according to OPEC (2009).

- *Price trends*

The price of oil followed a trend of high volatility during 2008. Levels increased from \$92 per barrel in January to \$147 per barrel in June, before declining again during the second half of the year on the back of the financial crisis and lower demand for oil in the major oil consuming countries, especially in the OECD. Figure 10 shows the trend in crude oil prices during 2008.

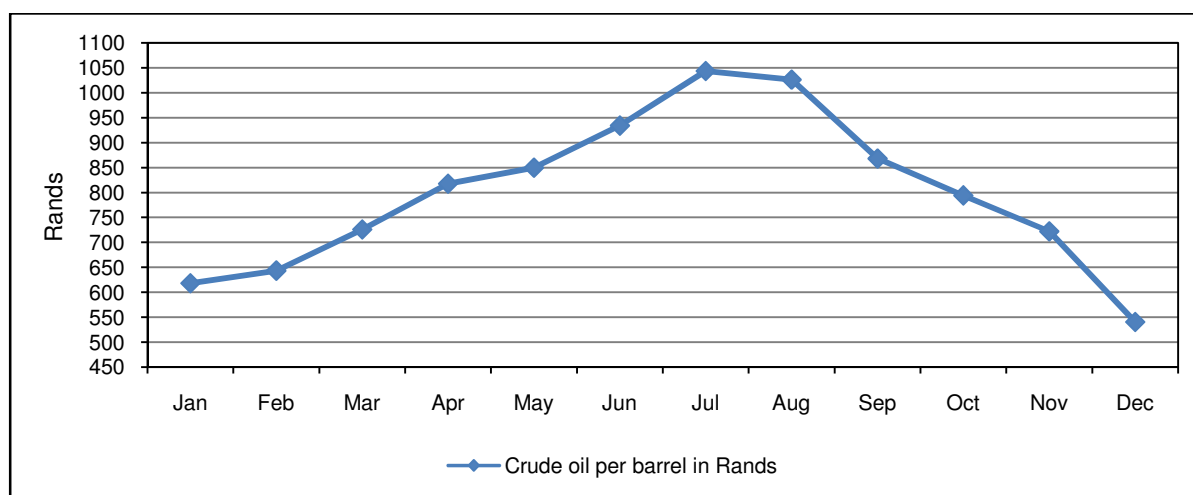


Figure 10: Brent crude oil price (monthly 2008)

Source: SAPIA and DME, 2009.

3.4.2 Domestic markets

- *Fuel price determination*

The Basic Fuel Price (BFP) is determined by taking into account relevant market-related costs so that supplies can be sourced from international refining centres which are capable of meeting South Africa's requirements in terms of both product quality and sustained supply considerations. Most of South Africa's liquid energy is imported and therefore the local price of petrol will be directly linked to the price of fuel quoted in US dollars at the refined petroleum export-orientated centres located in the Mediterranean area, the Arab Gulf and Singapore. There are therefore three main factors that influence the local price of fuel; these include the international crude oil price, the international availability of petroleum products as well as the exchange rate of the US\$ and ZAR.

The BFP principle therefore focuses on the import parity price of refined liquid fuels in order to ensure that the local refineries compete directly with their international competition. In addition, such a method ensures that the local supply of fuel is priced according to the international market occurrences and that cost-efficiency and innovative crude oil acquisition strategies are employed in order to ensure long-term economic sustainability of players in the market (Department of Minerals and Energy, 2009).

- *Price transmission to the local market*

The transmission of price increases to the local market is highly dependent on how self-sufficient the market is with respect to the production of the commodity. The BFP principle proves that the price transmission of shocks that occur internationally will directly impact on what happens to the local price of fuel, with a lag of a few weeks, as the local fuel price is adjusted using the previous month's average prices and exchange rate values. There are also a number of additional factors that influence the BFP over and above the exchange rate, the international price of refined fuel and the international market situation.

These factors include the free on board (FOB) values or the petroleum product prices as quoted internationally, the cost of freight (i.e. transport of the fuel to its end destination), the demurrage cost, loading and offloading of cargo in the various ports, insurance against loss (normally at 0.15 % of FOB price), as well as ocean loss, which is factored in at 0.3 % of the sum of the FOB value. Other costs include: cargo dues, which refer to the harbour facilities that are to be utilised during offloading; the coastal storage costs, which include storing and handling at the coastal terminals, as well as stock financing cost, which is in turn based on the landed cost of petroleum products (25 days of stock holding and with the prime interest rate being less than 2 %) (FAPRI US and World Agricultural Outlook, 2009).

Figure 11 shows the trends for petrol and diesel in Gauteng, South Africa, as well as the Brent crude oil price.

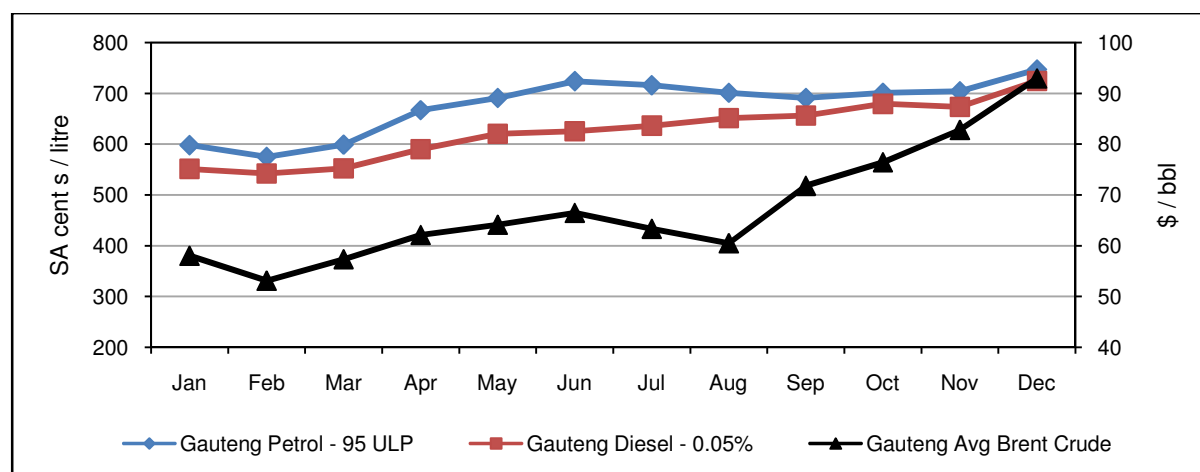


Figure 11: The price of Brent crude oil and the wholesale price of diesel

Source: Grain SA, 2009.

- *Petrol and diesel price breakdown*

The price of petrol and diesel in South Africa is calculated from the basic fuel price. In other words, the price of petrol is made up of the BFP (import parity) plus all the additional levies, taxes and margins that are required within the industry. The same applies to the calculation of the diesel price. It should, however, be remembered that the diesel price in South Africa is not predetermined and that each retailer has the option to adjust the price.

The individual costs that apply to the different rates are represented in the table below and form part of the retail price for petrol and diesel. Table 6 shows the price breakdown for diesel and petrol in South Africa.

Table 6: Price breakdown for diesel and petrol in South Africa

Diesel price breakdown in SA (0.005 % sulphur content)		Petrol price breakdown in SA (95 unleaded) December 2008	
Description	SA cents per litre	Description	SA cents per litre
Basic fuel price	553.03	Basic fuel price	364.81
Fuel tax	111	Fuel tax	127
Customs & Excise tax	4	Customs & Excise tax	4
Equalisation Fund levy	0	Equalisation Fund levy	0
Pipeline levy	0.15	Road Accident Fund	46.50
Road Accident Fund	46.5	Transport cost	14.50
Transport cost	14.5	Pipeline cost	0.15
Wholesale margin	44.66	Wholesale margin	44.88
Slate levy	44.85	Retail margin	67.30
Delivery cost	9.5	Slate levy	44.85
		Delivery cost	9.50
		Demand side	10
		Management levy	

*The retail margin for diesel is not fixed since it is a variable margin and the price can be determined at the retailer's discretion.

Source: Grain SA, 2009.

- *Rebates to South African producers*

Agricultural producers in South Africa receive a rebate on the diesel that is used in the production process. This rebate has steadily increased over time and is adjusted each year (see Figure 12). In 2008, the total rebate plus the deduction of tax which is payable to the Road Accident Fund amounted to 91 cents per litre, 7 cents per litre higher than in 2007.

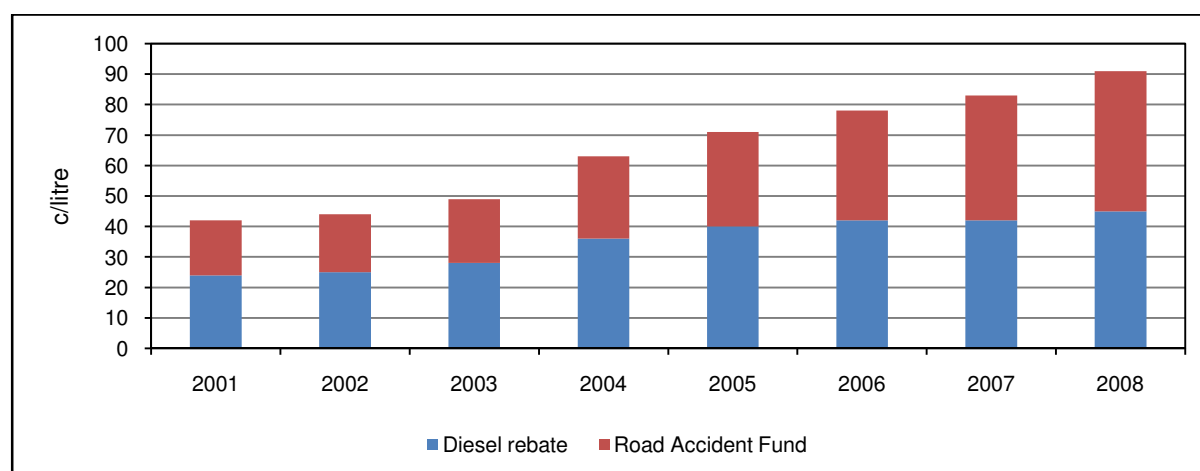


Figure 12: Road Accident Fund and rebate (2001 – 2008)

Source: Grain SA, 2009.

3.5 Green energy (biofuels – ethanol & biodiesel)

3.5.1 International market

- *Ethanol supply trends*

Even though oil prices have declined strongly during the second half of 2008, overall interest remains relatively high for renewable energies. Governments around the world have continued with their support through implementing mandates and directives. In the US and Brazil in particular, ethanol production increased during 2008, reaching new high levels of 35 billion litres and 25.2 billion litres, respectively (see Figure 13).

The decline in the oil price and the occurrences in the feedstock industry during the second half of 2008 had some serious impacts on the profitability of ethanol production; this resulted in some of the capacity being 'mothballed'. In the US alone, 9.1 billion litres of capacity have been taken out of circulation, which in turn is having an impact on supply in the US and also internationally (FAPRI US and World Agricultural Outlook, 2009). The total supply in 2009 is, however, expected to remain rather high and even increase in Brazil and the US, while the expectations are that ethanol production in the EU is to increase slightly.

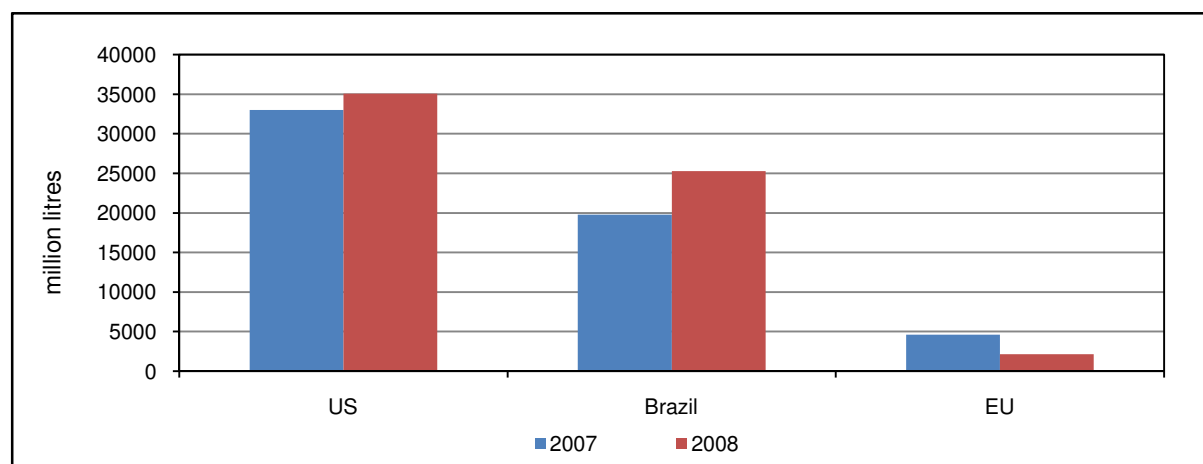


Figure 13: Ethanol production (2007 - 2008)

Source: FAPRI, 2008; Licht, 2008.

- *Ethanol demand trends*

Fuel ethanol consumption in the US was expected to be around 36 billion litres in 2008, of which almost all of it has come from corn-based feedstock. The demand for bio-ethanol feedstock is expected to increase in the US. Figure 14 shows ethanol consumption for the US, Brazil and the EU for 2007 and 2008.

Ethanol consumption in Brazil increased by 21.3 %, to 20.85 billion litres, in 2008; 293 million metric tons of sugarcane was used in ethanol production. Consumption of ethanol in the EU also increased by 26.2 % in 2008, reaching a total of 3.35 billion litres. Demand in the Asian markets, namely India and China, reached 1.854 billion litres and 1.696 billion litres, respectively.

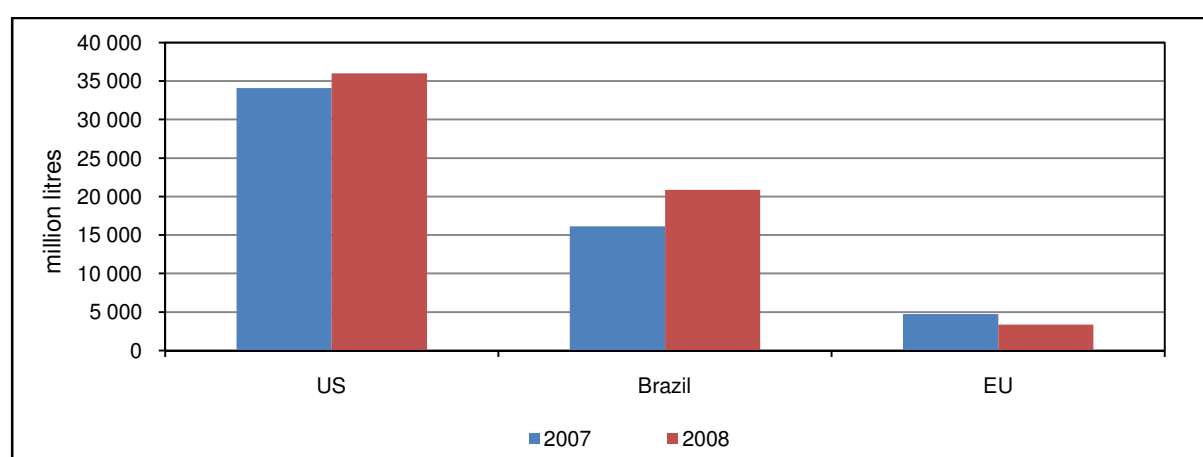


Figure 14: Ethanol consumption (2007 - 2008)

Source: FAPRI, 2008; Licht, 2008.

- *Ethanol price trends*

Ethanol prices increased significantly during the first half of 2008, reaching highs of close to \$2.90 per gallon (\$0.8 per litre); higher commodity prices also resulted, on the back of record oil prices (\$147/barrel). The resultant lower demand for commodities brought with it lower prices and saw the price of ethanol decline by as much as 47 % from its highs in June/July, according to the Kingsman Ethanol Report (2008).

Ethanol prices in Brazil did, however, remain relatively constant even though the price of oil increased dramatically. The retail price of Brazilian hydrous ethanol was around R\$⁶1.69 per litre during the first week of 2008, and was traded at R\$1.76 during July 2008. In December the price of hydrous ethanol in the north-east of Brazil was still R\$1.752 per litre, only 3.7 % higher than 11 months previously and 0.5 % lower than the price during the time when oil prices were higher than \$140/barrel. See Figure 15 for the average US ethanol price vs. the Crude oil price.

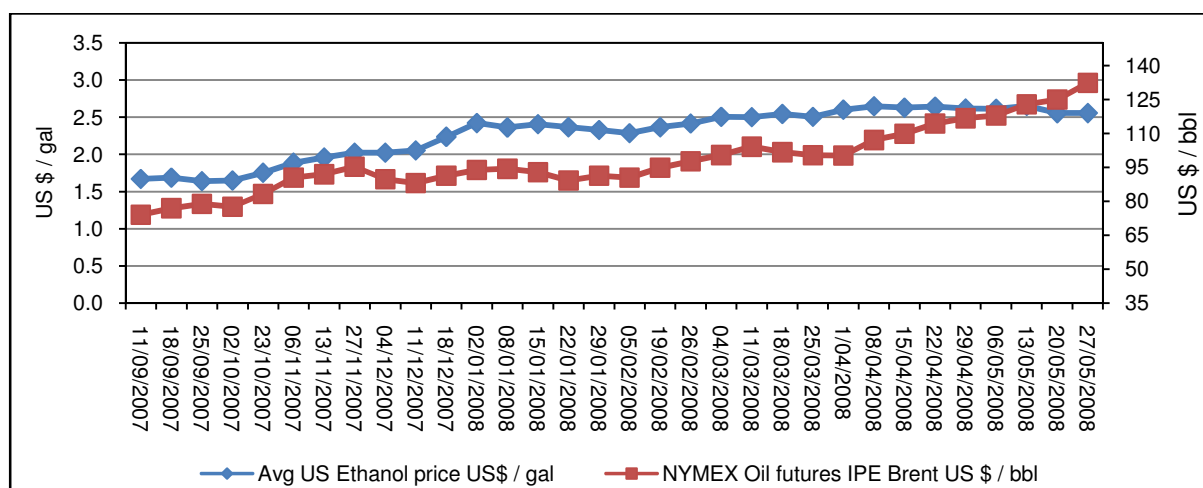


Figure 15: Average US ethanol price vs. crude oil (2007 – 2008)

Source: Kingsman, 2008.

- *Biodiesel supply trends*

The EU is by far the largest biodiesel producer in the world; it had a total production of 6.477 billion litres in 2008 (see Figure 16). Canola made up the largest feedstock for biodiesel production with 5.07 million tons of oil being used, followed by soybean oil with 702 thousand tons and sunflower oil with 54 thousand tons. Biodiesel production in the US was 2.56 billion litres in 2008 and this is expected to increase to 3 billion litres in 2009. Biodiesel production in the South American countries is also on the rise with 1.01 billion litres being produced in Argentina, mostly from soya oil, and 1.1 billion litres being produced in Brazil from the same feedstock (FAPRI US and World Agricultural Outlook, 2009).

⁶ Brazilian Real

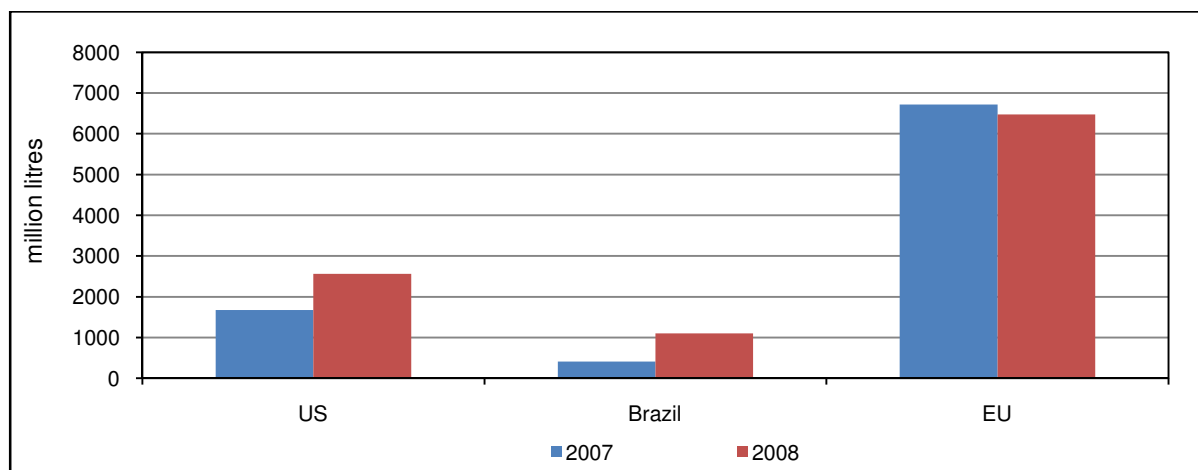


Figure 16: Biodiesel production (2007 – 2008)

Source: FAPRI, 2008.

- *Biodiesel demand trends*

The EU is also the largest consumer of biodiesel in the world, and it consumed a total of 7.6 billion litres in 2008, as shown in Figure 17. The EU is also a net importer of biodiesel, and imported a total of 1.1 billion litres during 2008 in order to satisfy demand. Biodiesel consumption in the US is relatively constant at around 1.2 billion litres while in South America, Brazil is the largest consumer with a total of 1.0 billion litres.

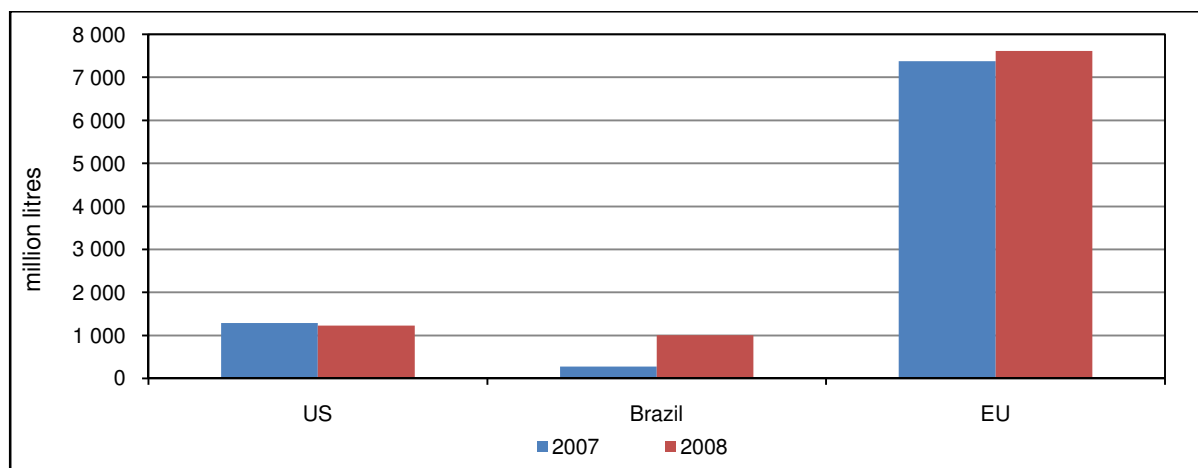


Figure 17: Biodiesel consumption (2007 – 2008)

Source: FAPRI, 2008.

- *Biodiesel price trends*

The annual average price of biodiesel in 2008 was estimated to be around \$5.25 per gallon or \$1.38 per litre. The trend in lower oil prices is expected to have an impact on the traded biodiesel price and it is therefore expected to decrease to \$3.74 per gallon (\$0.99 per litre). Higher production in South America could also support lower

prices in future, while a recovery in the oil price could possibly have a positive effect on the world price. See Figure 18 for the world biodiesel price.

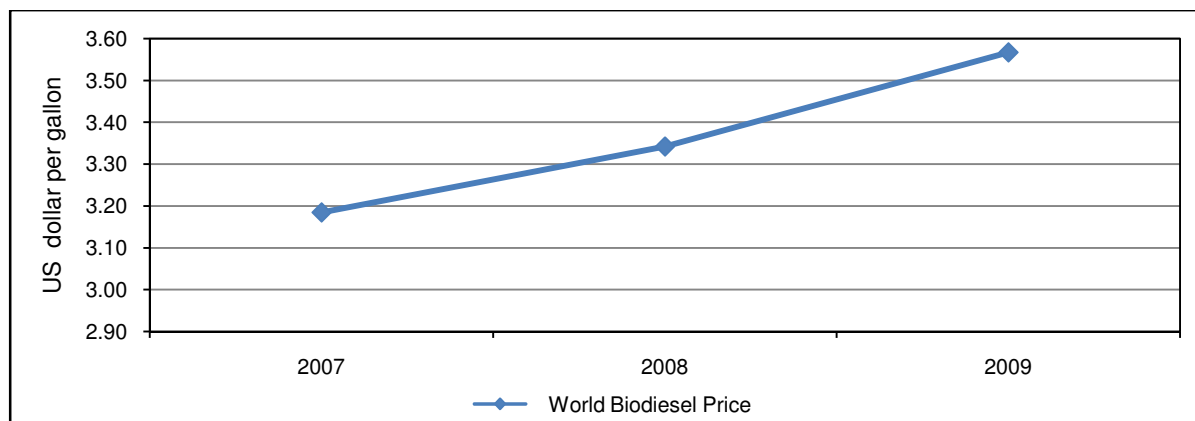


Figure 18: World biodiesel price (2007 - 2009)

Source: FAPRI, 2009.

3.5.2 Domestic biofuels industry

On the domestic front there is very little activity in the biofuels industry. The domestic sugar industry is currently producing around 15 million litres of ethanol for industrial purposes, and there are various smaller projects spread around the country that produce either ethanol gel from maize or biodiesel from used cooking oil. The present economic climate does not favour biofuel production as lower oil prices, and hence cheaper retail prices of fuel, impact negatively on the potential margins required to make production economically viable. The basic argument still remains that without a formal mandate to force the uptake of biofuels, biofuel production will probably not take place.

3.6 Transport in agriculture

Freight logistics is dominated by the road transport mode in most countries. The availability, convenience, flexibility and reliability of road transport provides a wide range of industries, producers, manufacturers and distributors with intermodal potential, especially when considering the prospects for public-private partnerships (PPP), emerging small and medium transporters, and the likelihood of increased black economic empowerment (BEE) participation if government goes ahead with a road transport industry charter that has been idling on the backburner for some years.

According to the most recent freight logistics surveys and supply chain forecasts, road transport in South Africa accounts for nearly 90 % of freight logistics movement (tons) as well as the costs. Road transport moves almost 1.4 billion tons of freight a year compared to a mere 205 million tons moved by rail. In South Africa, not even two percent is moved by the marine, air and pipeline modes.

The huge cost of freight logistics, at nearly 16 % of the GDP, is of great concern to government, business, agriculture and indeed the road transport industry. The absence of credible rail operations means continued and unrealistic reliance on road transport for conveying commodities not suited for the road. Among other significant issues, this has a negative impact on both exports and imports.

Traffic congestion on corridor and metropolitan roads and waiting to load and unload causes expensive delays, costs the transport industry millions of Rands in unrecoverable costs and results in an indecent amount of wastage of diesel, lost while waiting to be unloaded. Unquestionably there is damage to roads due to overloading as well as a lack of timely road maintenance and repairs. The 5th Annual State of Logistics Survey makes an important observation with reference to the negative impact on the broader economy that flows from damage to vehicles, the roads and environment. The Survey refers to a short case study that indicates how trucks operating on questionable roads suffered increased costs of between 684 % and 1560 %.

Congestion at South African ports and border gates is a major problem. The virtual absence of rail sidings and only a few functional branch lines leaves agriculture struggling and with many challenges to get produce to silos, mills and other bulk destinations (for example, the percentage of grains transported by rail declined from just over 80 % in 1985 to around 30 % in 2008), not to mention the further complications experienced by the wide range of produce and products that are exported and imported.

The Automobile Association's Transport Traffic Technology Africa Report released in October 2008 says that an appropriate budget to maintain our roads should be at around R32 billion a year; currently it is 25 % of that amount. The report goes on to say that the maintenance and upgrade backlog is R100 billion, i.e. R95 billion is needed for provincial roads and R5 billion for national roads. According to this report and others, it seems that only 35 % of our roads are in a fair or poor condition. Notwithstanding South Africa's economic situation, the status quo can no longer go on unchallenged. The knock-on costs are unaffordable and the goal of having ongoing cost improvements and first-class customer service, so eloquently articulated in the National Transportation Policy, now seems unsustainable.

- *How did road transport costs change in 2008?*

When the percentage change in key cost drivers between January 2008 and December 2008 are reviewed in isolation, the end result appears to be in a narrow range. For example, operating costs, when expressed as a cost per payload ton, were, on average, between 10 % and 12 %, depending on the size of the vehicle and the transport task. However, one needs to remember that the fuel price achieved staggering (if not breath-taking) levels in the middle of the year (see Figure 19).

For several months of the year the increase was nearer to 20 %, in contrast to when the December cost is compared with January's. Another factor that tends to skew the January-December comparison was the only reduction in interest rates for the period, which occurred in December 2008.

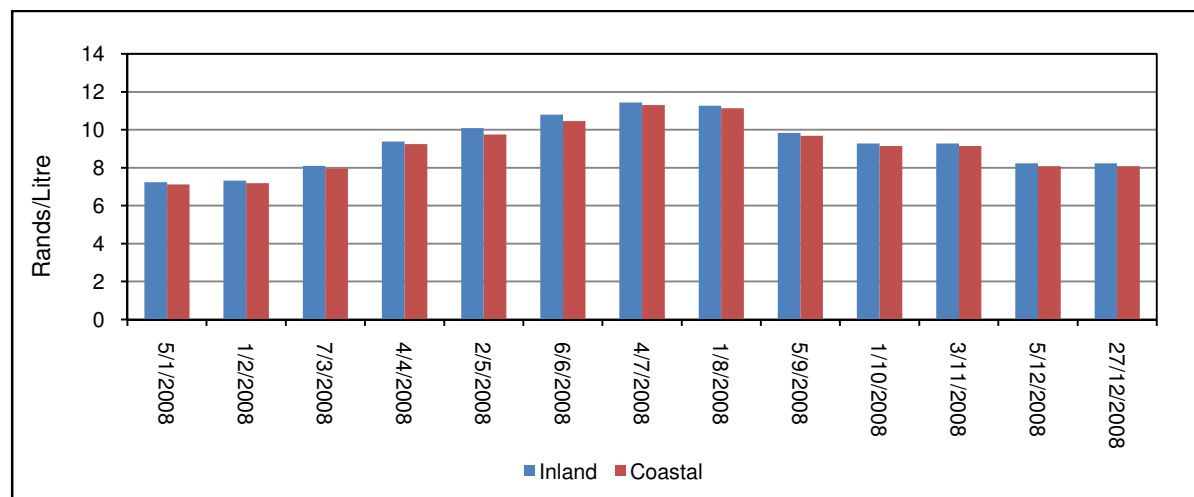


Figure 19: Monthly diesel prices during 2008

Source: SAPIA, 2009.

It is not surprising then that when the fuel price came off the high plateau it reached in July 2008 (1143 cents per litre), the general perception was that freight rates should fall as quickly and in line with the change in the fuel price. A brief study of the cost data helps to clarify several important aspects and trends that illustrate how this is not necessarily so. Fuel as a percentage of operating costs⁷ in January 2008 was 42.79 % for large seven-axle vehicles, and was at 43.2 % in December of that year, as shown in Figure 20.

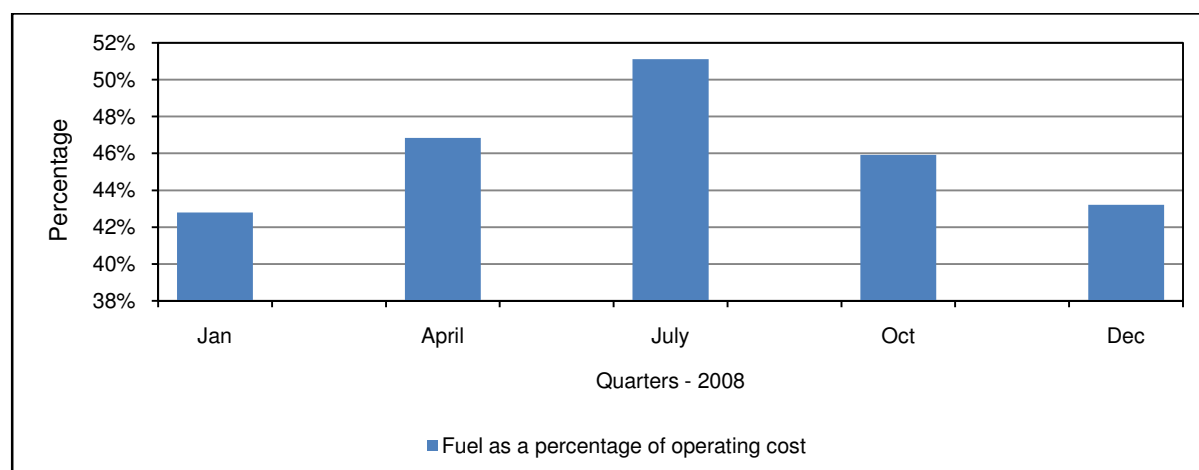


Figure 20: The impact of a high fuel price on operating costs during 2008

Note: The example is based on a 7-axle interlink covering 200 000 km per annum

Source: Braun, 2008.

⁷ Operating Cost Benchmarks – for the purpose of these examples, operating costs include depreciation, cost of capital, vehicle licence and insurance, driver and assistant wages, fuel, maintenance, tyres and unforeseen expenses. Toll road fees and overhead costs are not included.

The fuel price per litre was respectively R9.68 and R10.88 for inland 500 ppm diesel. The average price for the year was R11.26 a litre. At times the fuel cost as a percentage of operating costs was more than 51 %.

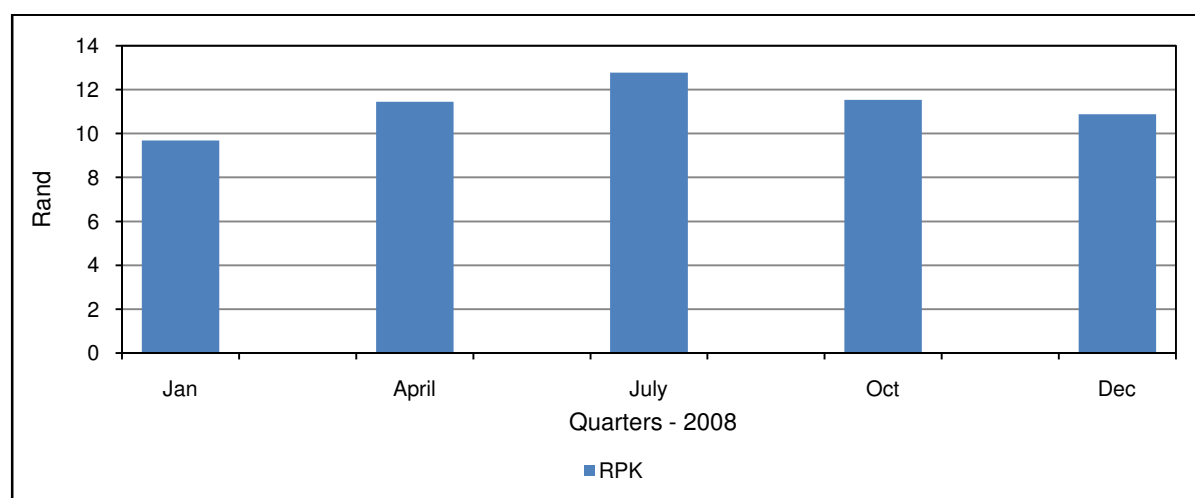


Figure 21: Rand per kilometre (RPK) at quarterly intervals and December 2008 for a 7-axle interlink or vehicle combination

Note the peak in July 2008 when the price of diesel went to 1143 cents per litre.

Source: Braun, 2008.

During 2008 new vehicle prices increased, along with several other cost elements, in regular tranches. The estimated totals for the year include:

- New vehicles: 20 %
- Trailers: 3 % – 5 %
- Load bodies: 15 % – 20 %
- Fridge units: 20 %
- Maintenance & repairs: 10 % (replacement parts & labour)
- Tyres: 15 %
- Driver's wages: 8 % – 11 %
- Interest rates went up 50 basis points in April and down by the same margin in December.

The weakening and volatile Rand played a part in the pricing of fridge units. According to suppliers, the increase in replacement parts, tyres and load bodies was driven by sharply rising steel and other raw material prices, largely due to China's demand for rubber, steel, timber and resins.

- *Root causes of transport inefficiencies – what can be done to improve them?*

Congestion is a major factor impinging on trucks' workloads. Workload is a term used to describe and determine the amount of time a truck uses to do its work. A truck is only a truck when it supports the optimum legal payload and when the

wheels are turning at an acceptable average speed. Achieving an optimum workload depends on when the consignee or recipient is available to take delivery of the load. Time lost waiting to be loaded or unloaded and delays along the road impact on the workload, often to an unacceptable extent. The volume of FMCG (fast moving consumer goods) products delivered to wholesalers and retail outlets has increased significantly – this is due to many new supermarket stores that have opened and because existing ones have hugely upgraded and extended. To meet this growth, transporters and fleet owners transporting their own goods increased their fleet size. However, few of these outlets have increased the number of loading bays or dock levellers. Many do not have dock levellers or even trolley jacks to facilitate unloading at their premises. Add to this the increased number of trucks trying to get unloaded as fast as they can. This resulted in an average waiting time at these typical outlets of more than four hours (*the average waiting time is a researched figure reported in the Barloworld Supply Chain Forecast and is confirmed by leading transporters*). With a working day of, say, 10 hours, delays of four hours reduce the workload to just 60 %, provided there are no other delays. This significantly affects the productivity of road transporters. There is also a general reluctance to receive night deliveries mainly due to reasons of security and an unwillingness to perceive the advantages.

Freight logistics has been deeply affected by the high price of diesel everywhere in the world. However, to take the US as an example, consignees have to pay demurrage if they keep the truck waiting for more than the agreed time. In South Africa world-class transporters such as Fast 'n Fresh have managed the exacting standards of Woolworths for some years, an equally world-class company, by both parties adhering to agreed slot times and the trucks' turnaround times.

Overloading and lack of vehicle fitness are key contributors to the high cost of road transport. Regrettably, important and vital traffic legislation has been on the books for more than 10 years and is still not fully implemented or properly enforced. This goes back to mid-1980s when road transport was deregulated. The Road Traffic Management Report (June 2008) reveals that almost 920 000 unroadworthy and unlicensed vehicles were on South Africa's roads (*12 % of the unroadworthy vehicles are trucks*).

Truck drivers, schedulers, controllers and indeed managers of transport are frequently not trained in the basics of mass distribution, load placement and safe loading practices. Too many vehicles go out under-loaded or not loaded at all, as has been observed over the years and is attested to by the Freight Data collected at some 300 observation points around the provinces. This also has a negative impact on the productivity (profitability) of operating trucks.

The known challenges are daunting and include:

- ~ The fuel price
- ~ Securing ongoing demand for road transport services
- ~ Limitations imposed by current credit restrictions
- ~ Inflation
- ~ Excess capacity in some important segments
- ~ Ongoing increases in standing and running costs
- ~ A driver shortage and retention problem
- ~ Hours of service (workload)
- ~ Congestion
- ~ Environmental issues

3.7 Trends in selected domestic input costs

Figure 22 shows trends for different input and output price indices from 1990 to 2008. Note that the Producer Price Index for Field crops (PPI Field crops) has shown much greater variability since 2001 than the other indices. The PPI Field crops increased by 434.3 % from 1990 to 2008, while the price indices for All Horticultural products (PPI Horticulture) and All Animal production (PPI Animal production) increased by 297.7 % and 324.1 %, respectively. During the same period, the All Agricultural Products Index (PPI-Total) and All Farming Requisites Price Index (FRPI-Total) increased by 359.9 % and 388.5 %, respectively.

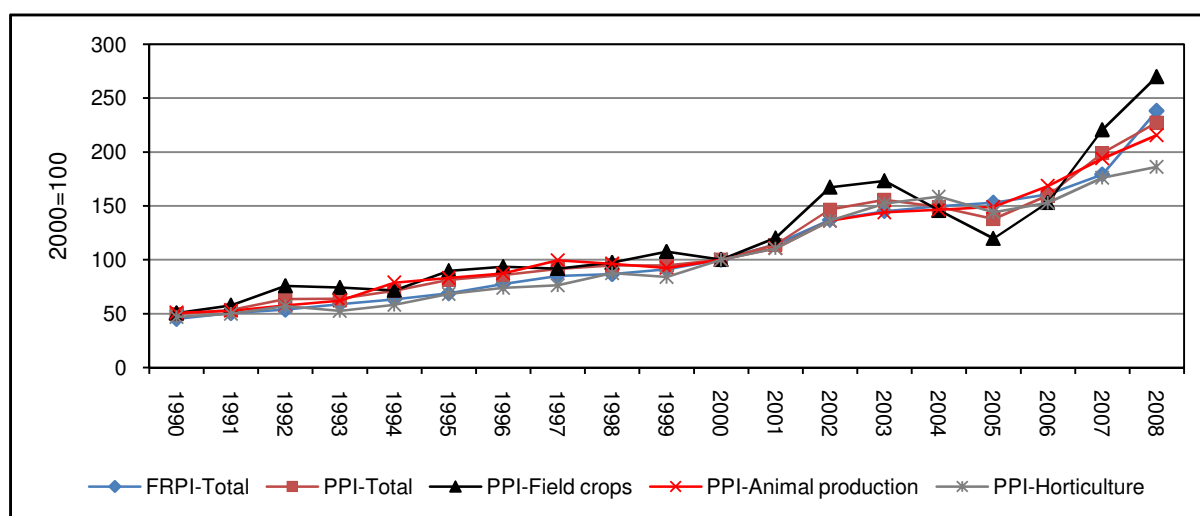


Figure 22: Comparison of various price indices (1990 – 2008)

Source: DAFF, 2009.

Trends in the depicted price indices from 2007 to 2008 were as follows:

- ~ FRPI-Total: 22.9 % increase
- ~ PPI-Total: 14.3 % increase
- ~ PPI Field crops: 22.3 % increase
- ~ PPI Horticulture: 5.8 % increase
- ~ PPI Animal production: 11.1 % increase

When comparing the price movements of the major field crops, horticulture and animal products, Figure 23 shows that PPI Summer grains showed the same variability as PPI Field crops. PPI Summer grains increased by 429.7 % from 1990 to 2008, while PPI Vegetables, PPI Poultry and Poultry products increased by 307 % and 248.9 %, respectively. During the same period, the All Farming Requisites Index (FRPI-Total) increased by 388.5 %.

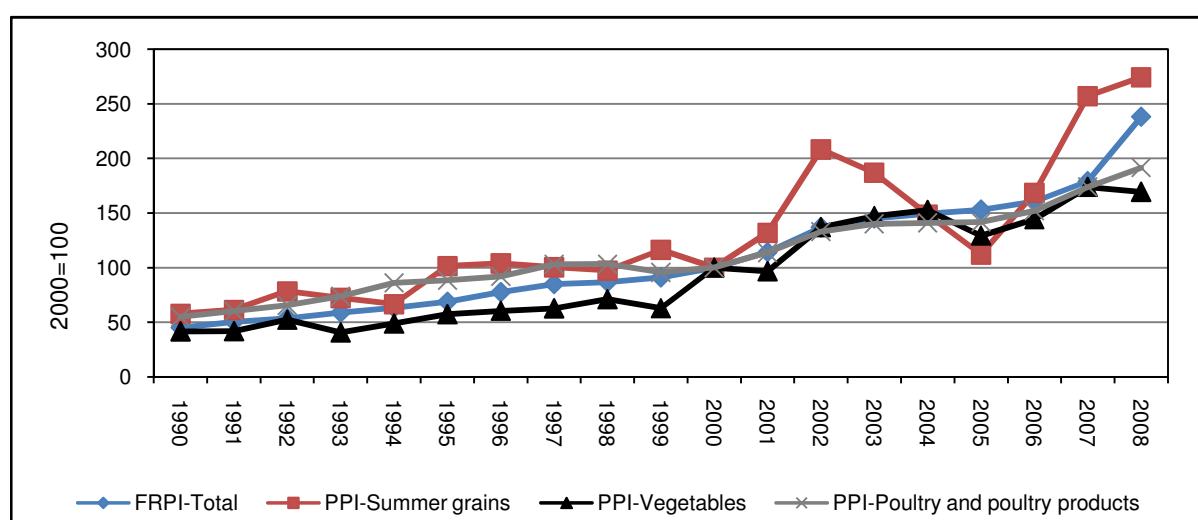


Figure 23: Comparison of major sub-group price indices (1990 – 2008)

Source: DAFF, 2009.

Trends in the depicted price indices from 2007 to 2008 were as follows:

- ~ FRPI-Total: 22.9 % increase
- ~ PPI Summer grains: 6.7 % increase
- ~ PPI Vegetables: 2.6 % decrease
- ~ PPI Poultry and Poultry products: 10.1 % increase

Figure 24 shows trends in selected intermediate inputs from 1990 to 2008 (note intermediate inputs are part of the overall FRPI-Total). The intermediate inputs included are fertiliser, fuel, animal health and crop protection, maintenance and repairs, and farm feed. All the indices show an increasing trend over the depicted period. The price of fuel showed the largest increase, of 1029.2 %, from 1990 to 2008, followed by fertiliser at 795.2 % and farm feed at 388.8 %. During the same period, the price of maintenance and repairs and animal health and crop protection increased by 332.8 % and 236.9 %, respectively.

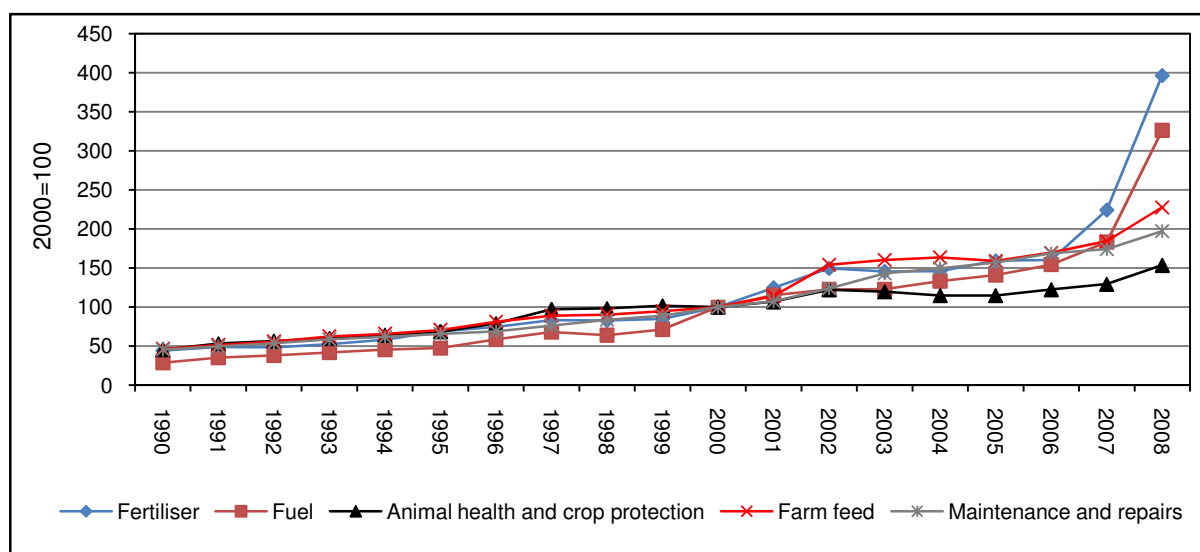


Figure 24: Trends in selected intermediate inputs (1990 – 2008)

Source: DAFF, 2009.

Trends in the depicted price indices from 2007 to 2008 were as follows:

- ~ Fertiliser: 76.8 % increase
- ~ Fuel: 78 % increase
- ~ Animal health and crop protection: 18.7 % increase
- ~ Maintenance and repairs: 13.2 % increase
- ~ Farm feed: 23.5 % increase

When looking at the price trends of local fertilisers, it must be noted that South Africa imports most of the required fertiliser it uses, and thus the prices of local fertiliser are highly reactive to international prices and other external factors. Factors influencing fertiliser prices are, among others, the high demand for fertiliser in the USA and China's economies, the oil price and supply levels.

Figure 25 depicts the price movement of the local fertiliser prices. From 2000 to 2008 the local prices of MAP, Urea Pril (46) and Potassium Chloride increased by 423 %, 332.5 % and 371.8 %, respectively. Figure 25 further shows that, on average, price movements were generally sideways and with some smaller fluctuations until the end of 2007, after which they escalated during 2008.

Price increases for the items depicted between 2007 and 2008 were as follows:

- ~ MAP: 131.9 % increase
- ~ Urea Pril (46): 91.3 % increase
- ~ Potassium Chloride: 174.3 % increase

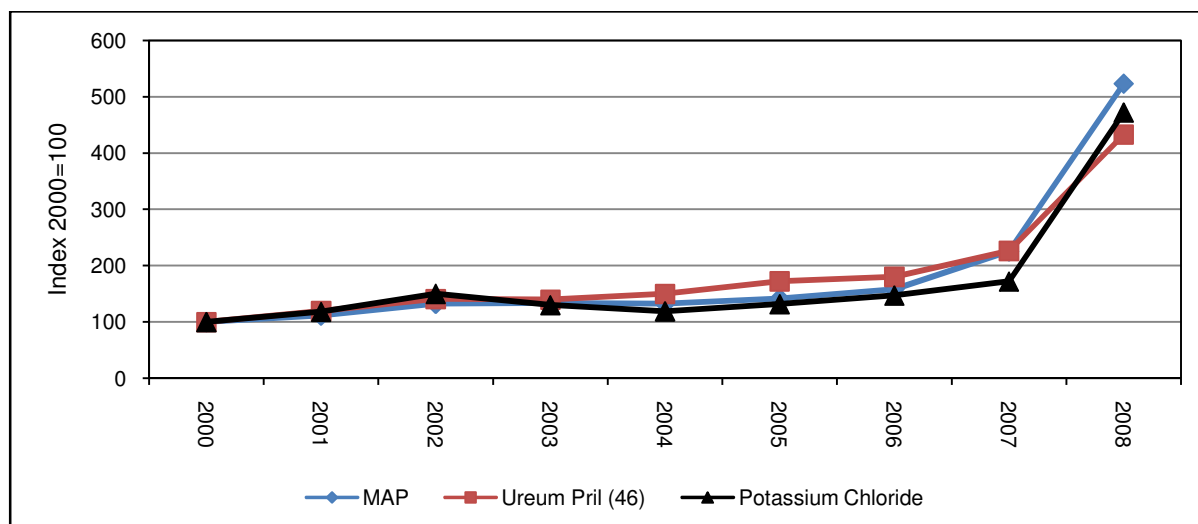


Figure 25: Local fertiliser prices (2000 – 2008)

Source: Own calculations from listed prices.

Figure 26 shows the international price movements of fertilisers. From 2000 to 2008 the international Urea, DAP and MOP price (R/ton) increased by 485 %, 628.5 % and 739.2 %, respectively. During this same period the R/\$ exchange rate depreciated by 18.8 %.

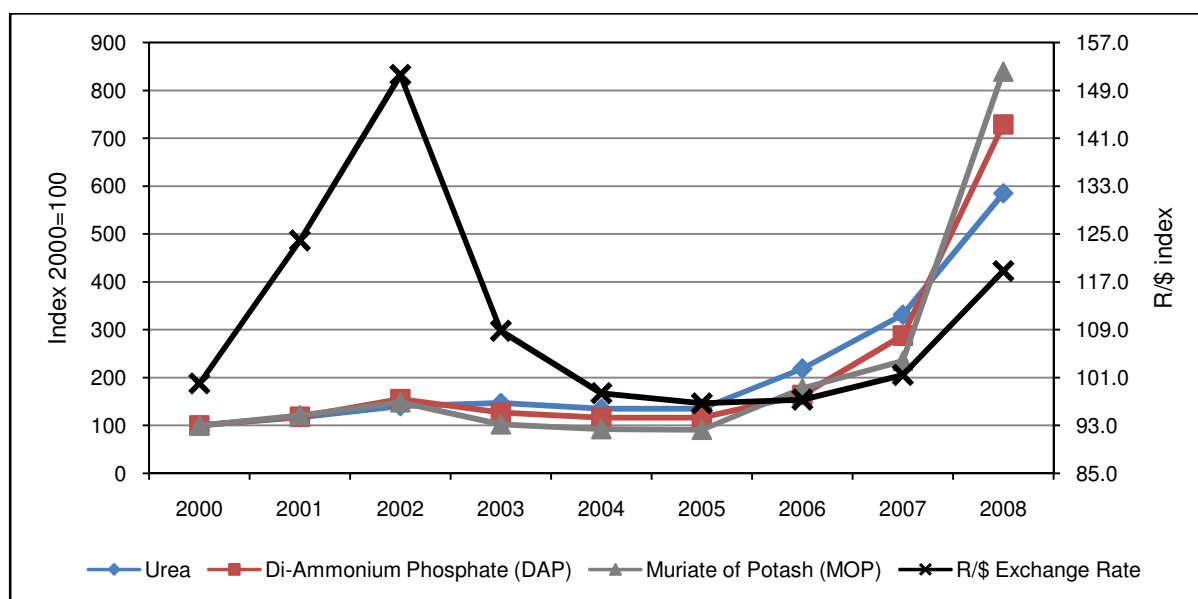


Figure 26: International fertiliser prices (2000 – 2008)

Source: Grain SA, 2008.

Price increases for the items depicted between 2007 and 2008 were as follows:

- ~ Urea: 76.6 % increase
- ~ DAP: 153.3 % increase
- ~ MOP: 257.8 % increase

Figure 27 shows the movements of the Baltic Dry Freight Index. This index is used to indicate the movement of freight cost over time, and is also used as a barometer

for doing business internationally. In other words, a high index value is indicative that there is a high demand for vessels and hence high levels of trade and vice versa. From August 2007 to December 2008 the index decreased by 89.5 %.

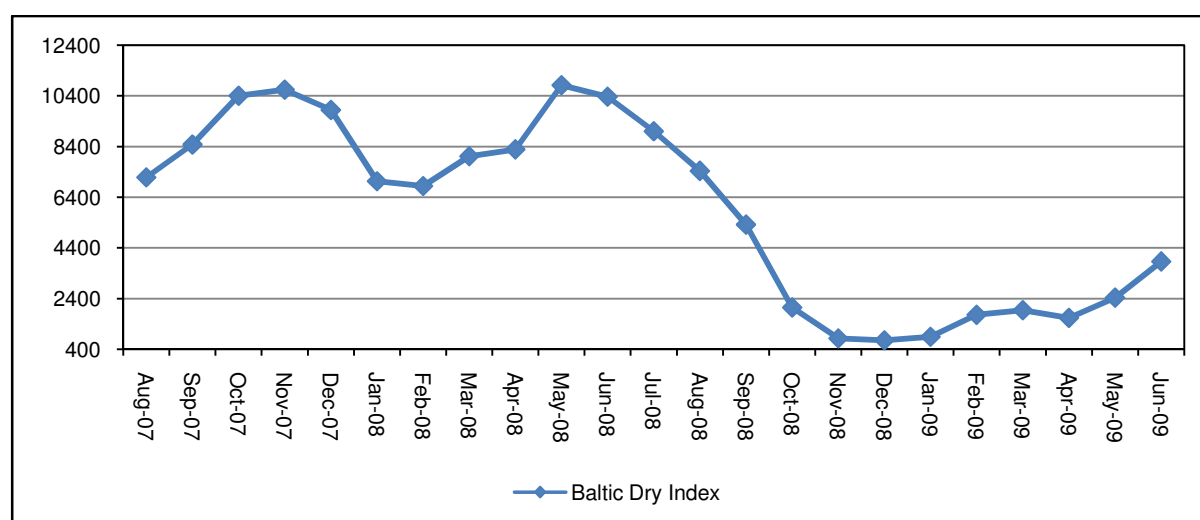


Figure 27: Baltic Dry Freight Index

Source: SAGIS, 2009.

- *The terms of trade of the agricultural sector*

The domestic terms of trade in agriculture indicate the price-cost squeeze situation of primary producers or, stated otherwise, whether prices received by the farmers kept pace with the prices paid for farming inputs. Figure 28 shows the terms of trade in agriculture that deteriorated by 12.9 % from 1990 to 2008. The long-run trend is downwards. The terms of trade recovered between 2005 to 2007 (i.e. there was an increase of 10.2 % between 2005 and 2006, and a further recovery of 12.5 % from 2006 to 2007). This recovery can mainly be attributed to higher commodity prices. However, the terms of trade worsened again in 2008 on the back of lower commodity prices and increased input costs, which rallied during the latter part of 2008.

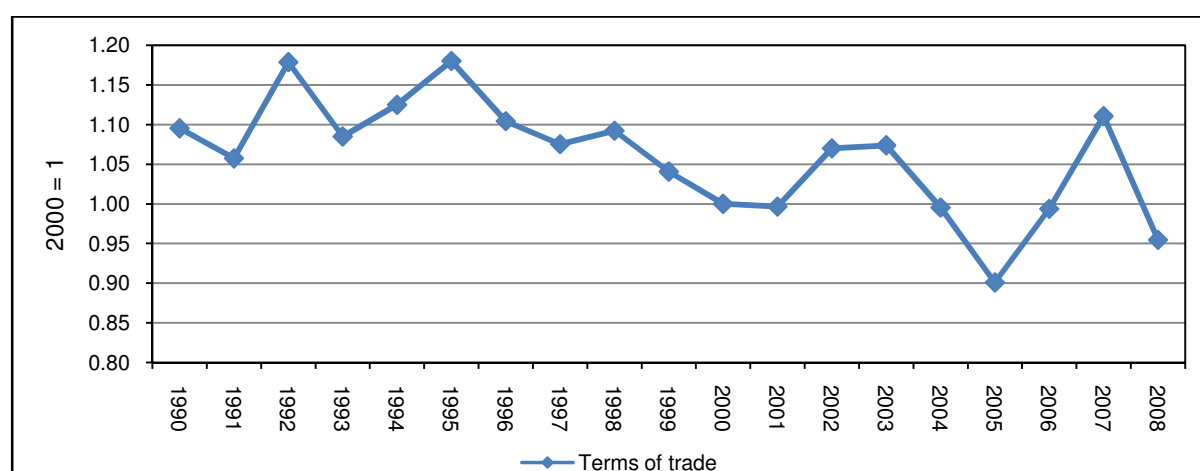


Figure 28: Terms of trade in agriculture (2000=100)

Source: Own calculations based on data from DAFF, 2009.

3.8 Agricultural trade⁸⁹

The purpose of this section is to report on preliminary South African agricultural trade data for 2007 to 2008 that is derived from the World Trade Atlas, and as reported by the South African Revenue Service. Figure 29 shows that the total value of South Africa's agricultural exports in 2008 amounted to R45.3 billion, an increase of 51 % from 2007. The value of the country's total agricultural imports in 2008 amounted to R39.0 billion, an increase of nearly 31 % from 2007. The resulting agricultural trade surplus was R6.3 billion (2008).

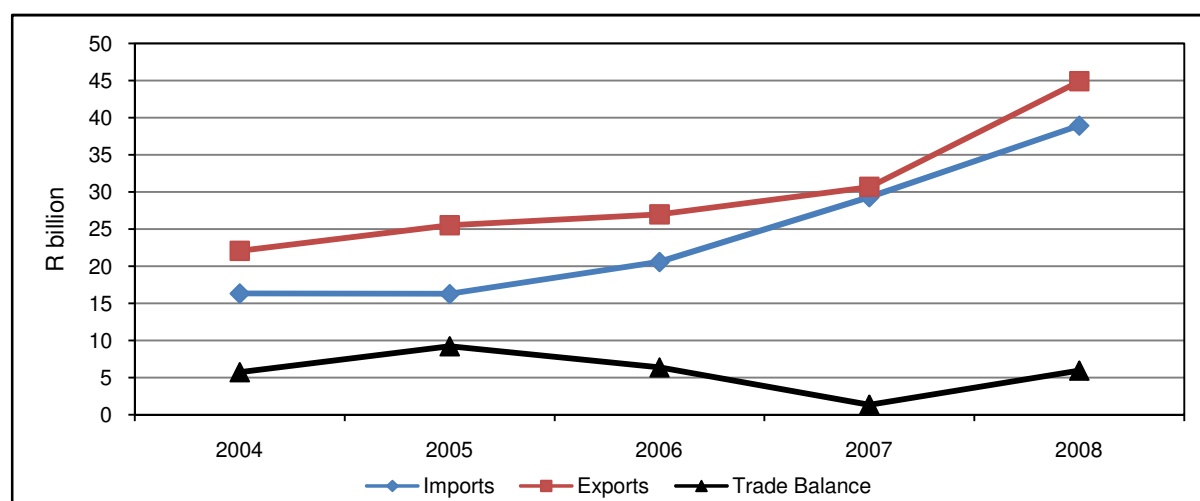


Figure 29: South African Agricultural Trade (2004 – 2008)

Note: 2008 provisional

Source: World Trade Atlas, 2009.

- *Primary agricultural trade*

The value of primary agricultural exports grew by nearly R9 billion (2008 provisional), a 69 % increase from 2007¹⁰. Provisional data on primary agricultural imports indicates a growth of R1.3 billion (2008), an 18 % increase from 2007. The resulting primary agricultural trade surplus was R13.5 billion (2008 provisional), an increase of 105 % (see Figure 30).

⁸ This section was published in the TradeProbe (Issue 15) of the National Agricultural Marketing Council and the Department of Agriculture, Fisheries and Forestry.

⁹ The selection of products is based on the definition of agricultural products as covered by the WTO Agreement on Agriculture. This includes primary as well as processed agricultural products. Also see Appendix B for the 20 products traded.

¹⁰ A provisional calculation was done to differentiate between the primary and secondary agricultural products traded; this does not yet reflect official figures, which will only be available later.

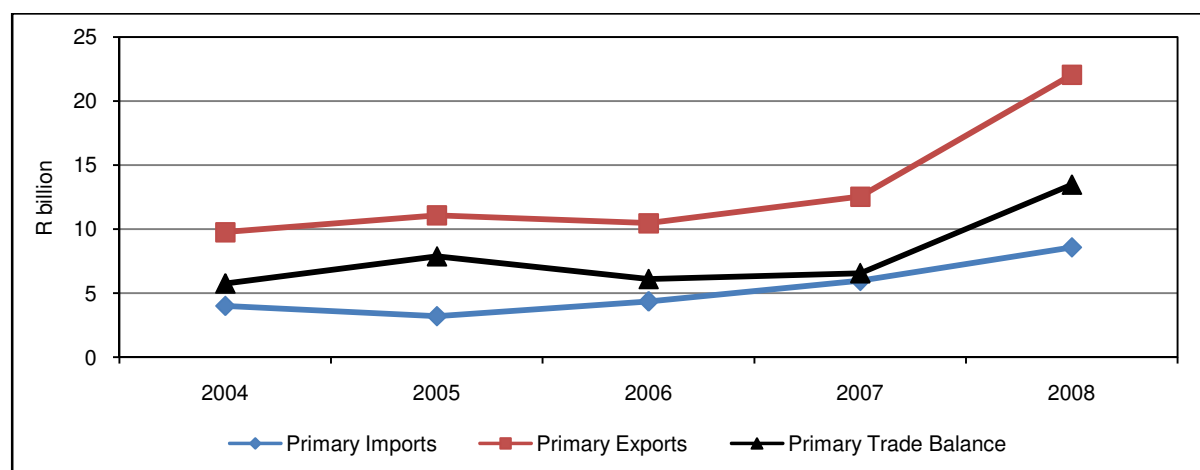


Figure 30: South African primary agricultural trade (2004 – 2008)

Note: 2008 provisional

Source: World Trade Atlas, 2009.

The value of corn (maize), oranges, grapes and apple exports dominated the value of exports of primary agricultural products; corn (maize) and oranges dominated the volume of exports. The value of corn (maize) exports increased by 346.6 % between 2006 and 2008 and by 3420.18 % between 2007 and 2008, while the value of oranges increased by 64.5 % and 33.03 % between 2006 and 2008, and 2007 and 2008, respectively. The value of grape exports increased by 49.2 % between 2006 and 2008. The value of apples, wool and wheat increased by 84.97 %, 78.16 % and 4006.21 % between 2006 and 2008, respectively. If the value of corn (maize), oranges and grape exports are excluded from the total primary agricultural exports, their value then declines by 43.92 %, 38.97 % and 46.23 % in 2006, 2007 and 2008, respectively. This is indicative of the prominent role these products play in generating foreign exchange for South Africa.

The value of wheat, stemmed tobacco and coffee imports dominated the value of imports of primary agricultural products in 2008. The value of wheat imports increased by 262.8 % between 2006 and 2008 and 99.05 % between 2007 and 2008, while the value of stemmed tobacco increased by 47.4 % and 51.45 % between 2006 and 2008, and 2007 and 2008, respectively. The value of coffee and cotton imports increased by 121.2 % and 20.6 %, respectively, between 2006 and 2008. If the value of wheat, stemmed tobacco and coffee imports is excluded from the total primary agricultural imports, then their value declines by 34.81 %, 35.20 % and 56.87 % in 2006, 2007 and 2008, respectively. The reason these products are highlighted is that South Africa is not able to comply with local demand. **There is, however, potential to increase wheat production if it is profitable for farmers to produce it.**

- *Processed agricultural trade*

Provisional data for 2008 indicates that exports of processed agricultural products increased by R6.4 billion, or 38 %, from 2007 to 2008. Preliminary data shows an R7.8 billion (or 35 %) increase in the value of South Africa's processed agricultural imports from 2007 to 2008. The resulting processed agricultural trade deficit was R7.1 billion (2008), an increase of 3 % (see Figure 31).

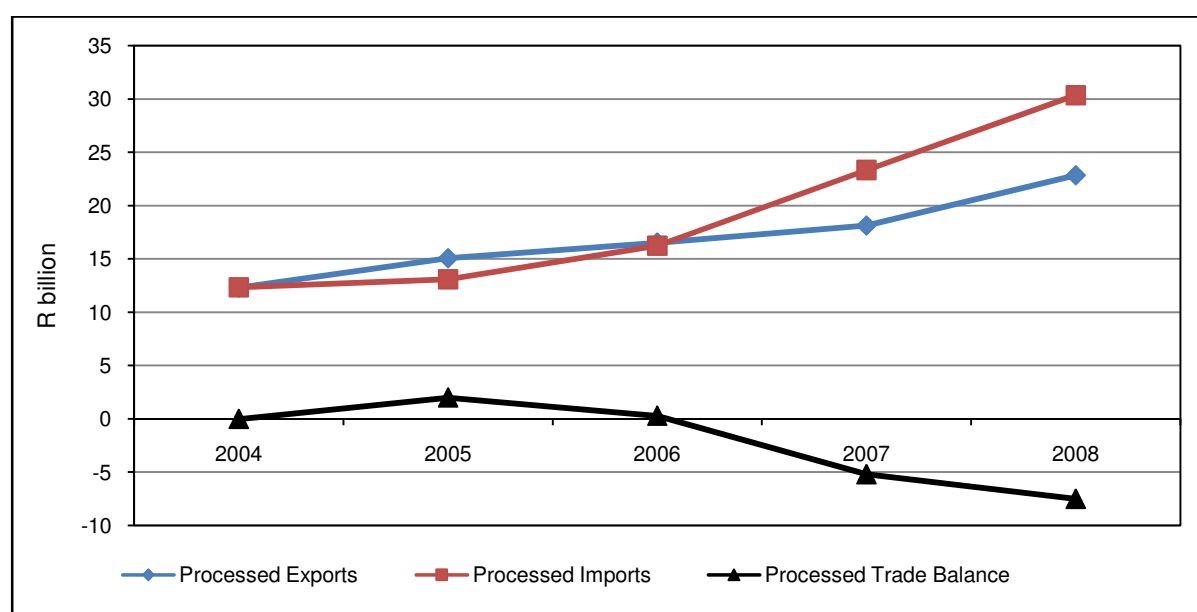


Figure 31: South African processed agricultural trade (2004 – 2008)

Note: 2008 provisional

Source: World Trade Atlas, 2009.

The value of wine, sugar cane, ethyl alcohol, pure sucrose refined, and food preparations exports dominated the value of processed agricultural product exports. Sugar cane, ethyl alcohol and refined pure sucrose dominated the volume of exports. The value of wine (>2l) exports increased by 63.02 % between 2006 and 2008 and by 24.49 % between 2007 and 2008, while the value of wine increased by 114.79 % and 56.26 % between 2006 and 2008, and 2007 and 2008, respectively. The value of cane sugar exports decreased by 40.75 % between 2006 and 2008. The value of ethyl alcohol, refined pure sucrose, and food preparations increased by 31.05 %, 55.96 % and 91.23 % between 2006 and 2008, respectively. If the value of wine (>2l), wine and cane sugar exports is excluded from the total processed agricultural exports, then their value declines by 34.93 %, 32.03 % and 31.4 % in 2006, 2007 and 2008, respectively. This is indicative of the prominent role these products play in generating foreign exchange for South Africa.

The value of rice, soya oilcake and palm oil imports dominated the value of imports of processed agricultural products; this is also applicable to the volume of imports. The value of rice imports increased by 132.7 % between 2006 and 2008, and by 80.75 % between 2007 and 2008, while the value of soya oilcake increased by

143 % and 75.78 % between 2006 and 2008, and 2007 and 2008, respectively. The value of palm oil and whiskey imports increased by 207 % and 37.7 %, respectively, between 2006 and 2008. The value of soybean oil (refined) and beer from malt showed the highest percentage increase between 2006 and 2008, i.e. by 538 % and 1294 %, respectively. If the value of rice, palm oil and whiskey imports is excluded from the total processed agricultural imports, then their value declines by 22.89 %, 21.77 % and 25.85 % in 2006, 2007 and 2008, respectively. **The reason for highlighting these products is that South Africa either has limited capacity to produce them, or does not produce these products.**

4. FOOD PRICE TRENDS

- *Consumer inflation, food prices and agricultural input prices*

Food prices play an important role in consumer inflation and accounted for 24.2 % of the Consumer Price Index for metropolitan and other urban areas in 2008. Consumer inflation (metro and urban) averaged 11.5 % in 2008, up from 7.2 % in 2007. Inflation gained strong momentum owing to exogenous cost pressures such as the cost of fuel (the diesel pump price was 49.6 % higher), relatively high wage increases and accelerating food prices – which averaged 16.8 % year-on-year (y/y) in 2008. Consumer inflation peaked at 13.6 % in August 2008. Food prices increased by 16.7 % (y/y) in 2008 as opposed to 10.4 % (y/y) in 2007 and 6.7 % in 2006. See Table 7 for domestic price inflation.

Table 7: Domestic price inflation

Year	Farming Requisites	Agricultural Production Prices	Food CPI	CPI Metro and Urban
1996	12.8	5.5	6.3	4.7
1997	9.5	6.7	9.5	8.6
1998	2.0	3.6	6.4	6.9
1999	5.0	0.0	5.1	5.2
2000	9.9	5.6	7.6	5.4
2001	14.2	13.5	5.3	5.4
2002	19.9	28.2	16.7	9.4
2003	5.9	7.0	8.2	6.2
2004	3.2	-4.4	2.0	1.6
2005	2.3	-7.5	2.1	3.3
2006	5.0	15.8	6.7	4.6
2007	11.5	24.7	10.4	7.2
2008	33.0	14.3	16.7	11.5

Sources: DAFF, 2009; SARB Bulletin, March 2009.

Figure 32 shows that farming requisites, noticeably imported equipment and crude oil-based inputs, increased at markedly high rates in 2008. For instance, the July 2008 wholesale price of diesel (0.05 % sulphur in Gauteng) was 80 % higher than a year earlier. Intermediary inputs such as fuel (78 %), fertiliser (77 %) and packing material (33.4 %) and the Composite Index (37 %) increased much more than the price of food (16.8 %) in 2008.

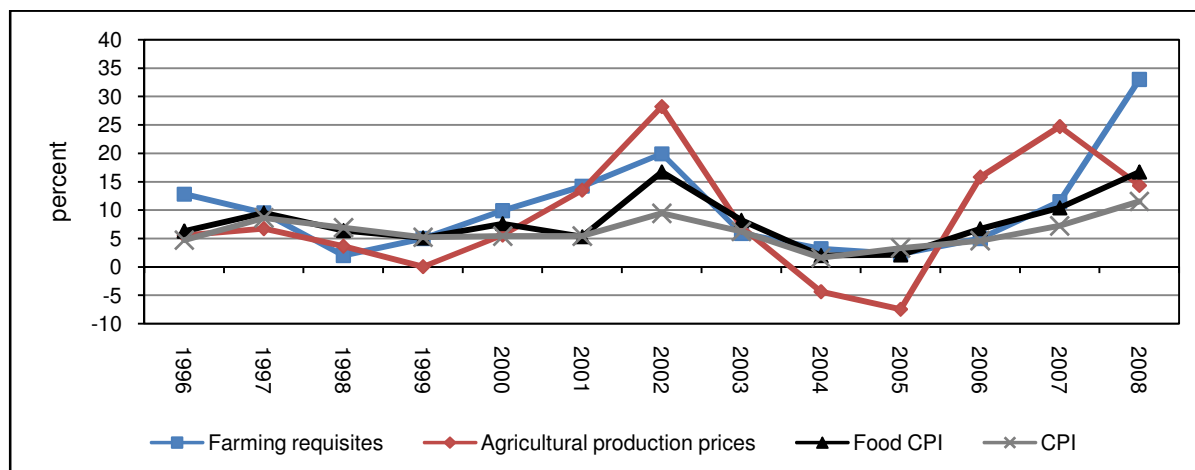


Figure 32: Agriculture and inflation

Sources: DAFF, 2009; SARB, 2009.

4.1 Farm-to-retail price spread and farm values of selected products

In this section the farm values and farm-to-retail price spreads (FTRPSs) are highlighted for the wheat-to-bread, maize-to-maize meal, dairy and chicken value chains. Similar calculations for selected other chains are in Appendix A.

- *Wheat-to-bread value chain*

Figure 33 shows trends in the real farm values¹¹ of brown bread and white bread between January 2005 and December 2008. The two farm values show a similar trend during the period under consideration. In January 2005 the farm value of brown bread was R1750/ton while that of white bread was R2003/ton. They increased before peaking at R4393/ton and R5029/ton in July 2008, after which they declined, closing at R3984/ton and R4561/ton in December 2008, respectively. In 2005 the farm value of brown bread averaged R1709/ton while that of white bread averaged R1956/ton. Both annual averages increased by 126 %, reaching R3866/ton and R4425/ton in 2008, respectively.

¹¹ Farm values are calculated by dividing the producer price of wheat (SAFEX wheat price minus the sum of the transport differential to the silo, and the storage and handling cost) by the extraction rates for brown bread and white bread, i.e. 0.87 and 0.76, respectively. $FV = \text{SAFEX wheat price} - (\text{transport differential} + \text{storage \& handling cost}) / \text{extraction rate}$

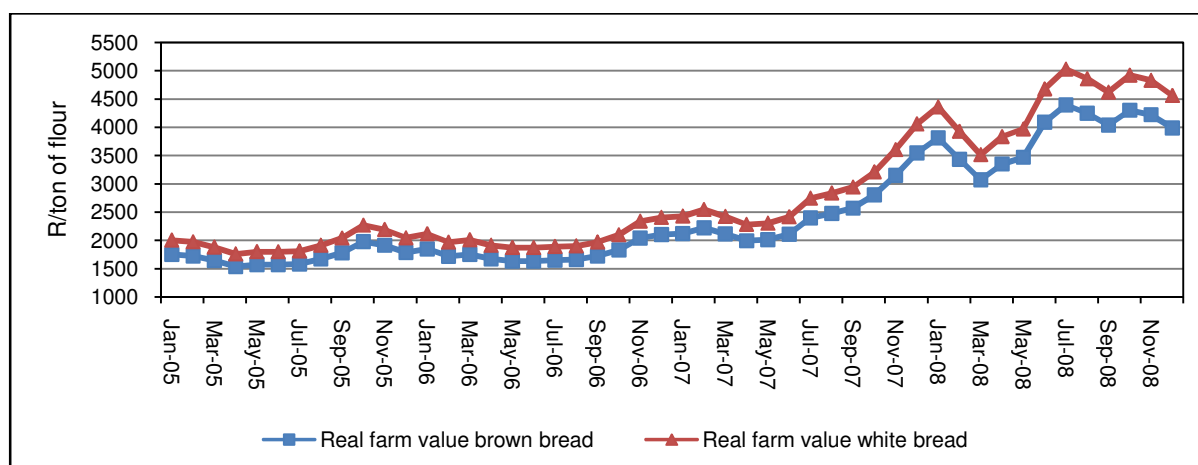


Figure 33: Real farm values of brown bread and white bread (January 2005 - December 2008)

Source: Own calculations using the wheat price from SAFEX and bread prices from Stats SA.

Figure 34 shows the real FTRPS, which is the difference between the real farm value and the real retail value for brown bread and white bread between January 2005 and December 2008. In January 2005, the real FTRPS for brown bread was R8976/ton, while that of white bread was R9146/ton. The two spreads fluctuated, then reached a minimum of R8002/ton and R8081/ton in January 2008, respectively. Since then the two spreads have increased and have reached their highest levels since January 2005, i.e. R10514/ton and R10861/ton in December 2008, respectively. In January 2005, the real FTRPS for brown bread averaged R8614/ton, while that of white bread averaged R9300/ton. They increased by 13 % and 8 % to reach R9731/ton and R10063/ton in 2008, respectively.

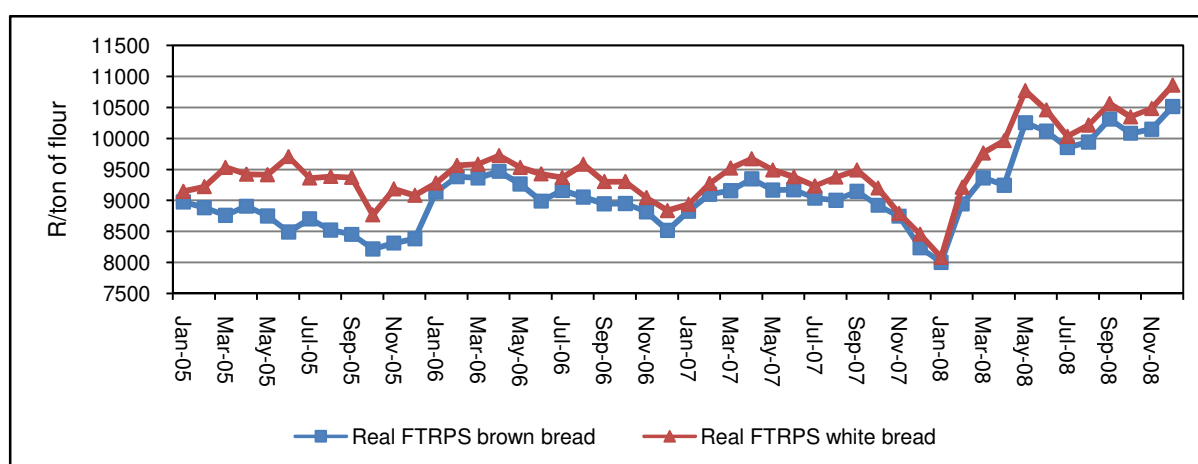


Figure 34: Real farm-to-retail price spread of brown bread and white bread (January 2005 - December 2008)

Source: Own calculations using the wheat price from SAFEX and bread prices from Stats SA.

Figure 35 shows the trends in the farm value shares (which is the farm value as a percentage of the retail value) of brown bread and white bread between January 2005 and December 2008. In January 2005 the farm value share of brown bread was 16 %, while that of white bread was 18 %. They fluctuated before peaking at

32 % and 35 % in January 2008, respectively. They then fluctuated before reaching 27 % and 30 % in December 2008. The average farm value share for brown bread was 17 % in 2005 and that of white bread was also 17 % in 2005. They increased by 72 % and 76 % to reach 28 % and 31 % in 2008, respectively.

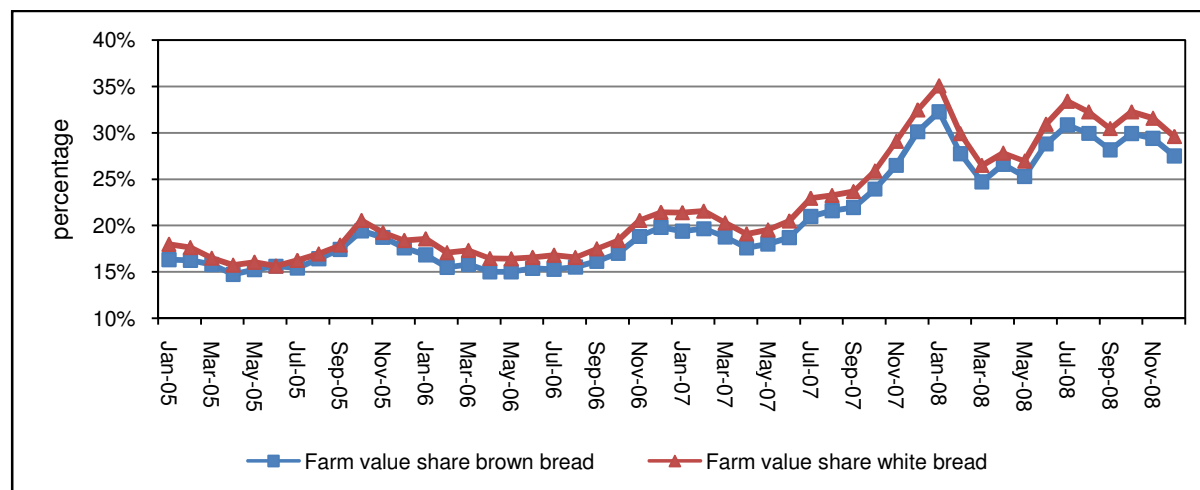


Figure 35: Real farm value shares of brown bread and white bread (January 2005 - December 2008)

Source: Own calculations using the wheat price from SAFEX and bread prices from Stats SA.

- *Maize-to-maize meal value chain*

Figure 36 shows the real farm values¹² of super maize meal and special maize meal between January 2005 and December 2008. The difference between the two real farm values increased over the depicted period. In January 2005 the real farm value of super maize meal was R1775/ton and it increased to R3036/ton in December 2008, while the real farm value of special maize meal increased from R1122/ton in January 2005 to R1919/ton in December 2008.

¹² Farm values are calculated by dividing the producer price of maize (SAFEX maize price minus the sum of the transport differential to the silo, and the storage and handling cost) by the extraction rates for super maize meal and special maize meal, i.e. 0.55 and 0.87, respectively. $FV = \text{SAFEX maize price} - (\text{transport differential} + \text{storage \& handling cost}) / \text{extraction rate}$

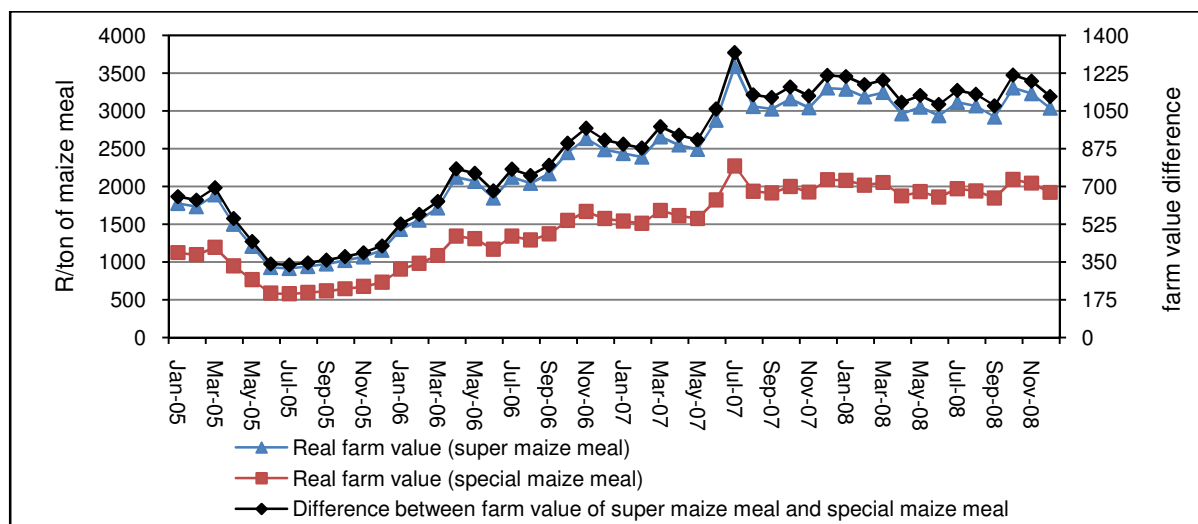


Figure 36: Real farm values of super maize meal and special maize meal (January 2005 - December 2008)

Source: Own calculations using the maize price from SAFEX and maize meal prices from AC Nielsen.

Figure 37 shows the real FTRPSs for super maize meal and special maize meal between January 2005 and December 2008. In January 2005 the real FTRPS for super maize meal was R1694/ton, while that of special maize meal was R1496/ton. The two spreads fluctuated drastically before reaching R1694/ton and R2121/ton in December 2008, respectively. The average real FTRPS for 2005 was R1768/ton for super maize meal and that of special maize meal was R1739/ton. They decreased by 29 % and 6 % to reach R1263/ton and R1632/ton in 2008, respectively.

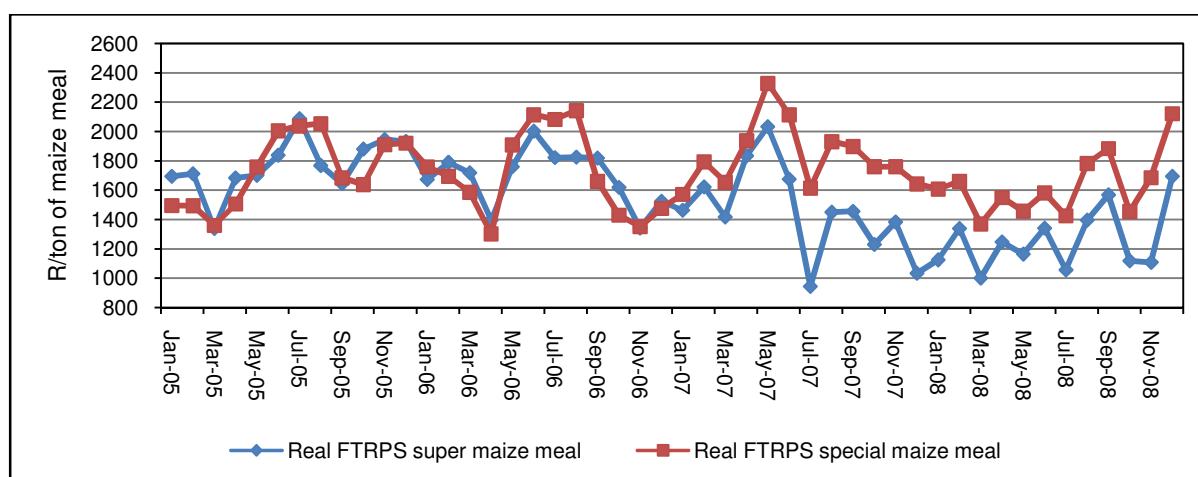


Figure 37: Real farm-to-retail price spreads of super maize meal and special maize meal (January 2005 - December 2008)

Source: AC Nielsen, SAFEX, 2009.

Figure 38 shows the farm value shares of super maize meal and special maize meal between January 2005 and December 2008. In January 2005 the farm value share for super maize meal was 51 % and that of special maize meal was 43 %. The shares decreased to 30 % and 22 % in July 2005, respectively, after which they increased to 64 % and 48 % in December 2008, respectively. The average real farm

value share for super maize meal was 41 % in 2005, while that of special maize meal was 31 %. They increased to reach 71 % and 55% in 2008, respectively.

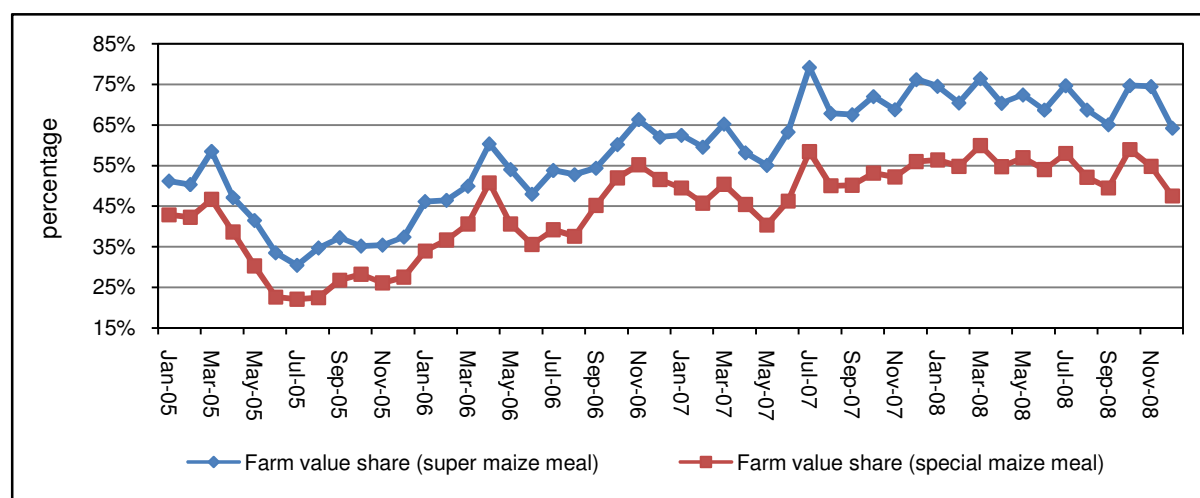


Figure 38: Real farm value share of super maize meal and special maize meal (January 2005 - December 2008)

Source: AC Nielsen, SAFEX, 2009.

- *Milk value chain*

Figure 39 shows the real farm values for fresh full cream milk and fresh low fat milk between January 2005 and December 2008.

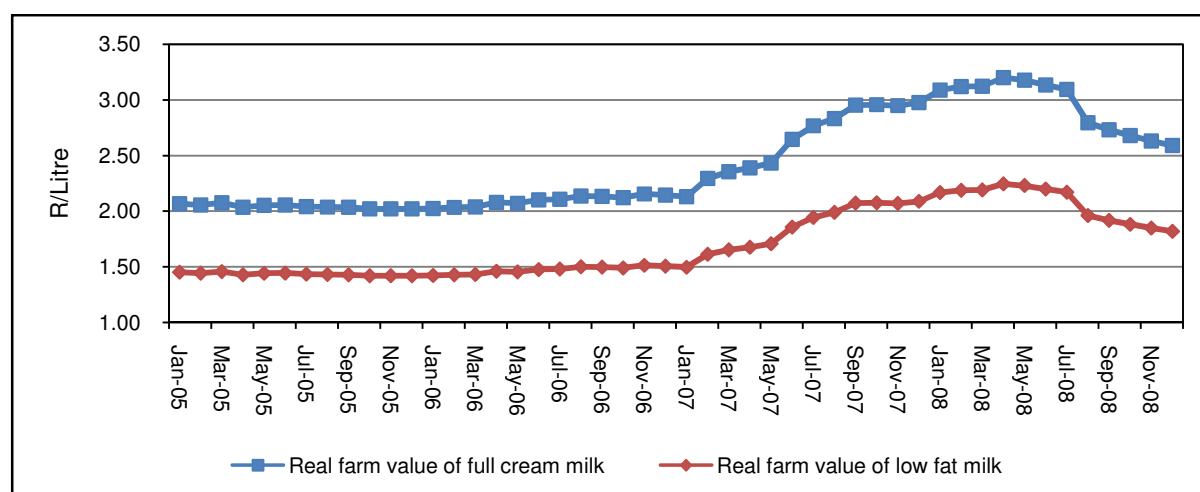


Figure 39: Real farm values of fresh full cream milk and fresh low fat milk (January 2005 - December 2008)

Source: MPO, 2008a, AC Nielsen.

In January 2005 the farm value of fresh full cream milk was R2.07/litre and that of fresh low fat milk was R1.45/litre. The real farm values increased before peaking at R3.20/litre and R2.24/litre in May 2008, respectively. Following this peak, the real farm values declined to reach R2.59/litre and R1.82/litre in December 2008, respectively. The annual average real farm value of fresh full cream milk was

R2.05/litre, while that of fresh low fat milk averaged R1.43/litre in 2005. They both increased to R2.95/litre and R2.07/litre in 2008, respectively.

Figure 40 shows the real FTRPSs for fresh full cream milk and fresh low fat milk between January 2005 and December 2008. In January 2005 the real FTRPS for fresh full cream milk was R3.27/litre, while that of fresh low fat milk was R4.12/litre. The real FTRPSs declined to a low of R3.02/litre and R3.96/litre in March 2007 and April 2007, respectively, after which the real FTRPSs increased significantly during the latter part of 2007. The annual average real FTRPS for fresh full cream milk was R3.48/litre and that of fresh low fat milk was R4.39/litre in 2005. The annual average real FTRPSs increased by 1 % and 3 % to reach R3.52/litre and R4.52/litre in 2008.

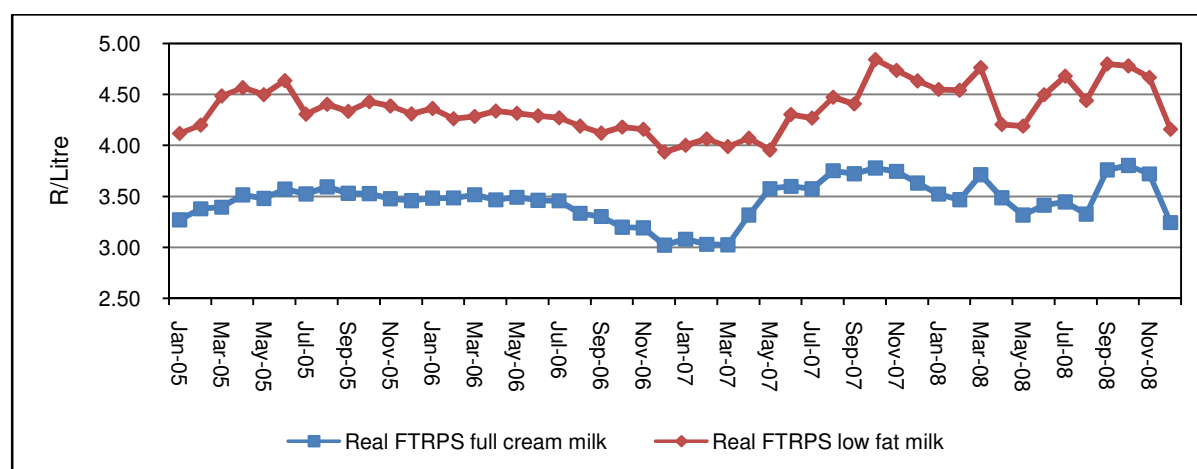


Figure 40: Real farm-to-retail price spreads of fresh full cream milk and fresh low fat milk (January 2005 - December 2008)

Source: Own calculations using the milk producer price from the MPO (2009a) and retail milk prices from AC Nielsen.

Figure 41 shows real farm value shares for fresh full cream milk and fresh low fat milk between January 2005 and December 2008. The real farm value share for fresh full cream milk was 39 % in January 2005, while that of fresh low fat milk was 26 %. The real farm value shares increased before peaking at 49 % and 35 % in May 2008, respectively. Following this peak, the real farm value shares reached 44 % and 30 % in December 2008, respectively. The annual average real farm value share for fresh full cream milk was 37 % and that of fresh low fat milk was 25 % in 2005. The annual average real farm value shares reached 46 % and 31 % in 2008, respectively.

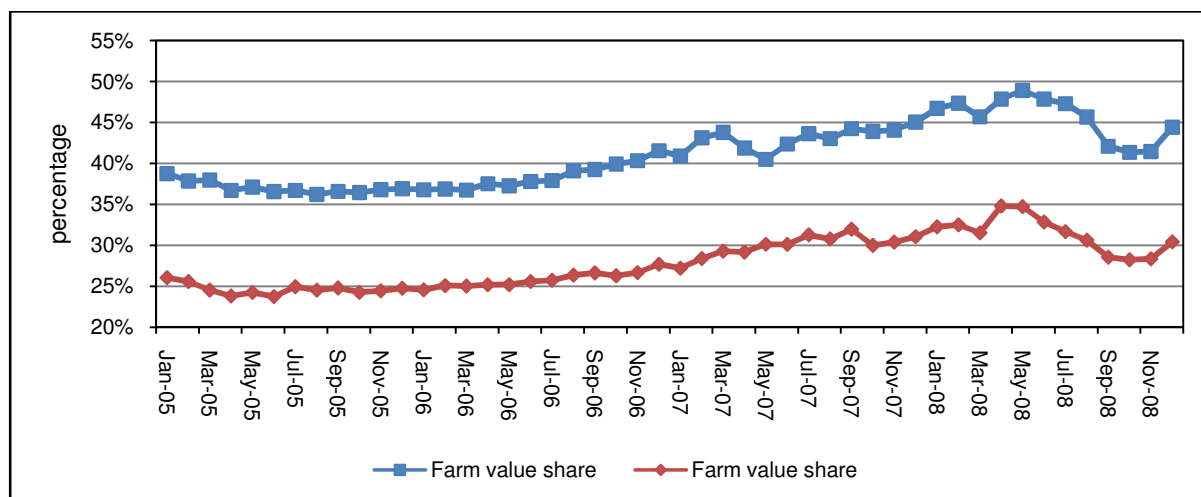


Figure 41: Real farm value share of fresh full cream milk and fresh low fat milk (January 2005 - December 2008)

Source: Own calculations using the milk producer price from the MPO (2009a) and retail milk prices from AC Nielsen.

- *Poultry value chain*

Figure 42 shows the trends in the real farm value, real FTRPS and real farm value share of poultry. In January 2005 the real farm value of poultry was R11.49/kg and this increased to peak at R14.11/kg in October 2005. Following this peak, the real farm value declined to R12.02/kg in February 2006. It then increased to R19.95/kg in December 2008. In 2005 the annual average real farm value of poultry was R12.43/kg and it increased by 35 % to reach R16.75/kg in 2008.

The real FTRPS for poultry was R7.99/kg in 2005 and it declined to R5.00/kg in November 2005. Following this decline, the FTRPS increased before peaking at R11.34/kg in May 2008, after which it declined further to R7.17/kg in December 2008. The annual average real FTRPS was R7.05/kg in 2005 and it increased by 40 % to reach R9.88/kg in 2008.

The real farm value share for poultry was 64 % in January 2005 and it increased to 73 % in December 2008. The annual average real farm value share for poultry was 68 % in 2005 and it decreased by 7 % to reach 63 % in 2008.

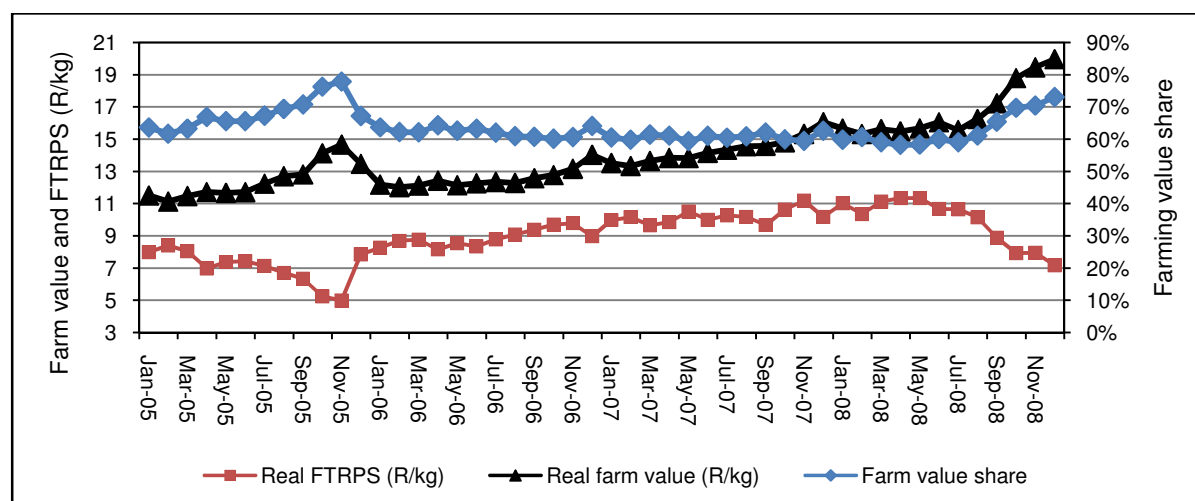


Figure 42: Real farm value, real farm-to-retail price spread and real farm value share of poultry (01/2005 - 12/2008)

Source: Own calculations using the poultry producer price from SAPA (2009) and retail prices from Stats SA.

4.2 Unpacking food inflation for different commodity groups

4.2.1 Urban food price trends

This section focuses on the changes in the retail prices of selected food items. The analysis is based on 68 food items monitored by the National Agricultural Marketing Council (NAMC) between January 2008 and December 2008, and prices were obtained from Stats SA (2008), except where otherwise indicated. The products are sub-divided into different categories, namely wheat products, maize products, sunflower products, processed vegetables, fresh vegetables, processed meat, fresh meat, dairy, fruits, fish products, and other products. Tables 8 to 13 show the prices for these products in January 2008, April 2008, July 2008, October 2008 and December 2008. The tables also present an overview of price changes during the periods of July 2008 to December 2008, and January 2008 to December 2008.

Table 8 shows that all food items in the wheat products category experienced double-digit inflation between January 2008 and December 2008, with the average inflation for the period being 30.41 %. During this period the price of white bread and brown bread increased on average by 33.45 % and 32.15 %, respectively. The price of cake flour, spaghetti and macaroni increased on average by over 20 %, i.e. 32.14 %, 24.91 % and 29.41 %, respectively. The South African Futures Exchange (SAFEX) price of wheat, which directly influences the bread price at retail level, decreased from R3174/ton to R2521/ton, i.e. by 20.56 %, during the same period. During the second half of 2008, brown bread, white bread, macaroni and spaghetti prices increased by less than 6 %, while the price of cake flour decreased by 5.55 %. During the same period, the SAFEX price of wheat decreased by 36.55 %.

Table 8: Wheat products

Wheat Products	Price Level (Rand)					Percentage Change	
	Jan-08	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Jan-08 to Dec-08
Loaf of Brown Bread 700 g	5.35	5.86	6.86	7.02	7.07	3.06 %	32.15 %
Loaf of White Bread 700 g	5.89	6.71	7.58	7.79	7.86	3.69 %	33.45 %
Cake Flour 2.5 kg	15.06	18.10	21.07	21.28	19.90	-5.55 %	32.14 %
Spaghetti 500 g	8.11	9.42	10.07	9.13	10.13	0.60 %	24.91 %
Macaroni Plain 500 g*	6.37	6.27	7.89	7.80	8.24	4.41 %	29.41 %
Average						1.24 %	30.41 %
SAFEX Wheat R/ton	3174	3962	3974	3012	2521	-36.55 %	-20.56 %

* AC Nielsen data.

Table 9 shows that maize product prices increased on average by 16.70 % between January 2008 and December 2008. The price of super maize meal and special maize meal increased by 18.00 % and 15.40 %, respectively. The SAFEX price of white maize, which directly influences the maize meal price at retail level, decreased from R1793/ton to R1671/ton, i.e. 6.78 % during the same period. Between July 2008 and December 2008 the maize meal price increased on average by 17.74 %. During this period the price of super maize meal increased by 14.90 %, while that of special maize meal increased by 20.58 %. The SAFEX price of maize decreased by 14.95 %.

Table 9: Maize products

Maize Products	Price Level (Rand)					Percentage Change	
	Jan-08	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Jan-08 to Dec-08
Maize Special 5 kg*	17.58	16.78	17.21	18.22	20.75	20.58 %	18.00 %
Maize Super 5 kg*	21.05	20.63	21.14	22.74	24.29	14.90 %	15.40 %
Average						17.74 %	16.70 %
SAFEX White Maize R/ton	1793	1857	1965	1784	1671	-14.95 %	-6.78 %

* AC Nielsen data.

As shown in Table 10, the price of cooking oil increased by 16.30 % between January 2008 and December 2008. During the second half of 2008 it decreased by 9.66 %. Medium-fat spread and margarine experienced a price increase of 37.35 % and 55.44 %, respectively. During the second half of 2008 the price of these two

products increased by 0.78 % and 17.49 %, respectively. On average, sunflower product prices increased by 36.36 % between January 2008 and December 2008, while the sunflower SAFEX price decreased by 14.92 %. Between July 2008 and December 2008 the average price of sunflower products increased by 2.87 %.

Table 10: Sunflower products

Sunflower Products	Price Level (Rand)					Percentage Change	
	Jan-08	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Jan-08 to Dec-08
Sunflower Oil 750 ml	12.70	15.83	16.35	15.51	14.77	-9.66 %	16.30 %
Brick Margarine 500 g	9.29	10.30	12.29	14.69	14.44	17.49 %	55.44 %
Medium-Fat Spread 1 kg tub*	14.95	19.44	20.37	20.52	20.53	0.78 %	37.35 %
Average						2.87 %	36.36 %
SAFEX Sunflower R/ton	4443	4624	5054	4109	3780	-25.20 %	-14.92 %

* AC Nielsen data.

Table 11 shows that most processed vegetables experienced double-digit inflation between January 2008 and December 2008. During this period the price of processed vegetables increased on average by 14.91 %. The largest increase was experienced by chopped peeled tomatoes, i.e. 23.54 %, while the lowest price increase was experienced by green peas, i.e. 2.05 %. During the second half of 2008, the price of processed vegetables increased on average by 0.44 %. During this period, the price of green peas and sliced beans decreased by 12.05 % and 4.11 %, respectively.

Table 11: Processed vegetables

Processed Vegetables	Price Level (Rand)					Percentage Change	
	Jan-08	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Jan-08 to Dec-08
Baked Beans – Tinned 420 g	4.75	4.89	5.18	5.47	5.50	6.18 %	15.79 %
Butter Beans – Tinned 410 g	7.31	8.01	8.53	8.73	8.95	4.92 %	22.44 %
Chopped Peeled Tom 410 g*	6.88	7.81	8.43	8.56	8.50	0.84 %	23.54 %
Tomato & Onion Mix 410 g*	6.35	6.42	6.85	7.23	6.96	1.48 %	9.59 %
Canned Peas 410 g*	5.34	5.77	6.13	6.24	6.20	1.11 %	15.98 %
Baby Carrots 1 kg*	25.00	26.73	29.06	28.97	29.08	0.09 %	16.31 %
Green Peas 1 kg*	19.61	21.92	22.75	20.09	20.01	-12.05 %	2.05 %
Sliced Beans 1 kg*	24.32	26.02	27.06	27.28	25.95	-4.11 %	6.71 %
Super Juicy Corn 1 kg*	22.40	24.74	25.88	27.19	27.29	5.46 %	21.83 %
Average						0.44 %	14.91 %

* AC Nielsen data.

Table 12 shows that the price of fresh vegetables increased on average by 11.78 % between January 2008 and December 2008. During this period the price of lettuce, tomatoes, cabbages, cauliflower and sweet potatoes increased by 25.05 %, 28.64 %, 26.16 %, 26.19 % and 10.06 %, respectively. On the other hand, the price of carrots, onions, potatoes¹³ and pumpkins decreased by 1.9 %, 22.28 %, 14.78 % and 0.67 % respectively. During the second half of 2008, the price of fresh vegetables increased on average by 14.01 %, with tomatoes and potatoes experiencing the highest price increase rate, i.e. 35.39 % and 66.51 %, respectively. Carrots, onions, cabbages and lettuce experienced price decreases of 5.84 %, 10.03 %, 1.36 % and 19.09 %, respectively.

Table 12: Fresh vegetables

Fresh Vegetables	Price Level					Percentage Change	
	Jan-08	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Jan-08 to Dec-08
Carrots – Fresh per kg	7.89	7.62	8.22	7.83	7.74	-5.84 %	-1.90 %
Onions – Fresh per kg	8.08	9.97	6.98	6.80	6.28	-10.03 %	-22.28 %
Potatoes Bag 10 kg*	42.56	36.90	29.34	32.09	48.85	66.51 %	14.78 %
Tomatoes – Fresh per kg	10.23	10.34	9.72	13.57	13.16	35.39 %	28.64 %
Sweet Potatoes – Fresh per kg	8.95	8.65	8.35	9.18	9.85	17.96 %	10.06 %
Cabbages – Fresh per kg	5.16	5.42	6.60	-	6.51	-1.36 %	26.16 %
Lettuce – Fresh per kg	10.78	17.97	16.66	15.54	13.48	-19.09 %	25.05 %
Pumpkins – Fresh per kg	10.52	7.63	8.42	9.60	10.45	24.11 %	-0.67 %
Cauliflower – Fresh per kg	16.80	19.01	17.90	18.72	21.20	18.44 %	26.19 %
Average						14.01 %	11.78 %
Fresh Produce Market Prices**	Jan-08	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Jan-08 to Dec-08
Carrots	2.08	2.58	1.73	1.43	2.37	37 %	14 %
Onion	3.05	2.65	2.66	1.29	2.28	-14 %	-25 %
Potato	2.45	1.94	1.80	1.97	3.02	68 %	23 %
Tomato	3.18	3.18	3.10	4.77	4.35	40 %	37 %
Cabbage	0.80	1.19	1.02	1.23	1.37	35 %	73 %
Lettuce	3.37	2.67	2.63	2.10	4.17	59 %	24 %
Pumpkin	0.79	0.93	1.29	1.22	2.70	109 %	243 %
Cauliflower	3.47	3.41	2.40	2.91	3.69	54 %	6 %
Average						48 %	49 %

* AC Nielsen data; ** DAFF, 2009.

¹³ Average of medium and large potatoes (10 kg bags).

Table 13 shows the prices and price changes for processed meat. Polony experienced the highest price increase of 20.33 % and pork sausages the lowest price increase, namely 9.22 %, between January 2008 and December 2008. During this same period the price of meatballs in gravy and picnic ham increased by 16.10 % and 18.47 %, respectively. On average, processed meat experienced price inflation of 16.03 %. Between July 2008 and December 2008 the price of processed meat increased on average by 8.06 %. During this period the price of picnic ham increased by 5.43 %. The price of meatballs in gravy, pork sausages and polony increased by 6.29 %, 6.55 % and 13.98 %, respectively.

Table 13: Processed meat

Processed Meat	Price Level (Rand)					Percentage Change	
	Jan-08	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Jan-08 to Dec-08
Meatballs in Gravy 400 g*	9.86	9.86	10.77	10.93	11.45	6.29 %	16.10 %
Picnic Ham 300 g*	17.85	19.23	20.06	20.26	21.15	5.43 %	18.47 %
Pork Sausages per kg	43.49	43.41	44.58	46.09	47.50	6.55 %	9.22 %
Polony per kg	19.72	19.90	20.82	21.89	23.73	13.98 %	20.33 %
Average						8.06 %	16.03 %
Pork (baconer)** R/kg	14.21	14.18	14.51	15.89	16.69	15 %	17 %

* AC Nielsen data; ** AMT, 2009.

Table 14 shows that the price of fresh meat increased on average by 6.44 % between January 2008 and December 2008. During this period bacon, beef mince and chicken portions (fresh) experienced double-digit inflation, i.e. 20.51 %, 11.71 % and 13.18 %, respectively. Note that most of the fresh meats experienced a price increase of less than 6 % during this period. Chicken portions (frozen) are the only product to show a price decrease during this period, i.e. 3.26 %. During the second half of 2008 the price of fresh meat increased on average by 5.23 %. During this period bacon and chicken portions (frozen) experienced double-digit inflation, i.e. 11.21 % and 16.30 %, respectively. Most fresh meat products experienced price increases of less than 6 %.

Table 14: Fresh meat

Fresh Meat	Price Level (Rand)					Percentage Change	
	Jan-08	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Jan-08 to Dec-08
Bacon 250 g	17.21	18.07	18.65	19.72	20.74	11.21 %	20.51 %
Pork Chops – Fresh per kg	52.65	50.48	51.02	53.01	54.34	6.51 %	3.21 %
Lamb – Fresh per kg	72.18	70.09	76.13	77.01	76.14	0.01 %	5.49 %
Beef Brisket – Fresh per kg	40.43	40.33	41.24	41.71	42.24	2.42 %	4.48 %
Beef Chuck – Fresh per kg	42.23	42.11	43.35	43.20	44.15	1.85 %	4.55 %
Beef Rump Steak – Fresh per kg	71.76	70.10	72.85	69.69	72.28	-0.78 %	0.72 %
Beef T-Bone – Fresh per kg	56.02	55.22	58.43	58.18	59.88	2.48 %	6.89 %
Beef Mince – Fresh per kg	41.60	42.31	44.44	45.60	46.47	4.57 %	11.71 %
Whole Chicken – Fresh per kg	26.16	26.58	26.35	26.94	27.32	3.68 %	4.43 %
Whole Chicken – Frozen per kg	24.58	23.88	23.94	25.03	25.90	8.19 %	5.37 %
Chicken Portions – Fresh per kg	32.62	32.17	34.73	35.69	36.92	6.31 %	13.18 %
Chicken Portions – Frozen per kg	24.86	21.11	20.68	22.54	24.05	16.30 %	-3.26 %
Average						5.23 %	6.44 %
Producer Prices of Meat*	Jan-08	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Jan-08 to Dec-08
Beef (Class A2/A3) R/kg	22.36	23.64	21.35	21.39	22.93	7 %	3 %
Beef (Class B2/3) R/kg	19.49	19.94	19.89	20.32	20.85	5 %	7 %
Beef (Class C2/3) R/kg	17.99	18.13	18.79	19.28	20.22	8 %	12 %
Lamb (Class A2/A3) R/kg	32.16	29.30	37.45	32.45	34.09	-9 %	6 %
Pork (Porker) R/kg	15.21	14.83	14.85	16.38	17.37	17 %	14 %
Chicken (Frozen) R/kg	12.17	12.92	14.30	16.69	17.15	20 %	41 %
Chicken (Fresh) R/kg	14.38	15.77	16.23	18.90	20.07	24 %	40 %
Average						10 %	18 %

* AMT, 2009.

Table 15 shows that the price of fresh fruits decreased on average by 8.24 % between January 2008 and December 2008. During this period the price of apples, bananas and oranges decreased by 2.71 %, 5.14 % and 16.86 %, respectively. During the second half of 2008 oranges experienced a double-digit price increase of 16.69 %, while apples and bananas experienced a price increase of 9.45 % and 7.98 %, respectively. On average, the price of fresh fruits increased by 11.38 % during this period.

Table 15: Fruit

Fruits	Price Level (Rand)					Percentage Change	
	Jan-08	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Jan-08 to Dec-08
Apples – Fresh per kg	10.71	11.75	9.52	9.56	10.42	9.45 %	-2.71 %
Bananas – Fresh per kg	8.56	8.20	7.52	6.94	8.12	7.98 %	-5.14 %
Oranges – Fresh per kg	8.66	10.53	6.17	6.35	7.20	16.69 %	-16.86 %
Average						11.38 %	-8.24 %
Fresh Produce Market Prices**	Jan-08	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Jan-08 to Dec-08
Oranges	2.46	1.92	1.29	1.47	2.40	87 %	-2 %
Bananas	3.17	3.86	3.03	2.95	3.51	16 %	11 %
Apples	6.36	3.83	3.74	4.17	4.59	23 %	-28 %
Average						42 %	-6 %

** DAFF, 2009.

Table 16 shows that dairy products experienced an average price decrease of 7.34 % between January 2008 and December 2008. During this period, skimmed milk and total butter were the only products to experience a price increase, i.e. 7.93 % and 10.47 %, respectively. All other dairy products experienced a price decrease, with cheddar cheese experiencing the largest price decrease, namely 42.75 %. During the second half of 2008 the price of dairy products decreased on average by 6.92 %. During this period the price of skimmed milk and total butter increased by 5.07 % and 0.19 %, respectively. Low fat fresh milk (2 litres) experienced the largest price increase during this period.

Table 16: Dairy

Dairy	Price Level (Rand)					Percentage Change	
	Jan-08	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Jan-08 to Dec-08
Fresh Milk Full Cream 1 l*	6.31	6.55	6.63	6.67	5.99	-9.64 %	-5.00 %
Fresh Milk Full Cream 2 l*	14.07	14.57	15.46	15.39	13.39	-13.38 %	-4.79 %
Fresh Milk Low Fat 1 l*	6.41	6.32	6.94	6.85	6.14	-11.65 %	-4.21 %
Fresh Milk Low Fat 2 l*	14.38	14.57	15.83	15.53	13.59	-14.19 %	-5.50 %
Long Life Milk Full Cream 1 l*	8.79	7.91	8.31	8.20	7.48	-9.97 %	-14.87 %
Skimmed Powder Milk 1 kg*	55.12	54.99	56.62	60.09	59.49	5.07 %	7.93 %
Total Butter 500 g*	19.97	20.68	22.10	22.23	22.06	0.19 %	10.47 %
Cheddar Cheese per kg	122.02	70.89	70.84	71.18	69.86	-1.38 %	-42.75 %
Average						-6.92 %	-7.34 %
Milk Producer Price 1 l**	3.10	3.30	3.30	2.90	2.80	-15 %	-10 %

* AC Nielsen data; ** MPO, 2009a.

Table 17 shows that between January 2008 and December 2008 the price of other products increased on average by 29.05 %. During this period the price of rice increased drastically, i.e. by 91.75 %. This is followed by the price of Ricoffy Regular, which increased by 41.90 %. King Korn is the only product to show a price decrease during this period, i.e. 0.96 %. Between July 2008 and December 2008 the price of other products increased on average by 9.35 %. Again rice experienced the largest price increase, i.e. 22.24 %. On the other hand, the price of King Korn continued to decrease, by 0.39 %.

Table 17: Other products

Products	Price Level (Rand)					Percentage Change	
	Jan-08	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Jan-08 to Dec-08
King Korn 1 kg*	9.48	9.45	9.43	9.44	9.39	-0.39 %	-0.96 %
White Sugar 2.5 kg	14.79	14.73	15.74	16.71	16.40	4.19 %	10.89 %
Rice 2 kg	13.40	14.40	21.00	25.86	25.67	22.24 %	91.57 %
Ricoffy Reg. 750 g	29.47	31.89	38.61	41.76	41.34	7.06 %	40.27 %
Ceylon/Black Tea 62.5 g	5.51	5.53	5.70	6.16	6.43	12.81 %	16.70 %
Peanut Butter 410 g	11.32	12.82	13.38	13.69	14.92	11.51 %	31.80 %
Imana Soya Mince, Tomato & Onion 200 g*	6.65	6.56	7.41	7.98	7.62	2.80 %	14.49 %
Eggs 1.5 dozen	18.80	19.70	20.51	20.84	23.26	13.41 %	23.72 %
Tuna – Tinned 170 g	7.60	8.27	9.15	9.80	10.11	10.49 %	33.03 %
Average						9.35 %	29.05 %

Source: AC Nielsen data.

4.2.2 Rural food price trends

This section focuses on food inflation in the rural areas of South Africa, and provides the prices for selected food items for December 2007, April 2008, July 2008, October 2008 and December 2008. It also highlights price changes between December 2007 and December 2008, as well as price changes during the second half of 2008.

The rural food price data was collected from 190 outlets/shops across the country, i.e. 28 outlets in the Free State, 27 in KwaZulu-Natal, 21 in Mpumalanga, 17 in the Northern Cape, 18 in the Eastern Cape, 16 in Gauteng, 21 in Limpopo, 25 in North West and 19 in the Western Cape. The food items for which rural prices are monitored include maize meal, brown bread, white bread, chicken meat, beef meat, rice, samp, sorghum meal, pilchards, milk, eggs, apples, bananas, oranges, potatoes, onions, tomatoes, cabbages, butter beans, dried beans, sugar, tea, coffee,

margarine, peanut butter and cooking oil. For some food items, different size categories are reported.

Table 18 shows that the price of a 700 g loaf of brown bread and a 700 g loaf of white bread increased on average by 30.55 % and 29.49 %, respectively, between December 2007 and December 2008. The price of a 600 g loaf of brown bread and a 600 g loaf of white bread increased, on average, by 32.33 % and 33.82 %, respectively, during the same period. During the second half of the year, the price of a 600 g loaf of brown bread, a 700 g loaf of brown bread, a 600 g loaf of white bread and a 700 g loaf of white bread experienced increases of 5.98 %, 3.27 %, 6.88 % and 2.22 %, respectively. From December 2007 to December 2008, the price of bread increased, on average, by 31.55 %, but during the second half of 2008 the price of bread increased, on average, by 4.59 %.

Table 18: Wheat products

Wheat Products	Price Level (Rand)					Percentage Change	
	Dec-07	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Dec-07 to Dec-08
Loaf of Brown Bread 600 g	5.10	5.98	6.36	6.72	6.74	5.98 %	32.33 %
Loaf of Brown Bread 700 g	5.25	6.07	6.64	6.80	6.86	3.27 %	30.55 %
Loaf of White Bread 600 g	5.47	6.37	6.85	7.23	7.32	6.88 %	33.82 %
Loaf of White Bread 700 g	5.88	6.73	7.45	8.63	7.61	2.22 %	29.49 %
Average						4.59 %	31.55 %

Table 19 shows that maize products experienced an average price increase of 19.21 % between December 2007 and December 2008. During this period 5 kg maize meal, 2.5 kg maize meal, 1 kg maize meal and 12.5 kg maize meal experienced price increases of 14.55 %, 13.15 %, 24.18 % and 16.07 %, respectively. On the other hand, 1 kg samp and 2.5 kg samp experienced a price increase of more than 20 %, i.e. 23.59 % and 23.74 %, respectively. Between July 2008 and December 2008 the price of maize products increased, on average, by 7.40 %. During this period, 2.5 kg samp experienced the largest price increase of 16.58 %, while 2.5 kg maize meal experienced the smallest price increase, namely 3.07 %. 1 kg samp was the only maize product to show a price decrease during this period, i.e. by 1.31 %.

Table 19: Maize products

Maize Products	Price Level (Rand)					Percentage Change	
	Dec-07	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Dec-07 to Dec-08
Maize Meal 1 kg	5.85	5.96	6.41	6.83	7.26	13.30 %	24.18 %
Maize Meal 2.5 kg	12.56	12.36	13.79	13.76	14.22	3.07 %	13.15 %
Maize Meal 5 kg	24.68	25.16	26.03	27.57	28.27	8.59 %	14.55 %
Maize Meal 12.5 kg	48.46	49.77	54.01	52.58	56.25	4.16 %	16.07 %
Samp 1 kg	5.76	6.88	7.22	6.95	7.12	-1.31 %	23.59 %
Samp 2.5 kg	12.23	12.66	12.98	13.27	15.14	16.58 %	23.74 %
Average						7.40 %	19.21 %

Tables 20 and 21 show the prices and price changes of sunflower products and rice, respectively. Sunflower products experienced an average price increase of 53.72 % between December 2007 and December 2008. During this period, sunflower oil (2 litres) experienced the largest price increase, namely 88.30 %. Sunflower oil (500 ml and 750 ml) experienced price increases of 63.83 % and 57.27 %, respectively. Margarine 125 g, 250 g and 500 g experienced price increases of 28.56 %, 43.55 % and 40.82 %, respectively. The average price increase for sunflower products was 0.07 % during the second half of 2008. Over the same period, 250 g margarine experienced the largest price increase (19.15 %), while 500 ml sunflower oil experienced the smallest price increase (1.85 %). 125 g margarine and 750 ml sunflower oil experienced price decreases of 37.79 % and 0.77 %, respectively.

On average, the rice price increased by 73.28 % between December 2007 and December 2008. During this period the price of 2 kg, 1 kg and 500 g rice increased on average by 80.37 %, 77.23 % and 62.25 %, respectively. On average, the rice price increased by 21.76 % during the second half of 2008, with the price of 1 kg, 2 kg and 500 g rice increasing by 21.01 %, 30.96 % and 13.31 %, respectively.

Table 20: Sunflower products

Sunflower Products	Price Level (Rand)					Percentage Change	
	Dec-07	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Dec-07 to Dec-08
Sunflower Oil 500 ml	7.21	9.96	11.59	11.96	11.81	1.85 %	63.82 %
Sunflower Oil 750 ml	10.28	14.34	16.29	16.25	16.17	-0.77 %	57.27 %
Sunflower Oil 2 l	21.50	35.43	38.74	37.83	40.49	4.53 %	88.30 %
Margarine 125 g	4.13	4.30	8.52	5.06	5.30	-37.79 %	28.56 %
Margarine 250 g	6.52	7.39	7.86	8.76	9.36	19.15 %	43.55 %
Margarine 500 g	9.63	10.30	11.95	13.64	13.56	13.44 %	40.82 %
Average						0.07 %	53.72 %

Table 21: Rice

Rice	Price Level (Rand)					Percentage Change	
	Dec-07	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Dec-07 to Dec-08
Rice 500 g	4.51	4.94	6.46	6.79	7.32	13.31 %	62.25 %
Rice 1 kg	8.15	8.72	11.94	13.79	14.45	21.01 %	77.23 %
Rice 2 kg	15.60	16.13	21.49	27.32	28.14	30.96 %	80.37 %
Average						21.76 %	73.28 %

Table 22 shows that the price of full cream, long life milk increased on average by 9.09 % between December 2007 and December 2008, with the price of 1 litre and 500 ml full cream, long life milk increasing by 5.36 % and 12.82 %, respectively. During the second half of the year the price of these two products decreased by 2.36 % and 7.93 %, respectively. The price of these products decreased on average by 5.15 % during the second half of the year.

Table 22: Dairy products

Dairy Products	Price Level (Rand)					Percentage Change	
	Dec-07	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Dec-07 to Dec-08
Full Cream Long Life Milk 500 ml	5.92	7.14	7.26	6.34	6.68	-7.93 %	12.82 %
Full Cream Long Life Milk 1 l	8.92	8.03	9.62	11.60	9.39	-2.36 %	5.36 %
Average						-5.15 %	9.09 %

Table 23 shows that the average price of tea and instant coffee increased by 24.29 % between December 2007 and December 2008, with 100 g and 250 g instant coffee experiencing price increases of 44.35 % and 35.26 %, respectively. The price of tea (250 g and 62.5 g) increased by 10.71 % and 6.82 %, respectively, during the same period. From July 2008 to December 2008, the price of tea and instant coffee increased on average by 16.75 %, with 100 g and 250 g coffee experiencing price increases of 31.35 % and 19.75 %, respectively. Over the same period the price of tea (250 g and 62.5 g) increased by 10.71 % and 6.82 %, respectively.

Table 23: Tea and coffee

Tea and Coffee	Price Level (Rand)					Percentage Change	
	Dec-07	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Dec-07 to Dec-08
Teabags 62.5 g	5.91	5.58	5.86	6.50	6.31	7.59 %	6.82 %
Teabags 250 g	15.39	15.99	15.73	16.15	17.04	8.31 %	10.71 %
Instant Coffee 100 g	7.56	7.92	8.31	10.25	10.92	31.35 %	44.35 %
Instant Coffee 250 g	15.77	19.26	17.82	20.44	21.33	19.75 %	35.26 %
Average						16.75 %	24.29 %

Tables 24 and 25 show the prices and price changes of white sugar and peanut butter, respectively. On average, the price of white sugar increased by 17.13 % between December 2007 and December 2008. During this period, 2.5 kg white sugar experienced the smallest price increase, namely 4.19 %, while 1 kg and 500 g white sugar experienced price increases of 14.28 % and 32.93 %, respectively. During the second half of the year white sugar experienced an average price increase of 10.08 %. During this period 1 kg, 2.5 kg and 500 g white sugar experienced price increases of 4.38 %, 7.99 % and 17.88 %, respectively.

The price of peanut butter increased on average by 21.54 % between December 2007 and December 2008, with 270 g and 410 g peanut butter experiencing price increases of over 20.00 %, i.e. 25.19 % and 21.84 %, respectively. During the same period, the price of 400 g peanut butter increased on average by 17.60 %. During the second half of the year the increase in the price of peanut butter averaged 5.67 %, with 400 g and 410 g units experiencing price increases of 9.06 % and 7.66 %, respectively. During this period, 270 g peanut butter experienced a price increase of 0.30 %.

Table 24: White sugar

Sugar	Price Level (Rand)					Percentage Change	
	Dec-07	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Dec-07 to Dec-08
White Sugar 500 g	4.66	5.62	5.26	5.89	6.20	17.88 %	32.93 %
White Sugar 1 kg	7.55	7.85	8.27	8.56	8.63	4.38 %	14.28 %
White Sugar 2.5 kg	18.50	17.65	17.85	19.00	19.28	7.99 %	4.19 %
Average						10.08 %	17.13 %

Table 25: Peanut butter

Peanut Butter	Price Level (Rand)					Percentage Change	
	Dec-07	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Dec-07 to Dec-08
Peanut Butter 270 g	8.95	11.19	11.17	11.14	11.20	0.30 %	25.19 %
Peanut Butter 400 g	11.93	12.56	12.87	13.83	14.04	9.06 %	17.60 %
Peanut Butter 410 g	12.60	13.29	14.26	14.24	15.35	7.66 %	21.84 %
Average						5.67 %	21.54 %

Tables 26 and 27 show the prices and price changes of pilchards in tomato sauce and sorghum meal. Between December 2007 and December 2008, the price of pilchards increased on average by 25.15 %, with a 155 g tin of pilchards increasing by 23.51 % and a 425 g tin by 26.80 %. During the second half of the year the price of these two products decreased on average by 7.81 %, with the price of a 155 g tin of pilchards decreasing by 14.25 % and that of a 425 g tin by 1.37 %.

The price of sorghum meal increased on average by 14.18 % between December 2007 and December 2008, with the price of a 1 kg bag of sorghum meal increasing by 15.95 % and that of a 500 g bag by 12.40 %. During the second half of the year the price of sorghum meal increased on average by 1.77 %, with the price of a 1 kg bag of sorghum meal increasing by 7.06 % and that of a 500 g bag decreasing by 3.52 %.

Table 26: Pilchards

Pilchards	Price Level (Rand)					Percentage Change	
	Dec-07	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Dec-07 to Dec-08
Pilchards in Tomato Sauce 155 g	5.56	7.88	8.01	6.77	6.87	-14.25 %	23.51 %
Pilchards in Tomato Sauce 425 g	10.14	10.98	13.04	12.23	12.86	-1.37 %	26.80 %
Average						-7.81 %	25.15 %

Table 27: Sorghum meal

Sorghum Products	Price Level (Rand)					Percentage Change	
	Dec-07	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Dec-07 to Dec-08
Sorghum Meal 500 g	4.95	5.38	5.77	5.48	5.56	-3.52 %	12.40 %
Sorghum Meal 1 kg	8.68	9.40	9.40	9.90	10.06	7.06 %	15.95 %
Average						1.77 %	14.18 %

Table 28 shows that, on average, the price of beans increased by 24.23 % between December 2007 and December 2008. During this period the price of dried beans (1 kg and 500 g) increased, on average, by 48.87 % and 16.19 %, respectively. The price of 410 g and 420 g butter beans increased by 22.45 % and 9.41 %, respectively. During the second half of the year the price of beans increased on average by 14.69 %, with the price of 1 kg and 500 g dried beans increasing by 44.75 % and 4.38 %, respectively. The price of 410 g and 420 g butter beans increased by 9.28 % and 0.36 %, respectively.

Table 28: Beans

Beans	Price Level (Rand)					Percentage Change	
	Dec-07	Apr-08	Jul-08	Oct-08	Dec-08	Jul-08 to Dec-08	Dec-07 to Dec-08
Beans 500 g	7.19	7.50	8.00	8.33	8.35	4.38 %	16.19 %
Beans 1 kg	11.90	13.49	12.24	13.77	17.72	44.75 %	48.87 %
Butter Beans 410 g	6.89	6.99	7.72	7.90	8.44	9.28 %	22.45 %
Butter Beans 420 g	5.97	6.25	6.51	6.64	6.53	0.36 %	9.41 %
Average						14.69 %	24.23 %

4.2.3 Rural vs. urban food prices

Table 29 compares the urban and rural food prices for 10 selected food items. In January 2008, milk, coffee, white bread, brown bread, maize meal, peanut butter, rice and white sugar were more expensive in the rural areas than in the urban areas. For example, consumers in rural areas paid R5.51 more for 5 kg maize meal than consumers in urban areas in January 2008. In July 2008, milk, coffee, maize meal, peanut butter, rice and white sugar were more expensive in rural areas than in the urban areas. White bread, brown bread, sunflower oil and margarine are the only food items that were cheaper in the rural areas than in the urban areas in December 2008.

In general, the prices of food items are higher in rural areas than in urban areas. Monthly comparisons between urban and rural areas for January 2008 show that consumers purchasing the 10 selected food items in rural areas paid R12.91 more than consumers purchasing the same food items in urban areas. In July 2008 this difference was R11.91. This increased to R15.68 in December 2008.

Table 29: Comparison of urban and rural food prices

Product	Rural Food Prices (R)			Urban Food Prices (R)			Price Difference (R/unit)		
	Jan-08	Jul-08	Dec-08	Jan-08	Jul-08	Dec-08	Jan-08	Jul-08	Dec-08
Full Cream Long Life Milk 1 l	9.41	9.62	9.39	8.79	8.31	7.48	0.63	1.31	1.91
Instant Coffee 250 g	15.61	17.82	21.33	13.89	16.81	19.15	1.72	1.01	2.18
Loaf of Brown Bread 700 g	5.38	6.64	6.86	5.35	6.86	7.07	0.03	-0.22	-0.21
Loaf of White Bread 700 g	6.05	7.45	7.61	5.89	7.58	7.86	0.16	-0.13	-0.25
Maize Meal 5 kg	24.83	26.03	28.27	19.32	19.17	22.52	5.51	6.86	5.75
Margarine 500 g	9.12	11.95	13.56	9.29	12.29	14.44	-0.17	-0.34	-0.88
Peanut Butter 410 g	12.65	14.26	15.35	11.32	13.38	14.92	1.33	0.88	0.43
Rice 2 kg	15.85	21.49	28.14	13.40	21.00	25.67	2.45	0.49	2.47
Sunflower Oil 750 ml	11.26	16.29	16.17	12.70	16.35	14.77	-1.44	-0.06	1.40
White Sugar 2.5 kg	17.48	17.85	19.28	14.79	15.74	16.40	2.69	2.11	2.88
Total							12.91	11.91	15.68

- *Reasons for higher food prices in the rural areas*

In previous issues of the Food Price Monitor and Food Cost Review reports, it was postulated that the difference between rural and urban food prices is due to, amongst other things, additional transport and other transaction costs, along with product wastage and lack of competition. In an effort to better explain the differences that exist between urban and rural food prices, the NAMC conducted a study in the Free State, KwaZulu-Natal, North West and Eastern Cape provinces. The study included 15 rural retail outlets as well as wholesalers where these outlets source their stock. The retail outlets were selected from the NAMC-DAFF-Stats SA database of rural retailers that are surveyed on a monthly basis to collect prices of selected food items in rural areas.

Note that all the rural retailers included in the study sell both food and non-food items, and thus it is difficult to directly link any specific cost to food alone. However, it can safely be postulated that any costs incurred will also be included in the food prices in rural areas. The study involved personal interviews with the owners of the selected rural retail outlets and respective wholesalers using a structured questionnaire. Additional information was also obtained through in-store observations.

According to the study, the reasons for the difference in food prices between the rural and urban shops include: (i) transport costs, which includes fuel and

maintenance costs; (ii) low or no volume discounts for the rural outlets; (iii) stock losses due to spoilage, breakage, products exceeding their expiry dates and stock theft, and (iv) loading costs, which entails casual labour associated with loading at the wholesale markets.

- *Transport cost*

Transport cost, including the fuel cost and maintenance cost, was identified as one of the major contributors to the difference between rural and urban food prices. The fuel cost incurred each month by the shop owners in the rural areas averages R5220, and ranges between R1400 and R9000. The following reasons were provided for high transport costs:

- ~ Frequency of trips to and from the suppliers

Out of fifteen retailers interviewed, seven indicated that they make weekly trips to suppliers. Five indicated that they make bi-weekly trips and three indicated that they make monthly trips to source stock from the suppliers. The frequency of their trips is determined by the availability and size of storage facilities as well as the volume of goods that can be transported. The availability of credit and/or cash to purchase supplies also plays a role. Most of these shops are spaza shops and small family retailers, and their monthly average turnover is less than R500 000. Cognisance should be taken that certain products, such as bread and milk, are delivered to the retailers by suppliers and will include the cost of delivery.

- ~ Distance from suppliers

The distance that the retailers travel to procure stocks averages 128 kilometres, and ranges between ± 20 km and ± 320 km. Combined with the frequency of trips, this significantly contributes to higher costs to make food available in rural areas.

- *Low or no volume discounts*

Rural retailers procure stock directly from wholesalers. This, combined with the fact that they usually buy relatively low quantities of a particular item, results in them not being able to receive significant discounts/rebates (as might be the case for larger retailers in urban areas). Figure 43 shows that, on average, most food items are procured in small quantities. Retailers in the rural areas procure below 50 units (lowest units) of peanut butter and between 300 and 350 units (highest units) of cooking oil on a monthly basis. Out of fifteen retailers, ten indicated that their procurement of stock does not depend on the sales at the wholesalers.

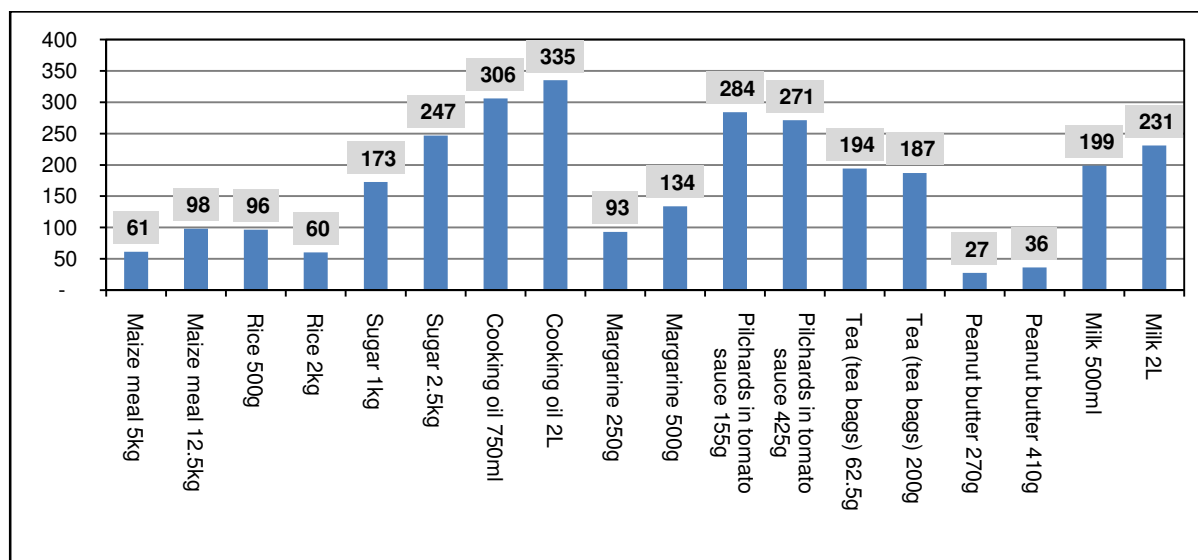


Figure 43: Average stock units in a month for different food items

- *Stock losses*

Stock losses refers to spoilage, breakage, and products exceeding their expiry dates. These stock losses ranged between R180 and R3500 per month. Stock losses depend on the type of packaging material, the nature of the product, the way that the vehicle is packed, availability of storage and refrigeration and weather conditions. Theft was also indicated as a major factor that resulted in stock losses.

- *Loading cost*

The respondents indicated that they make use of casual labour at the procurement points to assist with the loading of goods. The additional cost associated with casual labour averages R721, and ranges between R5.00 and R2800 per month.

As indicated in the previous Food Cost Review 2007, one of the reasons for higher food prices in the rural areas could potentially be the lack of competition. However, the majority of retailers in the rural areas included in this study are within a 0.5 kilometre radius from other retailers selling similar products. Therefore, if the number of retailers in a specific area can be used as a proxy for competition, then it appears that the retailers interviewed are exposed to competition from other retailers.

5. COMMODITY ANALYSIS

5.1 Sugar

5.1.2 International market

- *Supply trends*

Globally, more than 100 countries produce sugar, of which 78 % is made from sugarcane and the balance from sugar beet (Illovo, 2009). Nearly 80 % of global sugar production (168.6 million tons in 2007/08) is produced by the top 10 sugar producers. Brazil is the largest producer (with an estimated 31.4 million tons in 2007/08) and exporter (21 million tons in 2007/08). About 69 % of sugar produced globally is currently consumed in the country of origin. South Africa was ranked as the 9th largest exporter in 2007/08.

Sugar production in many countries decreased in 2008/09 due to relatively high prices of alternative crops, such as wheat, rice, maize and soybeans. However, global sugar production is projected to increase to 177.4 million tons by 2013/14, which is about 5 % higher than for the 2007/08 crop (ABARE, 2009). Over the medium-term, the main determinants of global sugar production are likely to be sugarcane production in Brazil and its allocation of sugar and ethanol production, and policy reforms in the EU sugar beet industry. In the period of 2008/09 to 2013/14, sugarcane production in Brazil is projected to increase by 18 %, while the proportion of the Brazilian sugarcane crop used to produce ethanol is expected to rise from 58 % to 62 %.

- *Demand trends*

Over the past 10 years, global sugar consumption has increased on average by 2.7 % per year compared to the world population growth of 1.17 % per year. In 2007/08, global sugar consumption was at about 162 million tons. With expected higher sugar prices and lower real income growth over the next five years, world sugar consumption is projected to grow at about 2 % per year until 2013/14 (ABARE, 2009). Prices of alternative sweeteners (mainly high fructose corn syrup) and, increasingly, a greater availability of low-calorie artificial sweeteners also affect the demand for sugar, particularly in countries with rising and relatively high real consumer incomes.

- *Price trends*

The global sugar market remains highly distorted despite various (mostly failed) multilateral and bilateral negotiations over time to reduce distortions in this market (ABARE, 2008). It is a residual market with highly volatile prices. Figure 44 shows

the trend in the mean annual world raw (No.11) sugar price (based on the daily closing price of the Intercontinental Commodities Exchange in New York) since 2000/01 (April – March).

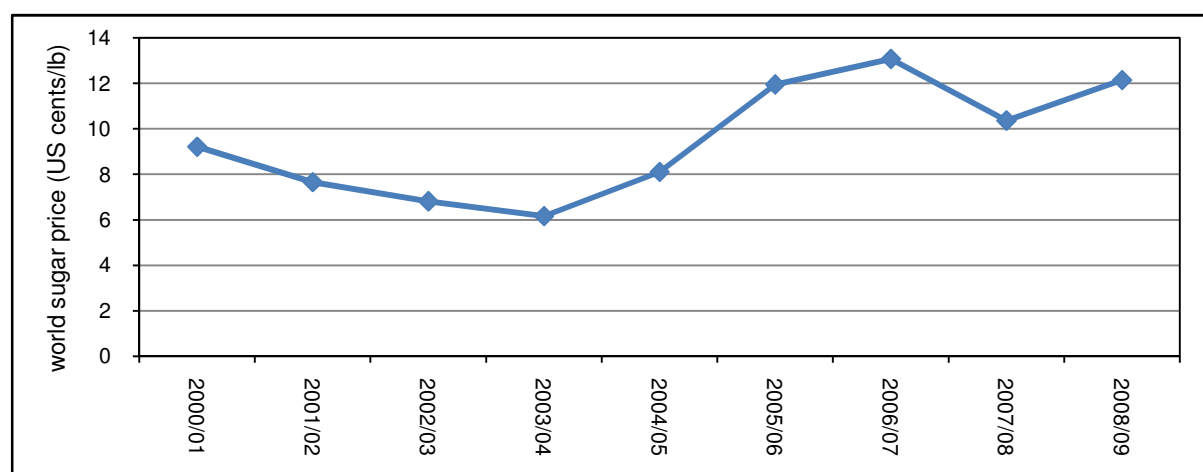


Figure 44: Trend in global raw (No. 11) sugar price (2000/01 – 2008/09)

Source: SASA, 2009.

Globally, market access barriers and a range of subsidies (both direct and indirect) are major causes of the distorted world sugar market (SASA, 2009). In recent years, biofuel market interventions have also affected sugar production, consumption and trade. Strongly growing Brazilian and global demand for ethanol is likely to support world sugar prices over the medium-term, despite increasing sugarcane production. Other key factors supporting world sugar prices over the medium-term include the positive demand effect of rising real incomes in developing countries (mainly China and India) and the supply effect of sugar policy reforms in the EU, which are reducing EU sugar production (ABARE, 2009). For the 2008/09 season (April – March), the global raw sugar daily closing price averaged 12.14 US cents/lb, as opposed to 10.36 US cents/lb in 2007/08.

5.1.2 Domestic market

- *Supply trends*

South African sugarcane production in 2008/09 (April – March) was 19.255 million tons, about 2.4 % lower than in 2007/08. This cane crop converted to 2.27 million tons of sugar, slightly lower than the 2.28 million tons in 2007/08. About 1.44 million tons of saleable sugar production in 2008/09 was for the local market (63.6 %) and the remainder was for exports (36.4 %) (SASA, 2009). Weather conditions play a major role in production fluctuations in the short to medium-term. In the longer term, factors such as technology (e.g. better varieties), tariff protection, other government policies (e.g. land reform), and global supply and demand trends for sugar and competing enterprises (e.g. ethanol and grains) will influence local prices and production. Since the early 2000s, South Africa's annual sugarcane production has

shown a declining trend mainly due to a large reduction in small-scale grower production and some contraction in large-scale grower production. Relatively low economic returns in this period and loss of cane land to other uses have contributed to declining production (SA Cane Growers' Association, 2009).

- *Demand trends*

Direct sales of South African sugar in 2008/09 (April – March) amounted to 822 224 tons (784 293 tons in 2007/08), while industrial sales were 604 838 tons (578 263 tons in 2007/08). The share of industrial sales has increased steadily from 32.9 % of the total domestic sales in 2000/01 to 42.4 % in 2008/09, while direct sales decreased from 67.1 % to 57.6 %. Figure 45 shows trends in the per capita consumption of South African sugar (excluding imported sugar) since 2000/01. The increasing trend in per capita consumption of industrial sugar since 2003/04 probably reflects increasing real incomes in South Africa during this period, and thus rising demand for value-added products. Total per capita consumption of South African sugar increased to 29.3kg in 2008/09, up from 28.5kg in 2007/08.

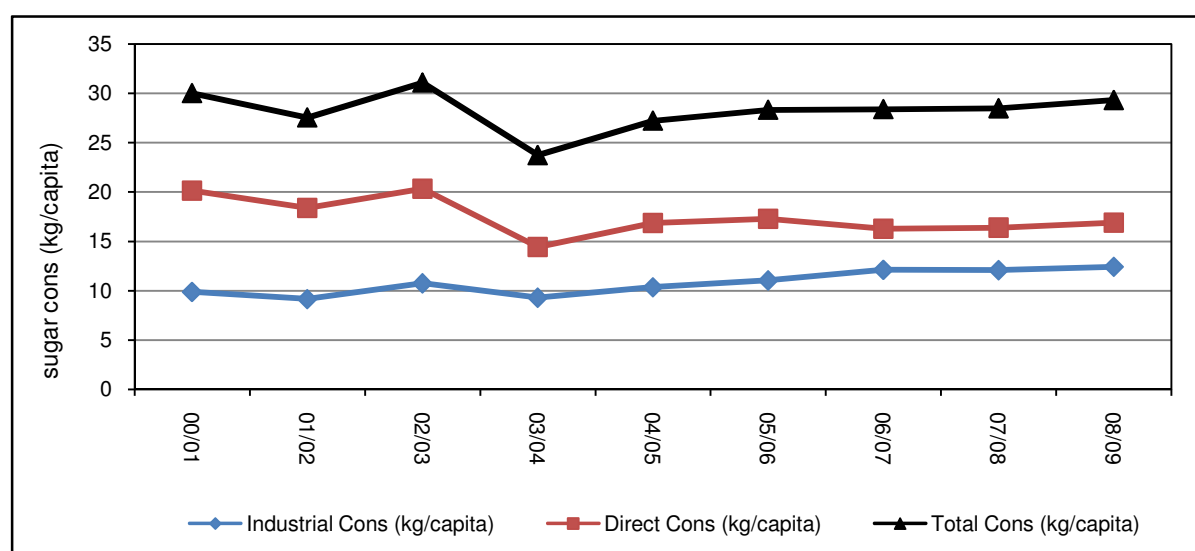


Figure 45: Per capita consumption of South African sugar (2000/01 – 2008/09)

Source: SASA, 2009.

- *Price trends*

The South African real sugar producer price in 2008/09 averaged R2011/ton of recoverable value (RV), or R250.98/ton of cane (R208.82/ton cane in 2007/08) (SASA, 2009). The retail price of white sugar in 2008/09 averaged R7.91/kg, as opposed to R7.21/kg in 2007/08¹⁴. Figure 46 shows trends in the real producer and retail sugar prices since 2000/01. The real retail price has declined since 2003/04.

¹⁴ NAMC (2008, 2009). Personal communication, Pretoria.

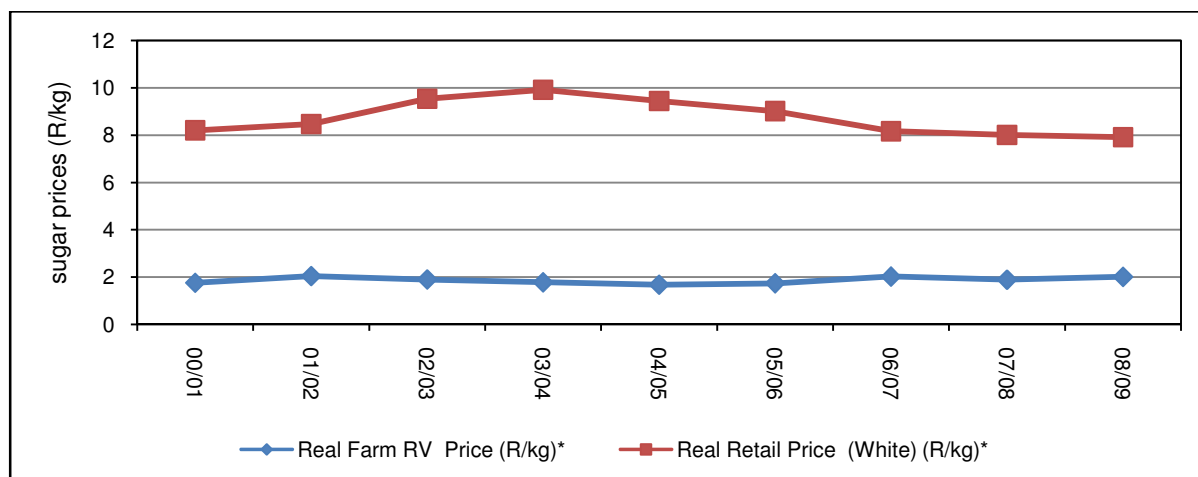


Figure 46: South African real producer and retail sugar prices (2000/01 – 2008/09)

* 2008=100 (CPI)

Source: SASA, 2009.

Due to the highly distorted global sugar market, South African sugar producers have been protected against disruptively low world sugar prices by sugar import tariffs, amongst other measures. Stronger global sugar prices over the medium-term, caused mainly by greater ethanol production in Brazil, sugar policy reforms in the EU and increasing sugar demand in developing countries, should benefit South African sugar producers as about 40 % of the local crop is exported. Domestic consumers may pay higher real prices under these circumstances.

- *Farm-to-retail price margin*

The South African farm-to-retail sugar price margin, defined here as the difference between the retail white sugar price per kg and the sugar producer's recoverable value (RV) price per kg, was R5.90/kg in 2008/09, or 74.6 % of the retail price; it was R5.51/kg in 2007/08 (76.4 % of the retail price). Figure 47 shows trends in the real farm-to-retail price margin and the margin relative to the retail price since 2000/01. This margin reached a high of 82.2 % of the retail price in 2004/05, declining to 74.6 % in 2008/09. The mean farm-to-retail margin since 2000/01 was 78.6 % of the retail price (see Figure 47).

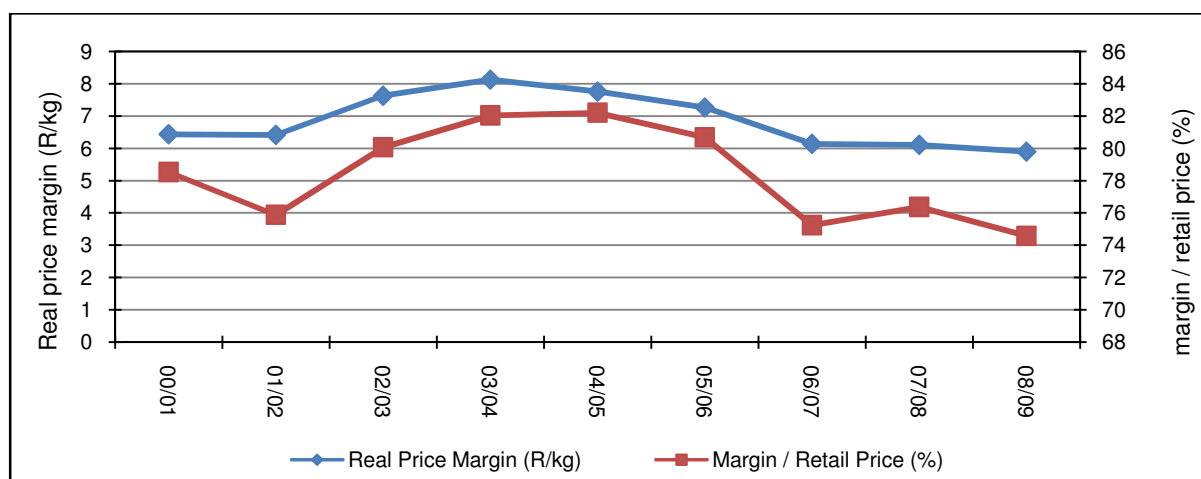


Figure 47: South African farm-to-retail sugar price margin (2000/01 – 2008/09)

Source: SASA 2008, 2009 for the farm RV price and NAMC for the retail white sugar price, 2008, 2009.

5.2 Dairy

5.2.1 International market

- Supply trends

The total supply of cows' milk increased from 564 million tons in 2007 to an estimated 576 million tons in 2008 (up 2.1 %). The rate of growth in cows' milk production slowed down to 1.4 % in 2007 and increased again in 2008 (Figure 48). Higher producer prices were the main driver of higher production. The sharp increase in commodity prices limited the increase in production. The structure of milk production has also changed. Production in the Southern Hemisphere has increased while production in the Northern Hemisphere and especially in the developed countries has decreased.

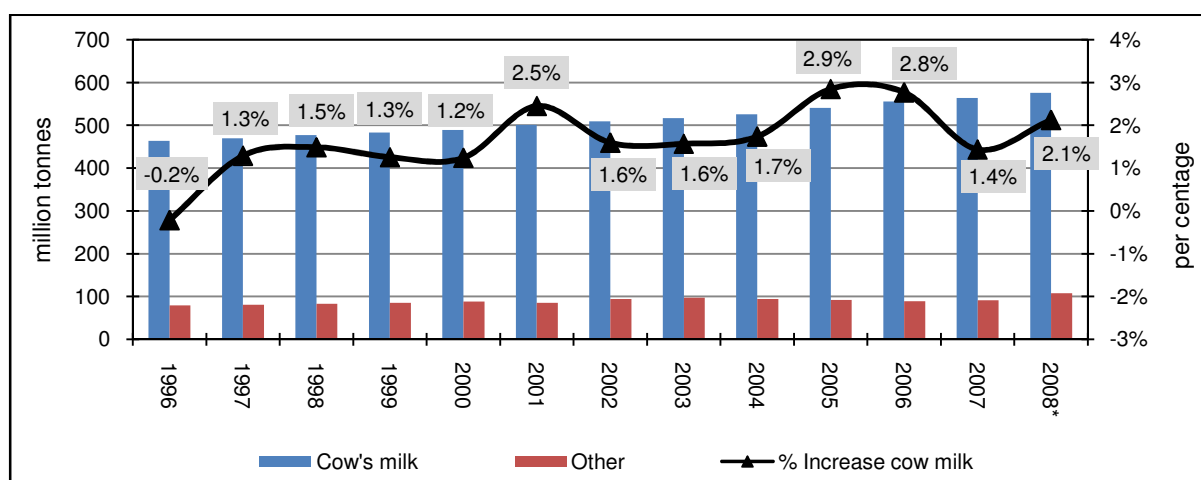


Figure 48: World milk production (1996 – 2008)

* Preliminary

Source: IDF Bulletin, 2009.

- *Demand trends*

Liquid milk consumption is stagnating in developed markets, where it is regarded as a basic foodstuff. In the new EU, member states' milk consumption increased as consumers switched over from producing their own milk to buying milk. In emerging markets consumption grew faster, with spectacular growth in China. Consumption of liquid milk products is growing at a fast rate, as more people are coming into contact with a greater range of dairy products. Total liquid milk consumption has increased by 20 % in the last decade. The international financial crisis limited demand growth to such an extent that stocks increased in the EU and USA.

- *Price trends*

The higher prices evident since 2006 decreased sharply from the end of 2007. The main reason for the decrease in international prices was the sharp downturn in economic activity in all countries as the financial crisis expanded. Currently, dairy product prices are at or below the 2006 levels (see Figure 49).

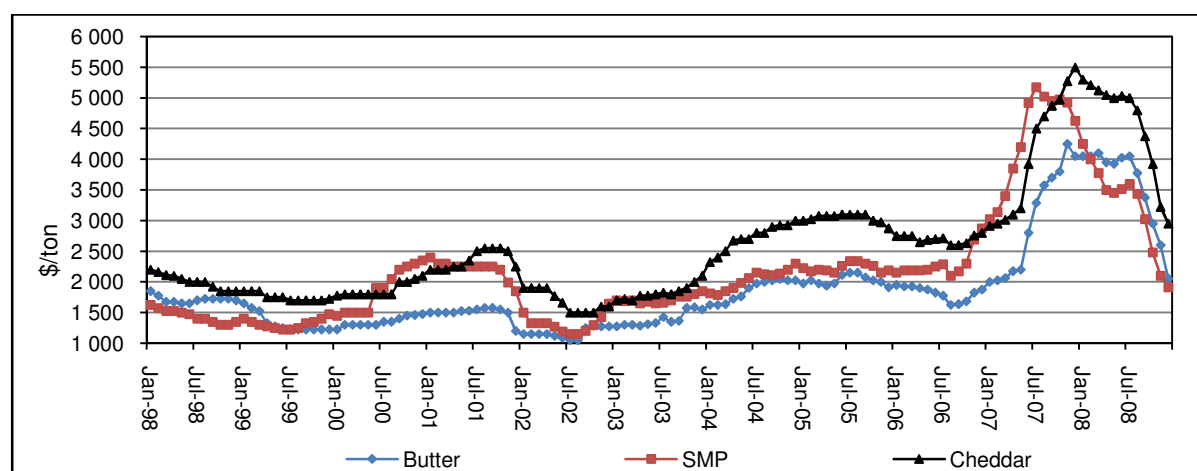


Figure 49: World dairy product prices

Source: USDA, 2009

- *Major market drivers*

Since the end of 2007, the effects that population and income growth had on demand in developing countries were overshadowed by the financial crisis. It resulted in a decrease in demand, especially in developing countries where dairy products are not the normal staple foods. As consumer income decreased and unemployment increased, there was a move away from more expensive protein foods to the less expensive starch-based products. Higher producer prices in 2007 also resulted in increased production, but high input prices limited the effect of higher producer prices and production did not increase as much as expected.

5.2.2 Domestic market

- *Supply trends*

South African milk production shows an increasing trend over time. The rate of growth has slowed down in the past two years. Total milk production increased from 2470 million litres in 2007 to 2593 million litres in 2008 (+5 %). Higher producer prices did play a role in increasing production during 2008. The sharp increase in input prices since 2006 and the adverse climatic conditions have resulted in a slowdown in production growth from December 2008.

Imports decreased from 48 810 tons in 2007 to 38 000 tons in 2008. Exports increased during 2008 so that South Africa became a net exporter (see Figure 50).

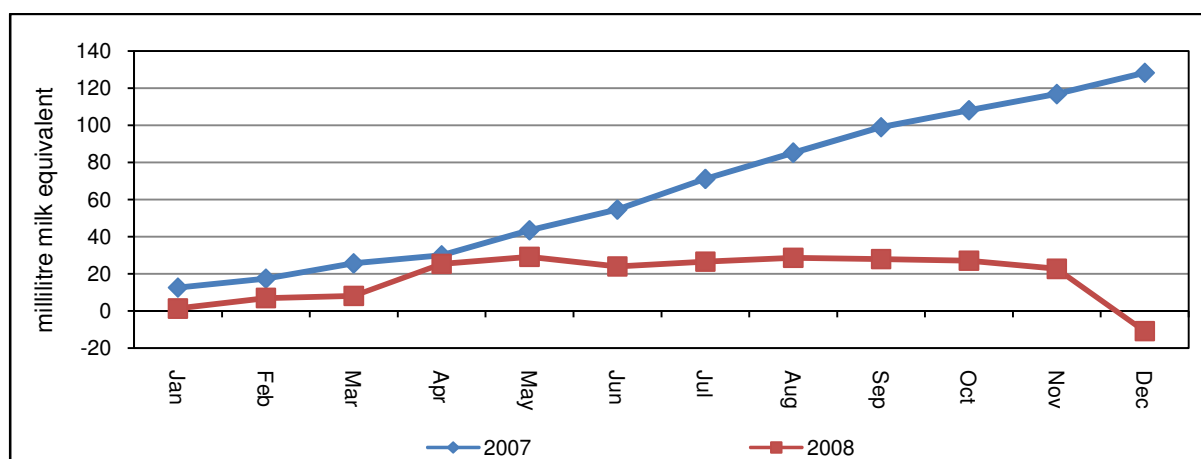


Figure 50: Net imports of dairy products

Source: MPO, 2009b.

- *Demand trends*

The total demand for dairy products has increased steadily since 2004. Higher per capita disposable income and fast growth in the growing middle class's income has resulted in a movement towards more high-value products and away from basic foodstuffs. It has also promoted a move towards higher consumption of protein foods. Total dairy demand increases during 2007 resulted in periodic shortages on retail shelves. The shortage was alleviated with imported products, but a weaker Rand and higher world prices made this an unattractive option for processors. Since the end of 2007, the deterioration in personal income and the increase in interest rates, food and fuel prices resulted in a slowdown in consumption growth.

Conditions remained depressed for most of 2008, while xenophobic unrest resulted in an under-supply of dairy products to informal settlements during the winter. From the end of 2008 there has been a slight improvement in the volume of dairy products

sold as the fundamental drivers of demand, namely higher income and lower prices, took effect.

- *Price trends*

The average producer price increased to R3.20 per litre during May 2008 after which it declined again to reach R2.80 per litre by the end of 2008. Producer price trends are shown in Figure 51.

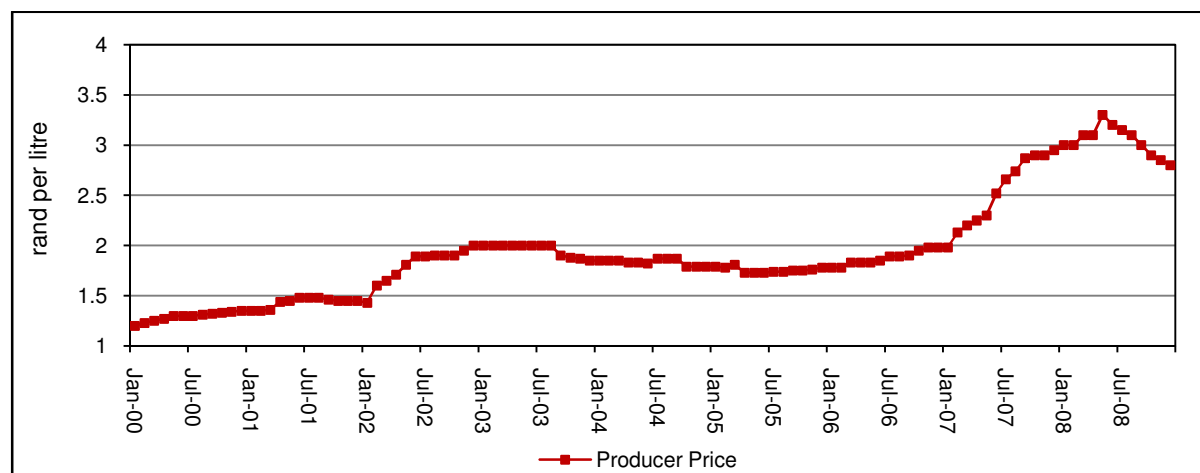


Figure 51: Producer prices

Source: MPO, 2009c.

5.3 Grains and Oilseeds

World prices of maize, wheat and most of the oilseeds have literally more than doubled between 2006 and the first quarter of 2008, and since then have decreased sharply on the back of the current world economic crisis. This section provides an overview of demand, supply and price trends in the international and domestic maize, wheat, sunflower and soybean markets, and has a strong emphasis on the 2005-2008 marketing years.

5.3.1 International market

- *Maize and wheat*

Figures 52 and 53 summarise world supply and utilisation of maize and wheat grain between the 1999/2000 and 2008/2009 marketing years. Whereas the supply and demand of wheat has remained relatively constant over the past decade, maize supply has increased by almost 100 million tons and maize demand by an impressive 170 million tons. As demand outstripped supply, global stock levels were reduced from levels of almost 200 million tons to less than 130 million tons in the past marketing season.

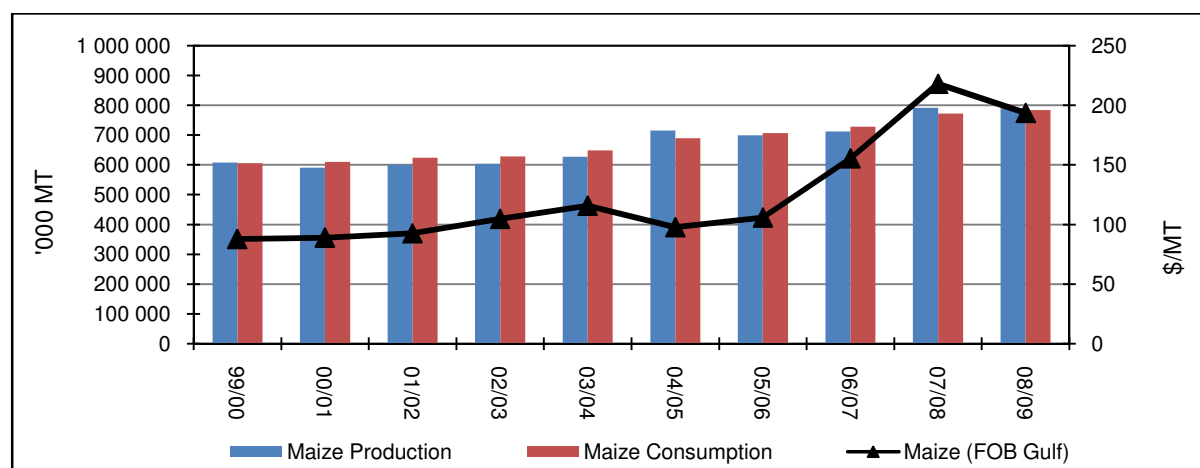


Figure 52: World maize supply, demand and price

Source: FAPRI, 1999 – 2008.

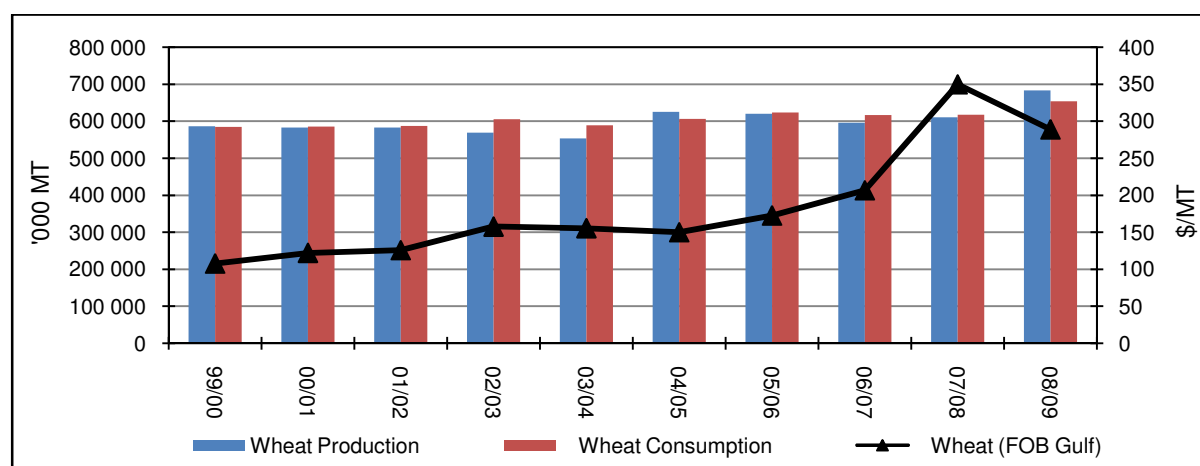


Figure 53: World wheat supply, demand and price

Source: FAPRI, 1999 – 2008.

Although stock levels were gradually drawn down, world maize prices remained relatively constant until the sharp increase in oil prices in 2006/07, which sparked the demand for maize for ethanol production. However, the sharp increase in world maize prices cannot only be attributed to the production of ethanol from maize. The rapid economic growth in emerging economies like China and India led to a fast-growing middle class that can afford to eat more meat. World meat consumption increased quickly and due to this, more feed is required.

Global consumption patterns over the past decade show a general tendency of faster growth in the consumption of vegetable oils and meat compared to the traditional staples like rice and wheat. This is confirmed by the slower growth in the consumption of wheat (for human use) compared to maize (for feed use) over the past decade. It is interesting to note from the figure that there was a sharp increase in the production of wheat in the 2008/09 production season. In fact, an all-time record crop of 682 million tons was harvested last year. The reason for this sharp increase was that the area under wheat production increased by almost 5 % on the

back of record high prices, and generally favourable weather conditions increased the average yield to just over 3t/ha. Prices were pushed to record levels by tight stock levels, brought about by the preceding years' supply problems in a number of major exporting countries like Australia, and also by the fact that wheat serves as a substitute for maize in the feed market in Europe and maize prices were also at record levels.

The economic crisis has caused most of the commodity prices to tumble. Maize and wheat prices have also not been left unaffected, and maize and wheat prices respectively traded at approximately 30 % and 46 % lower than a year before. However, neither maize nor wheat consumption is projected to decline under the current economic conditions. Prices have decreased enough to counter the strong, bearish sentiments in the market. Although the economic growth in the major emerging economies has slowed down significantly, an economic growth rate of 3-4 % is still sufficient to support the demand for food. Furthermore, ethanol plants have not and will not disappear overnight due to current tighter profit margins. The question then remains as to how producers will respond to the lower commodity prices.

For the coming production season, it seems as if the US will likely switch from corn to soybeans, mainly due to economic reasons, considering that the recent rally in soybean prices has considerably increased the soybean/corn price ratio. This rally was caused by supply constraints in South America due to adverse weather conditions and not due to a sharp increase in demand.

- *Oilseeds*

Whereas the supply and demand for soybeans has grown consistently over the past decade, the supply and demand for sunflowers has been fluctuating a lot and there has been a marginally upward trend over the past five years (see Figures 54 and 55). The global vegetable oil and seed markets have experienced similar patterns in demand growth as the coarse grain and wheat markets, but without the expansive shocks to supply. This has brought about an even greater spike in oilseed prices over the period of 2005-2008. Vegetable oil prices are also more directly linked to the oil markets. This factor was one of the main drivers that led to the sharp decrease in oilseed and meal prices in the second half of 2008, as oil prices plummeted.

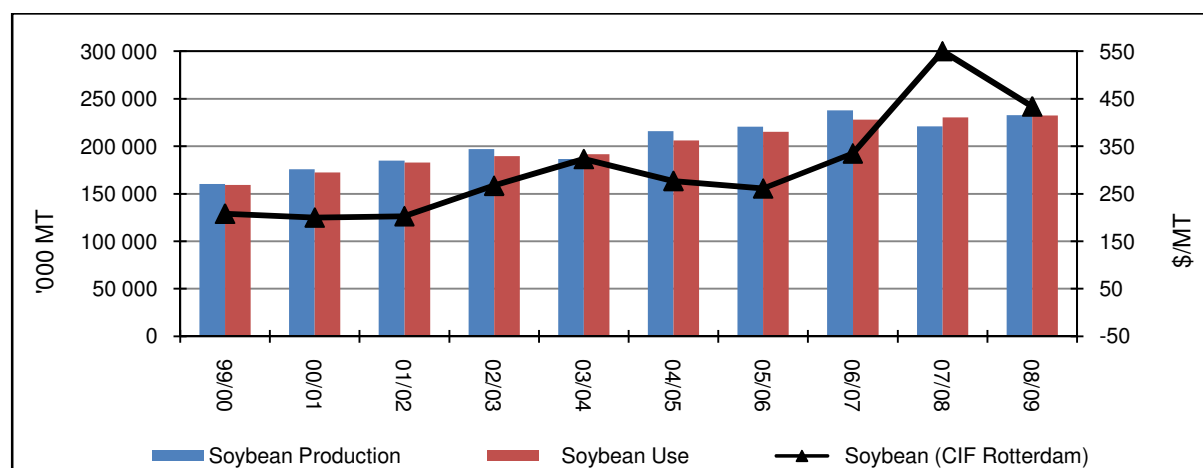


Figure 54: World soybean supply, demand and price

Source: FAPRI, 1999 – 2008.

The soybean complex is by far the largest of all oilseed complexes. Total consumption of soybeans amounts to just over 230 million tons whereas the total consumption of sunflowers is only 32 million tons. The demand for soybeans has also grown at a much faster rate (49 %) than the demand for sunflowers (23 %) over the past decade. In contrast to the relatively rapid increases in the average yields of maize, the average yields of both soybeans and sunflowers have increased only at a marginal rate. The increase in production of soybeans over the past decade was thus mainly driven by a 35 % expansion in the area under production and only small improvements in yields in more recent years.

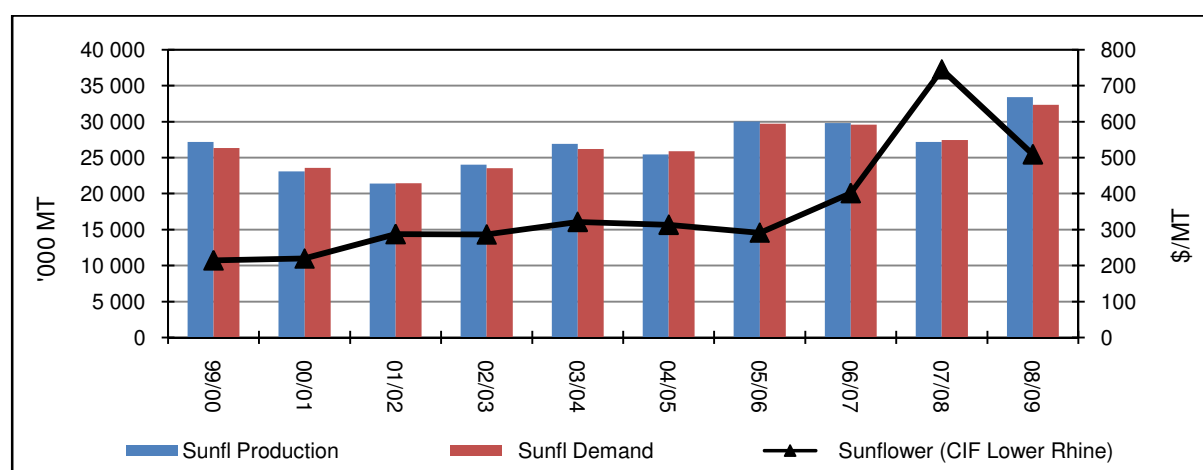


Figure 55: World sunflower supply, demand and price

Source: FAPRI, 1999 – 2008.

Recent adverse weather conditions in South America have resulted in serious supply constraints, which have supported oilseed prices amidst the financial crisis. Oilseed prices are also supported by relatively tight supplies. It is important to note from the figures that, despite the sharp decrease in prices, soybean and sunflower prices have not decreased to the average levels at which the markets were trading before the commodity price boom started in 2006. In other words, there is compelling

evidence that a new era of oilseed price levels (and volatility) has begun. It seems that although some temporary supply shocks contributed to higher prices and volatility in the market, the permanent structural breaks in the commodity markets were largely demand driven. The production of biofuels from food crops expanded at a tremendous pace as supportive government policies and high oil prices increased the profitability of the production plants. The rapid growth in the emerging market economies also induced a sharp increase in the demand for oilseeds in the food and feed market.

5.3.2 Domestic market

The South African grain and oilseed markets have followed international trends in a very distinctive manner over the past three to four years, depending on the equilibrium pricing conditions in each market. The following sections discuss the main fundamental trends in the local maize, wheat, sunflower and soybeans markets, and highlights the most critical drivers that influenced prices.

- *Maize*

White and yellow maize prices have fluctuated between import and export parity not only as a result of variability in weather conditions, but also because of the producers' response to relative shifts in commodity prices versus input costs (Figures 56 and 57 show white and yellow maize price trends).

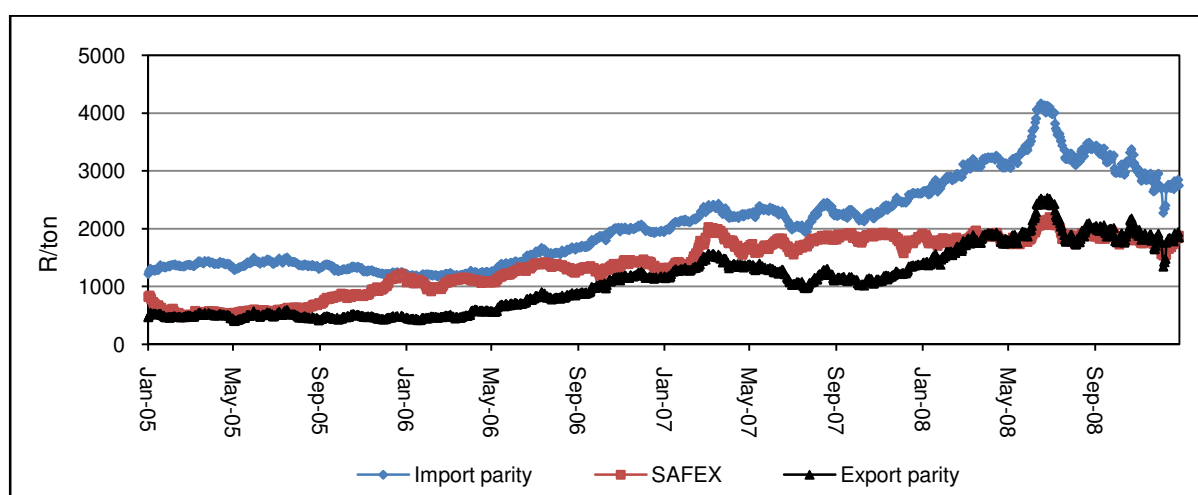


Figure 56: White maize SAFEX and US parity prices

Source: Grain SA, 2009.

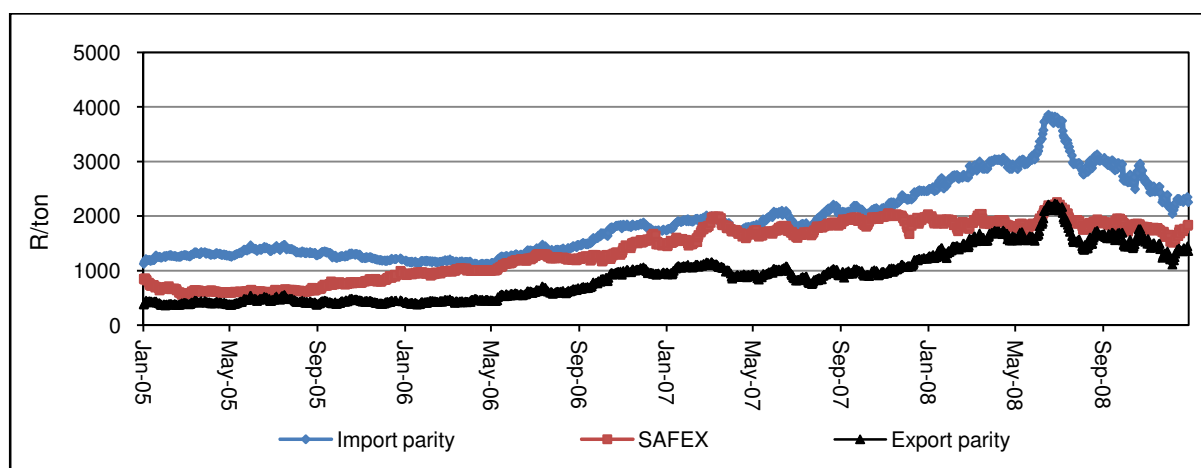


Figure 57: Yellow maize SAFEX and US parity prices

Source: Grain SA, 2009.

In 2005 a large crop caused prices to plummet to export parity levels and, due to a strong performance of the Rand against the US Dollar, the export parity price was below R500/ton. At this level many producers could not even cover their variable costs of producing maize. In response to the extremely low prices, producers reduced the area of maize planted by 43 % in 2006. Only 6.7 million tons of maize was harvested, which was not enough to fulfil the local requirements for maize (See Figure 58 for area harvested, production and consumption trends).

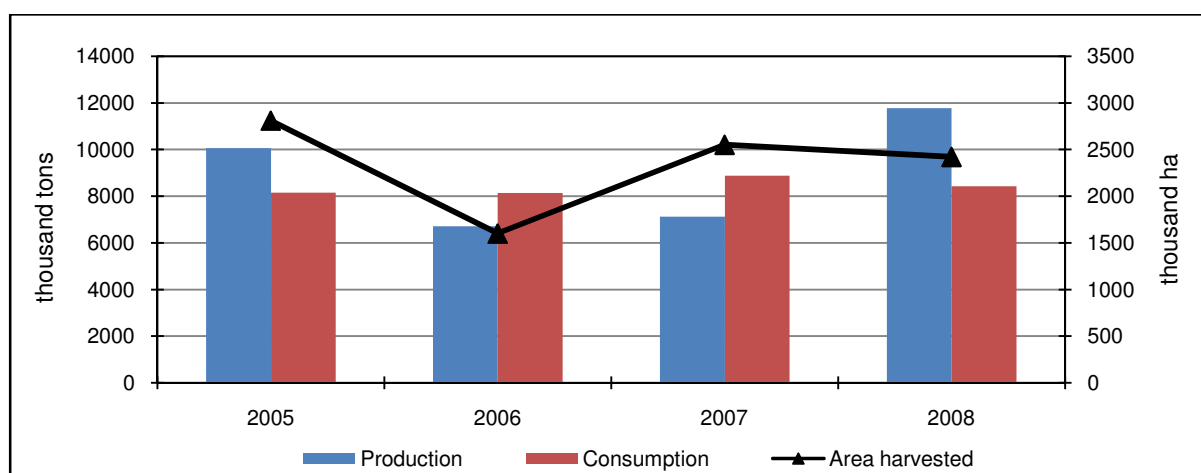


Figure 58: South Africa's maize area harvested, production and consumption

Source: BFAP, 2005 – 2008.

Consequently, prices increased to import parity. On the back of more favourable prices, producers shifted many hectares back into production. However, this time around, drought damaged the maize crop and just over 7 million tons of maize was harvested. Again, prices traded at import parity levels in 2007. Maize producers kept the area under production relatively constant for the 2008 production season. Excellent and timely rain was received and a bumper crop of more than 12 million tons was harvested. The national average yields for both white and yellow maize reached all-time record levels of 4.78t/ha and 4.99t/ha, respectively. More than 2

million tons of surplus maize was exported, mainly to neighbouring countries. The bumper crop pushed prices back to export parity. However, the commodity price boom had caused parity prices to increase sharply, and hence producers received more than R2000/ton for their maize at harvest time. Consumer benefitted because local prices traded at export parity and not the much higher import parity price.

The sharp decrease in international maize prices during the latter part of 2008, mainly due to the global financial crisis and therefore softer demand, has forced parity prices lower. The impact of the lower world prices was dampened by the depreciation of the exchange rate.

Between the 2005 and 2007 marketing years, domestic demand has remained relatively constant, with the largest growth (9 %) coming from the feed industry. Over the period of 2005-2007, human consumption of maize has actually contracted by 0.5 %. This phenomenon can be attributed to increasing per capita disposable income and more direct governmental support in the form of child grants and higher pension rates. The impact of growing incomes and higher government grants has translated into the diversification of households' diets as consumers switch from staple commodity consumption to more meat and dairy focused food items. However, in 2008 the commodity price boom that was followed by the global financial crisis, introduced a new drastic shift in white maize meal consumption. Many low- and middle-income households have shifted back to basic staple maize meal. At the time of writing, final consumption figures still needed to be confirmed but it is expected that the local white maize consumption for milling purposes has increased by as much as 500 000 tons over the course of the past year.

- *Wheat*

The local demand for wheat has grown consistently over the period of 2005-2007, and is driven by the higher level of disposable household income. However, in 2008 excessively high food prices together with high interest rates and high transportation costs slowed the demand for wheat for human consumption purposes. Wheat consumption is expected to remain relatively constant until households' disposable income is less pressured. On the production side, farmers responded to the sharp rise in wheat prices, which was perfectly timed in February-April 2008, just as farmers were taking care of the last field work and were preparing for planting. The total area under production increased by an impressive 18 %, but due lower than average yields total production increased by only 200 000 tons (10 %) (see Figure 59 for wheat production, consumption and total area harvested).

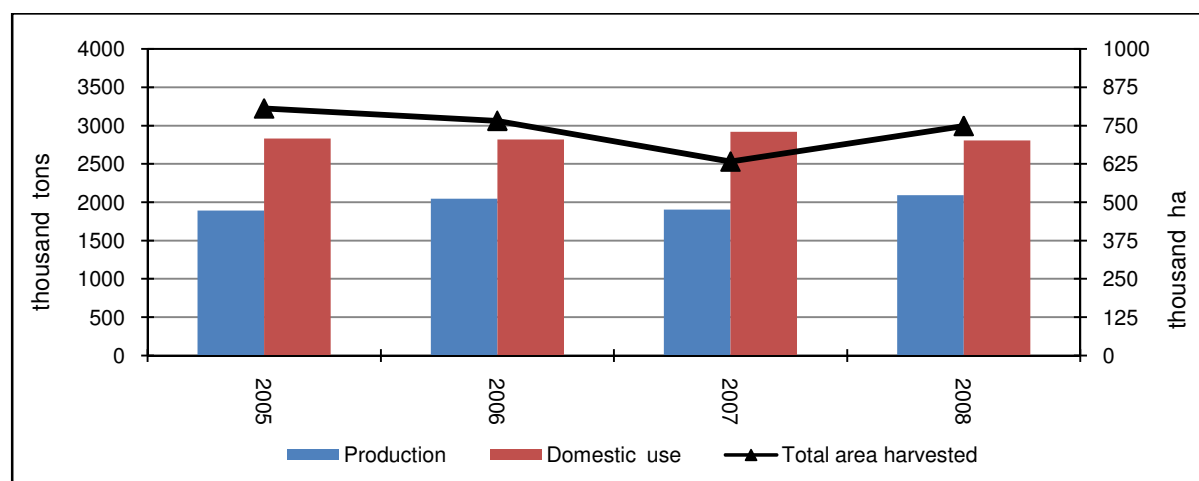


Figure 59: South Africa's wheat area harvested, production and consumption

Source: BFAP, 2005 – 2008.

Although less wheat was imported in 2008 due to the larger crop, South Africa still remains a net importer of wheat. Approximately two thirds of the domestic requirements are produced locally and the remaining portion is imported from countries like Argentina and the US. The fact that South Africa is a net importer of wheat implies that local prices trade at import parity levels. Hence, the transmission of international price movements to local prices is far more direct than in the case of, for example, maize. Figure 60 shows the import parity, export parity and the SAFEX price for wheat.

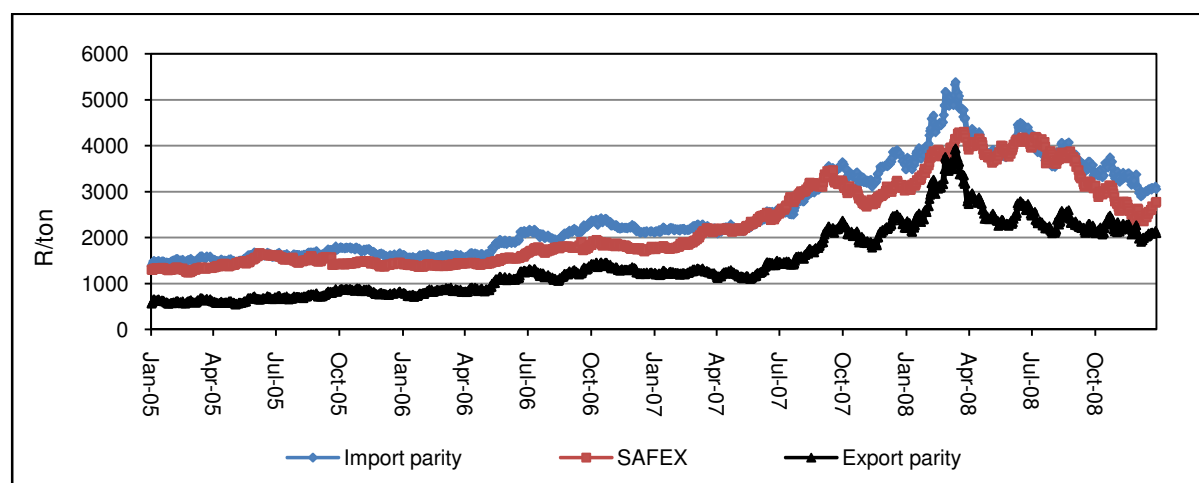


Figure 60: Wheat SAFEX and US parity prices

Source: Grain SA, 2009.

- **Soybeans**

The production of soybeans is actively promoted in South Africa as a highly suitable rotation crop for other field crops like maize and sunflowers. Although the area planted under soybeans has more than doubled over the past ten years, the highest number of hectares dedicated for the production of soybeans was reached in 2006, when 240 000 hectares were planted (see Figure 61). The main reason for this shift

in area planted was the extremely low maize prices in 2005. An all-time record harvest of more than 400 000 tons were harvested in 2006. Prices were pushed to export parity and farmers responded to the low prices by reducing the area under soybeans by more than 20 % in 2007. Soybean seed, oil and cake prices rose rapidly as energy prices surged in 2008. Yet, all other commodity prices also increased quickly and the area under soybean production actually declined in 2008 despite very profitable price levels. The relative price ratio, especially between maize and soybeans is one of the critical drivers determining the area dedicated for the production of soybeans.

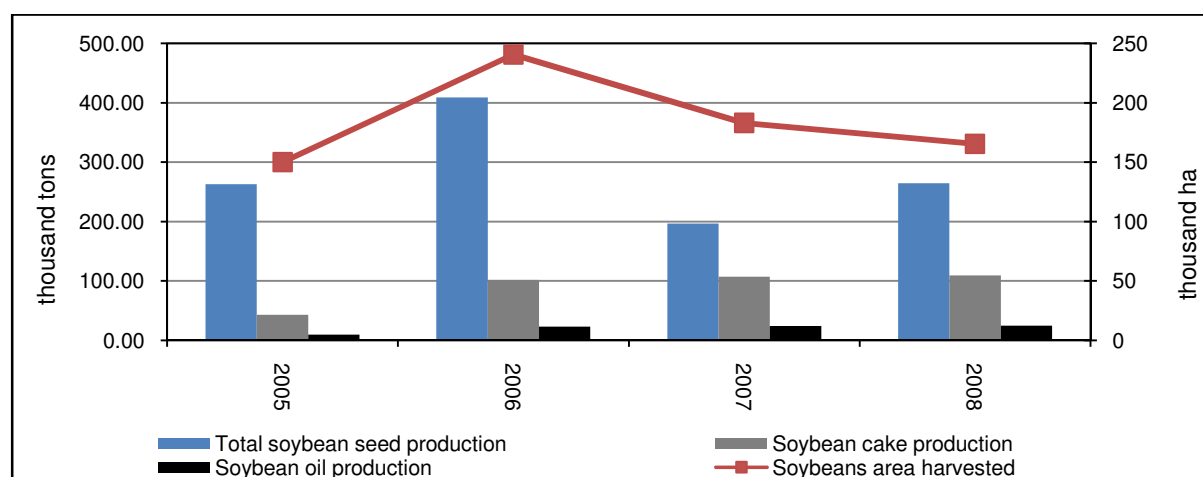


Figure 61: South Africa's soybean areas harvested, production and consumption

Source: BFAP, 2005 – 2008.

Consumption of soybean cakes showed a clear path of increase from 2005 to 2007 (see Figure 62). In 2008 the consumption of soybean cake remained constant because of a slow-down in the demand for cake in the feed market. The demand for soybean cake in the feed market is driven mainly by broiler and egg production, where large volumes of cake are consumed.

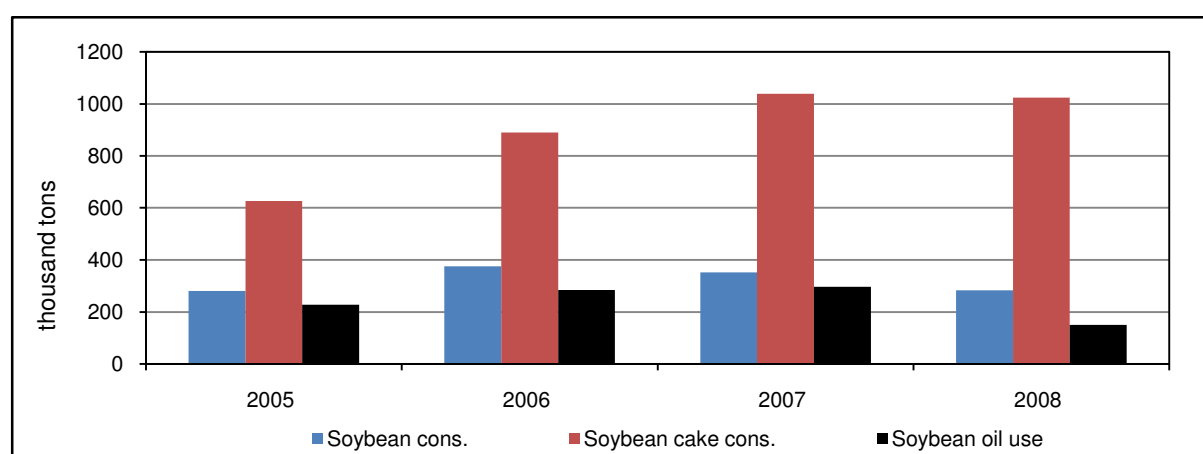


Figure 62: South Africa's soybean complex consumption

Source: BFAP, 2005 – 2008.

As most of the local soybean cake is imported, the strong Rand over the period of 2005-2007 boosted imports (mainly) from Argentina. The demand for soybeans at local crushing facilities also increased rapidly when a local crushing facility was switched from crushing sunflowers to crushing soybeans in 2006. As the crushing capacity in South Africa increases, local soybean seed prices will increase and will tend to be traded closer to import parity levels, as more beans will have to be imported to meet the local demand for soybeans. The higher soybean price will also boost the local production of soybeans because the relative profitability of soybeans will be higher than that of maize. Figure 63 shows the soybean SAFEX price and parity prices.

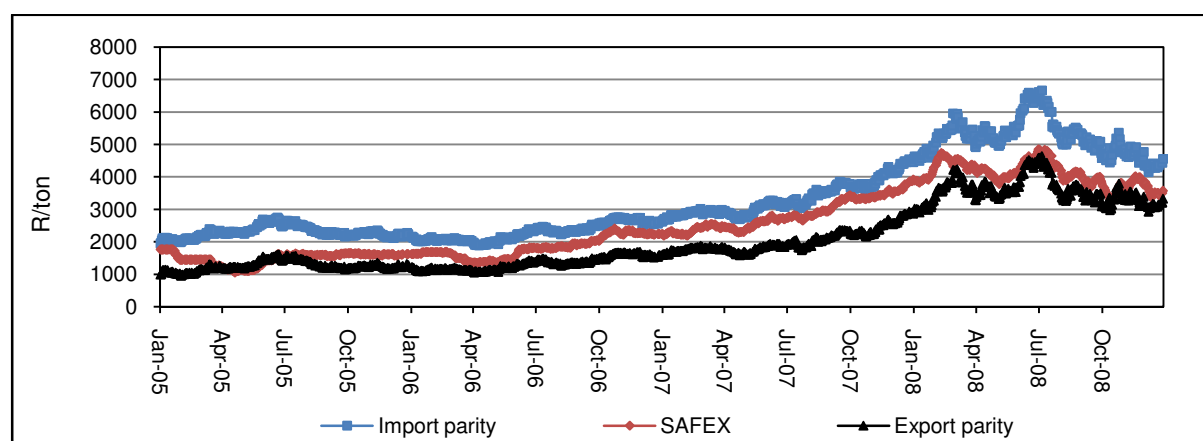


Figure 63: Soybean SAFEX and US parity prices

Source: Grain SA, 2008.

- *Sunflower*

As opposed to the decrease in the area under production of soybeans in 2008, the area under sunflowers increased by a healthy margin of 243 000 hectares, as shown in Figure 64. This contributed to a significant increase in sunflower seed production reaching 870 000 tons, up from the 296 000 tons produced in 2007. This increase in the area planted was as a result of high sunflower seed prices in 2007 and the first part of 2008. Farmers received more than R5000/ton for their produce. There exists a high degree of substitution between maize and sunflowers, especially in the North West Province. Hence, if sunflower prices are very high, farmers will consider shifting more hectares into the production of sunflowers rather than maize.

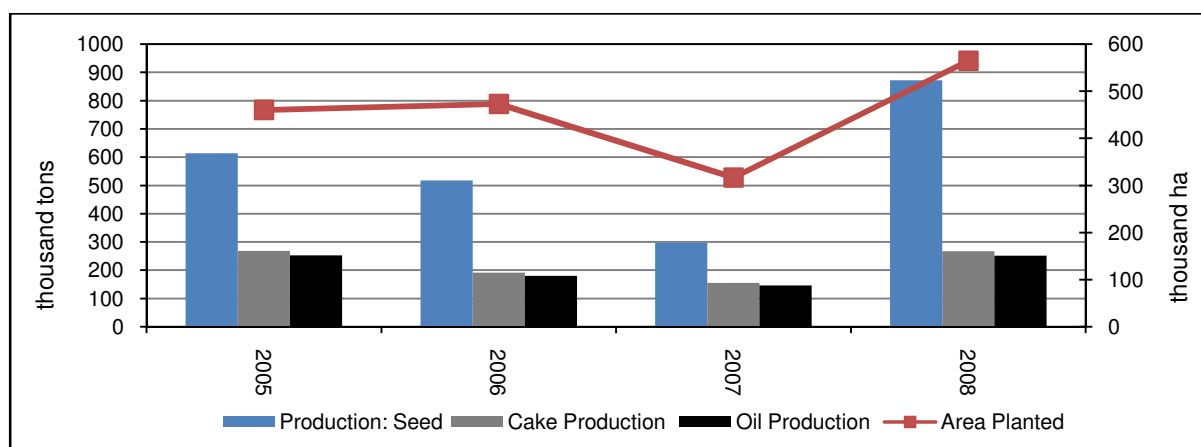


Figure 64: South Africa's sunflower area planted, production and consumption

Source: BFAP, 2005 – 2008.

The domestic demand for sunflower seed is largely driven by the profit margins of crushing facilities. If the import parity price of sunflower oil is low due to a strong exchange rate or low world prices, then cheap sunflower oil imports displace the local production of sunflower oil in the market; consequently, crushing facilities demand less seed because they cannot compete with cheaper imports, which causes seed prices to decrease. More than 600 000 tons of sunflowers were crushed in 2008 (see Figure 65 for the sunflower complex consumption).

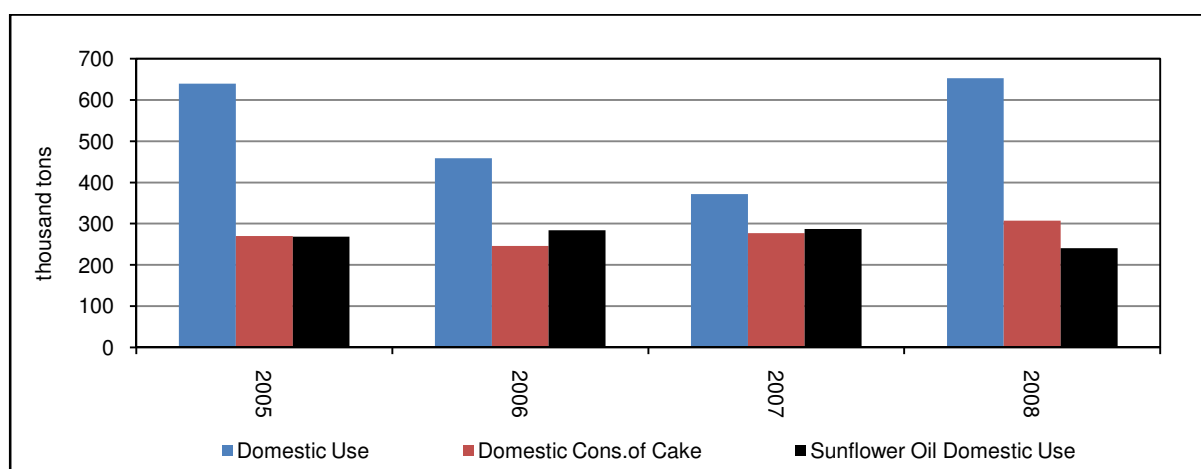


Figure 65: South Africa's sunflower complex consumption

Source: BFAP, 2005 – 2008.

5.4 Meats

In the following section, international and domestic supply and demand factors, together with the price trends of beef, mutton, pork and poultry, is discussed. Changing diets, urbanisation, economic growth and expanding populations are still driving feed and food demand in developing countries. As countries, especially those with developing economies, become more affluent and have positive population growth, the demand for meat and meat products continues to rise. Rising living standards are pushing larger numbers of consumers towards protein-based

diets, health awareness and convenience. However, during the latter part of 2008 the global economic crisis started, and consumers subsequently started to react in terms of reducing their spending on (mainly) luxury items. However, the exact impact on meat consumption has not been clearly visible.

5.4.1 International market

- *Beef*

The production and consumption figures for the main beef producing countries during 2008, as well as estimated 2009 figures, are depicted in Figure 66 (FAPRI, 2009). Countries showing predicted increased production from 2008 to 2009 included Brazil (3.8 %), China (2.3 %), India (3 %) and Argentina (0.7 %).

In terms of consumption, the only countries where beef consumption is expected to increase include: Brazil (1.1 %), China (2.8 %), the EU (0.3 %) and India (0.7 %), while consumption in the USA, Australia and Argentina is expected to decrease.

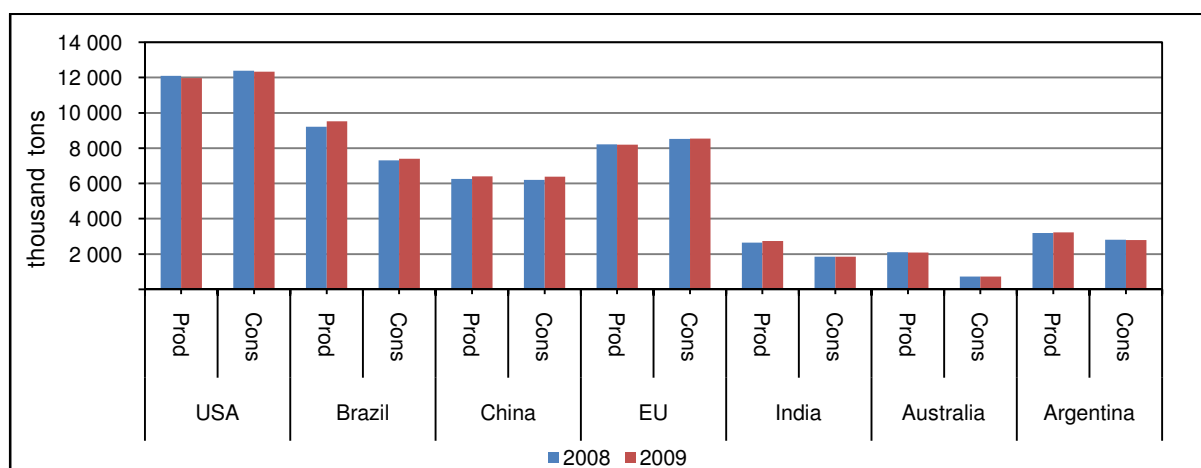


Figure 66: Production and consumption of beef for selected countries

Source: FAPRI, 2009.

Figure 67 illustrates the increasing trend in the Food and Agricultural Organization's (FAO) international beef price index since 2002. After a slump in prices from 2000 to 2002, prices rebounded sharply and increased by 33 index points from 2002 to 2005. From 2005 to 2006, prices moved sideways, after which it increased again by 25 index points from 2006 to 2008.

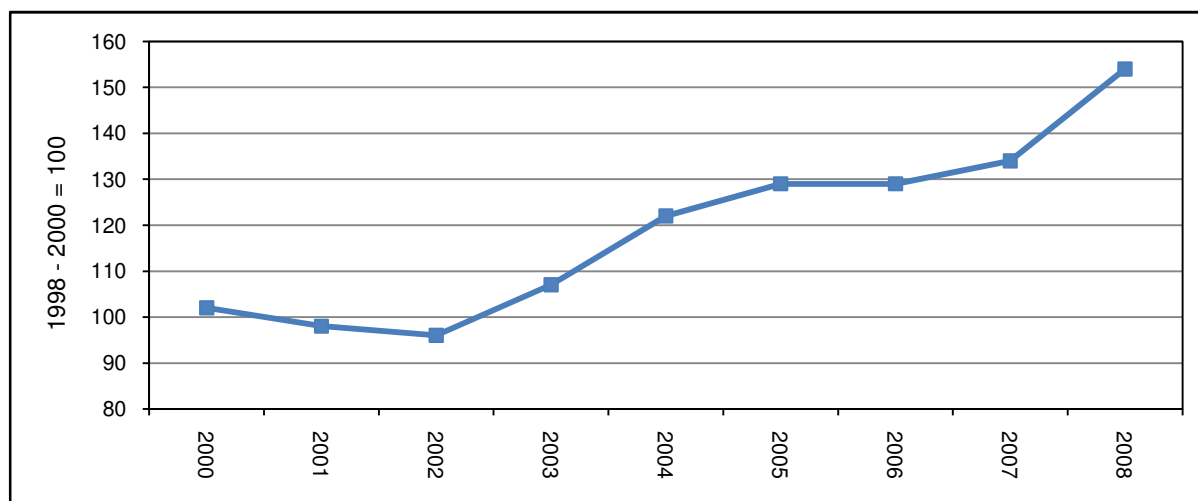


Figure 67: International bovine meat price index (1998 – 2000=100)

Source: FAO, 2009.

- *Sheep meat*

The current and predicted international supply and demand situation for sheep meat is indicated in Figure 68. Interesting to note is the fact that the demand for sheep meat is predicted to stay higher than the supply thereof, which could put further upward pressure on future sheep meat prices. Sheep consumption is estimated to increase by 19.7 % from 2007 to 2017, according to the FAO/OECD (2008).

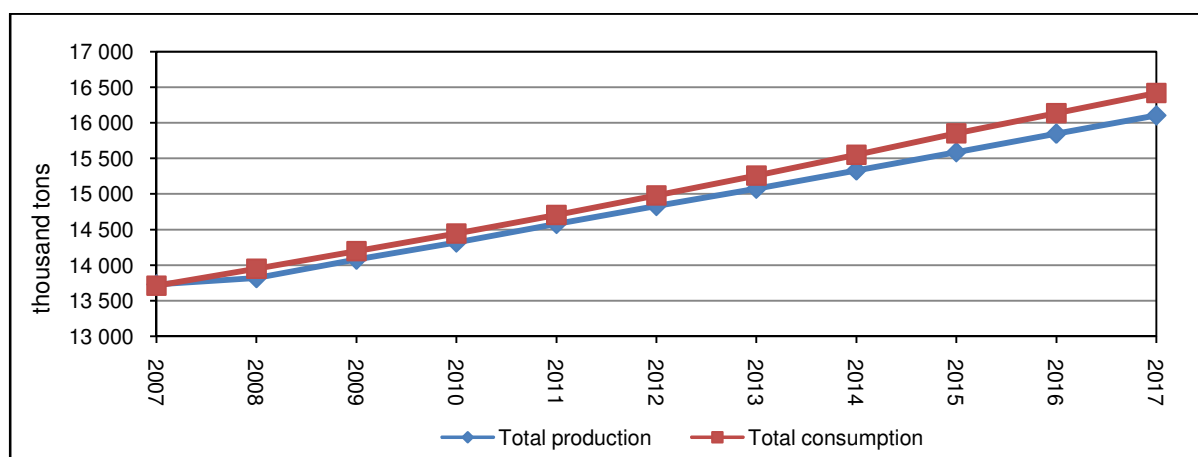


Figure 68: Total production and consumption of sheep (2007 est.)

Source: FAO/OECD, 2008.

Figure 69 illustrates the Australian trade lamb carcass price. This price increased by 136 % between 2000 and 2003 (i.e. 45 % per year), after which the price stabilised between 300 and 400 Australian cents/kg. More recently, a price hike of 20 % was seen from 2007 to 2008. Upward pressure on the price of sheep and lamb meat is mostly driven by the supply and demand situation, as demand is exceeding supply. In terms of the demand for mutton and lamb, the same drivers responsible for beef are believed to drive the demand for mutton and lamb meat.

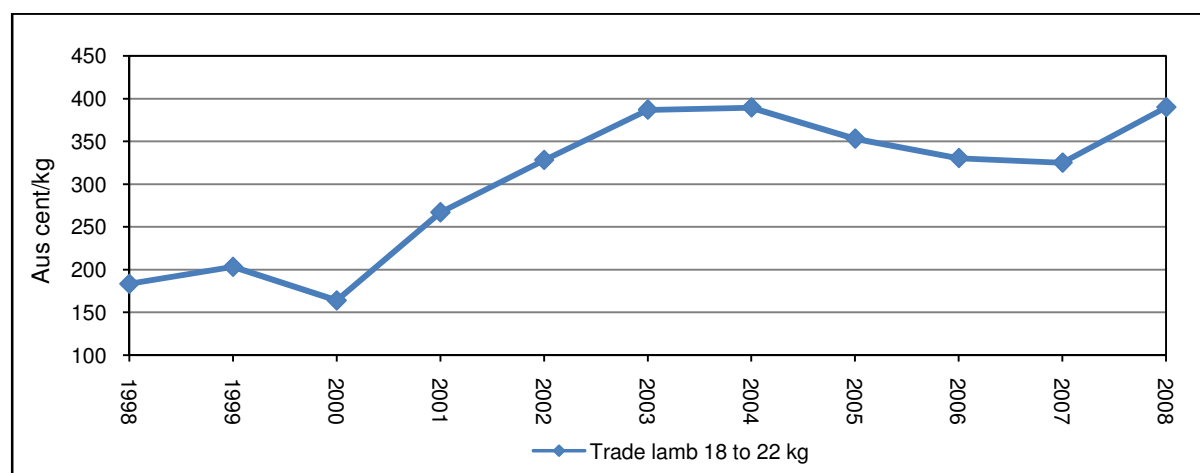


Figure 69: Australian trade lamb carcass price

Source: MLA, 2009.

- *Pork*

The current and predicted production and consumption trends for the main pork producing countries are shown in Figure 70 (FAPRI, 2009). Apart from the EU (with a decreasing production trend of 0.6 %) and the USA (2.5 %), the rest of the countries showed increasing production trends from 2008 to 2009. The largest increases in production came from Brazil (7.5 %), followed by China (3.4 %) and Argentina (3.2 %). In terms of consumption, only the USA showed a slightly negative trend, while Argentina showed the biggest increase, namely 4.6 %, followed by Brazil at 4 %.

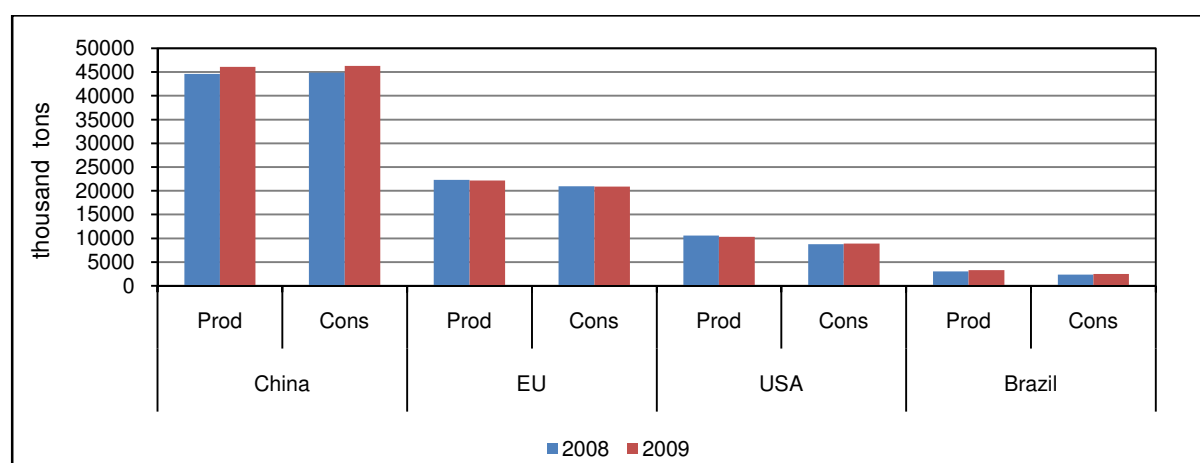


Figure 70: Production and consumption of pork for selected countries

Source: FAPRI, 2009.

Figure 71 shows the FAO's international pork price index, which moved basically sideways during the depicted period (showing a slight decline of 5 % over the eight years). Price lows were experienced in 2002 and 2006, while prices reached a high in 2004 and 2008. The price index increased by 12 index points from 2006 to 2008.

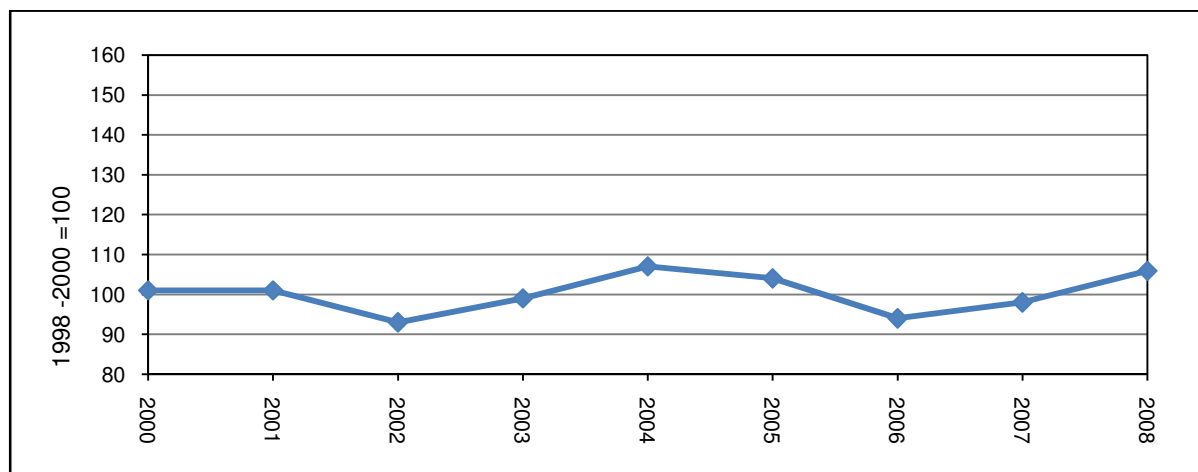


Figure 71: International pork meat price index (1998 – 2000=100)

Source: FAO, 2009.

- *Poultry*

The current and predicted production and consumption trends for the main poultry producing countries are shown in Figure 72 (FAPRI, 2009). The USA (1 %) and Australia (0.1 %) are the only two countries that showed declining trends in terms of poultry production from 2008 to 2009, while India (7.6 %) and Argentina (7.5 %) showed the largest increases in production. In terms of consumption, only Australia has a declining trend (2.3 %), while Argentina (7.7 %) and India (7.6 %) had the biggest increases in consumption from 2008 to 2009.

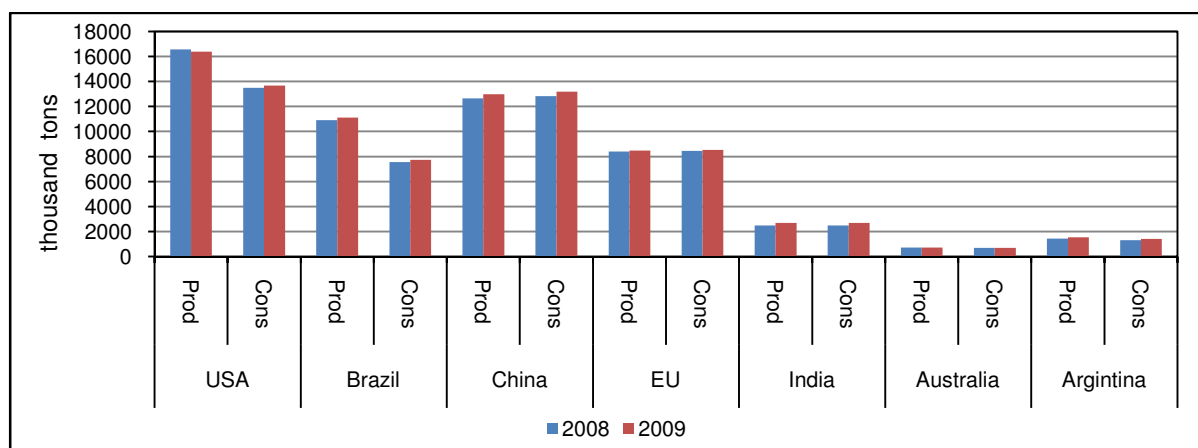


Figure 72: Production and consumption of broilers for selected countries

Source: FAPRI, 2009.

The FAO's international poultry price index shows a sideways movement from 2000 to 2003, after which it increased for two consecutive years, until 2005. Prices declined somewhat in 2006, but increased by 57 index points from 2006 to 2008 (see Figure 73).

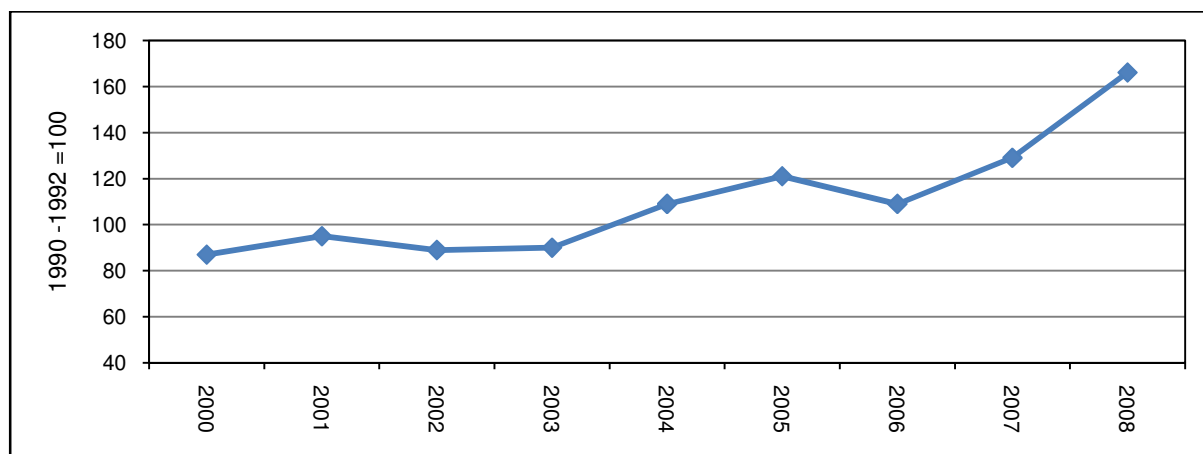


Figure 73: International poultry meat price index (1990 – 1992=100)

Source: FAO, 2009.

5.4.2 Domestic market

- *Beef*

Figure 74 shows South African beef production and consumption, as well as the per capita consumption from 2000 to 2008. From Figure 74 it is evident that South Africa is a net importer of beef; local consumption exceeded local production by about 36 000 tons in 2008. The total and per capita consumption of beef show an increasing trend since 2003 (DAFF, 2009).

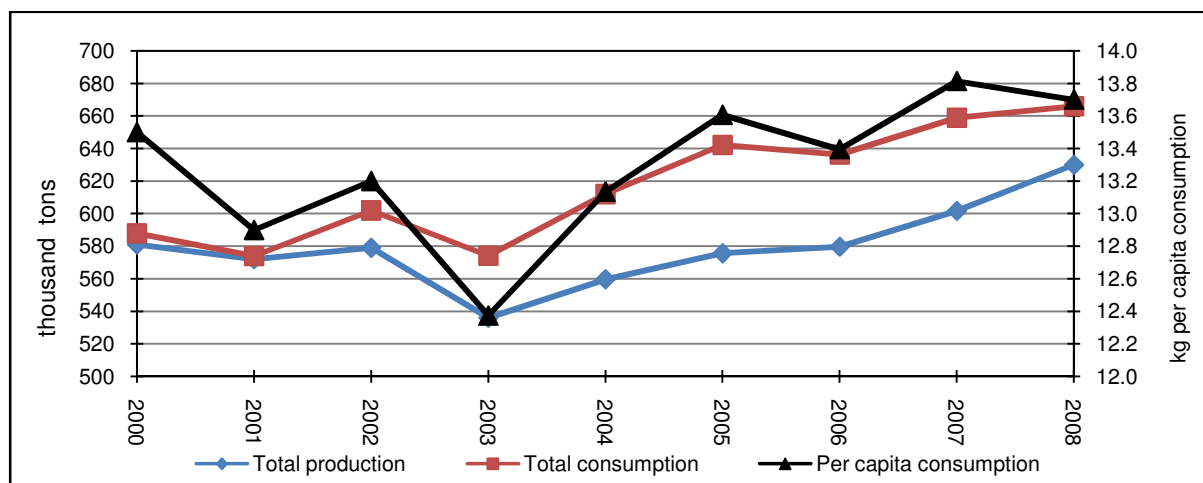


Figure 74: Total domestic beef production, consumption and per capita consumption (2000 - 2008)

Source: Adjusted DAFF, 2009 data.

Figure 75 shows the average nominal and real price for beef in South Africa from 1970. Despite being volatile, there is a clear increasing trend in the real price for beef since 1998. In terms of having constant purchasing power, beef farmers are currently receiving the same price levels as in the late 1970s as well as during the mid- and late 1980s. Also notable from Figure 75 is the seven-year cycle in the real

price; the trend has, however, become less intense during recent years and the difference between highs and lows has become smaller in recent times.

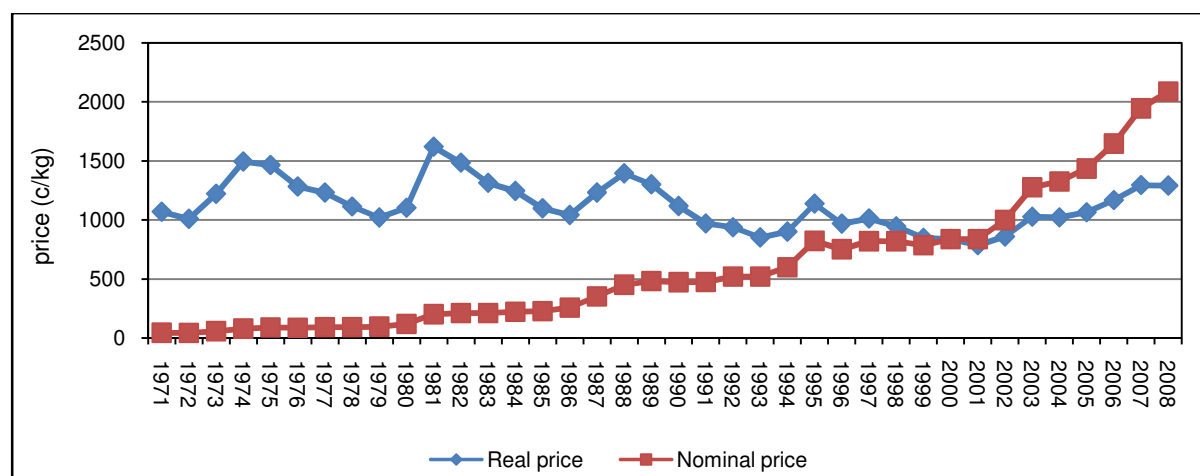


Figure 75: Average nominal and real abattoir prices of beef (1971 - 2008) (2000=100)

Source: DAFF, 2009 and own calculations.

The real farm price, as well as the real retail prices for beef (carcass equivalent) between September 1999 and December 2008 are shown in Figure 76. The carcass equivalent price from September 1999 to December 2007 is estimated by using the retail price of five primal cuts, namely rump, sirloin, topside, brisket as well as chuck, and then converting it back to a carcass equivalent price at retail level, based on a block test¹⁵; the 2008 price only included rump, brisket and chuck prices¹⁶. The FTRPS is indicated on the secondary Y-axis; the spread had a maximum month-on-month increase from December 1999 to January 2000 of 11.9 %, and a minimum month-on-month decrease from February 2007 to March 2007 of 10.5 %. The margin had an average increase of 0.2 % from September 1999 to December 2008, and there was a standard deviation of 4 %.

¹⁵ Used by SAMIC to portion carcasses based on primary cut weights.

¹⁶ This was due to the fact that Stats SA stopped reporting sirloin and topside prices after changing the CPI food basket.

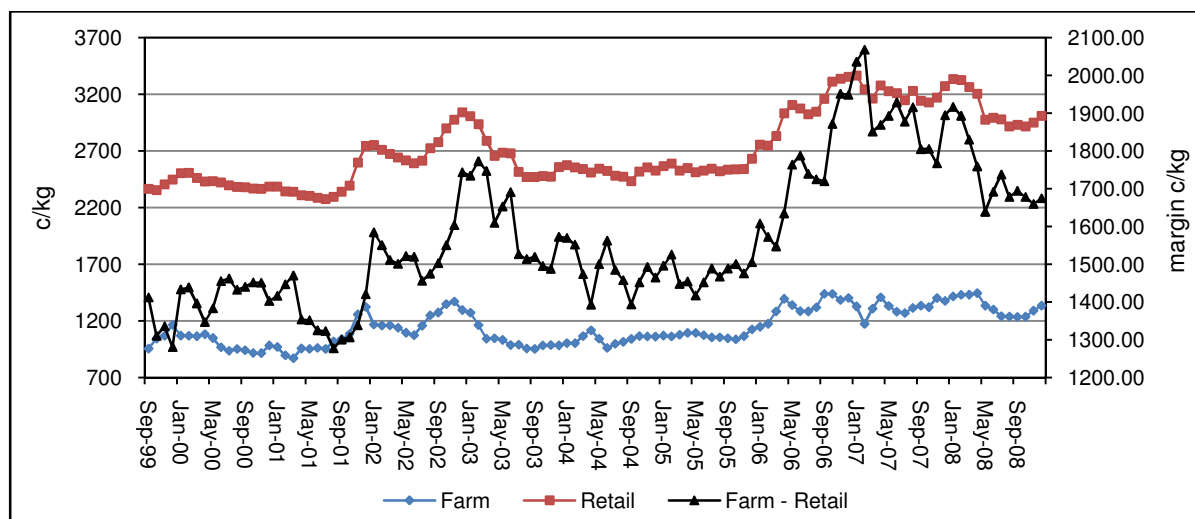


Figure 76: Real farm and retail prices for beef (carcass equivalent) and the FTRPS

Source: Stats SA, 2009; AMT, 2009 and own calculations.

The sideways movement in producer and retail of beef since 2007 was mainly due to general and more specific food inflation in the economy, high interest rates and the general global economic crisis, which has put pressure on consumers' disposable income. The constant producer prices together with rising production costs, i.e. the cost of producing feeds and licks (especially phosphate-based licks, for example) is putting the profitability of beef production under pressure. Due to the increased cost of animal feed, the cost of grazing land also increased and the availability thereof became an increasingly constraining factor.

Consumers increased awareness and concerns with issues such as animal diseases, animal welfare and environmental issues will challenge this industry to become more pro-active in addressing these issues.

- *Sheep meat*

Figure 77 illustrates the domestic supply and demand situation for mutton, as well as the per capita consumption from 2000 to 2008. There has been a declining trend in the production as well as the consumption of mutton since the 1980s. After 1995, however, this changed to a slightly increasing trend. From Figure 77, after a slight decline from 2000 to 2002, a relatively sideways trend in the consumption of mutton is evident, with per capita consumption of mutton ranging between 3.2 and 3.6 kg per capita. There has been a decline in the production trend of sheep and mutton; the major sheep production regions have converted to beef cattle as well as game farming because of the increase of stock theft, predation and, to a lesser extent, climatic changes, which have resulted in drought conditions.

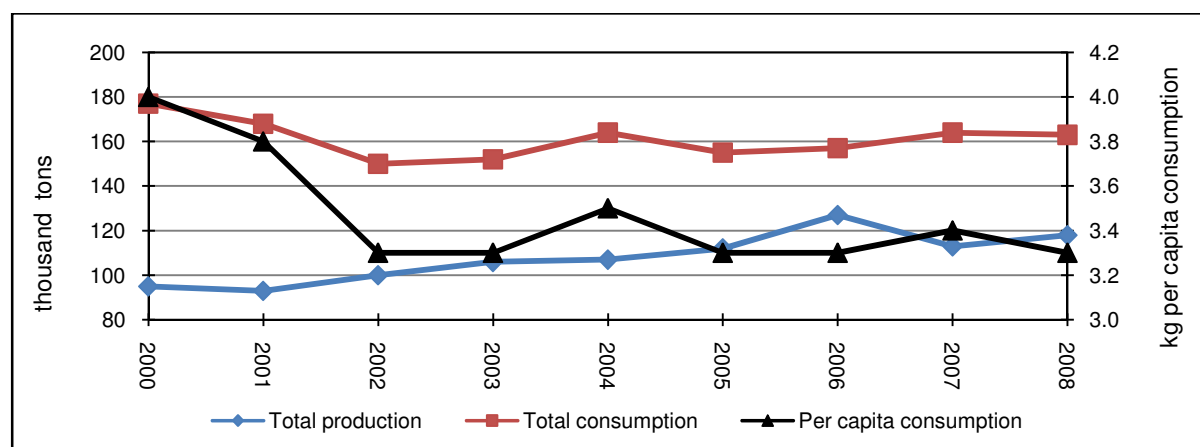


Figure 77: Total domestic mutton production, consumption and per capita consumption (2000 - 2008)

Source: Adjusted DAFF, 2009 data.

Figure 78 shows the average nominal and real price (at constant 2000 prices) for lamb from 1971 to 2008. Moderate increases in the nominal price up to 1999 are evident; after 1999, however, the nominal price increased more rapidly towards 2008 (i.e. by 188 %). This increase in the price of lamb was brought about by, amongst other factors, the decrease in supply. Real prices moved slightly downwards from the mid-1970s to the early 1990s (92/93). Due to the dramatic decline in local sheep and goat production, real prices increased (by 47 %) from 1998 to 2008.

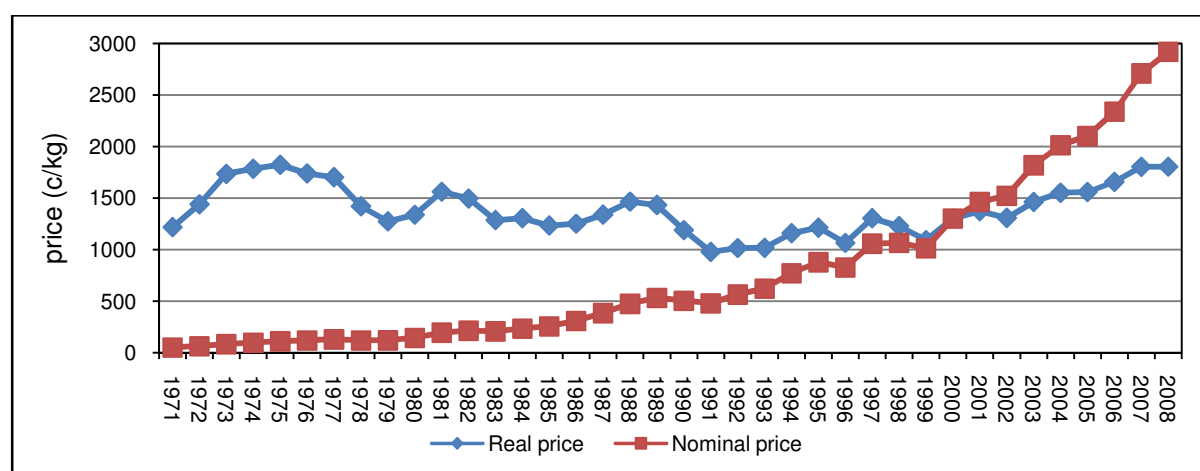


Figure 78: Average real and nominal carcass price for lamb

Source: DAFF, 2009 and own calculations.

The real A2/A3 lamb price (at abattoir level), the real retail lamb chop price, as well as the price spread between the two prices, are shown in Figure 79 for January 2000 to December 2008 (note: data on the retail price for lamb chops is unavailable from Jan 2006 to Jun 2006). The real abattoir price for lamb decreased by 7 % from July 2006 to December 2008, while the real retail lamb chop price increased by 25 % during the same period, thus resulting in an increasing trend in the (abattoir-retail) price spread.

The FTRPS is indicated on the secondary Y-axis; the spread had a maximum month-on-month increase from December 2003 to January 2004 (12.7 %) and a minimum month-on-month decrease from June 2002 to July 2002 (10.3 %). The margin had an average increase of 0.4 % from January 2000 to December 2008, with a standard deviation of 4.8 %.

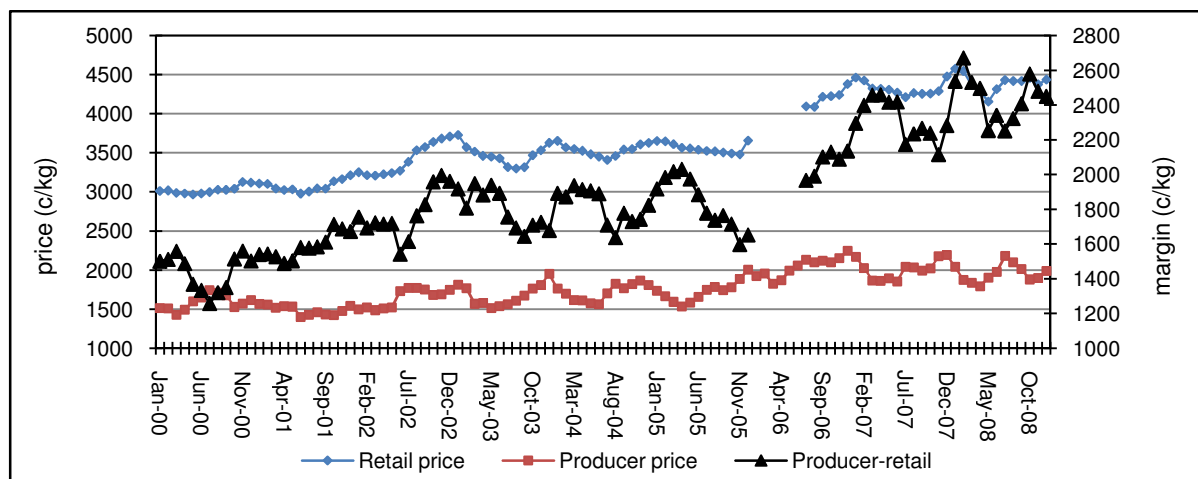


Figure 79: Real farm and retail prices for lamb and FTRPS

Source: Stats SA, 2009; AMT, 2009 and own calculations.

- *Pork*

Figure 80 shows the total production, consumption and per capita consumption of pork in South Africa for the period of 2000 to 2008. South Africa is a net importer of pork. The current South African consumption of pork is very similar to that of mutton, and per capita consumption has varied between 3.5 and 4 kg since 2003.

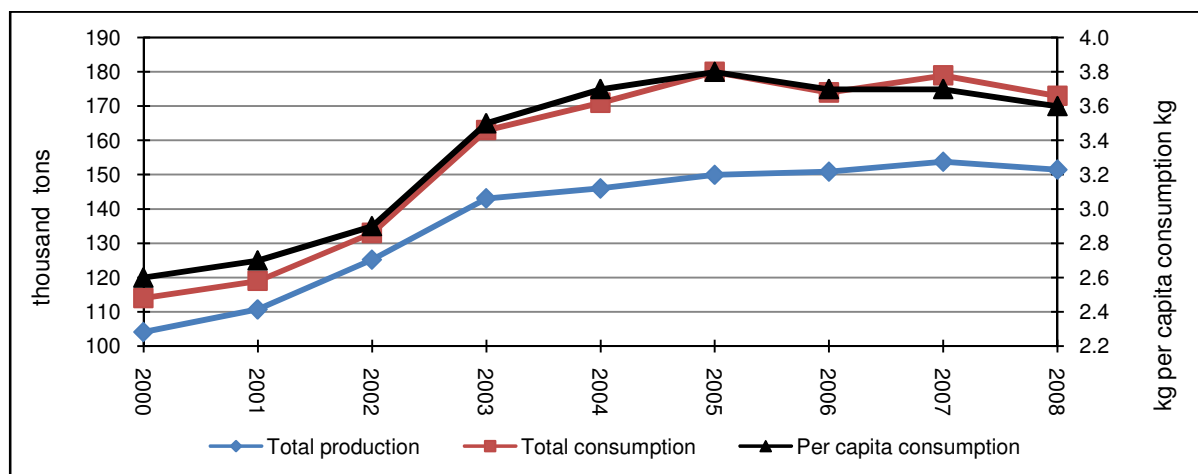


Figure 80: Total domestic pork production, consumption and per capita consumption (2000 - 2008)

Source: Adjusted DAFF, 2009 data.

Figure 81 depicts the average nominal and real carcass price for pork (at constant 2000 prices) from 1971 to 2008. As in the case of lamb, moderate increases in the average nominal carcass price of pork until the mid-1990s are clear, after which the nominal price of pork increased by 88 % during the decade of 1998 to 2008; the real carcass price of pork declined steadily (by 16 %) from 1971 to 2008. During the last decade, the real pork price moved relatively sideways.

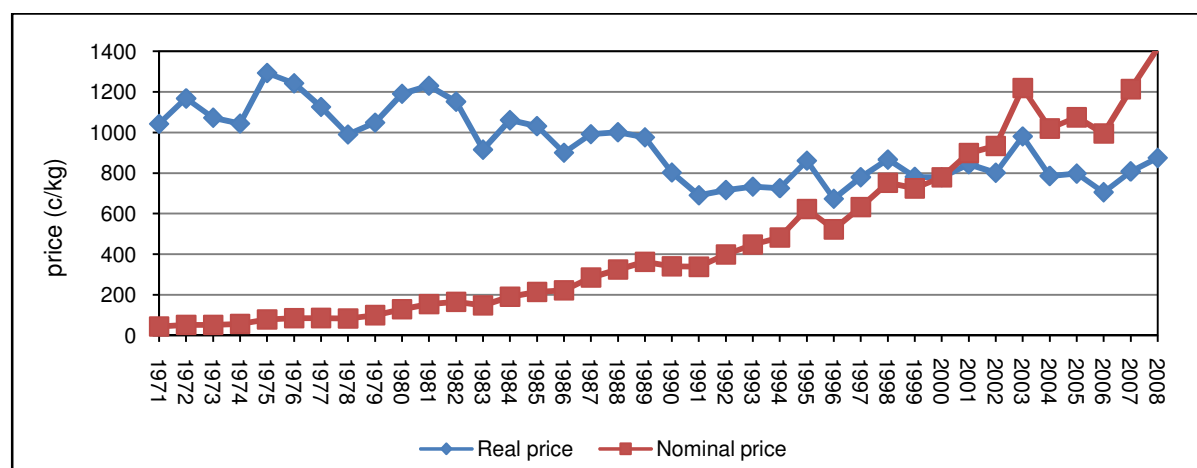


Figure 81: Average carcass price for pork

Source: DAFF, 2009 and own calculations.

Figure 82 shows the real producer porker price, the real retail pork chop price, as well as the price spread between the two prices from January 2000 to December 2008 (note: data on the retail price for pork chops is unavailable from January 2006 to June 2006.) From July 2006 to December 2007, the producer porker price increased by 31 % in real terms while the pork chop price at retail level increased by 18 % in real terms during the same period.

The FTRPS is indicated on the secondary Y-axis; the spread had a maximum month-on-month increase from December 2007 to January 2008 (15 %) and a minimum month-on-month decrease from February 2008 to March 2008 (10 %). The margin had an average increase of 0.4 % from January 2000 to December 2008, with a standard deviation of 4 %.

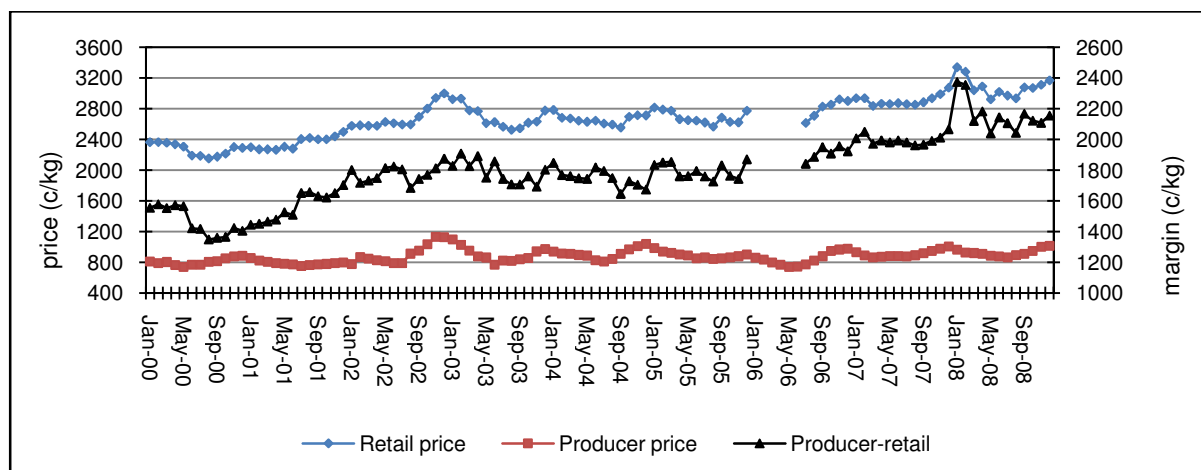


Figure 82: Real farm and retail prices for pork and the FTRPS

Source: Stats SA, 2009; AMT, 2009, and own calculations.

- Poultry

Figure 83 shows the domestic white meat production, consumption as well as per capita consumption from 2000 to 2008. Consumption of poultry is the fastest growing protein source in South Africa (6 % per annum from 2001), and it outstrips the growth of any other source of animal proteins. Rising living standards are pushing larger numbers of consumers towards protein-based diets, health awareness (i.e. specifically the white vs. red meat debate) and convenience (including product development and value-added products). Other reasons include increased marketing campaigns by broiler producers, price competitiveness relative to other protein sources, and a still relatively low per capita consumption base of poultry when compared to that of other developed economies. The local per capita consumption increased by 39 %, from 18.9 kg per capita in 2001 to 26.2 kg per capita in 2008.

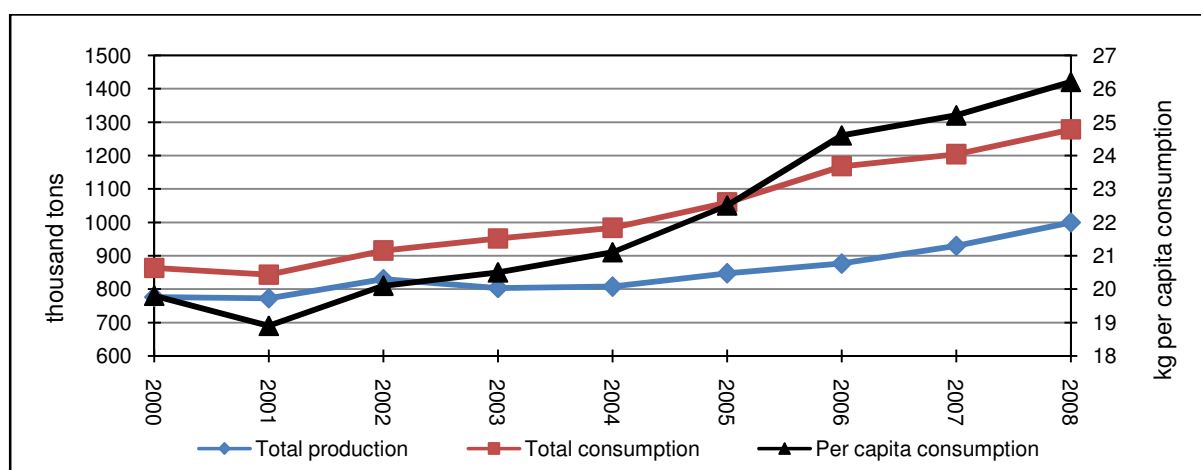


Figure 83: Total domestic white meat production, consumption and per capita consumption (2000 - 2008)

Source: Adjusted DAFF, 2009 data.

The price of fresh whole chicken is shown in Figure 84. From January 2000 to December 2008 the nominal price of whole fresh chicken increased by 149 %, while the price in real terms increased by 40 % from January 2000 to December 2008.

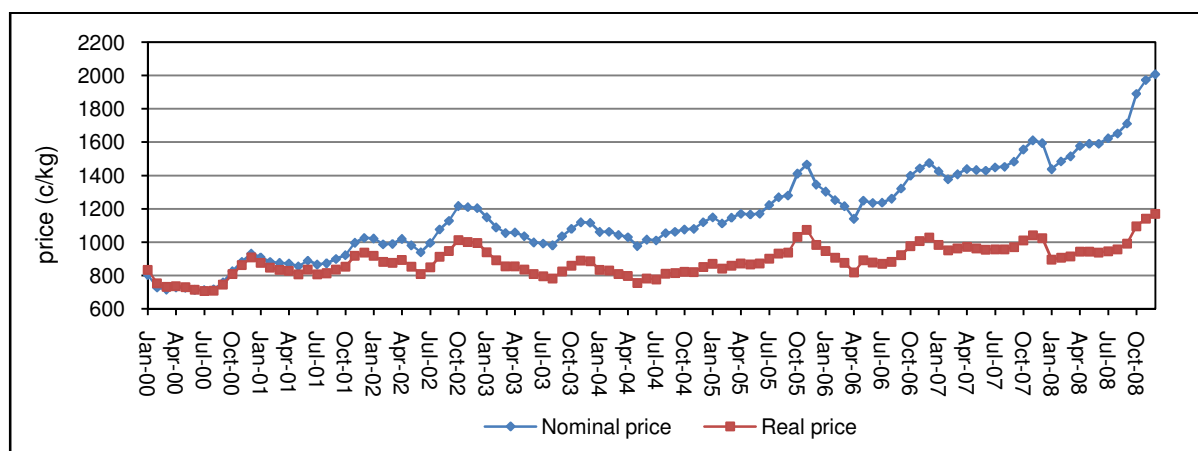


Figure 84: Fresh whole chicken price

Source: AMT, 2009.

5.5 Vegetables

5.5.1 Selected vegetables

- *Tomato and onion production*

Figure 85 shows the trend in production of tomatoes and onions between 1990/91 and 2007/08. Tomato production shows relatively high variability during the period under consideration. In 1990/91 production was 455 000 tons, which decreased by 6.4 % to reach 426 000 tons in 2007/2008. On the other hand, onion production shows an increasing trend during the period under consideration. In 1990/91, onion production was at 241 000 tons, increasing by 55.6 % to 375 000 tons in 2007/08.

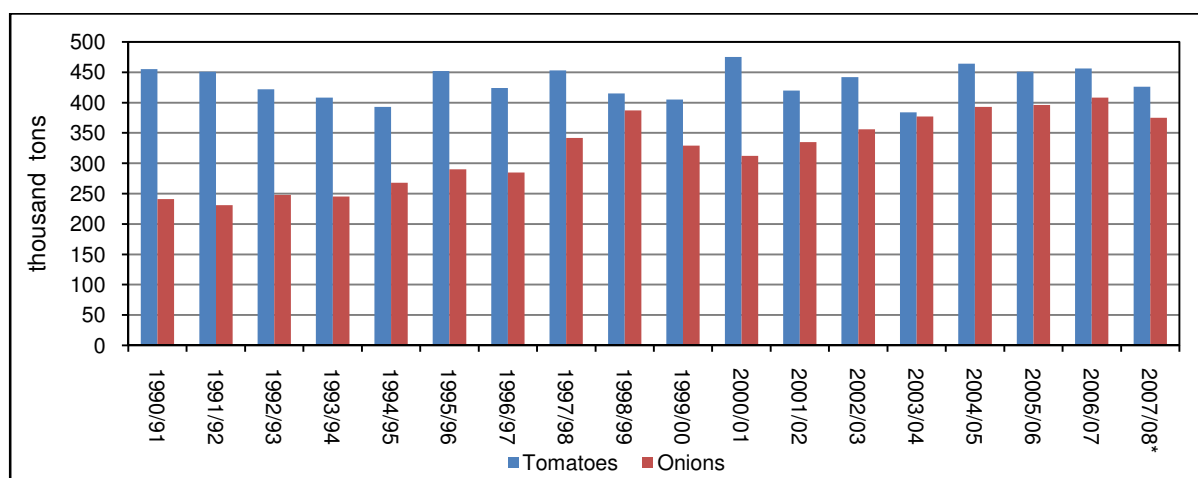


Figure 85: Tomato and onion production trends (1990/91 – 2007/08)

* The figure for 2007/08 is preliminary.

Source: DAFF, 2009.

Figure 86 shows the trends in tomato and onion sales at the fresh produce markets (FPMs) between 1994 and 2008. Tomato sales increased from 241 300 tons in 1994 to 276 400 tons in 1999. This was followed by a significant decrease to 227 800 tons in 2000. After 2000, sales increased gradually to a preliminary value of 255 800 tons in 2008. On the other hand, onion sales at FPMs increased from 185 500 tons in 1994 to 269 600 tons in 1999, before declining significantly to 214 300 tons in 2000. Following this decrease, onion sales again increased to 298 700 tons in 2008. Figure 86 shows that prior to 2000, onion sales were lower than tomato sales, while from 2000 onwards, onion sales have been higher than tomato sales at the FPMs.

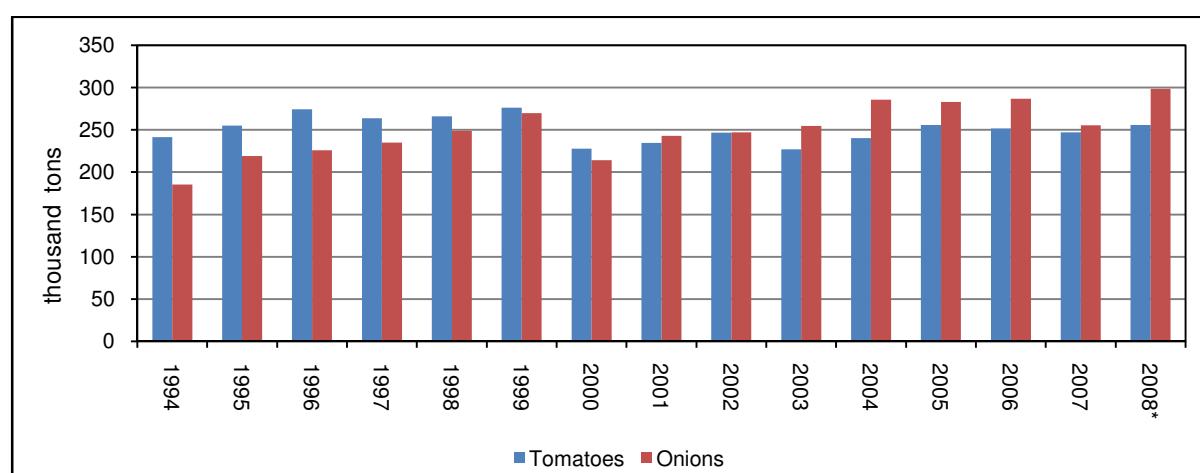


Figure 86: Tomato and onion sales at FPMs (1994 – 2008)

* The figure for 2008 is preliminary.

Source: DAFF, 2009.

- *Carrot and cabbage & red cabbage production*

Figure 87 shows the carrot and cabbage & red cabbage production between 1990/91 and 2007/08. Cabbage & red cabbage production show a significant decline during the period under consideration. In 1990/91, the production of cabbage and red cabbage was 220 000 tons, decreasing by 38.2 % to reach 136 000 tons in 2007/08. On the other hand, carrot production increased during the period under consideration. In 1990/91, the production of carrots was 87 000 tons, increasing by 40.2 % to reach 122 000 tons in 2007/08.

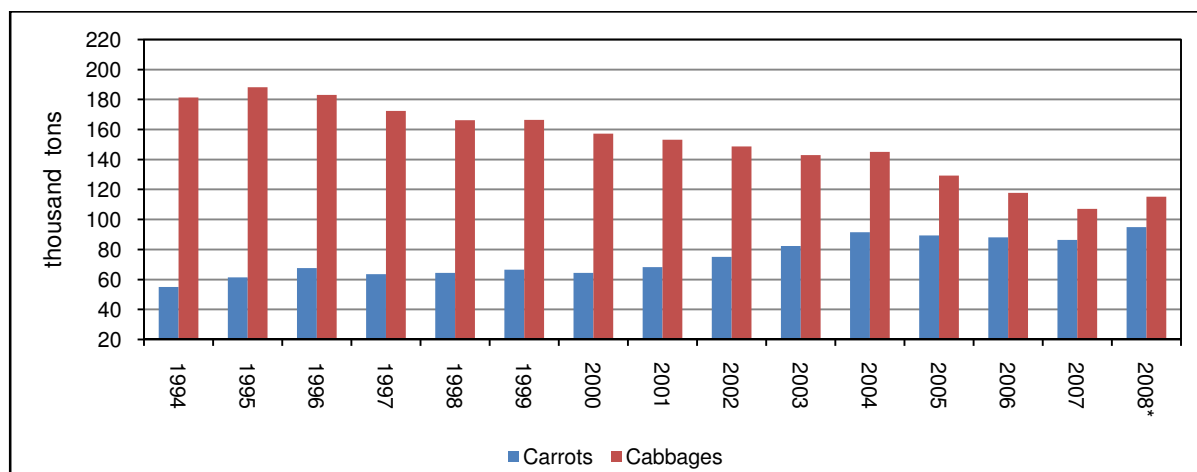


Figure 87: Carrot and cabbage & red cabbage production trends (1990/91-2007/08)

* The figure for 2007/08 is preliminary.

Source: DAFF, 2009.

Figure 88 shows the trends in cabbage and carrot sales at the FPMs between 1994 and 2008. Cabbage sales at the FPMs decreased significantly during the period under consideration. In 1994 cabbage sales at the FPMs was 181 300 tons, decreasing to 115 300 tons in 2008. On the other hand, carrot sales at the FPMs increased from 54 900 tons in 1994 to 95 000 tons in 2008.

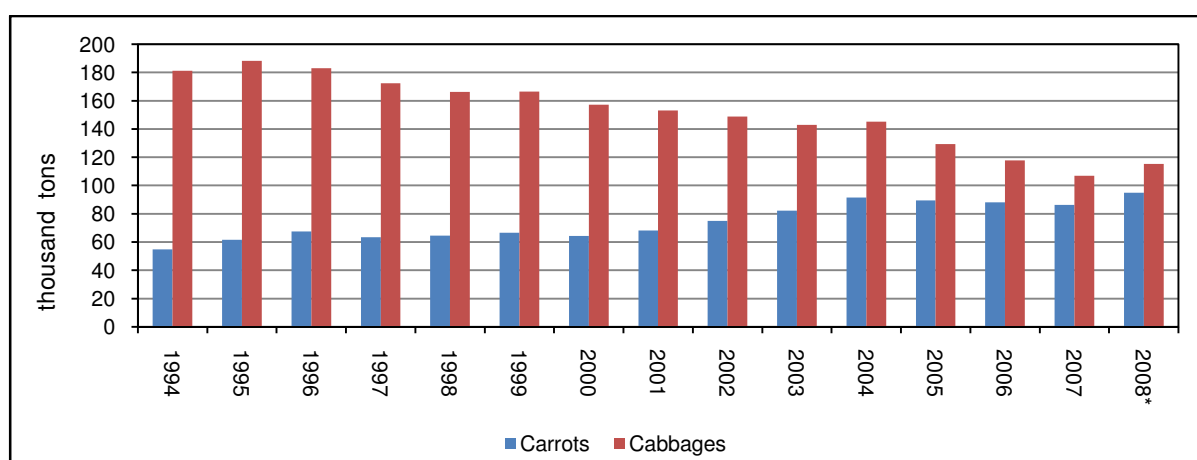


Figure 88: Carrot and cabbage & red cabbage sales at FPMs (1994 – 2008)

* The figure for 2008 is preliminary.

Source: DAFF, 2009.

- *Price movements on FPMs for selected vegetables*

Figure 89 shows the producer prices¹⁷ of cabbages, carrots, onions and tomatoes between January 2006 and December 2008. All the prices depicted show a high level of variability. The price of tomatoes was R1548.33/ton in January 2006, and it increased in a fluctuating manner before reaching R3804.08/ton in December 2008. The fluctuation of this price features three remarkable spikes, with the highest spike

¹⁷ These prices include the cost of transport between the farm and the FPM.

showing R4744.18/ton in August 2007. Between December 2007 and December 2008, the producer price of tomatoes increased by 33.1 %.

The producer price of onions was R911.79/ton in January 2006, and it fluctuated before peaking at R3649.06/ton in August 2007. After peaking, the price fluctuated and then reached R1990.89/ton in December in 2008. This price decreased by 34.7 % between December 2007 and December 2008.

The producer price of cabbages showed relatively lower price variability during the period under consideration. In January 2006 the price of cabbages was R712.04/ton, and it fluctuated before reaching R1202.51/ton in December 2008. The December 2008 price was 75.4 % higher than the corresponding figure in December 2007.

The producer price of carrots was R1178.14/ton in January 2006, and it fluctuated before reaching R2070.70/ton in December 2008. Between December 2007 and December 2008, the price of carrots increased by 11.1 %.

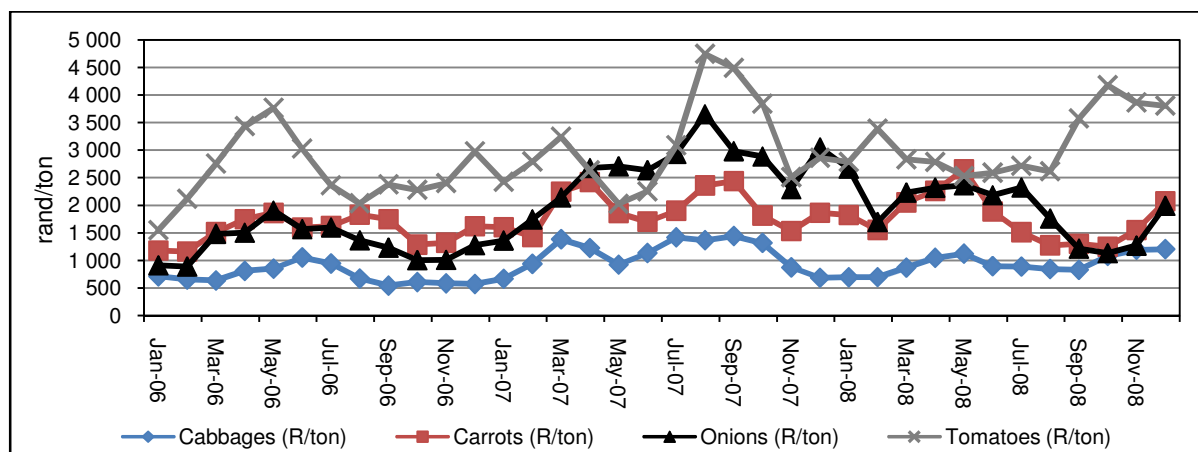


Figure 89: Produce price trends for cabbages, carrots, onions and tomatoes (01/2006 – 12/2008)

Source: DAFF, 2009.

- *Retail price movements for selected vegetables*

Figure 90 shows the retail prices of cabbages, carrots, onions and tomatoes between January 2006 and December 2008. Unlike the producer price trends, all the retail prices depicted show a relatively low level of variability. In July 2006, the price of tomatoes was R8.63/kg, increasing to peak at R13.02/kg in October 2007. Following this peak, the price declined to R9.58/kg in September 2008, after which the price increased to R13.16/kg in December 2008. Between December 2007 and December 2008, the price of tomatoes increased by 31.7 %.

The price of onions was R4.97/kg in July 2006, increasing to R6.28/kg in December 2008. The December 2008 price was 18.2 % lower than the corresponding figure in December 2007.

The price of cabbages was R3.69/kg in July 2006, and it increased before peaking at R6.80/kg in June 2008. Following this peak, the price decreased to R6.51/kg in December 2008, which was 38.3 % higher than the corresponding figure in December 2007.

The price of carrots was R6.73/kg in July 2006, and it increased to R7.74/kg in December 2008. Between December 2007 and December 2008 the price of carrots increased by 14.1 %.

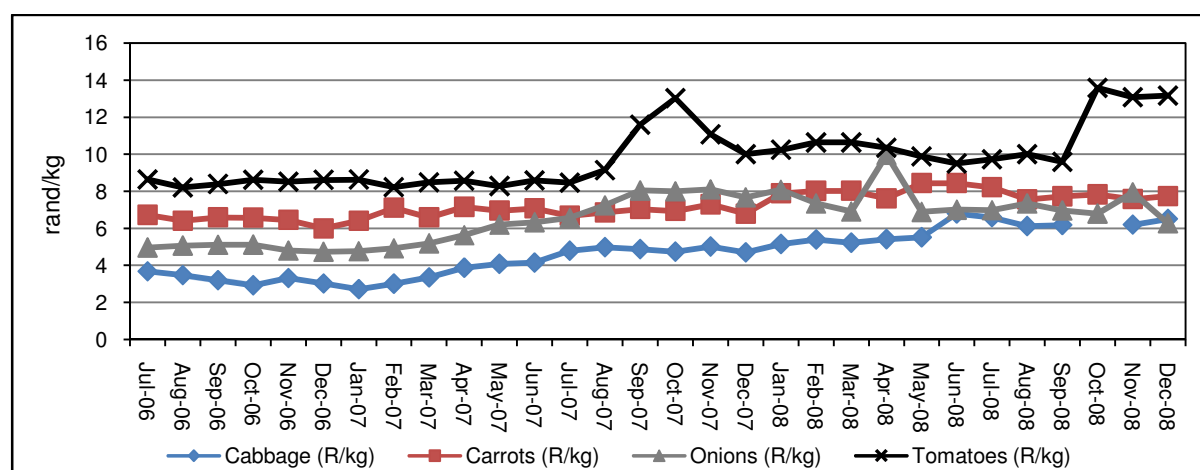


Figure 90: Retail price trends for cabbages, carrots, onions and tomatoes (07/2006 – 12/2008)

Source: Stats SA, 2009.

- *FTRPS for tomatoes, onions, carrots and cabbages*

Figure 91 shows the FTRPS for tomatoes, onions, carrots and cabbages between July 2006 and December 2007. These price spreads include, amongst other things, distribution and packaging costs and losses. The FTRPS for tomatoes was R6267.86/ton in July 2006, and it fluctuated before peaking at R9180.84/ton in October 2008. Following this peak, the spread fluctuated before reaching R9355.92/ton in December 2008. This spread increased by 31.1 % between December 2007 and December 2008.

The FTRPS for onions was R3373.67/ton in July 2006, and it fluctuated before reaching R4289.11/ton in December 2008, which was 7.4 % lower than the corresponding figure for December 2007.

The spread for carrots was R5105.54/ton in July 2006, and it fluctuated before reaching R5669.30/ton in December 2008. Between December 2007 and December 2008, the spread for carrots increased by 15.2 %.

The FTRPS for cabbages was R2740.99/ton in July 2006, and it increased before peaking at R5905.16/kg in June 2008. Following this peak, the spread decreased to close at R5307.49/kg in December 2008. The spread increased by 32.0 % between December 2007 and December 2008.

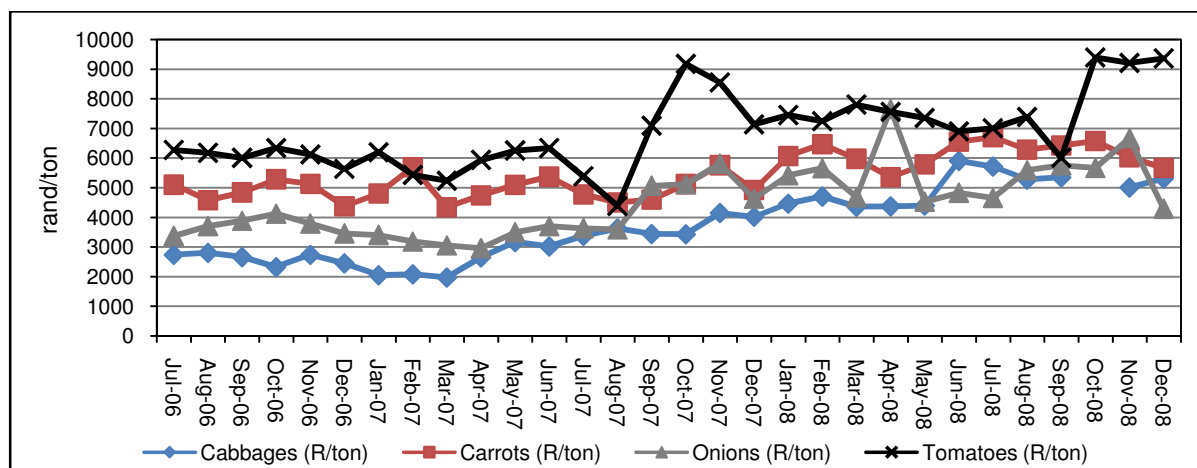


Figure 91: FTRPS for tomatoes, onions, carrots and cabbages (07/2006 – 12/2008)

Source: DAFF, 2009; Stats SA, 2009 and own calculations.

5.5.2 Potatoes

- *Supply trends*

Since 2003 and 2004 there has been almost a sideways movement in the hectares under cultivation (see Figure 92). During the same period, the total crop increased from 1.55 million tons in 2003 to 2.05 million tons in 2008, an increase of 32 % in five years. Currently 80 % of cultivated land used for potato production is under irrigation. Twenty years ago, half of all the land cultivated was under irrigation. Currently South Africa exports 6 % of its total production to neighbouring countries as fresh potatoes.

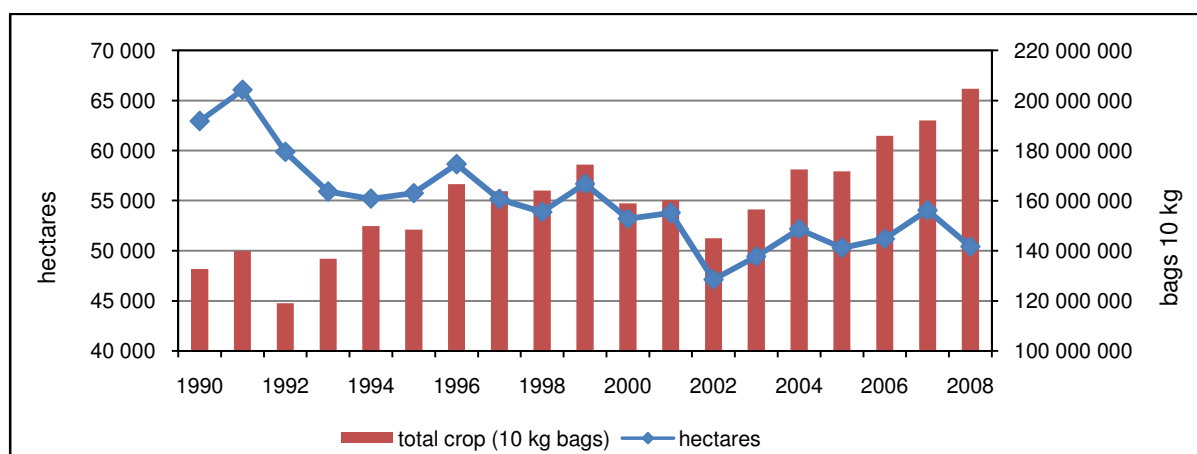


Figure 92: South African potato industry, hectares and total crop

Source: Potatoes South Africa, 2009.

- *Demand trends*

The high volumes sold on the markets during the beginning of 2007 and during the months of June to October 2008 were the result of exceptionally good growing

conditions experienced in the production regions. Figure 93 shows the monthly volumes sold in the fresh produce markets. 3 % of the total use is imported as frozen fries.

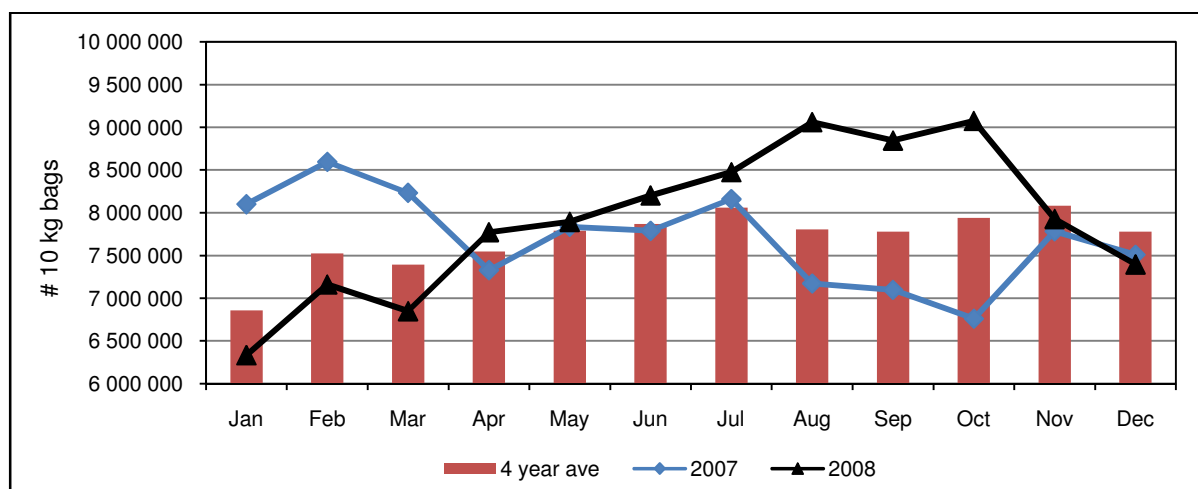


Figure 93: Potatoes: monthly volume sold on FPMs

Source: Potatoes South Africa, 2009.

Also noteworthy is that the percentage of the total yearly potato crop that is sold via the fresh produce markets is declining over time, which implies that the 'price forming mechanism' is under pressure.

- *Price trends*

The average weekly producer prices for 2006, 2007 and 2008 are illustrated in Figure 94. The high prices realised during October 2007 were mainly due to climatic conditions.

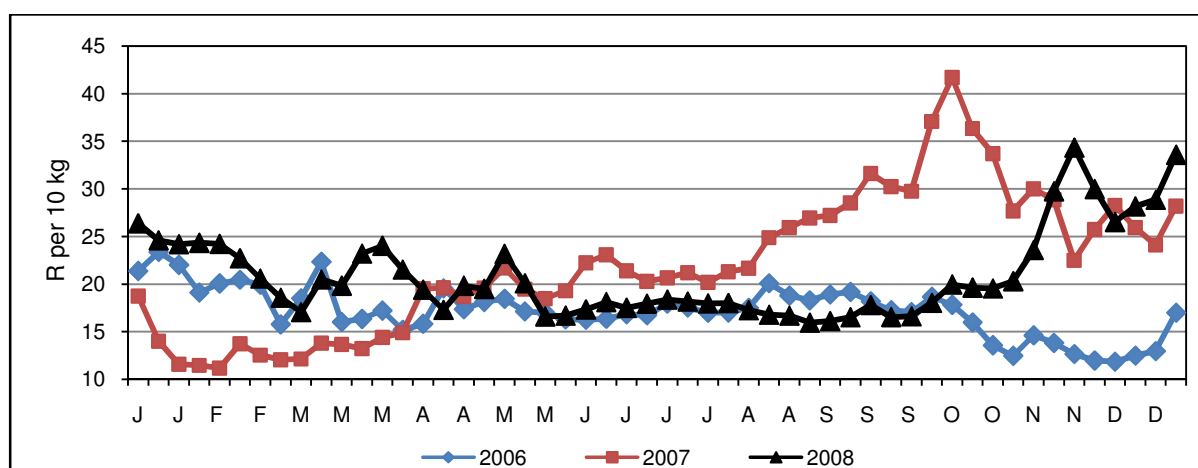


Figure 94: Average weekly price for potatoes in all markets (all classes)

Source: Potatoes South Africa, 2009.

Climatic factors are the main driver of potato production and, for that matter, potato prices. When good growing conditions appear, good yields are experienced, which will put downward pressure on prices.

- *Consumer spending: potatoes and potato products*

Consumer spending on potatoes and potato products increased from almost R9 billion in 2006/2007 to almost R11 billion in 2007/2008. In Rand value, the consumer spends 23 % more on potatoes and potato products, as shown in Table 30. South Africa's annual per capita consumption of 34 kg of potatoes per head is low in comparison to other countries, which have more than 100 kg of potatoes consumed per head per year. The informal sector distributes almost one third of all the fresh potatoes in SA.

Table 30 also shows that '*farm-gate price*' for the last two years varied between 34 % and 37 % of the consumer Rand or retail price.

Table 30: Consumer spending on potatoes and potato products

	Billion Rand (<i>R1000 million</i>)		% growth
	2006/2007	2007/2008	
Consumer spending	R8.77	R10.80	23 %
Gross producer income ('<i>farm gate</i>')	R2.94	R3.96	35 %
Therefore: value added ('<i>farm-to-fork</i>')	R5.83	R6.85	18 %
Average producer share in consumer Rands	34 %	37 %	

Source: Potatoes South Africa, 2009.

5.5 Deciduous fruit

The South African 2007/2008 deciduous fruit season in general can be described as an extraordinary production season, even better than the 2006/2007 season, both in terms of the volume produced as well as the return for growers. Pears were the only deciduous fruit for which total production decreased from the previous season. All deciduous fruit kinds increased their volume of exports during 2007/2008 from 2006/2007 volumes. Overall, realised export prices were very good, with the exception of apricot export prices, which decreased, and plum prices, which did not show much movement when compared to 2006/2007. Favourable exchange rate conditions (i.e. the weakening of the Rand against the Euro, Pound and Dollar) were also in favour of South African deciduous fruit exports, and contributed to the good prices achieved.

All deciduous fruit kinds experienced record local market prices. Profitability was however negatively influenced by the substantial increases in input cost prices. The decline in the area planted with apples and pears seems to be a thing of the past

and has shown an increase during 2008. The main reason for the turnaround is the increased profitability of the last couple of years that stimulated investment. Other industries that also expanding are dessert peaches and nectarines.

Table grape volumes, both local and exported, declined on average by 5 %. Realised export prices also indicated minor decreases, while local market prices reached record levels.

- *Apples*

During the 2007/2008 production season, South Africa produced 748 699 tons of apples, of which 181 382 tons (24 %) were sold in local fresh produce markets, 331 105 tons (44 %) were exported, and 234 492 (31 %) tons were processed for juice-making purposes. The portion of the South African harvest processed and exported during 2007/2008 was the highest it has been for the last 5 years, while local market sales were at the lowest point for the last 17 years. In general, the quality, size and pack-out of the crop produced were very good. The total area planted with apples in South Africa amounted to 20 736 hectares in 2008, a 1 % increase from 2007.

South Africa exported 12 % more apples during 2008 than in 2007. Total apple exports for 2008 amounted to 331 105 tons. South Africa and Chile were the only Southern Hemisphere countries to have increased their exports during 2008 from 2007, while exports by Argentina, Brazil and New Zealand decreased over the same period.

In 2008 the South African apple export prices were at their highest level in 17 years. In 2007, the per capita availability of apples in the world fell to its lowest level since 2002 due to unfavourable weather conditions. This caused apple prices to rise substantially around the world during the last two seasons. These high prices, together with the increased volumes exported, resulted in record returns for growers. Another factor also responsible for the increased South African export prices was the weak Rand against the major currencies. Figure 95 shows historical apple export volumes and prices.

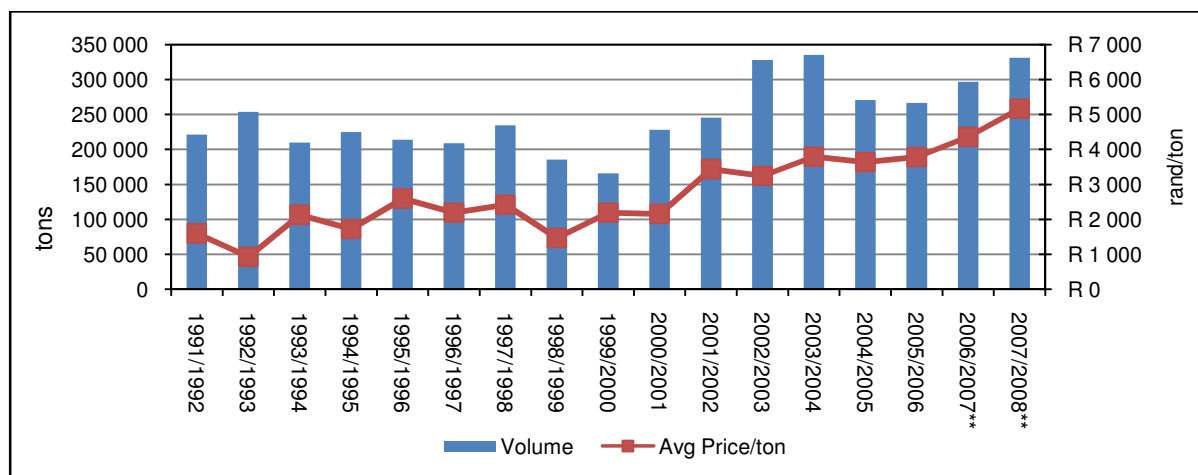


Figure 95: Historical apple export volumes & prices

** Preliminary

Source: DAFF, 2008; PPECB, 2008.

This decrease in supply and the strong global demand for apple juice has caused the price of South African processed apples to more than double from R447/ton in 2006/2007 to R1056/ton in 2007/2008.

Figure 96 shows the export destinations for South African apples. The Middle East and, to a lesser degree, Africa and the Far East has experienced growth in the last three years. The traditional UK and European markets declined slightly in terms of destination market share from 2006/2007 to 2007/2008. However, the UK (37 %) and Continental Europe (16 %) remained South Africa's major export destinations, although there is a strong drive to export more to the rapidly growing Far East and Russian markets. The volume of apple exports to Russia increased by 83 % from 2006/2007 to 2007/2008, while the volume exported to the Far East increased by 49 % over the same period.

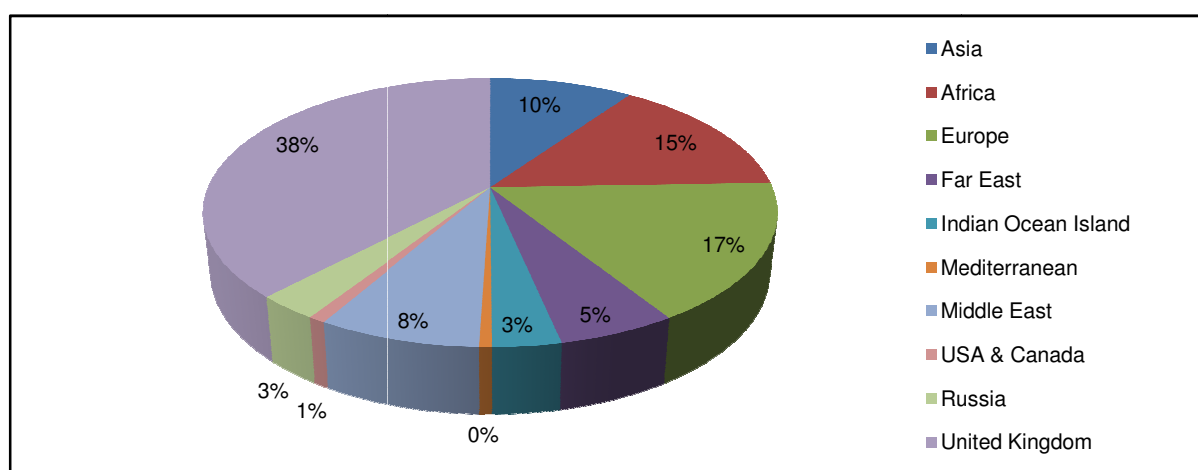


Figure 96: Apple export destinations (2008)

Source: PPECB, 2008.

In 2008 the amount of apples sold in the local market was 181 382 tons, a decrease of 19 % from the previous season. Figure 97 indicates the long-term trend of apples sold in local markets, as well as the historical prices for the same period. As mentioned above, more apples were exported during the 2007/2008 season, which is the main reason for the reduction in local market volumes.

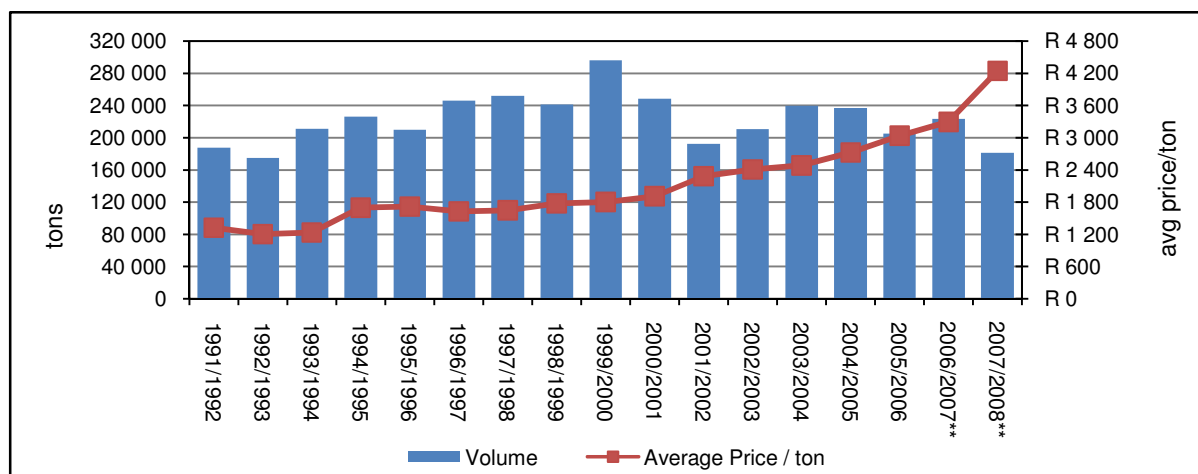


Figure 97: Apple sales in local fresh produce markets

** Preliminary

Source: DAFF, 2008.

It is also clear from Figure 97 that record local market prices were achieved during the 2007/2008 season. One of the main reasons for these extraordinarily high prices was because of limited supply due to increased volumes exported. Local market prices have been increasing year-on-year since 1999.

The major driver for local apple sales is the increased awareness, availability and demand for good quality apples and the willingness to pay for this. In this respect, direct sales to supermarkets and retailers, and the quality they demand, is the major driver.

- *Pears*

The total area planted with pears in South Africa during 2008 amounted to 11 425 hectares. Pear plantings have shown a decreasing trend since 2002; however, there was a small increase from 2007 to 2008. During 2008 South Africa produced 342 143 tons of pears, of which 14 % were sold locally, 48 % were exported, 35 % were processed, and 3 % were dried. The total production of pears decreased by 1 % from 2007/2006 to 2007/2008.

South African pear exports reached an all-time high during the 2007/2008 season, as represented in Figure 98. The total pear export volume reached 164 445 tons, an increase of 63 % during the last 17 years, and a 2 % year-on-year increase from 2007 to 2008.

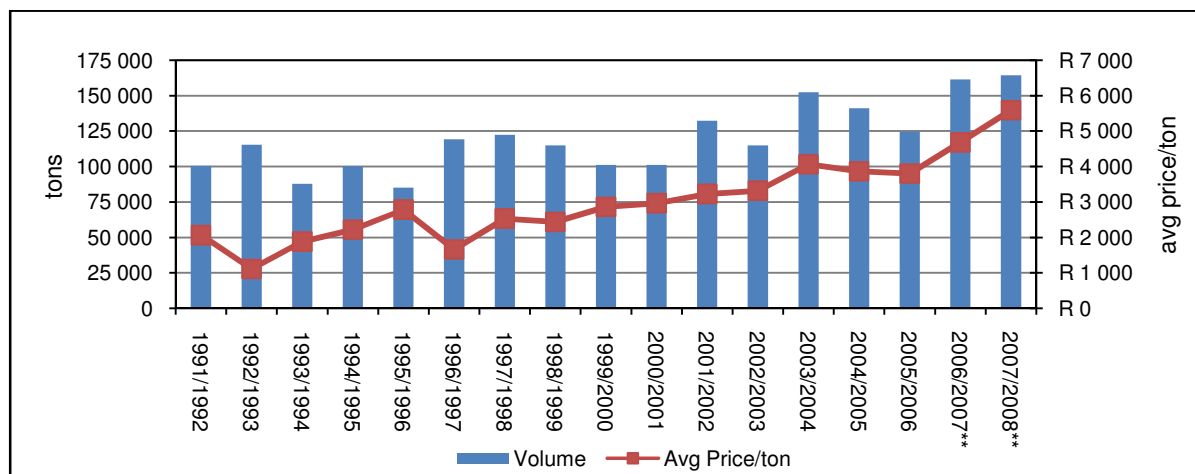


Figure 98: Historical pear export volumes and price

** Preliminary

Source: DAFF, 2008; PPECB, 2008.

Pear export prices increased on average by 19 % from the previous season. This increase was due to a decrease in the value of the Rand and also an increase of foreign prices. The increase in foreign prices was largely due to low supply. During 2008, European pear production reached its lowest level in ten years.

Another factor that played an important role in the relatively large export volume is that the cultivar Forelle came into production, resulting in a higher total value for South African pear exports. Forelle remains South Africa's fastest growing cultivar in terms of area planted, and it was expected to give South Africa an advantage with respect to producing and supplying a premium product. However, Chile is quickly catching up.

The markets that have shown growth for pear exports for the last three years are the Middle East and Russia. The traditional UK and European markets stayed relatively stable in terms of market destination share. The UK (17 %) and European markets (52 %) remain South Africa's major export destinations. Russia is a growing market with high potential for South African pear exports.

During the 2008 season 48 225 tons of pears were sold in local fresh produce markets, a decrease of 14 % from the previous season (see Figure 99). Sales decreased because of increased export volumes. Figure 99 also shows that record prices for pears sold in local fresh produce markets were achieved during the 2008 season. Pear prices have been increasing year-on-year since 2000.

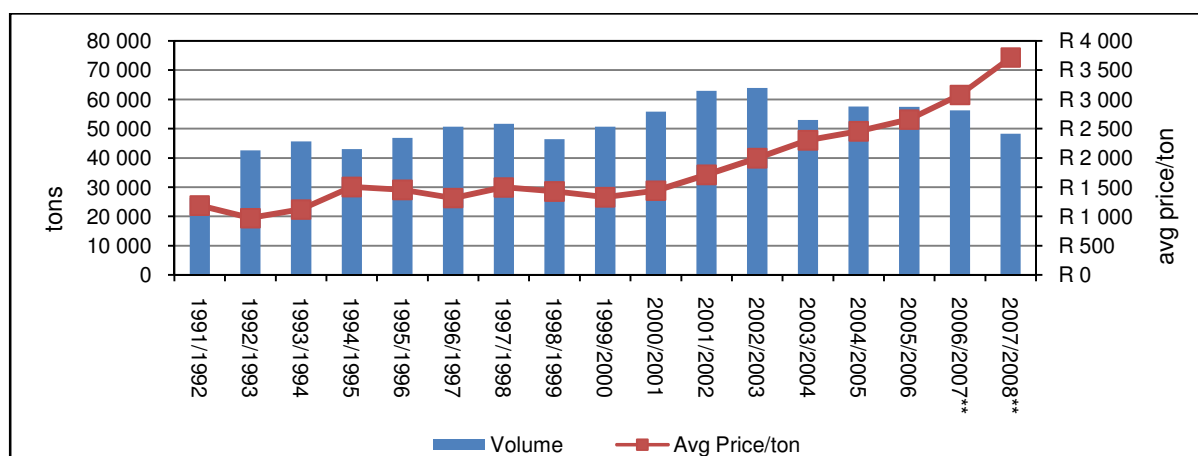


Figure 99: Pear sales in local fresh produce markets

** Preliminary

Source: DAFF, 2008.

As in the case with apples, the volume of fresh pears supplied to the local market and the prices achieved are greatly influenced by the profitability of the export market (influenced by global stocks and supplies, the strength of the Rand as well as nature's influence on volume and quality), and then also the prices offered by canning companies for Bon Chretien pears.

- *Stone fruit*

A difficult marketing environment and hence reduced profitability in the past few years prior to 2006 induced a downward trend in the area planted with stone fruit (apricots, peaches, and nectarines and plums). Despite the good returns for growers and increases in profitability during the last two production seasons, the total area planted with stone fruit is still decreasing; the total area decreased by 107 hectares from 2007 to 2008.

Although the total stone fruit area in South Africa has shown a decreasing trend over the last 8 years, the area planted to nectarines, dessert peaches and plums have increased during the last two years.

The total stone fruit export volumes for 2007/2008 were up by approximately 1.6 million cartons more than in the 2006/2007 season. The majority of South African apricots, peaches and nectarines are exported from week 45 to week 52, while the majority of plums are exported from week 52 to week 8 of the new calendar year. Table 31 shows the various stone fruit exports.

Table 31: Stone fruit exports

Product	Carton Size (kg)	2005/2006	2006/2007	2007/2008	3-Year Average
Apricots	4.75	994 081	652 473	836 938	827 831
Nectarines	2.5	1 549 864	1 864 043	1 966 136	1 793 348
Peaches	2.5	585 603	794 946	991 496	790 682
Plums/Prunes	5.25	5 315 360	7 661 930	8 866 919	7 281 403
Total		8 444 907	10 973 392	10 693 263	10 693 263

Source: PPECB, 2008; OABS, 2008.

The UK and European markets remain South Africa's major market for both pome and stone fruit. The strong competition from Southern Hemisphere countries, especially from Chile, will necessitate the marketing of more products in the other markets, thereby expanding South Africa's market share or increasing per capita consumption. South Africa has an advantage over its competitors in terms of its early production cycle, unique cultivars, relatively good infrastructure, advanced cold storage techniques, being logistically well-situated with regards to the UK, Europe and Middle East markets, and that the quality of fruit produced in South Africa is of the highest standard.

~ Peaches and nectarines

For statistical purposes the DAFF groups peaches (dessert and cling) and nectarines together when reporting on volumes and prices, although large variations between the two products occur, especially with export volumes.

During the 2008 season, South Africa produced 182 633 tons of peaches and nectarines, an increase of 3 % from the previous year. Local market sales represent 21 %; 4 % were exported; 4 % were dried and the largest part of the crop, 70 %, was processed during the 2007/2008 season.

At the end of 2008, the estimated dessert (1 379 hectares) and cling peach (7 111 hectares) orchards amounted to 8490 ha. Since 2005 dessert peach hectares have been increasing while the cling peach hectares started decreasing from 2002. Dessert peaches are mainly exported while cling peaches are mainly processed/canned and sold in the local market. The total area planted with nectarines was 1874 hectares. Nectarines are the only stone fruit that have increased in area planted over the past 10 years. Virtually all nectarines are sold in fresh markets.

During the 2007/2008 season good export conditions were experienced, along with a favourable exchange rate against major currencies as well as good demand from export markets, which led to satisfactory grower returns. The export season was, however, two weeks later than the previous season. South Africa exported 2390 tons of peaches during 2007/2008 season, 403 tons (20 %) more than in 2006/2007. Nectarine exports for the 2007/2008 season were 4 884 tons. This is 224 tons (5 %) more than in 2006/2007. In total, South Africa exported 11 % more peaches and nectarines during 2008 than in 2007 (see Figure 100). Combined, exports for the

two amounted to 7 274 tons and there were no quality problems. There has been a general downward trend since the peak export volumes of 2000/2003 to 2007/2008, although there has been an increasing trend for the past two years and volumes are almost at the level of 2004/2005.

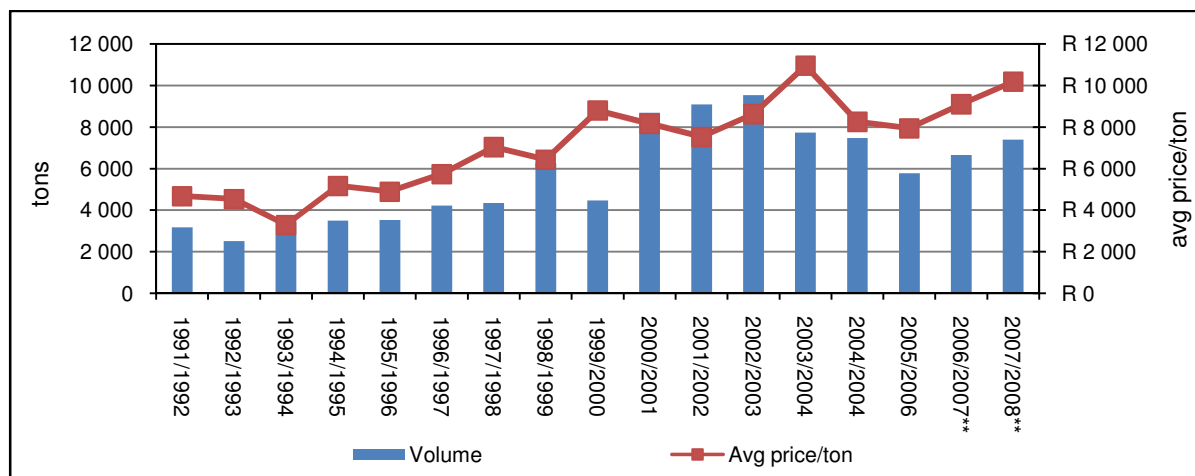


Figure 100: Peach and nectarine historical exports

** Preliminary

Source: DAFF; PPECB, 2008.

Peach and nectarine export prices showed a significant increase from 2006/2007 (R9102/ton) to 2007/2008 (R10188/ton), an increase of 12 %.

The market that has shown growth for South African peaches during the 2007/2008 season has been the Middle East, but at the cost of Europe and the UK (see Figure 101). The Middle East (41 %) and the UK (38 %) remain South Africa's largest export destinations. Figure 102 shows that the UK is the largest export destination for nectarines.

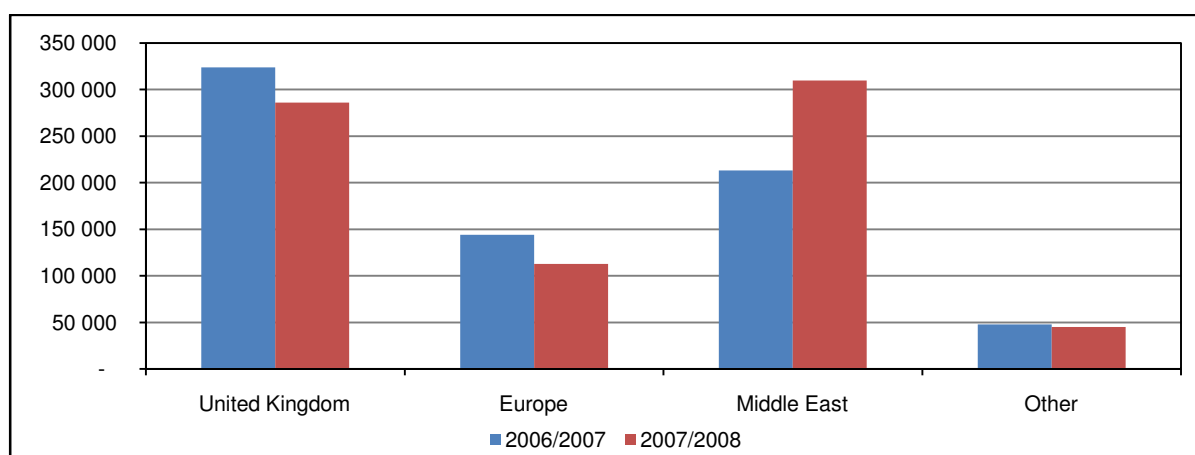


Figure 101: Peach export destinations

Source: PPECB, 2008.

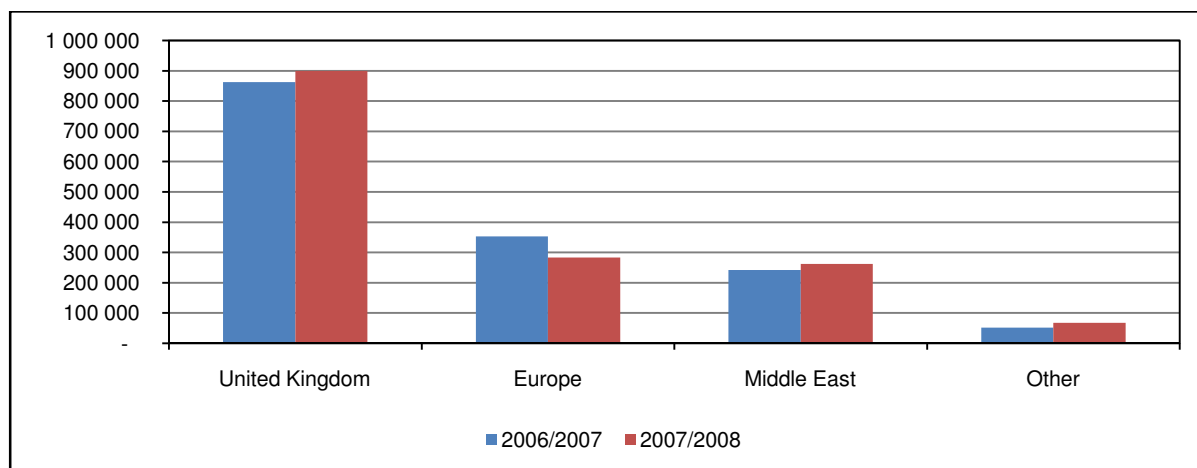


Figure 102: Nectarine export destinations

Source: PPECB, 2008.

During the 2008 season, 39 180 tons of fresh peaches and nectarines were sold in the local fresh produce markets, an increase of 5 % from the previous season (see Figure 103). The figure also shows that the supply to the local market has been more stable since 2003/2004.

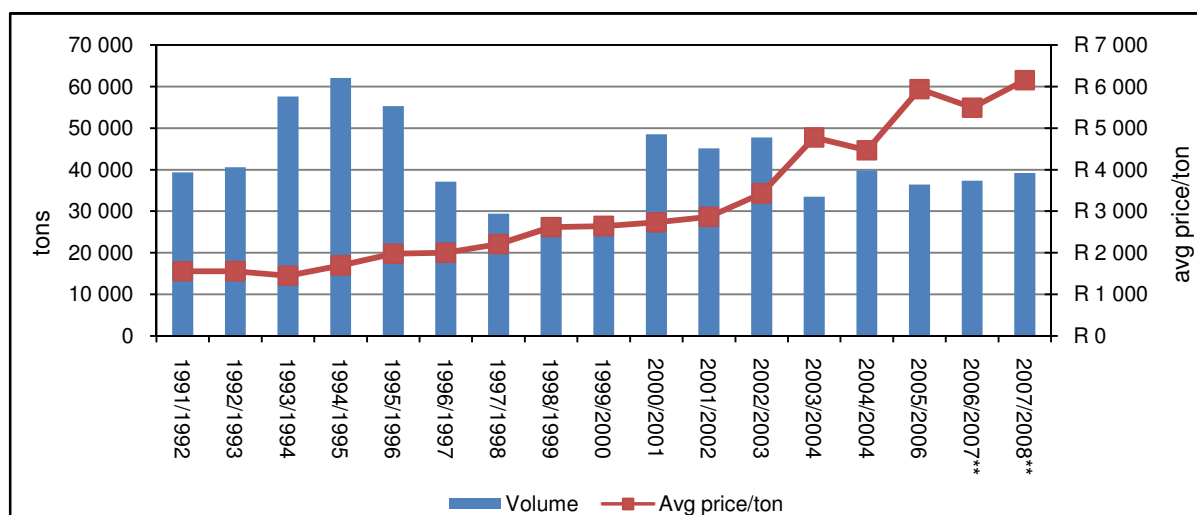


Figure 103: Peach & nectarine sales in local markets

** Preliminary

Source: DAFF, 2008.

In general, prices achieved in the local market over the last decade have had a positive trend, and record local market prices were achieved during 2007/2008 (R6154/ton), there was a price increase of 12 %.

As with apples and pears, there has been a general trend where local market sales shifted directly to supermarkets and retailers, rather than being bought by these buyers in the local municipal markets. The local market for peaches and nectarines is, however, prone to speculation and can easily be over-supplied; this was fortunately not the case during the 2007/2008 season.

~ Plums

During 2008 South Africa produced 62 574 tons of plums, of which 14 817 (24 %) were sold locally, 46 551 tons (74 %) were exported, and 1 206 tons were processed for juice. Prunes that were dried during 2007/2008 amounted to 3 630 tons. The plum industry once again experienced a significant increase in total production, by 15 %, keeping in mind the 43 % increase from the previous season.

At the end of 2008, total plum orchards amounted to 4 081 hectares. Plum hectares have been decreasing from 2003 to 2007, but during 2008 there was a slight increase of 1.6 %. The total prune area planted at the end of 2008 was 441 hectares.

Plum exports during the 2007/2008 season increased by 16 % from the previous year. South Africa has the advantage of supplying the first of season plums from the Southern Hemisphere. Figure 104 shows the historical export volumes and prices.

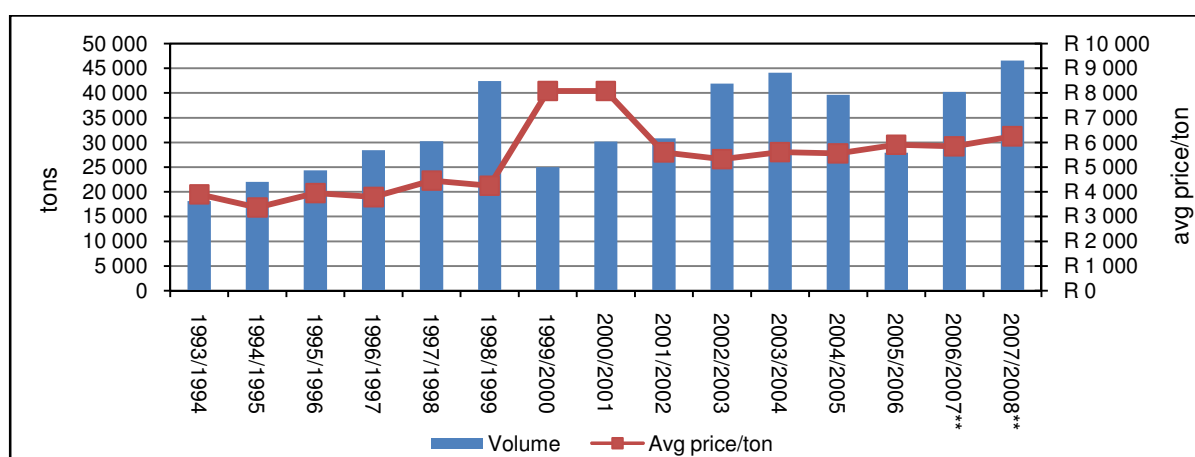


Figure 104: Plum historical export volumes and prices

** Preliminary

Source: DAFF, 2008.

Demand for plums during the 2007/2008 season was good and producers achieved good prices in the export markets. Prices increased from R5836/ton in 2006/2007 to R6243/ton in 2007/2008. A favourable exchange rate also had a positive influence on the export price.

During the 2008 season, 14 817 tons of plums were sold in the local market, which represents an increase of almost 23 % from the previous season. Figure 105 shows the plum sales in the local fresh produce markets. Local market demand for plums remains relatively stable from year to year. This market is, however, not nearly developed to its potential. The local market is also increasingly characterised by direct sales to supermarkets and retailers instead of the local municipal markets.

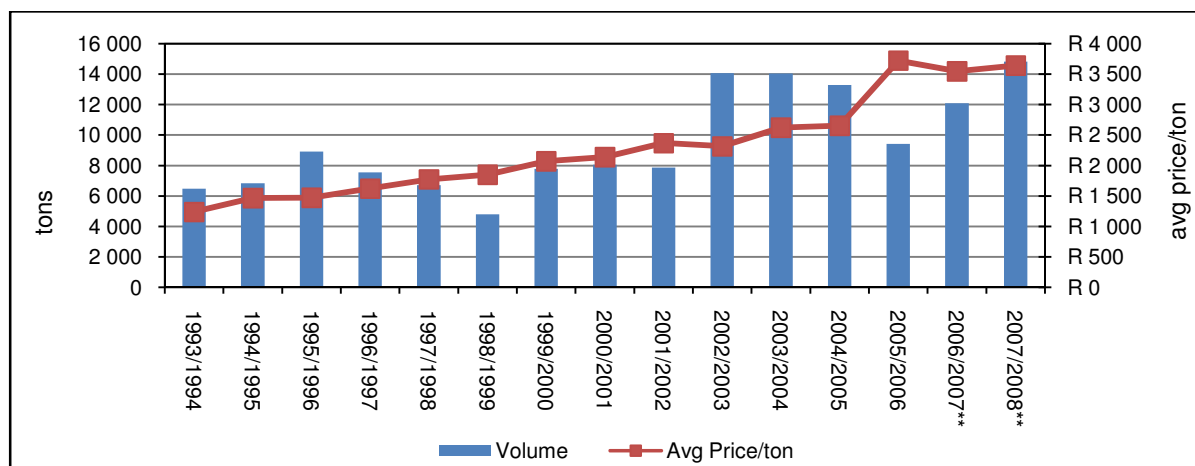


Figure 105: Plum sales in local fresh produce markets

** Preliminary

Source: DAFF, 2008.

Although the local market is an important outlet, it does not play such a big role as with peaches and nectarines. Local market price is mainly a derivative of the export conditions – if export conditions are good, less plums are sent to the local market and the price increases, and vice versa.

- *Table grapes*

During 2008 South Africa produced 420 248 tons of table and dry grapes, of which 25 616 tons (6 %) were sold fresh locally, 224 872 tons (54 %) were exported fresh, and 169 760 tons (40 %) were dried. The total table and dry grape production was 5 % less in 2008 than in 2007.

If only fresh grapes are taken into consideration, 90 % were exported and 10 % were sold in the local market during 2007/2008. During 2008 approximately 48 million cartons of table grapes were exported. The total area planted with table grapes at the end of 2008 amounted to 13 982 hectares.

Table grape export volumes from South Africa have increased at a significant rate (139 %) from 1993/1994 to 2007/2008. South Africa exported 5 % less in 2007/2008 than in 2006/2007. The total amount of table grape exports during 2007/2008, were 224 872 tons. Figure 106 shows the historical table grape export volumes and prices.

Both the table grape export volume and realised prices declined. However, prices have improved significantly from 2001/2002 to 2007/2008. The fact that both volumes and prices declined indicates that prices are under pressure due to intense competition from Chile and other Southern Hemisphere countries. The profitability of SA table grape exports is largely influenced by the pre-season export estimate and the amount of table grapes exported by Chile to the UK and Europe.

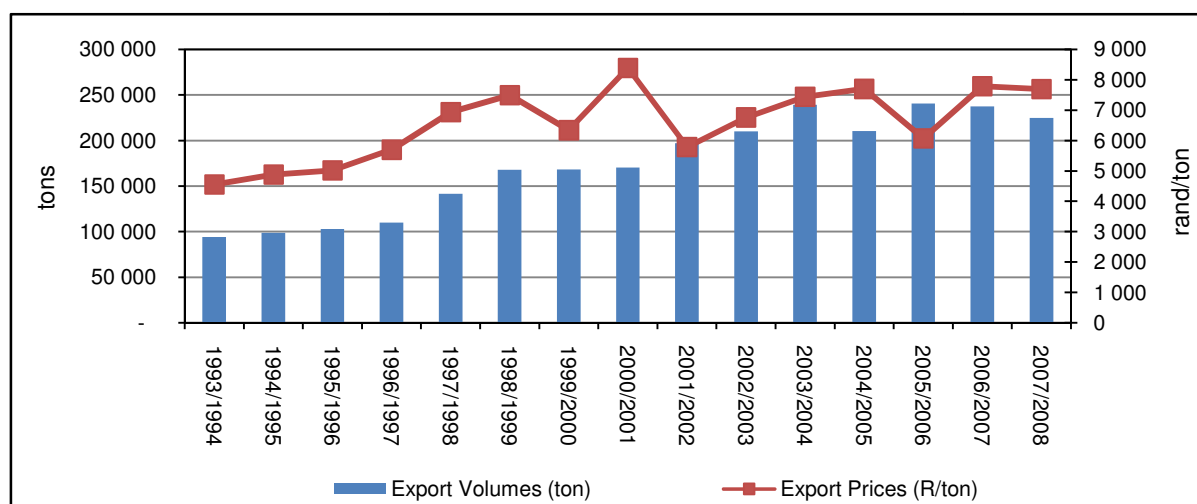


Figure 106: Historical table grape export volumes

Source: DAFF; PPECB, 2008.

South Africa's traditional export markets, the UK and the European markets, stayed relatively stable in terms of destination and market share. Northern Europe (57 %) and the UK (24 %) remain South Africa's major export destinations (see Figure 107). The increased volumes of Chilean, Brazilian and Argentinean grapes contribute to an over-supply in all South Africa's traditional markets. South Africa is relatively well positioned in terms of its marketing in the Northern Hemisphere, as the majority of South African table grapes land in the market before Chile's peak volumes, although overlapping does occur from mid-season.

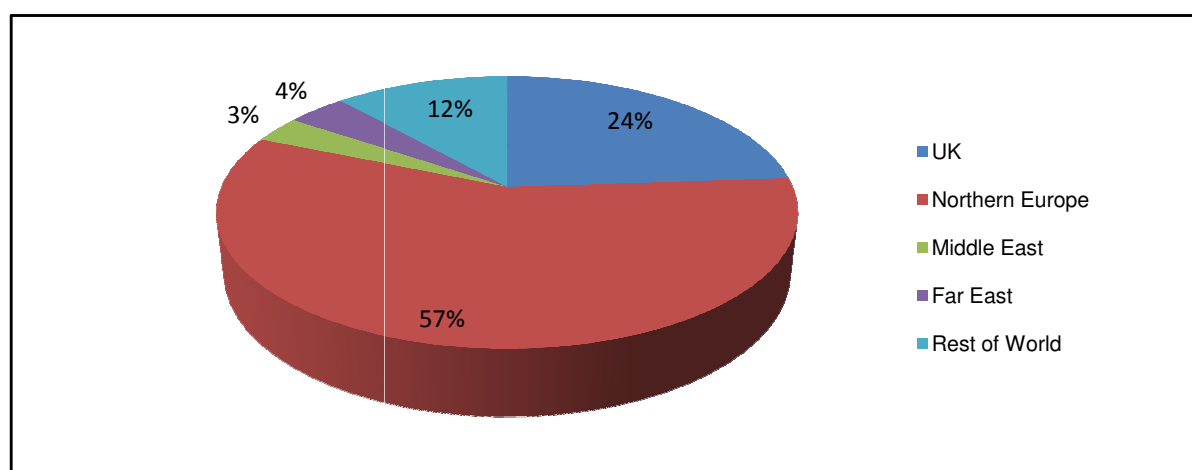


Figure 107: Table grape export destinations

Source: PPECB, 2008.

During the 2007/2008 production season, 25 616 tons of table grapes were sold in the local market, which was a decrease of 5 % from the previous season (see Figure 108). This was the second consecutive year that volumes supplied to the local market declined.

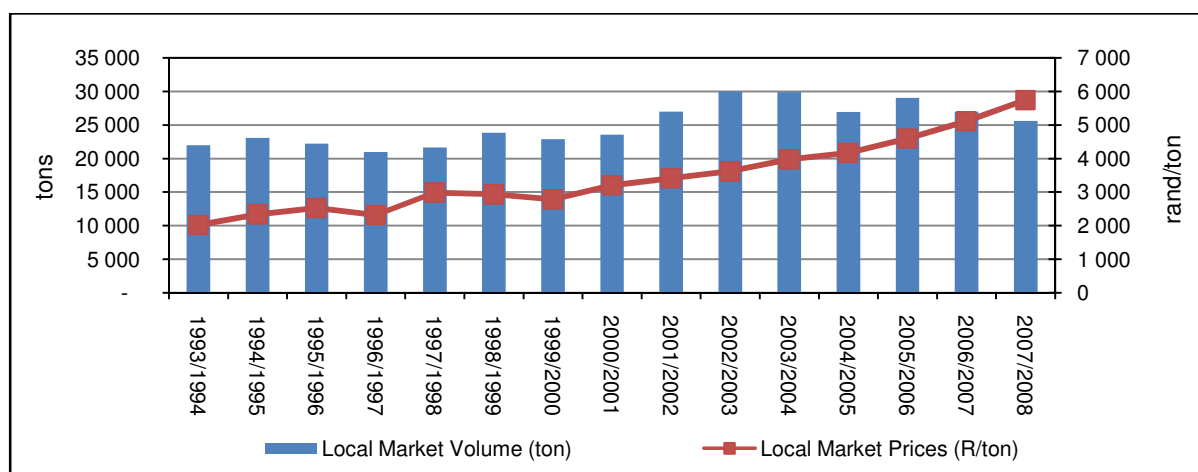


Figure 108: Historical table grape sales in local fresh produce markets

Source: DAFF, 2008.

The local market volume declined while prices reached an all-time high (see Figure 108). This could be in response to the limited supply in the local markets. Local market prices have been increasing year-on-year since 1999/2000, and were at record levels during 2007/2008. Local market prices increased on average by 13 % from 2006/2007.

6. SELECTED TOPICS

In this section selected topics are discussed. These include: (i) agriculture and the national government budget; (ii) government involvement in the agricultural sector; (iii) the financial position of the South African agricultural sector; (iv) the impact of agricultural research on agriculture; (v) the financial position of the agricultural sector in South Africa and (vi) agricultural potential.

6.1 Agriculture and the national government budget

Agriculture remains one of the most important sectors of the Southern African Development Community (SADC) economies. About 80 % of the population in the SADC region depend on agriculture for food, income and employment; hence, agriculture is arguably the backbone of the economy of the region. Moreover, economic growth, food security and socio-economic stability in the SADC region depend on the performance of agriculture. Accordingly, at the Dar es Salaam Declaration on agriculture and food security in the SADC region on 15 May 2004, heads of state and governments declared a number of issues as important and committed to short and medium-term undertakings in an effort to strengthen food security in the region. It is important to note that the focus on agriculture covered a number of targets, namely:

- ~ The promotion of sustainable and equitable economic growth and socio-economic development to ensure poverty alleviation, with the ultimate objective being its eradication;
- ~ The achievement of sustainable utilisation of natural resources and effective protection of the environment; and
- ~ Mainstreaming of gender perspectives in the process of community and nation-building.

One of the medium-term declarations (between 2004 and 2010) was to progressively increase budgetary allocations for agriculture to at least **10 %** of the total national budget in a country, as recommended in the African Union Declaration on Agriculture and Food Security in Africa (July 2003).

- *South Africa's budget allocations since 1999/2000*

South Africa's budget allocations since 1999/2000 show an interesting trend, namely that provincial equitable shares and the country's repayment of its debt have formed one of the largest areas of national spending (through direct charges in the national revenue fund). Over this period, the departments gaining the biggest share of the total budget, not in ranking order are: Provincial and Local Government, Defence, Health and the National Treasury. For more specific figures see Appendix C. It is important to note that budget allocations for departments are categorised into six

clusters, namely: Central Government Administration, Financial and Administrative Services, Social Services, Justice and Protection Services, Economic Services and Infrastructural Development (where agriculture belongs). The top six departments taking the largest amount of the total budget appear to be fairly distributed between the clusters.

- *Economic services and infrastructural developments*

There are twelve departments categorised under this cluster (as listed in Figure 136). While departments such as Provincial and Local Government, Transport and Housing have seen their budgets increase from below R5 billion in 1999/00 to above R15 billion in 2007/08, the agriculture budget is still less than R5 billion. Figure 109 shows the budgetary allocations to the departments. Within the ambit of the SADC declarations mentioned above, it is clear that there is significant room to increase the budget share going to agriculture in South Africa.

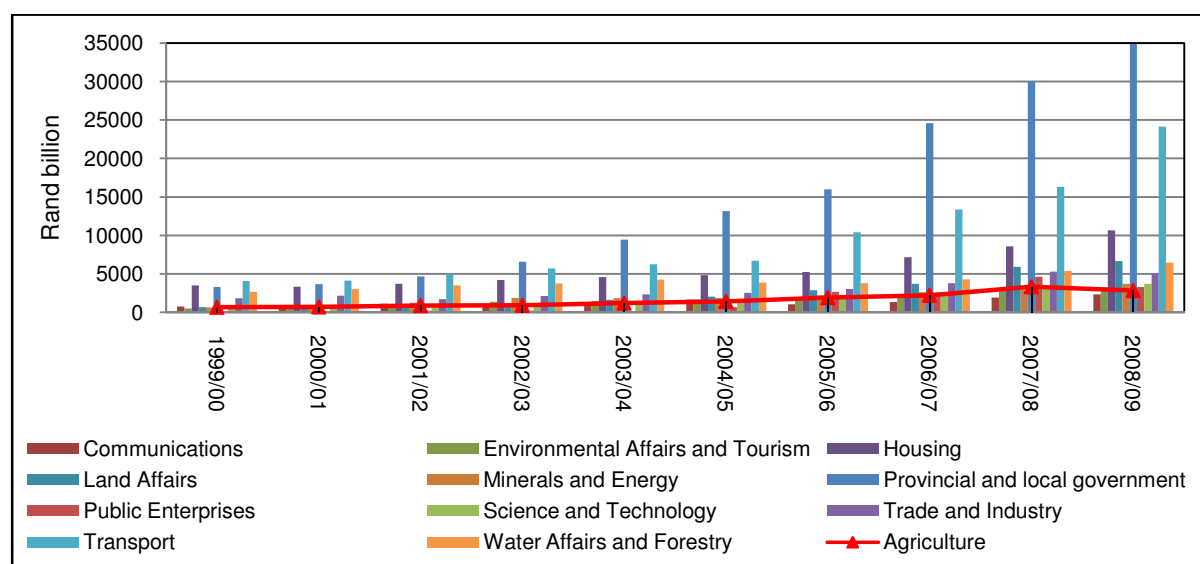


Figure 109: Budget allocations of economic services and infrastructure development departments

Source: South African Treasury, 2009.

Figure 110 shows the share of agriculture in relation to the total national budget. South African agriculture's share of the total national budget has always been less than 1 % of the total national budget. Agriculture's share of the national budget did, however, increase from 0.31 % in 1999/2000 to 0.62 % in 2007/2008, but it appears as if this share has dropped again in 2008/2009, down to 0.44 %.

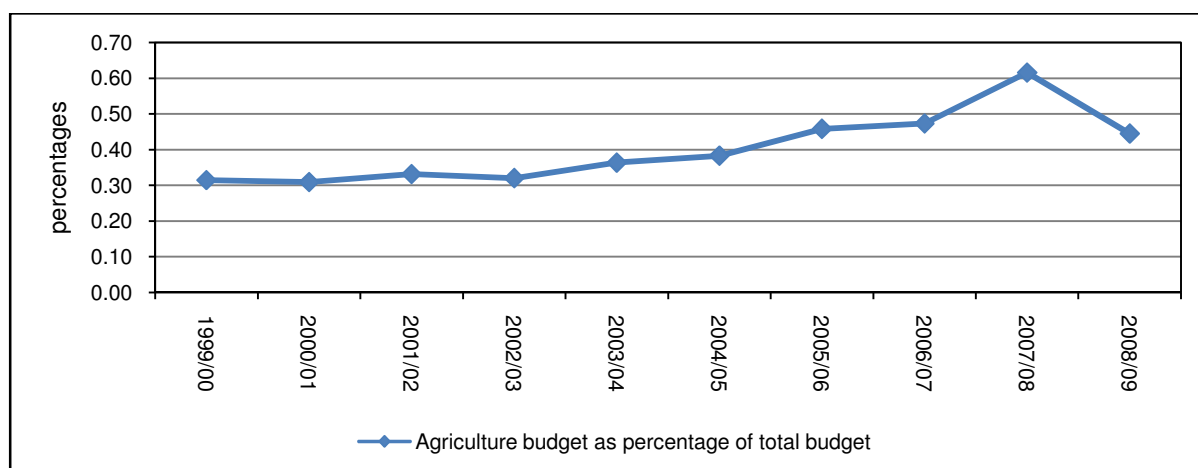


Figure 110: Agriculture share of the total national budget for South Africa over a ten-year period

Source: South African Treasury, 2009.

Figure 111 shows the actual budgetary amounts allocated to agriculture since 1999/2000. It is clear that from 2003/2004 there was a significant increase in the budget allocated to agriculture, but the budget allocated is still far short of the 10 % of the national budget target.

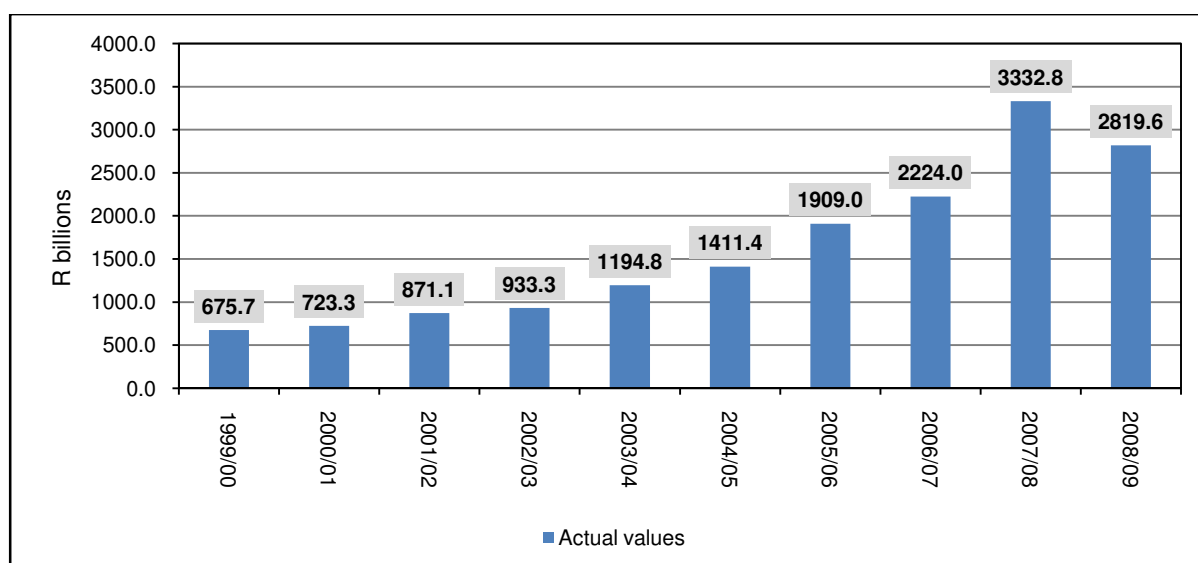


Figure 111: Actual budget allocation to the agriculture sector (R billions)

Source: South African Treasury, 2009.

6.2 Government involvement in the agricultural sector

Every few years the OECD undertakes a project to evaluate the policies with regard to agriculture in the most prominent developing countries, which include Brazil, Chile, China, India, Russia, South Africa and the Ukraine. The most recent OECD (2009) report pertaining to these countries provides more information about support given to agricultural producers in these countries.

- *Direct support to producers*

Direct support to agriculture, as measured by the OECD, is expressed as a percentage of gross farming income. This is referred to as the producer support estimate or PSE, and was as follows for the period of 2005-2007: Chile (4 %), Brazil (6 %), South Africa (6 %), China (9 %), Ukraine (9 %) and Russia (14 %).

The level of support offered to these producers is considerably lower than the OECD average of 26 %. In other words, the support provided directly to producers in the developing countries mentioned is substantially lower than what producers in developed countries receive. The support offered to producers by developing countries mostly comes in the form of tariffs, minimum prices for products and export subsidies. It is affected by changes in production, world prices and the exchange rate. Reductions on credit and input subsidies also play a role.

Since the middle of the 1990s, direct support to producers (as measured by the PSE) has reduced in Chile and South Africa. In China and Brazil conservative increases in the level of support to producers have occurred, while the support to producers in Russia has shown a more aggressive increase since the mid-1990s. In the Ukraine the support provided to producers is erratic from year to year.

- *Total support to agriculture*

As far as total support to agriculture goes, that is direct support to producers as well as all other support provided to agriculture by means of services, the OECD study shows that over the period of 2005-2007, it was approximately 1 % of the gross domestic product (GDP) in OECD member countries. This shows a decreasing tendency over time, but nevertheless, a significant amount is being used to support the agricultural sectors in developing countries if one takes into account the size of the GDP in these countries. In most developing countries total support to the agricultural sector was less than 1 % of the GDP.

- *Support to agriculture in South Africa*

According to the OECD study, direct support to producers in South Africa shows a declining tendency over the period of 1995 to 2001. Thereafter, support from 2002 slightly increased to stabilise at 7 % and then decreased to 6 % between 2005 and 2007. The largest part of this support is in the form of price support, for example, tariffs on imports. However, it is worth mentioning that the price gap between international prices declined from 13 % between 1995 and 1997, to only 5 % for the period of 2005 to 2007. In other words, the protection received by agriculture in general by means of tariffs substantially decreased. It is important in this context to consider a recent study done by Tralac and commissioned by the NAMC, which

shows that South Africa has limited space to use tariffs to protect the agricultural sector against the uneven international playing field for agricultural commodities and products. The reason for this is South Africa's bilateral trade agreements with SADC and the EU.

The value of support to agriculture, which relates to general services to agriculture (this is support that is not specifically linked to a commodity, such as extension services), has increased. Measured as percentage of the total support, the value of general services increased from 35 % between 1995 and 1997, to 54 % between 2005 and 2007. The largest amounts can be attributed to general services, and are linked to the implementation of the land reform programme.

The total cost of support to the agricultural sector, measured as a percentage of the GDP, decreased from 1 % between 1995 and 1997, to 0.59 % between 2005 and 2007. This is considerably lower than the average of 0.97 % for developed countries.

6.3 The financial position of the South African agricultural sector

The Strategic Agricultural Sector Plan (SASP) has three strategic imperatives, namely: equitable access and participation, profitability and competitiveness, and sustainability. The discussion that follows relates to the second imperative at the aggregate level. The profitability of the agricultural sector is vitally important to ensure the maintenance and expansion of local food production; to contribute to vitally important economic development in rural areas; to provide opportunities for new entrants into the sector, and to contribute to the overall economic prosperity of South Africans. Data used was obtained from the Abstract of Agricultural Statistics (DAFF, 2009).

- *Changes in agricultural debt levels*

Agricultural debt in South Africa increased from R3.8 billion in 1980 to R48 billion in 2008; this is a growth of more than a thousand percent in nominal terms (see Figure 112). However, in real terms agricultural debt increased from 1980 before peaking between 1984 and 1985, and then declined until around 1994, after which it moved more or less sideways until 2008 (see Figure 112). The sharp increase in real agricultural debt during 1984/85 can be attributed to significant investment in moveable capital assets prior to one of the most devastating drought events (El Niño) of the last 30 years. The result was that agricultural producers had huge debt burdens, which eventually required government intervention. Subsequent to the financial crises in the agricultural sector during the early eighties, the use of debt has been much more conservative.

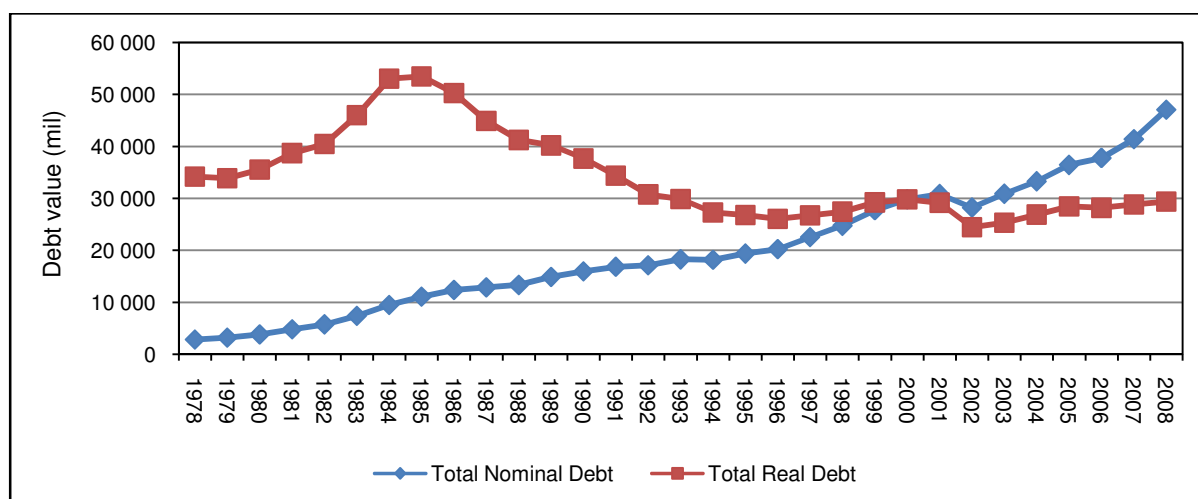


Figure 112: Total nominal and real agricultural debt

Note: Real values 2000=100

Source: DAFF, 2009.

- Debt distribution by financial institution

Figure 113 shows the debt distribution by financial institutions over time. In 1978 the Land and Agricultural Bank had 18.71 % of agricultural debt, where after it increased until the early part of 2000. In 2008 the Land and Agricultural Bank only held 7.37 % of the total agricultural debt. The provision of agricultural debt by commercial banks showed a significant increase since 1978 when they had a share of 21.81 %, to 2008's massive 67.38 % share in the total agricultural debt. The share of debt provision by all other financiers to the agricultural sector declined from 1978 to 2008 (see Figure 113).

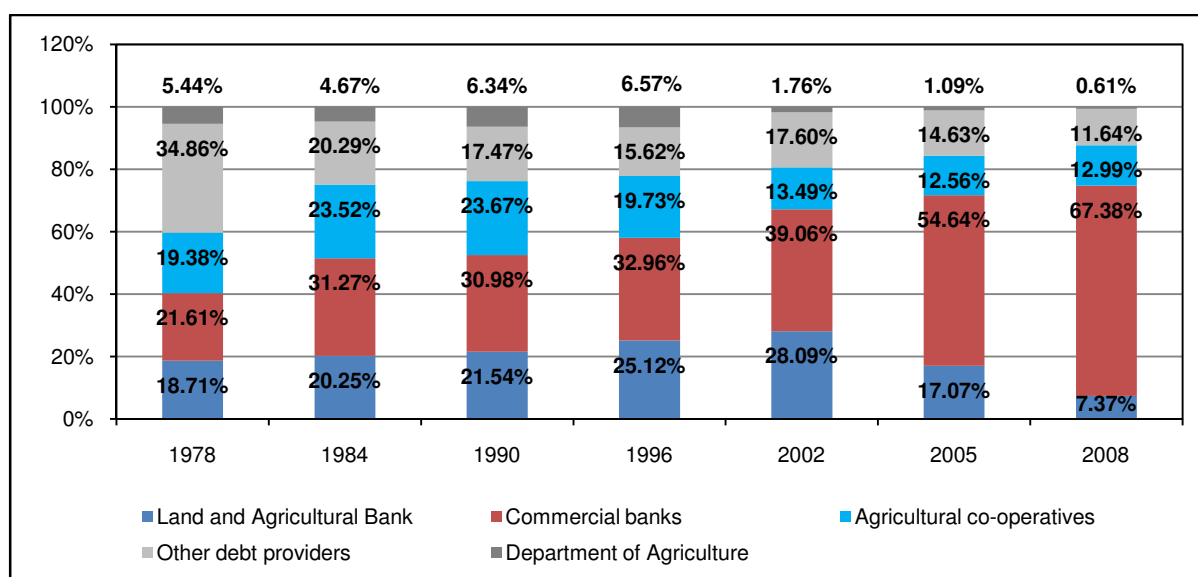


Figure 113: Debt distribution by financial institutions

Source: Own calculations based on data from DAFF, 2009.

- *Interest cover ratio and weighted average interest rate*

The interest cover ratio¹⁸ shows how easy or difficult it is to pay interest on outstanding debt. A ratio of 1 or higher is preferred, i.e. the higher the ratio, the better the ability to cover interest payments. If the ratio is below 1, it indicates that interest on outstanding debt can't be paid. A low ratio also indicates high risk for financiers. Figure 114 shows the interest cover ratio for the agricultural sector from 1978 to 2008. Throughout the depicted period the ratio was higher than 1, but the impact of the El Niño event during the early 1980s is clearly visible. It was only during early 2000 that the ratio gained momentum again. The combined impact of high commodity prices and sufficient volumes to sell is clearly visible in 2002, and from 2006 to 2008. It is also interesting to note that during the period, which was characterised by a relatively low interest cover ratio (i.e. 1983 to 2000), the weighted average interest rate was also relatively high. The figure also indicates that a high weighted average interest rate¹⁹ reflects a low interest cover ratio.

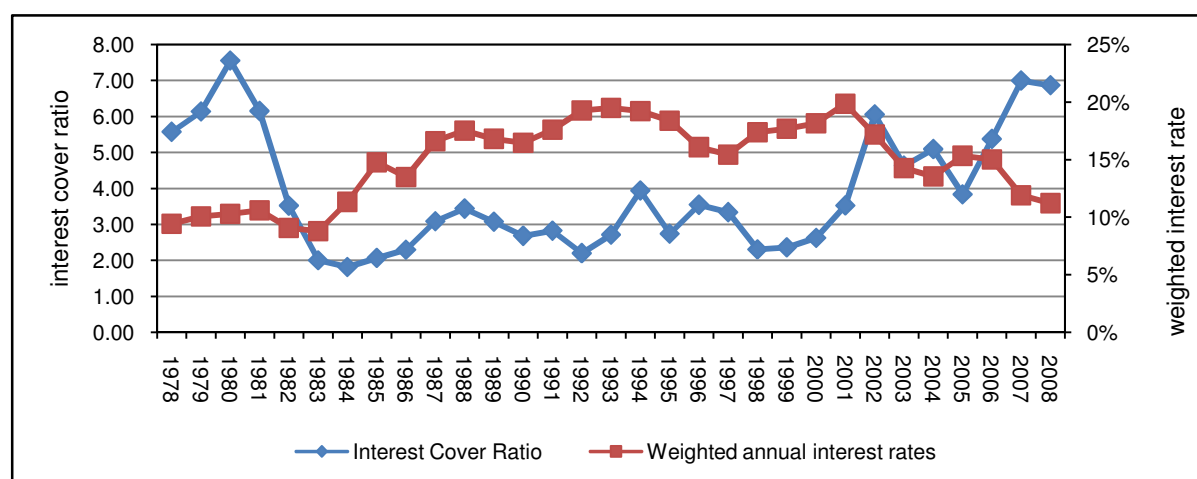


Figure 114: Interest cover ratio and weighted annual interest rate

Source: Own calculations based on data from DAFF, 2009.

- *Debt repayment capacity and debt repayment capacity used*

Debt repayment capacity²⁰ (DRC) is calculated by discounting the net farm income before interest and tax for eight years from the weighted average interest rate. The debt repayment capacity used (DRCU) is an indication of how much debt in terms of the capacity is used²¹. A low figure indicates a very good and healthy industry; the lower the debt capacity used, the greater the opportunity to extend business or absorb future risk. In times when debt repayment capacity use is higher than 100 %, it means that a sector cannot repay its debt with the current income. Figure 115

¹⁸ The interest coverage ratio is calculated by dividing earnings before interest and taxes (EBIT) of one period by the interest expenses of the same period.

¹⁹ The weighted average interest rate is calculated with a 38,5 % weight provided by the Land Bank, a 19,9% weight provided by co-operatives and 41,6% by commercial banks.

²⁰ The DRC was deflated with 2000 as the basis year.

²¹ Debt repayment capacity use is calculated by dividing the agricultural debt by the debt repayment capacity.

shows that the agricultural sector in South Africa had significant problems in 1983-1985, 1992 and the period of 1998 to 2000. As indicated previously, periods of high commodity prices benefitted the agricultural sector (e.g. 2002, 2006-2008), i.e. there was a decline in the debt repayment capacity used.

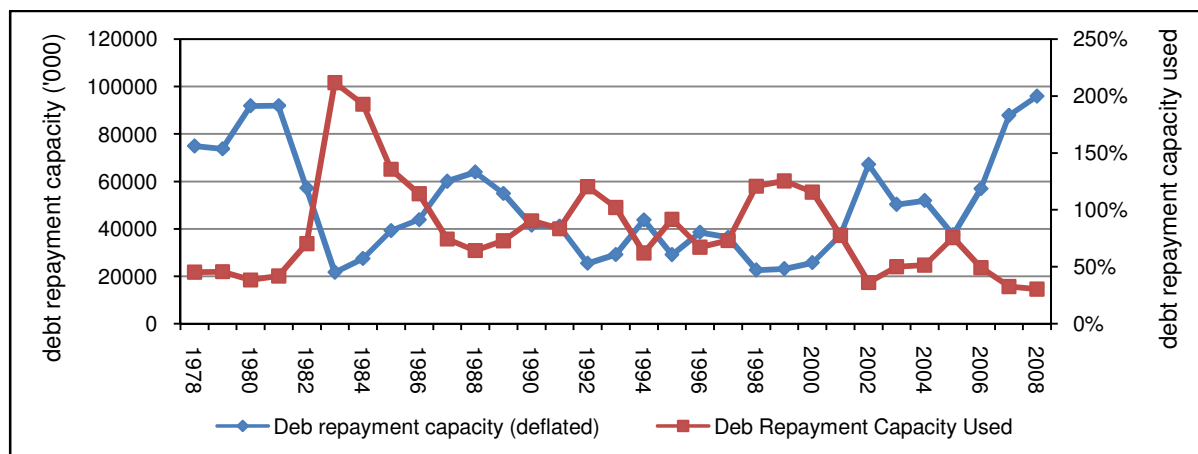


Figure 115: Debt repayment capacity and debt repayment capacity used

Source: Own calculations based on data from DAFF, 2009.

- *Gross and net farm income*

Figure 116 shows the real gross and net farming income, as well as expenditure on intermediate goods and services. Real gross income shows an increasing trend throughout the depicted period, while real net farming income shows a sideways trend. Furthermore, it is important to note that the gap between real gross and net farming income has increased substantially over the depicted period. This is mainly due to the increase in the real expenditure on intermediate goods and services to maintain agricultural operations.

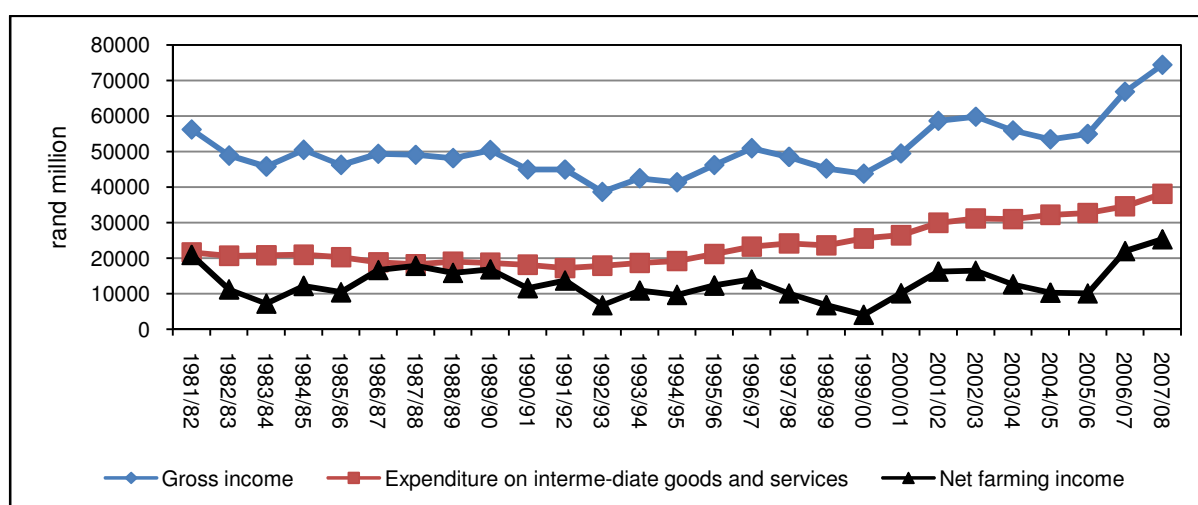


Figure 116: Real gross and net income in agriculture (2000=100)

Note: Intermediate goods and services include, amongst other things, packaging material, fuel, fertilisers, feed and dips and sprays.

Source: Own calculations based on data from DAFF, 2009

6.4 The impact of research and development on agriculture and the role it can play

In a recent paper by Von Braun (2008a) on the implications of the food and financial crises for agriculture and the poor, he argues that to successfully resolve the food price crisis, more actions are needed to build resistance to future challenges, and to reduce poverty and hunger. Three policy actions should be taken in order to achieve this: (this section will only highlight the first as it pertains to research and development – R&D)

1. Promote pro-poor agricultural growth;
2. Reduce market volatility; and
3. Expand social protection and child nutrition action.

As far as the promotion of pro-poor agricultural growth is concerned, Von Braun (2008a) emphasises that it entails investment in R&D, rural infrastructure, rural institutions, and information monitoring and sharing. Von Braun (2008a) shows that agricultural output would increase significantly and millions of people would emerge from poverty if public agricultural investment in research would double from US\$5 to US\$10 billion between the period of 2008 and 2013.

Table 32 shows the impact of doubling R&D investment in poverty and output growth under poverty minimisation. In Sub-Saharan Africa and South Asia, agricultural growth would lift \pm 268.4 million people out of poverty by 2020. International food prices will also be affected in expanding agricultural R&D investment.

Table 32: Impact of doubling R&D investment in poverty and output growth under poverty minimisation

Region	R&D allocation (millions of 2005 US\$)		Change in number of poor (millions) 2008-2020	Agricultural output growth (% points) 2008-2020
	2008	2013		
Sub-Saharan Africa	608	2913	-143.8	2.75
South Asia	908	3111	-124.6	2.40
South-east/East Asia	1956	2323	-13.4	0.69
West Asia and North Africa	546	614	-0.2	0.23
Latin America	957	990	-0.2	0.07
Total	4975	9 951	-282.1	1.11

Source: Von Braun, 2008a.

Within the aforementioned context it is necessary to reflect on R&D investment in agriculture in South Africa. According to Liebenberg (2009), in the past 50 years, growth in productivity played a crucial role in increasing food supplies, enabling agriculture to more than keep pace with the growing demand for food that was

fuelled by population and per capita income growth. Moreover, in South Africa there was strong growth in the output of especially the horticultural industries and field crops since 1952, but for field crops (grain, oilseeds and fibre) this growth has stagnated since the early 1980s and is showing no sign of regaining earlier growth trends. Liebenberg (2009) argues that a fundamental driver of this growth in productivity has been the technical changes from improved inputs such as seeds, fertilisers and production practices that stem directly from investments in R&D and support programmes to improve the access and use of these technologies. Moreover, Liebenberg (2009) states that on aggregate South Africa's agricultural R&D investment has largely stagnated since the 1970s. A salient feature of the period prior to the 1970s was that the intensity of agricultural R&D investment in South Africa exceeded that of Australia and the United States, but began to consistently lag behind the United States since 1980 (See Figure 117). This is a concern if one considers that lags between investing in R&D and realising a return from that investment are long, matters of decades not months or years. Hence, getting the policies right to stimulate the required public and private provision of new agricultural technologies requires an equally long-term timeframe.

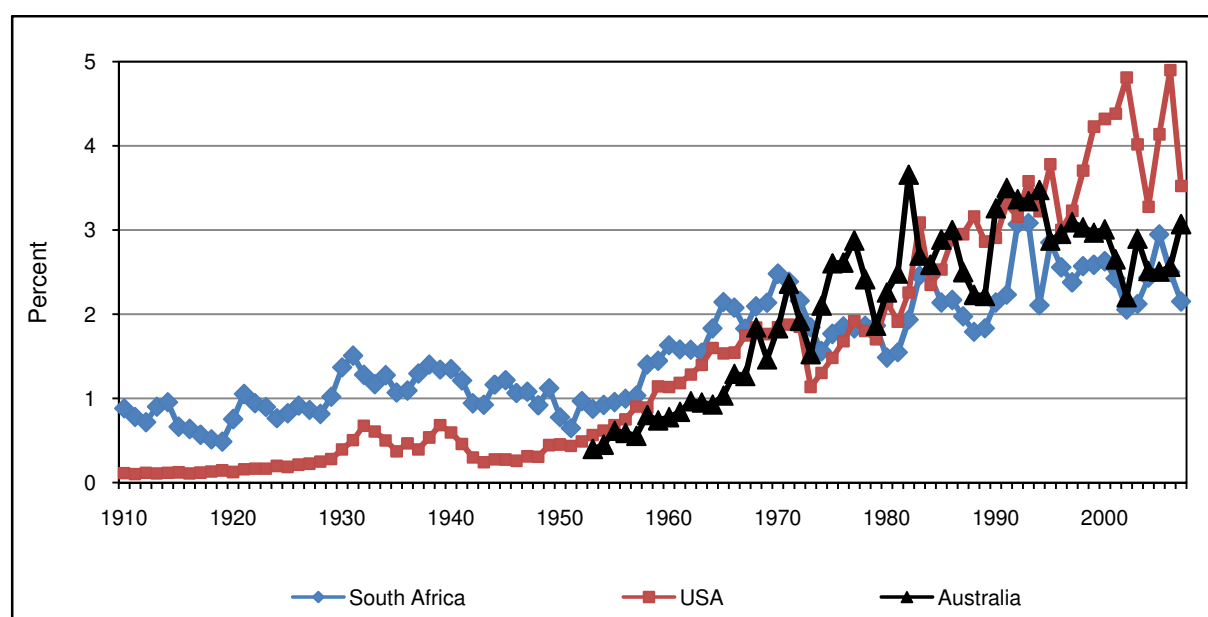


Figure 117: Agricultural R&D spending as a share of agricultural GDP

Source: Liebenberg, 2009.

Within the ambit of current world events, such as high food prices combined wide spread economic difficulties, it is a crucial time for rethinking national policies and revitalising approaches for the funding and conduct of agricultural research. At a time when much of the world's attention is drawn to other global public goods - those associated with peace, security, communicable diseases, and climate change – South Africa should not neglect agricultural R&D. Another error that should be avoided is to assume that South Africa can rely primarily on “off-the-shelf” technologies as a quick strategy to present our farmers with technology options to

improve the productivity and inherently the sector's competitiveness. The realities of the South African agricultural resource base require that technologies adopted from elsewhere must be adapted to local conditions to reap the benefits thereof. Even though South Africa's output mix of commodities produced is closely correlated with that of the rest of the world, South Africa has little in common with the rest of the world in terms of its agro-ecological attributes. Initiatives to stimulate R&D should include, but are not limited to, the following:

- ~ Enhancing Intellectual Property Rights and tailoring the institutional and policy details of IP protection to best fit local circumstances;
- ~ Increasing the total amount of government funding for national agricultural R&D systems;
- ~ Introducing institutional arrangements and incentives for private and joint public-private funding; and
- ~ Improving the processes by which agricultural R&D resources are administered and allocated.

These policy responses are all covered in existing government policy and strategy documents, such as the National Agricultural R&D Strategy (DoA, 2008), but await full implementation.

6.5 Agricultural potential

As mentioned in Section 2 of this publication, concerns can be raised with regard to the ability of agricultural production to keep up with population growth in South Africa, amongst other things. These concerns relate specifically to field crop production. Taking this into account, it may be worthwhile briefly to explore South Africa's agricultural potential regarding food security, since this will give us a better understanding of what can be achieved in terms of food production.

Assessing the agricultural potential of an environmentally diverse country such as South Africa is a rather complex issue, however. A great many factors are involved. Some are environmental, such as climate, topography and soils. Others are economic or socio-political. It follows that no single method of assessment can supply answers to the myriad of questions that can be asked.

The discussion that follows could also be a starting point for further research and debate on issues of whether land in South Africa can provide for the food needs of South Africans, what conditions are needed for this to take place, and what improvements are needed. A useful starting point in understanding agricultural potential is to look at land capability. The ARC's land capability analysis (2004) provides a useful tool for determining land potential.

- *Land capability*

The land capability analysis carried out by the ARC is based on natural resources, fourteen major related factors and a large number of sub-factors. (These are not mentioned here, but can be obtained from the Institute of Soil, Climate and Water at the ARC). The outcome of the analysis was the classification of agricultural land into eight different types, as indicated in Table 33. According to Table 33, agricultural land can be divided into prime agricultural land (Classes I and II), arable land of intermediate quality (Class III), marginally arable land (Class IV), grazing land (Classes V to VII) and wilderness land (Class VIII). Table 33 also provides an indication of different land use options for each land capability class, as well as the percentage of the land covered by each class. Figure 118 is a map of the different land capability classes.

Table 33: Land capability classes and land use options

Land capability class	Percentage of the area of SA	Land use options	Broad land use grouping
I	0.2	W F LG MG IG LC MC IC VIC	Arable land
II	1.8	W F LG MG IG LC MC IC	
III	10.6	W F LG MG IG LC MC	
IV	11.0	W F LG MG IG LC	
V	10.5	W F LG MG	Grazing
VI	15.5	W F LG MG	
VII	36.1	W F LG	
VIII	14.4	W	Wildlife

Notes:

W	-	Wildlife	LC	-	Poorly adapted cultivation
F	-	Forestry	MC	-	Moderately well adapted cultivation
LG	-	Light grazing	IC	-	Intensive, well adapted cultivation
MG	-	Moderate grazing	VIC	-	Very intensive, well adapted cultivation
IG	-	Intensive grazing			

Source: ARC, 2004.

~ Arable land (Classes I-III)

As shown in Table 33, arable land capable of sustaining intensive to moderately well adapted cultivation amounts to about 12.6 % of South Africa's land. Of this, only 2 % (2 446 million hectares) is prime agricultural land (Classes I and II). Together with roughly 1.5 million hectares of irrigated land, this high potential land makes up approximately 4 % of the total area.

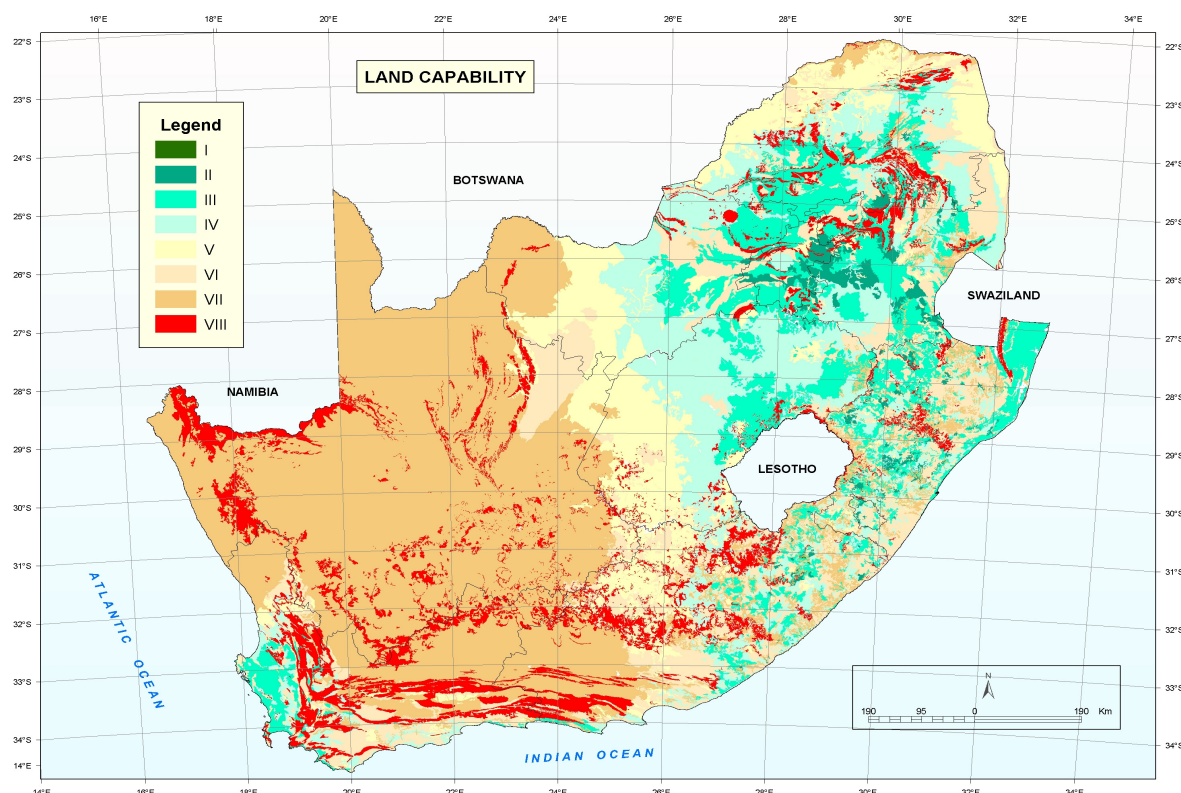


Figure 118: Classification of agricultural land

Source: ARC, 2004.

~ Marginal cropland (Class IV)

Less widely known, however, is that a further 11 % of the land can be classified as marginally arable. Without going into the wide range of reasons for marginality, the implication is that this land has a measure of potential for arable production, should food security issues dictate more intensive land use strategies. Some of this land is successfully being cultivated, particularly in the western parts of North West and the Free State, as well as in some wheat producing areas of the Western Cape, where fertiliser requirements are low and high levels of expertise are found.

However, further unlocking of the potential of this marginal land, for example in the seaboard regions of the Eastern Cape and the hilly, inland regions of KwaZulu-Natal, will require careful thought, planning and management. Much of this land has a degree of environmental sensitivity that will require new, often site-specific, technologies such as conservation agriculture (CA): minimum tillage and maintaining a surface cover to prevent erosion and to conserve water, organic matter and nutrients. In the climatically drier western half of the country, success will depend largely on seasonal water transfer, and surface water harvesting from claypan soils.

It stands to reason that unlocking this potential would also require solid market and economic information, effective farmer support in terms of technology development and transfer, appropriate financing models and infrastructure development.

~ Untapped potential

If one considers the number of hectares that are being cultivated and compares this with the land capability map, it reveals that some good arable land is not being cultivated, while quite large areas of marginal land are being cultivated. In most cases, this relates strongly to the requirements of animal production, and should perhaps not be faulted.

This being said, the question can be asked how much untapped arable potential is still available? Although the issue is complex, it can be postulated that the scope for lateral expansion (fallow land excluded) is rather limited, and relates largely to further unlocking the potential of marginal land.

However, of more importance in the medium term is probably to investigate the extent of fallow land, and why potentially productive arable land that had previously been cultivated is lying unused today. The role of the struggling land redistribution process as well as the ineffective roll-out of support programmes to emerging producers should receive attention in this regard.

Although unused cropland of promising potential may be observed in almost any district, this phenomenon appears to be particularly common around some of the big cities and in some of the former homelands. A study in the Emalahleni District in the former Transkei, for example, revealed that 50 % of formerly cultivated land was abandoned. This might also be the case in other former homeland areas that actually fall in land capability classes that have potential for crop production. A comparison of Figure 118 with Figure 119 indicates that significantly large parts of the former homeland areas fall into land capability classes with high production potential.

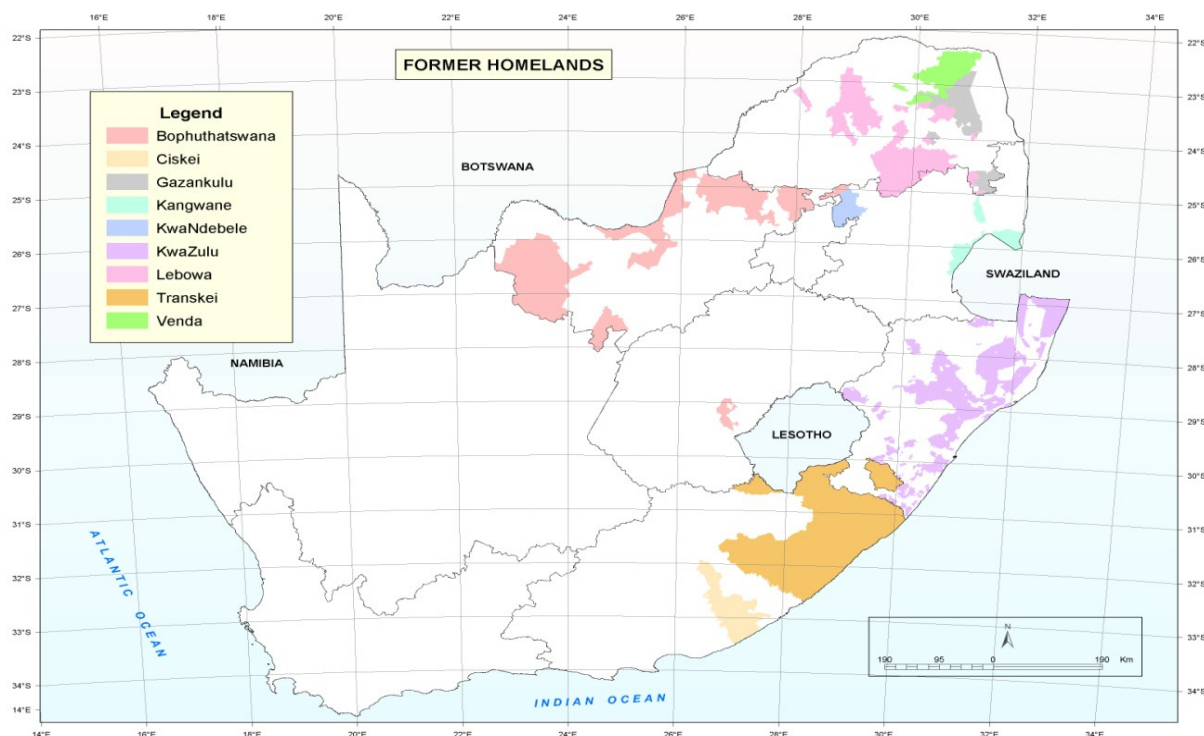


Figure 119: Former homeland areas

Source: ARC, 2004.

- *Concluding remarks*

Assessing the agricultural potential of an environmentally diverse country such as South Africa is a challenging process. The above discussion shows that although there is room for lateral expansion in crop production, it does not offer much opportunity to make a significant contribution to the food security challenges a country like South Africa faces. The main challenge is to optimally utilise the good potential land that is available and to ensure that such land is used on a sustainable basis. The question can rightfully be raised whether this is currently the case in South Africa given the many socio-economic-political challenges facing the country. This needs to be determined and addressed if land is not used optimally and sustainably.

Moreover, maintaining future food security will depend on how well South Africa succeeds in the process of optimising land capability. A holistic approach is necessary that includes among others:

- ~ Control to prevent losses through rezoning and neglect of productive agricultural land;
- ~ Adoption of improved technologies, particularly input cost-reducing eco-technologies such as conservation agriculture, in especially sensitive areas;
- ~ Re-building of capacity for appropriate R&D; and
- ~ Creation of an enabling environment.

Finally, Meyer *et al.* (2008) argue that the long-term sustainability of food supply will depend on the interrelationship of the natural resource base (affected by global warming and climate change), energy supply (which is finite), international food production and competitive trends, demographic trends, levels of technology, levels of fixed investment and the research capability of the country, among other things. Van Rooyen *et al.* (1996) emphasise that a productive farming sector at commercial and small-scale levels must be viewed as an important feature in future food security strategies.

7. CONCLUDING REMARKS

In a paper published under the auspices of the International Food Policy Research Institute (IFPRI), Von Braun (2008b) called for policy actions to address the challenges faced by the agricultural sector in the midst of the food price crisis. He called for, amongst other things, actions relating to social protection and food and nutrition initiatives to meet the short- and medium-term needs of the poor and to increase investment in agriculture at various levels. South Africa responded swiftly with regard to the former in various ways, but as far as the latter is concerned there is much room for further action and improvement. This will be a daunting task, especially if one considers that the budget allocated to agriculture is far below the levels committed to in 2004. What makes this issue even more challenging is that South Africa, like many other countries globally, has to navigate through the global economic crisis.

During the latter part of 2008, commodity prices started to decline significantly on the back of the economic crisis, but in most cases they levelled out at prices higher than the long-run average. In addition, retail prices have been exceptionally reluctant to follow the trend in commodity prices. This is most probably indicative of agriculture having entered a new era within a rapidly changing global socio-economic environment characterised by, *inter alia*, changing power relationships between countries, as well as between stakeholders in the food chains, along with evolving consumer tastes and preferences, and more volatile markets and environmental challenges. This emphasises the urgent need to rethink and redesign the way in which we approach the importance of the agricultural sector and its development so that it may play its rightful role in a country like South Africa, especially when it comes to ensuring food security (and possibly food self-sufficiency) and the socio-economic revitalisation of rural economies.

Key to the above will be the creation of an enabling environment where, amongst other things:

- ~ Farming, processing, wholesaling and retailing is profitable and competitive;
- ~ Support through extension and information provision is provided to all farmers;
- ~ Research and Development excellence is non-negotiable, and where capacity development is a priority and a continuous process;
- ~ Government at national and provincial level improve on coordination pertaining to programmes and policies that impact directly or indirectly on the agricultural sector;
- ~ Public-private sector initiatives are used to cement policy imperatives into beneficial and tangible outcomes for society as a whole; and

- ~ Young talent can be nurtured and developed to enter the agricultural sector as a preferred livelihood option.

The list goes on, but the yardstick for our actions, whether they are wise and whether we are living up to what our children expect from us, is most eloquently articulated in the Strategic Agricultural Sector Plan, namely:

- ~ Equitable access and participation;
- ~ Profitability and competitiveness; and
- ~ Sustainability.

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Appendix A: Farm-to-retail price spreads and farm values of selected products

Table A 1: Real farm-to-retail price spread and farm value share of brown and white breads

Month	Farm value share brown bread	Farm value share white bread	Real FTRPS brown bread (R/ton of flour)	Real FTRPS white bread (R/ton of flour)
Jan-05	16 %	18 %	8976	9146
Feb-05	16 %	18 %	8885	9222
Mar-05	16 %	16 %	8760	9533
Apr-05	15 %	16 %	8907	9422
May-05	15 %	16 %	8750	9414
Jun-05	16 %	16 %	8491	9706
Jul-05	15 %	16 %	8705	9361
Aug-05	16 %	17 %	8522	9385
Sep-05	17 %	18 %	8453	9369
Oct-05	19 %	21 %	8218	8767
Nov-05	19 %	19 %	8314	9186
Dec-05	18 %	18 %	8384	9083
Jan-06	17 %	19 %	9134	9280
Feb-06	15 %	17 %	9382	9564
Mar-06	16 %	17 %	9363	9585
Apr-06	15 %	16 %	9469	9724
May-06	15 %	16 %	9266	9533
Jun-06	15 %	17 %	8990	9426
Jul-06	15 %	17 %	9164	9371
Aug-06	16 %	17 %	9054	9583
Sep-06	16 %	17 %	8947	9304
Oct-06	17 %	18 %	8952	9306
Nov-06	19 %	21 %	8816	9044
Dec-06	20 %	21 %	8519	8836
Jan-07	19 %	21 %	8828	8938
Feb-07	20 %	22 %	9100	9271
Mar-07	19 %	20 %	9156	9521
Apr-07	18 %	19 %	9349	9673
May-07	18 %	20 %	9168	9493
Jun-07	19 %	20 %	9172	9381
Jul-07	21 %	23 %	9038	9234
Aug-07	22 %	23 %	9002	9375
Sep-07	22 %	24 %	9148	9491
Oct-07	24 %	26 %	8922	9199
Nov-07	26 %	29 %	8747	8790
Dec-07	30 %	32 %	8237	8455
Jan-08	32 %	35 %	8002	8081

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Feb-08	28 %	30 %	8943	9213
Mar-08	25 %	26 %	9362	9766
Apr-08	27 %	28 %	9244	9963
May-08	25 %	27 %	10 252	10 770
Jun-08	29 %	31 %	10 114	10 459
Jul-08	31 %	33 %	9855	10 034
Aug-08	30 %	32 %	9941	10 215
Sep-08	28 %	30 %	10 312	10 561
Oct-08	30 %	32 %	10 082	10 348
Nov-08	29 %	32 %	10 148	10 483
Dec-08	27 %	30 %	10 514	10 861

Table A 2: Real farm-to-retail price spread and farm value share of super and special maize meal

Month	Farm value share (super maize meal)	Farm value share (special maize meal)	Real FTRPS super maize meal	Real FTRPS special maize meal
Jan-05	51 %	43 %	1694	1496
Feb-05	50 %	42 %	1710	1494
Mar-05	58 %	47 %	1339	1361
Apr-05	47 %	39 %	1683	1506
May-05	42 %	30 %	1701	1758
Jun-05	34 %	23 %	1837	2005
Jul-05	30 %	22 %	2087	2038
Aug-05	35 %	22 %	1767	2053
Sep-05	37 %	27 %	1644	1685
Oct-05	35 %	28 %	1878	1639
Nov-05	35 %	26 %	1945	1910
Dec-05	37 %	28 %	1932	1921
Jan-06	46 %	34 %	1672	1759
Feb-06	46 %	37 %	1789	1695
Mar-06	50 %	41 %	1718	1586
Apr-06	60 %	51 %	1395	1303
May-06	54 %	41 %	1758	1909
Jun-06	48 %	36 %	2001	2114
Jul-06	54 %	39 %	1821	2082
Aug-06	53 %	38 %	1825	2142
Sep-06	54 %	45 %	1819	1661
Oct-06	60 %	52 %	1619	1430
Nov-06	66 %	55 %	1340	1352
Dec-06	62 %	52 %	1523	1476
Jan-07	62 %	49 %	1463	1572
Feb-07	60 %	46 %	1621	1793
Mar-07	65 %	50 %	1417	1655
Apr-07	58 %	45 %	1833	1937
May-07	55 %	40 %	2031	2328
Jun-07	63 %	46 %	1673	2114
Jul-07	79 %	58 %	943	1614
Aug-07	68 %	50 %	1449	1931
Sep-07	68 %	50 %	1455	1899
Oct-07	72 %	53 %	1229	1761
Nov-07	69 %	52 %	1383	1760
Dec-07	76 %	56 %	1032	1644
Jan-08	75 %	56 %	1124	1608
Feb-08	70 %	55 %	1338	1661
Mar-08	76 %	60 %	1000	1371
Apr-08	70 %	55 %	1247	1551
May-08	72 %	57 %	1163	1458
Jun-08	69 %	54 %	1341	1582

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Jul-08	75 %	58 %	1056	1426
Aug-08	69 %	52 %	1396	1782
Sep-08	65 %	49 %	1567	1884
Oct-08	75 %	59 %	1118	1455
Nov-08	74 %	55 %	1108	1686
Dec-08	64 %	48 %	1694	2121

Table A 3: Real farm-to-retail price spread and farm value share of fresh milk

Month	Farm value share full cream milk	Farm value share low fat milk	Real FTRPS full cream milk	Real FTRPS low fat milk
Jan-05	39 %	26 %	3.27	4.12
Feb-05	38 %	26 %	3.38	4.20
Mar-05	38 %	25 %	3.39	4.48
Apr-05	37 %	24 %	3.51	4.57
May-05	37 %	24 %	3.48	4.50
Jun-05	37 %	24 %	3.57	4.64
Jul-05	37 %	25 %	3.52	4.31
Aug-05	36 %	25 %	3.59	4.40
Sep-05	37 %	25 %	3.53	4.33
Oct-05	36 %	24 %	3.53	4.43
Nov-05	37 %	24 %	3.48	4.39
Dec-05	37 %	25 %	3.46	4.31
Jan-06	37 %	25 %	3.48	4.36
Feb-06	37 %	25 %	3.48	4.26
Mar-06	37 %	25 %	3.52	4.28
Apr-06	37 %	25 %	3.47	4.34
May-06	37 %	25 %	3.49	4.31
Jun-06	38 %	26 %	3.46	4.29
Jul-06	38 %	26 %	3.46	4.27
Aug-06	39 %	26 %	3.33	4.19
Sep-06	39 %	27 %	3.30	4.12
Oct-06	40 %	26 %	3.20	4.18
Nov-06	40 %	27 %	3.19	4.16
Dec-06	42 %	28 %	3.02	3.94
Jan-07	41 %	27 %	3.08	4.00
Feb-07	43 %	28 %	3.03	4.06
Mar-07	44 %	29 %	3.02	3.99
Apr-07	42 %	29 %	3.32	4.07
May-07	40 %	30 %	3.58	3.96
Jun-07	42 %	30 %	3.60	4.30
Jul-07	44 %	31 %	3.57	4.27
Aug-07	43 %	31 %	3.75	4.47
Sep-07	44 %	32 %	3.72	4.41
Oct-07	44 %	30 %	3.78	4.84
Nov-07	44 %	30 %	3.75	4.73
Dec-07	45 %	31 %	3.63	4.63
Jan-08	47 %	32 %	3.52	4.55
Feb-08	47 %	33 %	3.47	4.54
Mar-08	46 %	32 %	3.71	4.76
Apr-08	48 %	35 %	3.49	4.20
May-08	49 %	35 %	3.32	4.19
Jun-08	48 %	33 %	3.41	4.50
Jul-08	47 %	32 %	3.45	4.68

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Aug-08	46 %	31 %	3.33	4.44
Sep-08	42 %	29 %	3.76	4.80
Oct-08	41 %	28 %	3.80	4.78
Nov-08	41 %	28 %	3.72	4.67
Dec-08	44 %	30 %	3.24	4.16

Table A 4: Real farm-to-retail price spread and farm value share of fresh chicken

Month	Farm value share	Real FTRPS (R/kg)
Jan-05	64 %	7.99
Feb-05	62 %	8.41
Mar-05	63 %	8.06
Apr-05	67 %	6.98
May-05	66 %	7.39
Jun-05	66 %	7.44
Jul-05	67 %	7.15
Aug-05	69 %	6.71
Sep-05	71 %	6.34
Oct-05	76 %	5.26
Nov-05	78 %	5.00
Dec-05	67 %	7.86
Jan-06	64 %	8.28
Feb-06	62 %	8.70
Mar-06	62 %	8.76
Apr-06	64 %	8.16
May-06	63 %	8.55
Jun-06	63 %	8.35
Jul-06	62 %	8.79
Aug-06	61 %	9.09
Sep-06	61 %	9.37
Oct-06	60 %	9.70
Nov-06	61 %	9.78
Dec-06	64 %	8.97
Jan-07	61 %	9.98
Feb-07	60 %	10.16
Mar-07	61 %	9.65
Apr-07	61 %	9.86
May-07	59 %	10.51
Jun-07	61 %	9.99
Jul-07	60 %	10.27
Aug-07	61 %	10.17
Sep-07	62 %	9.67
Oct-07	60 %	10.63
Nov-07	59 %	11.17
Dec-07	63 %	10.17
Jan-08	60 %	11.02
Feb-08	61 %	10.35
Mar-08	59 %	11.13
Apr-08	58 %	11.33
May-08	58 %	11.34
Jun-08	60 %	10.67

Jul-08	59 %	10.65
Aug-08	61 %	10.15
Sep-08	65 %	8.88
Oct-08	70 %	7.94
Nov-08	70 %	7.95
Dec-08	73 %	7.17

Table A 5: Real farm-to-retail price spread of fruits

Month	Banana (R/ton)	Apples (R/ton)	Orange (R/ton)
Jul-06	3.48	6.01	3.68
Aug-06	4.49	5.95	3.71
Sep-06	3.67	6.29	3.95
Oct-06	4.07	5.91	4.05
Nov-06	4.45	6.03	3.50
Dec-06	3.84	6.40	3.83
Jan-07	4.46	6.52	4.87
Feb-07	4.07	6.52	7.72
Mar-07	3.54	6.38	10.03
Apr-07	3.90	6.24	7.06
May-07	4.78	5.99	5.80
Jun-07	4.22	6.55	4.49
Jul-07	3.98	6.55	4.12
Aug-07	4.71	6.09	3.94
Sep-07	3.81	5.79	4.37
Oct-07	3.35	5.41	4.58
Nov-07	4.25	6.52	4.51
Dec-07	4.56	5.77	4.92
Jan-08	6.07	5.39	6.82
Feb-08	4.99	6.80	9.99
Mar-08	4.89	6.43	12.75
Apr-08	4.92	8.57	9.03
May-08	5.21	6.92	5.94
Jun-08	4.81	6.07	-
Jul-08	4.80	6.16	4.97
Aug-08	4.74	5.68	4.87
Sep-08	4.25	6.06	5.29
Oct-08	4.24	5.75	4.93
Nov-08	4.38	6.09	5.13
Dec-08	4.91	6.23	4.96

Table A 6: Real farm-to-retail price spread of vegetables

Month	Carrot (R/kg)	Tomato (R/kg)	Cabbages (R/kg)	Potato (R/kg)
Jul-06	5.93	7.28	3.18	4.96
Aug-06	5.28	7.12	3.24	4.73
Sep-06	5.58	6.92	3.07	4.87
Oct-06	6.06	7.26	2.66	4.97
Nov-06	5.88	7.01	3.14	4.80
Dec-06	4.99	6.43	2.80	4.82
Jan-07	5.44	7.02	2.33	5.09
Feb-07	6.46	6.16	2.36	4.93
Mar-07	4.90	5.90	2.23	4.73
Apr-07	5.30	6.63	2.97	4.72
May-07	5.67	6.96	3.53	4.86
Jun-07	5.94	6.99	3.34	5.06
Jul-07	5.23	5.89	3.70	4.75
Aug-07	4.90	4.77	3.94	4.11
Sep-07	4.99	7.67	3.73	4.14
Oct-07	5.50	9.85	3.68	4.69
Nov-07	6.17	9.15	4.44	6.16
Dec-07	5.23	7.58	4.27	5.81
Jan-08	6.36	7.80	4.68	6.27
Feb-08	6.74	7.55	4.90	5.99
Mar-08	6.14	8.01	4.48	5.62
Apr-08	5.47	7.71	4.46	6.01
May-08	5.87	7.45	4.46	5.67
Jun-08	6.55	6.89	5.90	5.75
Jul-08	6.61	6.91	5.63	5.40
Aug-08	6.16	7.24	5.17	5.23
Sep-08	6.27	5.85	5.21	5.32
Oct-08	6.40	9.14	-	5.15
Nov-08	5.86	8.95	4.87	4.62
Dec-08	5.52	9.11	5.17	5.15

Appendix B: Complete HS Code definitions for products discussed in section 2.8

Table B 1: Top 20 traded unprocessed agricultural products

HS code	Product description
100190	Wheat (Other than Durum Wheat), and Meslin
240120	Tobacco, Partly or Wholly Stemmed/Stripped
090111	Coffee, Not Roasted, Not Decaffeinated
520100	Cotton, Not Carded or Combed
071333	Kidney Beans & White Pea Beans, Dri Shel, Inc Seed
090240	Black Tea Fermented & Other Partly Fermented Tea Nesoi
120991	Vegetable Seeds for Sowing
100300	Barley
100590	Corn (Maize), Other than Seed Corn
071310	Peas, Dried Shelled, Including Seed
121010	Hop Cones Fresh/Dried, Not Ground, Powdered or Pellets
010110	Purebred Breeding Animal
240110	Tobacco, Not Stemmed/Stripped
080132	Cashew Nuts, Fresh or Dried, Shelled
100510	Corn (Maize) Seed, Certified, Excluding Sweet Corn
080111	Coconuts, Desiccated
090420	Fruits of Genus Capsicum or Pimento, Dri/Crsh/Grnd
040120	Milk/Cream Nt Cnctrd/Swt, Fat Content Ov 1 % Nov-6 %
121020	Hop Cones, Ground, Powdered or in Pellets; Lupulin
090411	Pepper Of Genus Piper, Neither Crushed Nor Ground

Table B 2: Top 20 traded processed agricultural products

HS code	Product description
220421	Wine, Fr Grape Nesoi & Gr Must W Alc, Nov 2 Litres
220429	Wine, Fr Grape Nesoi & Gr Must with Alc, Nesoi
170111	Cane Sugar, Raw, Solid Form, W/O Added Flav/Colour
220710	Ethyl Alcohol, Undenat, Alchol Not Un 80 % by Volume
170199	Cane/Beet Sug Chem Pure Sucrose Refined Nesoi
210690	Food Preparations Nesoi
151211	Sunflower Seed or Safflower Oil, Crude, Fract, Etc.
220210	Waters, Incl Mineral & Aerated, Sweetened or Flavoured
200870	Peaches, Prepared or Preserved, Nesoi
020890	Meat & Edible Meat Offal Nesoi, Fresh, Chilled, Frozen
080620	Grapes, Dried (Including Raisins)
240220	Cigarettes Containing Tobacco
110313	Groats and Meal of Corn (Maize)
240310	Smoking Tobacco, Whether Not Contain Substitutes
220870	Liqueurs and Cordials
080260	Macadamia Nuts, Edible, Fresh or Dried, Whether or
200980	Juice of Any Single Fruit/Vegetable Unfermented Nesoi
200840	Pears, Prepared or Preserved, Nesoi
410221	Sheep/Lamb Skins Without Wool on Pickled W/N Split
200892	Fruit Mixtures, Prepared or Preserved Nesoi
200990	Mixtures of Fruit and/or Vegetable Juices

Appendix C: Overall budget allocation between 1999/00 and 2008/09

R million	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
	Expenditure on budget vote Audited	Expenditure on budget vote Audited	Expenditure on budget vote Audited	Expenditure on budget vote Audited	Expenditure on budget vote Audited	Expenditure on budget vote Audited	Expenditure on budget vote Outcome	Expenditure on budget vote Outcome	Preliminary Outcome	Projected Vote Out-Turn
Central Government Administration										
The Presidency	77.5	91.4	101.2	138.8	142.7	167.7	190.1	236.3	264.2	311.7
Parliament	203.4	266.7	269.6	307.4	448.5	498.9	597.9	755.1	902.1	913.8
Foreign Affairs	1374.9	1435.2	1994.6	2370.8	2163.8	2393.1	2687.7	2944.7	4069.7	5353.1
Home Affairs	1316.4	1645.7	1119.5	1430.0	2022.0	2069.4	3172.1	2546.9	3241.7	4671.4
Public Works	3159.2	3569.9	3705.2	1745.4	2024.5	2248.8	2354.3	3025.8	3402.3	4252.0
Financial and Administrative Services										
Gov. Com & Info Systems	60.3	65.6	122.7	158.5	186.0	211.3	253.6	293.1	380.9	439.8
National Treasury	6612.1	6697.7	8164.6	9863.0	12 111.9	13 535.4	13 100.7	16 171.0	18 966.2	31 075.0
Public Service and Admin	156.4	84.7	99.1	138.6	155.9	134.1	55.4	58.3	131.1	105.5
Public Service Commission	34.4	42.9	52.7	62.0	69.3	77.0	197.0	429.4	370.4	416.8
SA Management Devt Institute	14.5	18.6	22.8	30.7	36.9	34.4	91.1	96.1	108.1	113.7
Statistics South Africa	100.5	205.3	897.9	376.3	300.3	371.2	643.9	1096.6	1057.0	1323.4
Social Services										
Arts and Culture	392.7	399.1	442.8	609.9	924.1	1113.8	1121.0	1329.9	1585.8	2126.3
Education	7111.6	8070.5	8616.4	9326.4	10 557.0	11 340.4	12 436.8	14 249.8	16 241.3	19 743.4
Health	5858.8	6154.9	6223.9	7135.9	7735.6	8454.9	9937.1	11 338.0	12 762.7	15 551.2
Labour	865.5	731.7	1396.8	1336.6	1071.8	1163.5	1295.9	1453.5	1948.6	1643.7
Social Development	499.7	472.0	23 793.7	30 223.1	39 357.3	47 766.3	55 067.8	61 676.1	67 191.4	76 393.2
Sport and Recreation South Africa	128.1	70.5	101.1	172.6	224.1	282.5	436.8	886.5	5048.0	4884.7
Justice and Protection Services										
Correctional Services	5145.4	5474.9	6549.2	7505.5	7849.7	8828.8	9631.2	9251.2	11 122.4	12 338.8
Defence	10 717.3	13 932.1	16 044.6	19 472.9	20 504.7	20 201.3	23 510.5	23 817.6	25 180.1	27 749.0
Independent Complaints	23.7	25.5	26.7	35.6	41.3	47.0	54.5	65.3	80.9	98.5
Justice and Constitutional Development	2654.4	2278.2	3268.3	3986.6	4236.4	4670.0	5153.5	6005.2	7373.8	8515.5
Safety and Security	14 572.5	15 597.4	17 670.4	20 380.1	22 692.9	25 414.5	29 360.8	32 521.2	36 386.1	41 492.3

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R million	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
	Expenditure on budget vote Audited	Expenditure on budget vote Audited	Expenditure on budget vote Audited	Expenditure on budget vote Audited	Expenditure on budget vote Audited	Expenditure on budget vote Audited	Expenditure on budget vote Outcome	Expenditure on budget vote Outcome	Preliminary Outcome	Projected Vote Out-Turn
Economic Services and Infrastructure Development										
Agriculture	675.7	723.3	871.1	933.3	1194.8	1411.4	1909.0	2224.0	3332.8	2819.6
Communications	766.9	455.8	1128.3	895.3	849.5	1654.0	1034.4	1319.6	1911.8	2331.5
Environmental Affairs and Tourism	506.0	747.1	1064.1	1384.3	1455.6	1660.5	1775.7	2059.7	2788.8	3206.6
Housing	3494.4	3329.5	3721.2	4218.1	4560.0	4808.4	5248.8	7166.0	8586.3	10 634.7
Land Affairs	684.9	770.1	976.2	1102.3	1635.9	2018.7	2874.7	3720.5	5893.1	6659.4
Minerals and Energy	611.5	592.1	1233.4	1867.0	1812.5	1876.4	2191.6	2607.7	2947.4	3685.0
Provincial and Local Government	3301.5	3647.7	4653.1	6570.0	9456.3	13 138.2	15 976.1	24 575.7	30 029.7	34 870.2
Public Enterprises	36.2	34.3	196.4	210.5	84.0	678.7	2671.5	2589.8	4604.0	3267.5
Science and Technology	465.4	582.8	1004.4	1101.4	1391.6	1632.9	2041.3	2613.0	3127.3	3721.7
Trade and Industry	1827.0	2159.8	1713.0	2107.2	2349.2	2521.9	3056.4	3804.7	5295.4	5076.9
Transport	4061.6	4099.5	4936.9	5718.2	6232.5	6679.9	10 409.9	13 360.4	16 331.6	24 142.3
Water Affairs and Forestry	2676.3	3041.6	3483.1	3743.4	4251.5	3857.7	3804.0	4305.7	5385.4	6466.7
(+) Direct charges on the National Revenue Fund										
The Presidency (President & Deputy President Salaries)	1.2	1.4	1.6	1.7	1.7	2.0	2.0	2.2	2.3	4.0
Parliament (Members' Remuneration)	142.1	149.8	162.3	172.8	191.3	203.9	211.7	223.3	240.7	254.0
State Debt Cost	44 289.7	46 320.9	47 580.7	46 807.7	46 312.9	48 851.2	50 912.0	52 192.2	52 877.1	54 281.0
Provincial Equitable Share	89 094.6	98 397.8	85 994.7	93 895.3	107 538.4	120 884.5	135 291.6	150 752.9	172 861.5	204 009.9
Labour (Skills Development Funds)	–	901.7	2541.0	3259.5	3777.0	4725.4	4883.3	5328.4	6284.3	7529.6
Justice and Const. Development (Judges' Salaries)	138.1	609.1	665.1	699.2	729.7	829.4	1040.1	1099.3	1184.5	1433.5
Standing Appropriations	42.6	39.2	294.0	30.0	28.2	–				
Umsombomvu Fund	855.0									
Main Budget Expenditure	214 749.9	233 934.0	262 904.6	291 524.0	328 709.2	368 459.3	416 684.0	470 192.5	541 498.8	633 906.9