REPORT NO. 540

REVIEW OF THE DOLLAR-BASED DOMESTIC REFERENCE PRICE AND VARIABLE TARIFF FORMULA FOR MAIZE

The International Trade Administration Commission of South Africa (ITAC) herewith presents **Report No. 540: Review of the Dollar-based domestic reference price and variable tariff formula for maize.**

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CHIEF COMMISSIONER

PRETORIA

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REPUBLIC OF SOUTH AFRICA

INTERNATIONAL TRADE ADMINISTRATION COMMISSION OF SOUTH AFRICA

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Synopsis

The Minister of Economic Development directed the International Trade Administration Commission of South Africa (ITAC) in terms of Section 16(1)(d)(i) of the International Trade Administration Act, to evaluate and investigate a review of the Dollar-based reference price (DBRP) and variable tariff formula for maize.

The directive entails the review of the DBRP and variable tariff formula for maize, as set out below:

"The directive was made in view of the fact that wheat, maize and sugar are basic necessities used by South Africans, and that the country is still in the grip of a drought coupled with large exchange rate fluctuations over the last couple of months. I direct ITAC to urgently review the current formulae, in particular taking into account the impact on the price of bread, maize and sugar."

During its deliberations and in arriving at its recommendation, the Commission considered the information at its disposal, including comments, with due regard to food security in its full context.

The aim of the current variable tariff formula is to set a fair level of protection that would ensure that the profitability and interests of primary producers are taken into account, but also those of value added producers and the possible inflationary effects for the consumers of food, in particular the poor. It should therefore be taken into account that South Africa is generally a surplus producer and a net exporter of maize and maize forms part of the food security basket.

The maize sector is considered critical to food security and forms part of the food security basket, accounting for approximately 80% of the total production of grain crops in the country and is the staple food for the majority of the South African population whilst also being a major component in the manufacturing of animal feed.

Although domestic supply of maize in South Africa increased by 4 per cent from 2005/06 to 2014/15, there has been a decline of approximately 5 per cent in total supply of maize between the 2014/15 and 2015/16 season. Total demand for maize in South Africa increased by 10.5 per cent from 2005/06 to 2015/16.

South Africa has experienced the worst drought, in 2015, since the early 1980s. The drought resulted in a below average crop for maize, causing prices to move from export parity to import parity due to a shortage in supply. The drought conditions had a negative impact on maize producers, downstream users and consumers. There has therefore been an increased necessity to import under these circumstances.

South African maize production is projected to significantly recover from the drought conditions in the 2016/2017 production season, due to favourable climatic conditions. This is expected to diminish the dependence on imports. Together with the positive outlook on maize production, maintaining the variable tariff formula with some changes in the variables will continue to encourage farmers to increase maize production.

Imports of maize in the South African market decreased significantly by 82 per cent from 360 000 tons in 2005/06 to 65 000 tons in 2014/15. However, as a result of the drought, which led to a decline in domestic production levels, imports of maize into South Africa have increased significantly from 65 000 tons in 2014/15 to approximately 1.98 million tons in the 2015/16 season. Maize imports into South Africa averaged at 502 000 tons between 2005/06 and 2015/16.

It was found that the production costs are not the same for all regions and that yield levels and marketing costs play a significant role in determining the profitability of maize farmers. Overall, it is also important to note that although the projected loss level is higher for the irrigated region of the Northern Cape due to, *inter alia*, higher marketing costs, it should be noted that this region is not the main maize producing area in South Africa. Profit levels are expected for the Eastern Highveld region while the Free State and North West regions are expected to realise losses, depending on weather conditions for the 2016/17 season. According to information at the Commission's disposal, in 2014/15, approximately 39.6 per cent of maize was produced in the Free State, 24.4 per cent in Mpumalanga, 15 per cent in North West and 6.8 per cent in the Northern Cape region. Other provinces produced a combined total of approximately 14.2 per cent.

An analysis of the projected price and cost structure for maize farmers showed the major cost drivers in maize production are mainly fertilizers, seeds, fuel and irrigation costs. These costs constitute the largest part of the direct variable costs of approximately 75 per cent, on average, across all regions. Most of the maize producing regions projected losses for the 2016/2017 season, however, it should be borne in mind that should circumstances change during the course of the projected season, it is likely that farmers might experience losses or profits particularly given the fact that the provided data are only estimates and not actual data for the season.

An analysis of the price cost structure for maize farmers was taken into account to ensure that the level of protection in the form of DBRP is in line with the farmers' production costs. It was found that maize farmers' production costs for the 2016/17 period compared to the current DBRP as well as the DBRP should it be amended based on 10-year, 5-year, 4-year and 3-year scenarios, shows that production costs are higher than the current DBRP. However, it should be borne in mind that during the 2016/17 period, farmers were exposed to abnormal market conditions as a result of the drought that led to maize prices moving from export parity to higher import

parity prices. Had it not been for this abnormality, then farmers' production costs would have compared well with the current DBRP.

The Commission, in analysing the relationship between the cost of production and the level of protection, considered the fact that, under normal trading conditions the country is self-sufficient in maize production and has a comparative advantage with very little or no threat of imports and therefore prices would be at export parity. During the period of the investigation however, maize was trading in an abnormal trading environment mostly as a result of the drought, which resulted in the commodity moving from trading at export parity to higher import parity prices.

Simulations were conducted, to look into the possibility of switching to the Rand-based reference price and it was found that a Rand-based reference system would not serve its intended purpose should a customs duty on maize be required. This would place farmers at a disadvantage against the background of inflationary pressures that dilute the supposed benefits of the lower Rand. The Rand/Dollar exchange rate catapults current prices to levels higher than the reference price. The reference price would have to be updated constantly to the most recent year based on almost yearly applications by the industry and this would be untenable.

A move to a simple *ad valorem* duty was considered and it was found that the tariff would lose the countercyclical feature currently provided by the current DBRP that triggers a duty when world prices are low and triggers lower or no duties when world prices are high. The variable tariff formula is therefore better suited to the circumstances surrounding the production and trade of maize as opposed to the normal *ad valorem* duties. Rapid response is required due to the frequency of the sharp peaks and troughs evident in the price cycles of maize. However, it was found that imposing a duty on a staple food such as maize would at this stage have an unfavourable cost raising effect on food prices especially maize products such as maize meal whose prices have already increased to relatively high levels when compared to the pre-drought period.

It was found that the introduction of a new variable of the Real Effective Exchange Rate Index would address the negative impact of exchange rate fluctuations. This new variable must be factored into the variable tariff formula to ensure that producers are protected against real cost pressures and foreign currency denominated intermediate input costs such as fertiliser and machinery parts and not benefit unduly from exchange rate fluctuations, by adjusting the duty with the Rand's Real Effective Exchange Rate Index as published by the South African Reserve Bank. The Real Effective Exchange Rate Index that will be factored in will support farmers proportionally against a depreciating or an appreciating currency by adjusting the nominal Rand exchange rate for price differentials between South Africa and its most important trading partners. This would ensure that windfall profits or unnecessary additional protection to producers due to exchange rate fluctuations do not accrue to producers at the expense of food affordability.

Tariff protection must be complemented by addressing competitiveness constraints in maize production. A long term drive towards improved productivity remains critical as there are more important underlying issues to address to ensure the industry's

competitiveness over the long run. These issues are linked to investment in research and development, extension services, infrastructure of roads, ports and rail etc.

It was found that since South Africa is a net exporter of maize, which is normally trading at export parity levels, its contribution to food inflation has been significant compared to commodities such as wheat. Therefore, maize prices as a driver of food inflation have been significant.

The Commission determined that an import tariff would increase the import parity price on maize even further, adding to the cost of maize meal for consumers who would already be paying significantly more for a basic staple product typically consumed by lower income households. This was supported by BFAP in its findings in analysing the impact of an increase in the DBRP for maize.

In view of the above, the Commission decided that the domestic Dollar-based reference price for maize and maize flour be maintained at the current Dollar based reference price of US$110/ton. The proposal is based on the fact that maize has been trading in an abnormal trading environment that resulted in the commodity moving from export parity pricing to higher import parity pricing during the course of 2016 as a result of the lingering effects of the drought. The Commission therefore does not recommend an amendment to the Dollar-based reference price for maize due to unwarranted and unintended cost-raising effects for downstream producers and consumers.

The initial duty on maize will be calculated as the difference between US$110/ton and the price of maize on 25 October 2016, which amounted to US$165.17/ton at an exchange rate of R13.86 to the US$ adjusted for price differentials between South Africa and its most important trading partners using the published Real Effective Rand Exchange Rate Index as follows:

REFERENCE PRICE	
RSA domestic reference price	US$110/ton
Minus: US No. 2 Yellow FOB (ord) on 25 October 2016	US$165.17/ton
Dollar duty on maize	US$0/ton
Rand duty on maize before adjustment	R0/ton
Adjusted with the Real Effective Exchange Rate Index	R0x 0.79 = R0/ton
Rand duty on maize	0c/kg (equivalent to 0% *ad valorem)*
Rand duty on maize flour	0/kg (equivalent to 0% *ad valorem*)

*Calculation as at 25 October 2016

Adjustments to the level of protection will be based on quantum movements in the world reference price as follows:

The difference between the 21-day moving average of US No. 2 Yellow maize (fob) Gulf price (world reference price) and the domestic Dollar-based reference price for maize is calculated on a weekly basis. If the 21-day moving average of the US No. 2

Yellow maize (fob) Gulf price (world reference price) shows a variance of more than US$7/ton from the previous trigger level for 21 consecutive trading days, an adjustment to the tariff is triggered and a new duty calculated. The resulting Dollar specific duty is converted to Rand according to the Rand/Dollar exchange rate prevailing on the day that the adjustment is triggered and subsequently adjusted with the latest available Real Effective Exchange Rate Index as published by the South African Reserve Bank.

The levels of duty should not exceed the bound rate of 50 per cent *ad valorem* for maize.

The Dollar-based reference price should be reviewed periodically after every three years. This would ensure that the DBRP is adapted to recent developments in the domestic and global markets.

1. BACKGROUND

1.1. Directive to review the Dollar-based domestic reference price and variable tariff formula for maize

The Minister of Economic Development directed the International Trade Administration Commission of South Africa (ITAC) in terms of Section 16(1)(d)(i) of the International Trade Administration Act, to evaluate and investigate a review of the DBRP and variable tariff formula for maize.

The directive entails the review of the DBRP and variable tariff formula for maize, as set out below:

"The directive was made in view of the fact that wheat, maize and sugar are basic necessities used by South Africans, and that the country is still in the grip of a drought coupled with large exchange rate fluctuations over the last couple of months. I direct ITAC to urgently review the current formulae, in particular taking into account the impact on the price of bread, maize and sugar."

The review was published in the Government Gazette on 22 July 2016 for a period of 4 weeks to solicit comments from interested parties.

1.2. The existing tariff dispensation for maize

The current tariff dispensation for maize, termed the variable tariff formula, was introduced through a recommendation made by the then Board on Tariffs and Trade (BTT) in its Report No. 3976: Revision of the Tariff Dispensation on Maize and Maize Products, dated 21 June 1999. The BTT found that protection by way of a Dollar-based reference price (DBRP) system would protect the industry against abnormally low international prices that then occurred from time to time due to international oversupply.

The BTT recommended that the customs duty on maize be calculated as the difference between the reference price of US$110/ton for maize and the 21-day moving average of US No. 2 Yellow maize (fob) Gulf price.

Adjustments to the level of protection are based on movements in the world maize price and are made when the difference between the world price, on which the previous adjustment was based, and the 21-day current moving average of that price amounted to more than US$7/ton for 21 consecutive trading days. The resulting Dollar-specific duty is converted to Rand according to the Rand/Dollar exchange rate prevailing on the day that the adjustment is triggered.

In 2007, ITAC conducted a review of the customs dispensation on maize, maize flour and downstream products thereof. The Commission concluded then, as detailed in ITAC Report No. 235, that an amendment of the customs tariff for maize would have an unnecessary cost-raising impact on downstream producers and consumers and hence recommended that the variable tariff formula for maize and maize flour be maintained at the DBRP level of US$110/ton.

The Commission has on two more occasions received applications by Grain SA in 2013 and again in 2015 requesting an increase in the DBRP for maize from the current US$110/ton to US$243.51/ton and US$233.39/ton, respectively. Both applications were subsequently withdrawn by the applicant prior to publication citing, amongst others, that:

- Market conditions changed drastically over the last few months due to a severe drought, which increased maize prices above import parity due to limited local production;
- Price increases were further driven upwards as a result of the slow growth in the economy coupled with the depreciation of the Rand;
- A tariff increase would have placed an undue burden on consumers and would have impacted on food security; and
- Unlike wheat, maize is not currently an industry in distress.

The current applicable tariff position of maize is shown in Table 1 below:

Table 1: Current tariff position for maize

Tariff heading	Tariff sub-heading	Description	Unit	Rate of Duty			
				General	EU	EFTA	SADC
10.05		**Maize (Corn):**					
	1005.10	Seed	kg	free	free	free	free
	1005.90	**Other**					
	1005.90.10	(Dried Kernel or Grains fit for human consumption, not further prepared or processed and not packaged as seeds. Excluding Popcorn (Zea Mays Evera)	kg	free	free	free	free
	1005.90.90	Other	kg	free	free	free	free

Source: SARS

The current tariff structure of the subject product is given in Table 1, which reflects that maize is currently classifiable under tariff heading 10.05 and does not attract any customs duty. The applicable WTO bound rate for maize is 50

per cent *ad valorem*.

The level of duty, since the implementation of the DBRP, became constant at zero given that international prices of the US No. 2 Yellow maize (fob) Gulf price remained, on average, at levels higher than the DBRP of US$110/ton.

According to the WTO's Minimum Market Access (MMA) requirements, South Africa is currently obliged to make allowance for the importation of 269 000 tons of maize at full duty, less 10 per cent *ad valorem*.

Table 2 below provides the tariff lines applicable to each of the input products as well as its cost contribution:

Table 2: Tariff lines of inputs

Description	Tariff Heading	Sub-heading	Statistical Unit	Rates of Duty			
				General	EU	EFTA	SADC
Seeds	10.05						
Fertilizer	Chapt.31	1001.90	Kg	free	free	free	free
Chemicals	Chapt.31	-	Kg	free	free	free	free
Fuel	Chapt.28	-		free	free	free	free
Machinery and implement reparations	Chapt.7			free	free	free	free
Other				free	free	free	free

(Source: Grain SA, Jacobson's Harmonised Customs and Excise Tariff Book)

As can be seen from Table 2 above, all the inputs used by members of Grain SA in the production of maize, are duty free, which assists in managing the cost of production.

2. INDUSTRY AND MARKET

2.1. International maize market

According to the United States Department of Agriculture (USDA)[1], the global production of maize in 2016/17 is projected to increase sharply from the previous year, driven by larger crops planted by the United States of America (USA), Argentina and the European Union (EU). The total production of maize is projected to increase by 13.63 per cent from 889 782 million tons in 2011/12 to 1 011 068 million tons in 2016/17.

Total consumption of maize is projected to increase by 16.63 per cent from 868 399 million tons in 2011/12 to 1 007 111 million tons in 2016/2017. According to the USDA, the increase in consumption is driven by the growth in feed use for China and the EU. World production is still slightly below consumption.

[1] Available online at http://www.fas.usda.gov/

2.2. SACU maize market

The domestic supply and demand for maize in South Africa is as shown in Table 3 below:

Table 3: Domestic supply and demand for maize in South Africa

Marketing Year	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16*
Area planted (x1 000 ha)	2 810	1 600	2 552	2 799	2 428	2 742	2 372	2 699	2 781	2 688	2 653
Yield (ton/ha)	4.07	4.14	2.79	4.54	4.96	4.67	4.37	4.49	4.25	5.3	3.76
CEC crop estimate (000ton)	11 450	6 618	7 125	12 700	12 050	12 815	10 360	12 121	11 811	14 250	9 974
Retentions	754	480	337	554	389	527	474	433	458	550	500
Available for Commercial Deliveries	10 696	6 138	6 788	12 146	11 662	12 288	9 886	11 687	11 353	13 700	9 474
Commercial supply ('000 ton)						('000 ton)					
Opening stocks (1 May)	3 468	3 501	2 369	1 319	1 714	2 203	2 333	994	1 417	589	2 070
Commercial production	10 055	6 707	6 882	11 899	11 629	12 016	10 340	11 929	10 992	13 828	9 795
Surplus	4	32	29	30	68	77	54	42	123	26	
Imports	360	930	1120	27	27		421	11	80	65	1979
Total commercial supply ('000 ton)	13 887	11 170	10 400	13 275	13 438	14 296	13 148	12 976	12 612	14 508	13 848
Commercial demand ('000 ton)											
Commercial consumption											
Food	3 825	3 816	3 809	4 524	4 471	4 513	4 512	4 499	4 582	4 840	4 711
Feed	3 537	3 763	4 157	4 130	4 101	4 271	4 362	4 378	4 715	5 041	5 525
Total	7 362	7 579	7 966	8 654	8 572	8 784	8 874	8 877	9 298	9 881	10 236
Other consumption ('000 ton)											
Gristing	100	81	63	69	86	73	67	58	51	46	32
Withdrawn by producers	315	241	217	273	291	267	142	138	149	125	85
Released to end consumers	340	235	230	220	378	526	484	478	280	206	187
Net Receipts	28	36	42	49	51	44	15	62	12	22	47
Total	783	593	552	611	806	910	708	736	492	398	351
Total RSA consumption (commercial) ('000 ton)	8 145	8 172	8 518	9 265	9 378	9 694	9 582	9 613	9 790	10 278	10 558
Exports ('000 ton)											
Products	103	49	61	104	119	126	129	133	177	198	190
Whole maize	2 134	548	473	2 162	1 670	2 066	2 446	1 813	2 056	1 957	689
Total	2 237	597	534	2 266	1 789	2 192	2 575	1 946	2 233	2 156	879
Total commercial demand ('000 ton)	10 382	8 769	9 052	11 531	11 167	11 886	12 157	11 559	12 023	12 434	11 467
Carry-out (30 April)	3 501	2 369	1 319	1 714	2 203	2 333	937	1 419	589	2 074	2 381
Pipeline requirements (1.5 months)	920	947	996	1082	1072	1098	1109	1110	1162	1 235	
Surplus above pipeline ('000 ton)	2 581	1 422	323	632	1 132	1 235	-172	309	-573	839	-
Carry-out as a % of RSA consumption	42.98%	28.98%	15.48%	18.50%	23.49%	24.07%	9.78%	14.76%	6.02%	20.18%	22.55%
Carry-out as a % of total commercial demand	33.72%	27.02%	14.57%	14.86%	19.73%	19.63%	7.71%	12.27%	4.90%	16.68%	23.26%

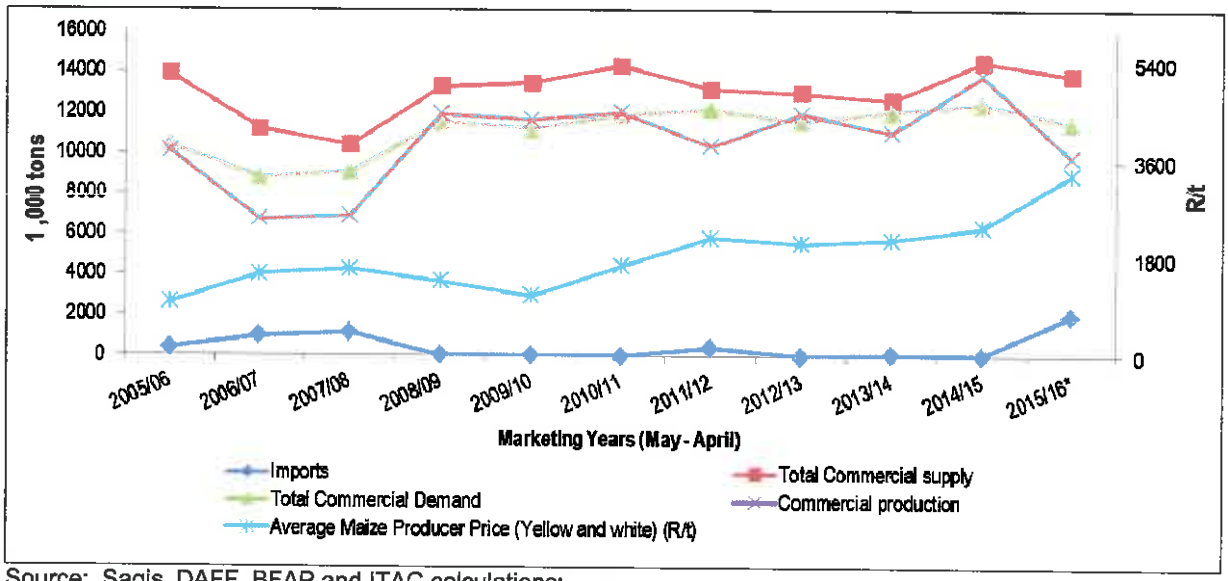
Source: SAGIS, *Grain SA Projections

With regard to domestic supply of maize to the South African market, it can be seen from Table 3 above that although domestic supply increased by 4 per cent from 2005/06 to 2014/15, there has been a decline of approximately 5 per cent in total supply of maize between the 2014/15 and 2015/16 season. Total supply for maize averaged at 12 971 000 tons for the past ten years.

With regard to the demand for maize in South Africa, it can be seen from Table 3 above, that total demand increased by 10.5 per cent from 2005/06 to 2015/16. Total demand for maize averaged at 11 130 000 tons between 2005/06 and 2014/15.

Imports of maize in the South African market decreased significantly by 82 per cent from 360 000 tons in 2005/06 to 65 000 tons in 2014/15. However, as a result of the drought, which led to a decline in domestic production levels, imports of maize into South Africa have increased significantly from 65 000 in 2014/15 to approximately 1.98 million tons in the 2015/16 season. Maize imports into South Africa averaged at 502 000 tons between 2005/06 and 2015/16.

Figure 1: Demand, domestic supply and imports of maize for the period 2005/06 – 2015/16



Source: Sagis, DAFF, BFAP and ITAC calculations;
*Average producer price is based on BFAP SAFEX price projections less average marketing cost

As shown in Figure 1 above, there has been a distinct oversupply of maize in the South African market, which is mainly attributed to opening stocks and imports of maize in abnormal production years. The above figure also shows that the price for maize has fluctuated over the ten year period. There was a notable decline in prices from 2008/09 to 2010/11, however, from 2011/12 to 2015/16, prices continued to increase.

2.3. Downstream Maize Industry

Known stakeholders in the production of the subject product (maize) and in the processing of the subject product into a variety of end products include, amongst others:

- Grain SA
- National Chamber Of Milling
- Animal Feed Manufacturers Association (AFMA)
- South African Cereals And Oilseeds Traders Association (SACOTA)
- Agbiz Grain
- South African Maize Forum
- AVCASA (Pesticide supplier companies)
- Agricultural Machinery Supplier Companies (SAAMA)
- SANSOR (Seed supplier companies)

- SAPIA (Fuel supplier companies)
- Fertilizer Association of Southern Africa (FERTASA)

Figure 2 below depicts the SA maize to downstream maize product value chain:

Figure 2: Industry Value chain – maize

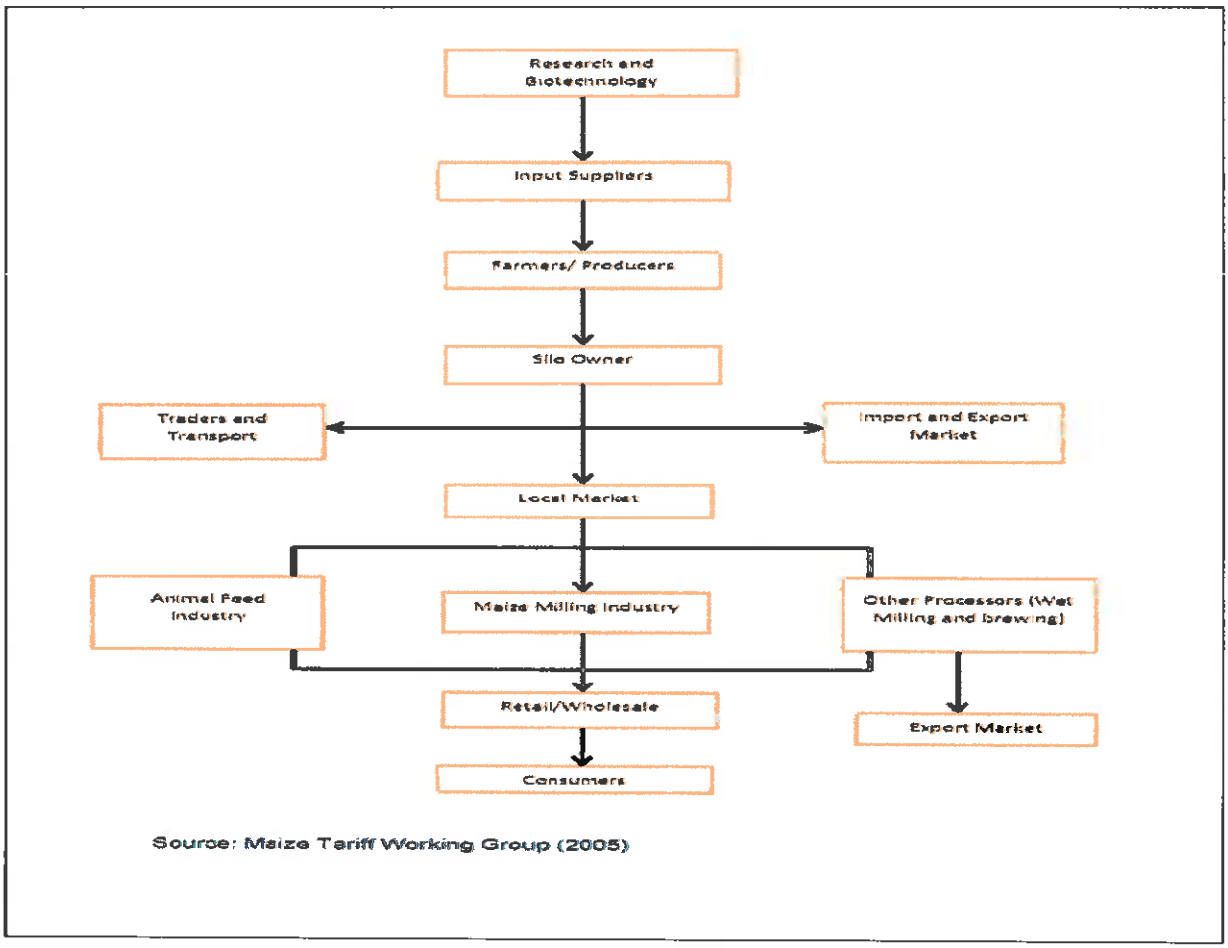


Figure 2 above depicts the industry value chain in the production of maize. It indicates the contribution by each industry role player in the production of maize and the processing thereof into a variety of products that goes into animal feed and human consumption.

3. COMPETITIVE POSITION

Grain SA submitted the average production cost of yellow and white maize farmers in various maize growing regions in South Africa, namely: North Western Free State, North West, Mpumalanga (Eastern Highveld) and Northern Cape (irrigated) for the 2016/17 production years.

According to Grain SA, the estimated cost and price structures for 2016/17 are based on budgeted figures and do not represent the actual costs, since the actual costs for the 2016/17 were not yet available.

South Africa is a surplus producer and a net exporter of maize, which imply that the local South African prices are most of the time trading at export parity prices. The major cost drivers for producing maize are fertilizers, fuel and seeds. Fertilizers, which constitute the largest cost factor of maize production, are imported in Dollar, and as such, the cost is mainly affected by exchange rate fluctuations, among other factors. Given the current trajectory of the Rand, South African farmers are likely to experience further significant increases in fertilizer and diesel prices, which in-turn will lead to higher input costs.

Overall, direct variable costs are found to be the leading cost drivers in the production of maize, which contributes a significant percentage of total production costs. The absence of direct labour cost in the cost of production could be an indication that the production of maize is more capital intensive and less labour intensive, at least from the production side.

It was found that the production cost is not the same for all regions and that yield levels and marketing costs play a significant role in determining the profitability of maize farmers. Overall, it is also important to note that although the projected loss level is higher for the irrigated region of the Northern Cape due to, *inter alia*, higher marketing costs, it should be noted that this region is not the main maize producing area in South Africa. Profit levels are expected for Mpumalanga (Eastern Highveld) while the Free State and North West regions are expected to realise losses, depending on weather conditions for the 2016/17 season. According to information at the Commission's disposal, in 2014/15, approximately 39.6 per cent of maize was produced in the Free State, 24.4 per cent in Mpumalanga, 15 per cent in North West and 6.8 per cent in the Northern Cape region. Other provinces produced a combined total of approximately 14.2 per cent.

A long term drive towards improved productivity remains critical. According to information at ITAC's disposal, there are more important underlying issues to address to ensure the industry's competitiveness over the long run. These issues are linked to investment in research and development, extension services, infrastructure of roads, ports and rail etc.

The significant increase in the inflow of maize imports in the 2015/2016 season is attributable to the drought conditions experienced in the Southern African region, which negatively affected domestic maize production; hence there was a need to import the subject product.

Based on 2015/16 import data, the majority of imports originated from Argentina, which accounted for approximately 60 per cent of the imports into the SACU region. Brazil also accounted for a substantial portion of the imports into the SACU, with a share of approximately 24 per cent of the total SACU imports, resulting in a combined South American import of approximately 84 per cent. The share of imports from countries such as USA, Mexico, Zambia and other maize exporting countries, accounted for the remaining 16 per cent.

4. ESSENTIAL ISSUES PERTAINING TO THE REVIEW

The essential issues according to the policy directive include: the effects of drought; food inflation; exchange rate fluctuations; and the relationship between the cost of production and the level of protection.

4.1. The effects of drought

South Africa has experienced the worst drought, in 2015, since the early 1980s. The drought resulted in a below average crop for maize, causing prices to move from export parity to import parity due to a shortage in supply. Based on Grain SA's 2015/16 projections, there has been a decline of approximately 5 per cent in total supply of maize between the 2014/15 and 2015/16 season.

The National Chamber of Milling (NCM) submitted that the drought had a major impact on maize production and has resulted in maize trading at import parity with white maize trading at a substantial premium to yellow maize. The impact of the drought on maize is expected to last until May 2017. Estimated imports of 800 000 tons of white maize and 1.2 million tons of yellow maize will be needed this season to balance supply with demand.

Grain SA submitted that the drought resulted in a below average crop, this resulted in maize prices moving from export parity to import parity prices due to a shortage in supply. This means that prices will remain high until stock levels return to normal. The new production season is expected to be favourable since the El Nino weather pattern changed to a possible La Nina. The expectation for the new season is that production will return to normal, which means that prices can return to normal levels in 2017.

The Commission in its analysis of the drought conditions is of the view that the drought conditions had a negative impact on maize producers, downstream users and consumers. The drought resulted in a below average crop, causing prices to move from export parity to import parity due to a shortage in supply. According to Grain SA, prices will remain high until stock levels return to normal. It expected that production levels will return to normal in the 2016/17 season, however, imports would still be required in order to satisfy total domestic demand.

4.2. Food Prices

Maize meal is an important component of the food basket, since it forms part of staple food for many South Africans. There is concern that a duty on maize will have a significant impact on the price of maize meal and therefore can adversely affect food affordability especially for poor households.

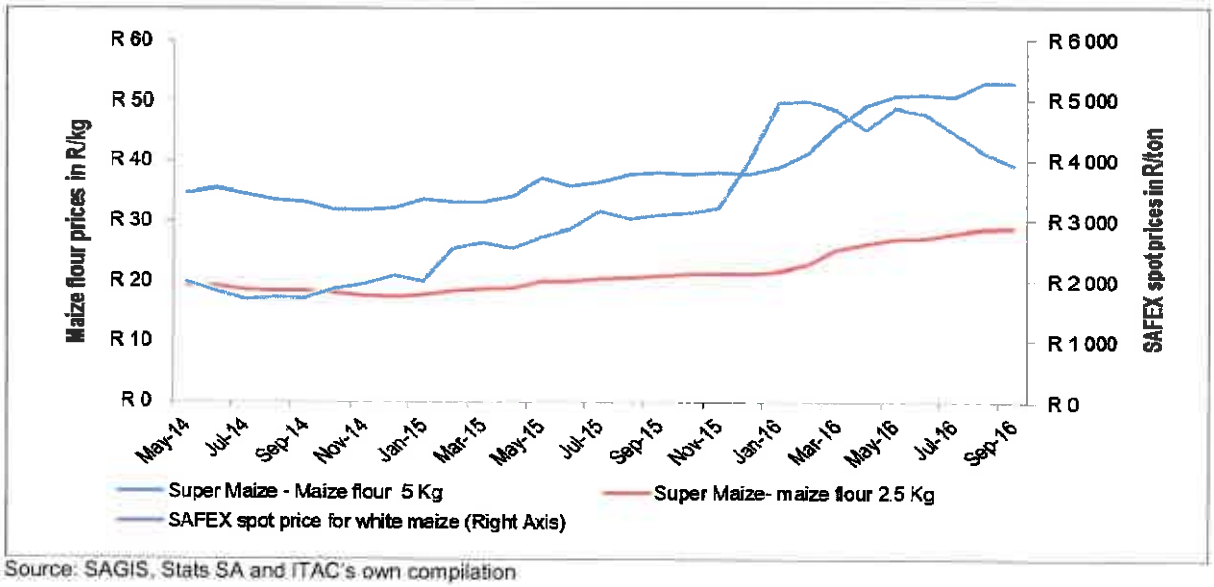
The NCM submitted that white maize prices have more than doubled from mid-2015 mainly due to the drought and drastic weakening of the Rand, which resulted in significant increases in the price of maize meal. An import tariff would have the effect of driving these high prices to unsustainable levels for all in the industry.

The 3-year price trend on maize for the period April 2013 to April 2016 submitted by Grain SA indicated that white maize prices increased by 109 per cent, yellow maize prices increased by 44 per cent and maize meal prices increased by 62 per cent.

The Commission, in its analysis found that maize prices have increased significantly over the recent past, with Grain SA, submitting that this increase in maize prices from export parity to import parity has been the major contributor towards food inflation since maize is a staple food for most South Africans. The movement of local maize prices from export parity to import parity prices resulted in an increase of 109 per cent for white maize and 44 per cent for yellow maize mainly due to the drought and depreciation of the Rand. These price increases resulted in an increase of approximately 62 per cent on the price of maize meal. During 2015/16, which was known as an extremely dry year, maize prices were highly influenced by the weather conditions and prices increased significantly.

The Commission also considered the impact of white maize prices on maize meal prices. Figure 3 below depicts the link between domestic white maize prices (SAFEX spot prices for white maize) and the prices of downstream maize products for the period May 2014 to September 2016.

Figure 3: Analysis of maize prices on maize meal (End product)



Source: SAGIS, Stats SA and ITAC's own compilation

As shown in Figure 3 above, there was a significant increase in the price of white maize, which was followed by a sharp increase in the price of maize meal in the 3rd quarter of 2015, although maize meal prices have since declined slightly in the first quarter of 2016. Based on the figure above, it is evident that local market conditions have a significant influence on the maize market as well as on food price inflation, which is different from the wheat sector, which normally trades at import parity. According to information at the Commission's disposal, food and beverages account for approximately 17 per cent of the total Consumer Price Index (i.e. food inflation). 73 per cent of the 17 per cent for food and beverages is grain and grain based products.

The fact that South Africa is a surplus producer and a net exporter of maize, imply that the local South African prices are most of the time trading at export parity prices. Domestic maize prices fluctuate between import parity and export parity prices, in line with changes in supply and demand. As shown in Figure 3 above, the SAFEX spot price for white maize has seen a significant increase in the 3rd quarter of 2015, mainly as a result of poor weather conditions (i.e. drought), which contributed to changes in supply and demand conditions for maize.

The drought resulted in a movement from white maize export parity levels to above import parity levels, due to limited stock available locally and on the international market. According to Grain SA this resulted in a 90 per cent increase in local maize prices, resulting in an increase in food inflation. However, Grain SA further submitted that the high prices are only temporary and if the season progressed as expected and production increased, prices would revert to export parity levels.

Similar to the effect of the drought conditions, imposing a duty on a staple food such as maize or maize products could have an unfavourable cost raising effect on food prices especially maize products such as maize meal. Given the drought conditions, where maize imports were required, domestic prices have increased significantly as a result of the shift from export parity to import parity levels. This has provided sufficient incentives for farmers to increase production.

The Bureau for Food and Agricultural Policy (BFAP) was requested to conduct an impact analysis in terms of the price effect of the current Dollar-based reference price and variable tariff formula on maize production and the maize meal price. BFAP found that:

- An evaluation of historic price transmission from maize to maize meal, suggests that the effect of a shift in the maize tariff on downstream maize products is deemed substantial.

- This is derived from the estimated price transmission elasticity, which suggests that a shift in price from export parity to import parity levels would result in an increase in the price of maize meal.

- Around this long term co-integration, short term dynamics are also important to consider. A transmission analysis indicated that the time required to return to an equilibrium margin is typically between 6 and 7 months.

In terms of the effect of the maize tariff on consumer food prices, it was submitted that:

- An increase in the reference price would, however, not really have the impact of protecting the local industry because during any normal production season, South Africa is a net exporter of maize and therefore prices trade at, or close to, export parity levels.

- During times where maize imports are required, domestic prices have increased significantly, as a result of the shift from export parity to import parity levels. This has provided sufficient incentives for farmers to increase production.

- Application of an import tariff on maize would increase the import parity price even further, adding to the cost of maize meal for consumers who would already be paying significantly more for a basic staple product typically consumed by lower income households.

- Ultimately the sustainability of maize production in South Africa cannot depend merely on tariff protection. There are other important underlying issues to address to ensure the industry's competitiveness over the long run. These issues are linked to investment in research and development, extension services, infrastructure of roads, ports and rail etc.

In view of the above, the Commission found that maize prices have increased significantly over the recent past due to adverse weather conditions, which resulted in maize prices shifting from export parity to import parity. This shift has been a major contributor towards food inflation since maize is a staple food for most South Africans. Therefore, maize prices as a driver of food inflation have been significant.

The Commission determined that an import tariff would increase the import parity price on maize even further, adding to the cost of maize meal for consumers who would already be paying significantly more for a basic staple product typically consumed by lower income households. This was supported by BFAP in its findings in analysing the impact of an increase in the DBRP for maize.

4.3. Exchange rate fluctuations

In determining customs duties for maize using the existing variable tariff formula, the difference between the current moving average international maize price and the DBRP (both denominated in US Dollars), results in a Dollar specific duty, which is converted to Rand according to the Rand/Dollar exchange rate prevailing on the day that the adjustment is triggered. Based on experience in calculating the duty for wheat and sugar, the changes in exchange rates play a crucial role in the quantum of the customs duty. Should there be any changes in the maize tariff; the same impact would be expected on the calculation of the duty for maize. Over the past two years the R/$ exchange rate showed a weakening of 60% to the US$, as shown in the graph below:

(Source: NCM, 2016)

As a result of the weakening Rand/Dollar exchange rate and the impact this had on the calculation of the applied duty on wheat and sugar, concerns were raised that the current variable tariff formula does not take into account extreme exchange rate variations, which may result in unnecessary additional protection to producers due to these fluctuations.

The NCM submitted that the exchange rate variable directly impacts the daily export parity price and gives farmers direct implied protection if the Rand weakens. The free market system in maize trading should be allowed to prevail and not interfered with. The weakening of the Rand directly afforded maize farmers an inherent protection as export parity levels increased.

Grain SA submitted that South Africa is operating in the global market where not only market prices (such as maize and wheat) are subject to fluctuations in the exchange rate but also most of the production inputs. Within the maize and wheat industries, more than 80 per cent of the production input needs are imported. If the exchange rate were delinked from the tariff calculation, input prices would increase significantly due to a depreciation of the value of the Rand, but maize and wheat would be unaffected if international prices are constant. This would put the already high price/ cost squeeze under pressure.

Some of the other interested parties argued for a move to a Rand-based reference price citing, amongst others, that the existing DBRP is denominated in Dollar terms and therefore producers would receive greater protection when global prices are low and the Rand depreciates.

The Commission considered the fact that when there is a sharp decline in the value of the Rand this may result in over protection. The Commission, however, also noted that, since April 2014 – April 2016, international prices of major input costs such as crude oil and fertilizer decreased, on average, by 58% and 34%, respectively. However, the weakening in the R/$ exchange rate negated any advantages that the local maize producers would have had in potential lower input costs as far as fuel and fertilizers are concerned.

Based on simulations conducted on the possibility of switching to a Rand-based reference price, it was found that a Rand-based reference system would not have yielded a duty and would unlikely yield a duty or only at low levels due to the trajectory of the Rand. This would place farmers at a disadvantage against the background of inflationary pressures that dilute the supposed benefits of the lower Rand. This would expose domestic farmers to low priced and subsidized imports. The Rand/Dollar exchange rate catapults current prices to levels higher than the reference price. The reference price would have to be updated constantly to the most recent year based on almost yearly applications by the industry and this would be untenable.

The Commission therefore concluded that a new variable should be introduced into the tariff formula in the form of the Real Effective Exchange Rate (REER) Index published monthly by the South African Reserve Bank. This index takes into account price differentials between South Africa and its 20 most important trading partners. Adjusting the triggered duty by the REER, would ensure that producers are protected against real cost pressures and do not benefit unduly from exchange rate fluctuations. This adjustment should bring stability to the system during periods of exchange rate fluctuations or sustained depreciation or appreciation.

4.4. Relationship between the cost of production at farm level and the tariff regime

The variable tariff formula is intended to sustain and encourage the domestic production of maize. Therefore, in establishing the level of the Dollar-based reference price (DBRP), production costs are taken into account in order to ensure that the DBRP is comparable to the domestic producers' production costs, which will enable the viability of domestic maize production. There is a concern that the variable tariff formula does not take into account movements in farmers' production costs.

In analysing the relationship between domestic farmers' cost of production and the proposed DBRP, the production cost of maize farmers in the main maize growing regions in South Africa, namely: the North Western Free State, North West, Eastern Highveld and Northern Cape, for the 2016/17 production years, were evaluated.

Based on the estimated figures provided for the four regions, it was found that the production cost is not the same for all regions and that yield levels and marketing costs play a significant role in determining the profitability of maize farmers. Overall, it is also important to note that although the projected loss level is higher for the irrigated region of the Northern Cape due to, *inter alia*, higher marketing costs, it should be noted that this region is not the main maize producing area in South Africa. Profit levels are expected for the Eastern Highveld region while the Free State and North West regions are expected to realise losses, depending on weather conditions for the 2016/17 season. According to information at the Commission's disposal, in 2014/15, approximately 39.6 per cent of maize was produced in the Free State, 24.4 per cent in Mpumalanga, 15 per cent in North West and 6.8 per cent in the

Northern Cape region. Other provinces produced a combined total of approximately 14.2 per cent.

Due to the fact that SACU is a net exporter of maize, maize is normally traded at export parity price levels. In addition, maize is traded on a futures market, where the SAFEX price includes the applicable customs duty. The SAFEX price, expected to be at approximately R2 700/ton for the 2016/17 period, informs farm gate prices. However, the SAFEX prices will not prevail at farm gate level due to a number of compulsory deductions, i.e. transport differentials, possible grade/quality deductions and other related supply chain expenditures.

The DBRP should be set at a level that encourages domestic producers to plant maize in order to be in a position to compete with imported maize at prices which are approximately equal to the reference price, even in the absence of an actual duty.

An analysis of the price cost structure for maize farmers was taken into account to ensure that the level of protection in the form of a DBRP is in line with the farmers' production costs. It was found that the comparison between maize farmers' production costs for the 2016/17 period and the current DBRP as well as the DBRP should it be amended based on 10-year, 5-year, 4-year and 3-year scenarios, shows that production costs are higher than the current DBRP. However, it should be borne in mind that during the 2016/17 period, farmers were exposed to abnormal market conditions as a result of the drought that led to maize prices moving from export parity to higher import parity prices. Had it not been for this abnormality, then farmers' production costs would have compared well with the current DBRP.

With regards to maize, the Commission in analysing the relationship between the cost of production and the level of protection, considered the fact that, under normal trading conditions the country is self-sufficient in maize production and has a comparative advantage with very little or no threat of imports and therefore prices would be at export parity. During the period of the investigation however, maize was trading in an abnormal trading environment mostly as a result of the drought, which resulted in the commodity moving from trading at export parity to higher import parity prices.

5. THE REVISED DBRP AND VARIABLE TARIFF FORMULA

The current tariff dispensation for maize, referred to as the variable tariff formula, was introduced in 1999, with the aim to set a fair level of protection that would encourage farmers to plant maize and be able to compete against low priced imported maize, without having undue adverse price raising effect downstream. The formula sets a floor-price referred to as the Dollar-based reference price (DBRP), which represents the minimum price at which the local producers are able to produce maize. When the price of imported maize is lower than the DBRP (i.e. due to depressed international prices), for a specified time, then an import duty is levied based on the difference between the DBRP and the low import price. It is countercyclical in that it affords

protection when international world prices are low and no duty is levied when international prices are above the DBRP.

The NCM submitted that the formula for maize was not relevant considering the following:

- The existing variable tariff dispensation for maize and maize products was recommended by the BTT (Board of Tariffs and Trade) in 1999. The BTT's finding then that protection by way of a Dollar-based reference system would protect the industry against abnormally low international prices that then occurred from time to time due to international oversupply does not provide a justifiable economic reason.

- Maize is an increasing surplus production and export driven crop under normal conditions, providing the country's primary staple foodstuff. The country is self-sufficient in maize production and has a comparative advantage with very little or no threat of imports. Being an export parity commodity (drought year being an exception), there is no justification for a protection mechanism of any structure or form.

- There has been no tariff on maize for almost a decade and the industry continued to thrive and remained resilient against high commodity prices as well as exchange rate fluctuations. The formula does not serve any purpose and has become irrelevant. It is an administratively tedious mechanism creating uncertainties in the market when applicable. A simple zero based tariff structure for maize is appropriate.

- In view of the above, the NCM proposed that the variable tariff formula be removed and the maize tariff set at zero.

Furthermore, the NCM also proposed that the current formula price structure for maize be removed and replaced with a zero based *ad valorem* structure since RSA is self-sufficient in maize under normal conditions.

Grain SA submitted that in terms of maize the current formula is of no concern, however, the moment that the local supply is in a state of constant shortages, a review of the reference price will be requested to stimulate production. Grain SA further submitted that surplus maize production forms a crucial part of food security in South Africa.

On further consultation through engagements with producers and downstream users of maize, with a view to explore ways of finding common ground, both the NCM and Grain SA understood in principle that a move to a simple *ad valorem* would result in the tariff structure losing the countercyclical feature currently provided by the current DBRP, which triggers a duty only when world prices are low and triggers lower or no duties when world prices are high.

The Commission found that a move to a simple *ad valorem* would result in the tariff structure losing the countercyclical feature currently provided by the current DBRP, which triggers a duty only when world prices are low and triggers lower or no duties when world prices are high. It was found that the

variable tariff formula for maize is the appropriate system that would address issues of global distortions and price volatility in international markets, stimulate production and create stability in the trading environment. This formula sets a fair level of protection that would encourage farmers to plant maize and enable them to compete against low priced imported maize, without having an undue price raising effect for downstream users and consumers.

South Africa is self-sufficient in terms of domestic maize supply. The world maize price is determined by international supply and demand. The maize produced in South Africa compares with US No. 2 Yellow maize. However, according to Sagis, the USA No. 2 Yellow maize price is not available and it is therefore standard practice to use the adjusted No. 3 Yellow maize price. In order to adjust the difference between the prices of the two grades, a US$1.60/ton (premium) is added to the No. 3 Yellow maize.

In determining the revised DBRP, it was considered that the current DBRP of US$110/ton was determined using the ten-year average of the world benchmark maize price (Dollar priced). This price support mechanism was based on the rationale that the duty would place South African farmers and their foreign counterparts on an equal competitive footing, whilst simultaneously being sensitive to food affordability. However, similar to wheat, export prices for maize are to a large extent influenced by the domestic support of governments to producers in maize exporting countries. The PSE, calculated by the OECD, shows the support given by the respective governments to producers as a percentage of gross farm receipts (by a given commodity such as maize). In other words, for a given commodity, this measure includes only those policies that are directly linked to that individual commodity relative to gross farm receipts from producing that particular commodity.

In accordance with the previous ITAC recommendations when considering the DBRP, sea freight should also be considered as natural protection due to the distance from the country of origin and was therefore deducted from the calculation of the DBRP. The distortion caused by the subsidisation of international maize prices by maize exporting countries must be added to the formula in order to determine an appropriate level for the domestic reference price. In determining distortion factors, a weighted average of the volumes of maize from countries from which South Africa imports was calculated and used together with the relevant country Producer Subsidy Estimates (PSE) to calculate the country-weighted PSE.

Table 4 below presents a summary of various scenarios considered by the Commission in the calculation of the DBRP. The calculations presented in Table 4 follow exactly the same methodology as the current variable tariff formula for wheat and sugar based on the latest available data [i.e. year(s) average FOB + distortion – average transport costs]. The calculation is in accordance with the maize marketing period spanning from May to April.

Table 4: Determination of the domestic Dollar based reference price level

Period (May - April)	US No. 2 Yellow maize (fob) Gulf price (US$/ton)	Distortions (US$/ton)	Average transport costs (US$/ton)	Reference price (US$/ton)
10 year average period	223.1	5.9	49.0	180.1
5 year average period	239.1	6.0	38.4	206.7
4 year average period	227.0	7.6	36.9	197.7
3 year average period	200.6	1.8	35.8	166.6

Source: Grain SA and ITAC calculations

As shown in Table 4 above, based on marketing year averages, transport cost over the 10-year period is calculated at US$49/ton, while five-year, four-year and three-year averages are calculated at US$38.4/ton, US$36.9/ton and US$35.8/ton, respectively. The latest available data on the distortion factor for maize indicate an average distortion of approximately US$5.9/ton, US$6/ton, US$7.6/ton and US$1.8/ton for the 10-year, 5-year, 4-year and 3-year periods, respectively. Compared to wheat, it is evident that the distortion factor of maize is lower than the distortion in the wheat sector.

Following the principle applied in the concurrent reviews of the DBRP for wheat and sugar, to address the negative impact of exchange rate fluctuations, a new variable formula must be factored into the tariff formula, to ensure that producers are protected against real cost pressures and foreign currency denominated intermediate input costs such as fertiliser and machinery parts and not benefit unduly from exchange rate fluctuations, by adjusting the duty with the Rand's Real Effective Exchange Rate Index as published by the South African Reserve Bank.

The applicable custom duties were calculated using the data from SAGIS, the 21-day moving average price on 25 October 2016 of US$165.17/ton and the corresponding exchange rate of R13.8599. The results subsequent to adjusting the customs duty with the latest available REER index (at 79 index point for July 2016) are as shown in Table 5 below.

Table 5: Levels of duty using for all the scenarios considered

Scenarios	Reference price (US$/ton)	*Ad valorem* duty using current methodology	*Ad valorem* duty using proposed methodology of adjusting with the REER
Current DBRP	US$110	Free of duty	Free of duty
10 Year average	US$180	8.98%	7.09%
5 Year average	US$207	25.33%	20.01%
4 Year average	US$198	19.88%	15.70%
3 Year average	US$167	1.11%	0.88%

Source: ITAC

As shown in Table 5 above, four of the five scenarios calculated using the respective reference prices would trigger import duties ranging from 1.11 per cent to 25.33 per cent *ad valorem* without incorporating the adjustment factor. When taking into account the REER index, the calculated duties would range between 0.88 per cent and 20.01 per cent *ad valorem*. Based on the above calculations, it is apparent that import duties would be triggered should the Commission decide to amend the current applicable DBRP on maize.

Having considered the information presented in Table 4 and 5 above, the Commission recommended that the domestic DBRP for maize be maintained at the current level of US$110/ton. The proposal is based on the fact that, maize has been trading in an abnormal trading environment that resulted in the commodity moving from trading at export parity to higher import parity prices during the course of 2016 as a result of the lingering effects of the drought. An amendment of the current tariff regime for maize, based on the current distorted data, may result in the imposition of duties on a basic food commodity and input product, which is used in animal feed, that may have an undue cost-raising impact on consumers, especially the poor as well as having an adverse effect on downstream producers i.e. the poultry sector and compromise food security.

6. COMMENTS

Comments were received from Grain South Africa, ARC Small Grain Institute, South African Cereal and Oilseed Trade Association, Animal Feed Manufacturers Association, Meadow Feeds, Tongaat Hulett Starch, the National Chamber of Milling, Pioneer Foods, Premier FMCG, Paramount Mills (Pty) Ltd, NWK, the South African Poultry Association, Woolworths, the Bureau for Food and Agricultural Policy (BFAP) and South African Breweries (SAB).

7. FINDINGS

The aim of the current variable tariff formula is to set a fair level of protection that would ensure that the profitability and interests of primary producers are taken into account, but also those of value added producers and the possible inflationary effects for the consumers of food, in particular the poor. It should therefore be taken into account that South Africa is generally a surplus producer and a net exporter of maize and maize forms part of the food security basket.

The maize sector is considered critical to food security and forms part of the food security basket, accounting for approximately 80% of the total production of grain crops in the country and is the staple food for the majority of the South African population whilst also being a major component in the manufacturing of animal feed.

Although domestic supply of maize in South Africa increased by 4 per cent from 2005/06 to 2014/15, there has been a decline of approximately 5 per cent in total supply of maize between the 2014/15 and 2015/16 season. Total demand for maize in South Africa increased by 10.5 per cent from 2005/06 to 2015/16.

South Africa has experienced the worst drought, in 2015, since the early 1980s. The drought resulted in a below average crop for maize, causing prices to move from export parity to import parity due to a shortage in supply. The drought conditions had a negative impact on maize producers, downstream

users and consumers. There has therefore been an increased necessity to import under these circumstances.

South African maize production is projected to significantly recover from the drought conditions in the 2016/2017 production season, due to favourable climatic conditions. This is expected to diminish the dependence on imports. Together with the positive outlook on maize production, maintaining the variable tariff formula with some changes in the variables will continue to encourage farmers to increase maize production.

Imports of maize in the South African market decreased significantly by 82 per cent from 360 000 tons in 2005/06 to 65 000 tons in 2014/15. However, as a result of the drought, which led to a decline in domestic production levels, imports of maize into South Africa have increased significantly from 65 000 tons in 2014/15 to approximately 1.98 million tons in the 2015/16 season. Maize imports into South Africa averaged at 502 000 tons between 2005/06 and 2015/16.

It was found that the production costs are not the same for all regions and that yield levels and marketing costs play a significant role in determining the profitability of maize farmers. Overall, it is also important to note that although the projected loss level is higher for the irrigated region of the Northern Cape due to, *inter alia*, higher marketing costs, it should be noted that this region is not the main maize producing area in South Africa. Profit levels are expected for the Eastern Highveld region while the Free State and North West regions are expected to realise losses, depending on weather conditions for the 2016/17 season. According to information at the Commission's disposal, in 2014/15, approximately 39.6 per cent of maize was produced in the Free State, 24.4 per cent in Mpumalanga, 15 per cent in North West and 6.8 per cent in the Northern Cape region. Other provinces produced a combined total of approximately 14.2 per cent.

An analysis of the projected price and cost structure for maize farmers showed the major cost drivers in maize production are mainly fertilizers, seeds, fuel and irrigation costs. These costs constitute the largest part of the direct variable costs of approximately 75 per cent, on average, across all regions. Most of the maize producing regions projected losses for the 2016/2017 season, however, it should be borne in mind that should circumstances change during the course of the projected season, it is likely that farmers might experience losses or profits particularly given the fact that the provided data are only estimates and not actual data for the season.

An analysis of the price cost structure for maize farmers was taken into account to ensure that the level of protection in the form of DBRP is in line with the farmers' production costs. It was found that maize farmers' production costs for the 2016/17 period compared to the current DBRP as well as the DBRP should it be amended based on 10-year, 5-year, 4-year and 3-year scenarios, shows that production costs are higher than the current DBRP. However, it should be borne in mind that during the 2016/17 period, farmers were exposed to abnormal market conditions as a result of the drought that led

to maize prices moving from export parity to higher import parity prices. Had it not been for this abnormality, then farmers' production costs would have compared well with the current DBRP.

The Commission, in analysing the relationship between the cost of production and the level of protection, considered the fact that, under normal trading conditions the country is self-sufficient in maize production and has a comparative advantage with very little or no threat of imports and therefore prices would be at export parity. During the period of the investigation however, maize was trading in an abnormal trading environment mostly as a result of the drought, which resulted in the commodity moving from trading at export parity to higher import parity prices.

Simulations were conducted, to look into the possibility of switching to the Rand-based reference price and it was found that a Rand-based reference system would not serve its intended purpose should a customs duty on maize be required. This would place farmers at a disadvantage against the background of inflationary pressures that dilute the supposed benefits of the lower Rand. The Rand/Dollar exchange rate catapults current prices to levels higher than the reference price. The reference price would have to be updated constantly to the most recent year based on almost yearly applications by the industry and this would be untenable.

A move to a simple *ad valorem* duty was considered and it was found that the tariff would lose the countercyclical feature currently provided by the current DBRP that triggers a duty when world prices are low and triggers lower or no duties when world prices are high. The variable tariff formula is therefore better suited to the circumstances surrounding the production and trade of maize as opposed to the normal *ad valorem* duties. Rapid response is required due to the frequency of the sharp peaks and troughs evident in the price cycles of maize. However, it was found that imposing a duty on a staple food such as maize would at this stage have an unfavourable cost raising effect on food prices especially maize products such as maize meal whose prices have already increased to relatively high levels when compared to the pre-drought period.

It was found that the introduction of a new variable of the Real Effective Exchange Rate Index would address the negative impact of exchange rate fluctuations. This new variable must be factored into the variable tariff formula to ensure that producers are protected against real cost pressures and foreign currency denominated intermediate input costs such as fertiliser and machinery parts and not benefit unduly from exchange rate fluctuations, by adjusting the duty with the Rand's Real Effective Exchange Rate Index as published by the South African Reserve Bank. The Real Effective Exchange Rate Index that will be factored in will support farmers proportionally against a depreciating or an appreciating currency by adjusting the nominal Rand exchange rate for price differentials between South Africa and its most important trading partners. This would ensure that windfall profits or unnecessary additional protection to producers due to exchange rate fluctuations do not accrue to producers at the expense of food affordability.

Tariff protection must be complemented by addressing competitiveness constraints in maize production. A long term drive towards improved productivity remains critical as there are more important underlying issues to address to ensure the industry's competitiveness over the long run. These issues are linked to investment in research and development, extension services, infrastructure of roads, ports and rail etc.

It was found that since South Africa is a net exporter of maize, which is normally trading at export parity levels, its contribution to food inflation has been significant compared to commodities such as wheat. Therefore, maize prices as a driver of food inflation have been significant.

The Commission determined that an import tariff would increase the import parity price on maize even further, adding to the cost of maize meal for consumers who would already be paying significantly more for a basic staple product typically consumed by lower income households. This was supported by BFAP in its findings in analysing the impact of an increase in the DBRP for maize.

8. RECOMMENDATION

It is proposed that the Minister approve the Commission's recommendation that the domestic Dollar-based reference price for maize and maize flour be maintained at the current Dollar based reference price of US$110/ton. The proposal is based on the fact that maize has been trading in an abnormal trading environment that resulted in the commodity moving from trading at export parity pricing to import parity pricing during the course of 2016 as a result of the lingering effects of the recent drought. The Commission therefore does not recommend an amendment to the Dollar-based reference price for maize due to unwarranted and unintended cost-raising effects for downstream producers and consumers.

The initial duty on maize will be calculated as the difference between US$110/ton and the price of maize on 25 October 2016, which amounted to US$165.17/ton at an exchange rate of R13.86 to the US$ adjusted for price differentials between South Africa and its most important trading partners using the published Real Effective Rand Exchange Rate Index as follows:

REFERENCE PRICE	
RSA domestic reference price	US$110/ton
Minus: US No. 2 Yellow FOB (ord) on 25 October 2016	US$165.17/ton
Dollar duty on maize	US$0/ton
Rand duty on maize before adjustment	R0/ton
Adjusted with the Real Effective Exchange Rate Index	R0x 0.79 = R0/ton
Rand duty on maize	0c/kg (equivalent to 0% *ad valorem)*
Rand duty on maize flour	0/kg (equivalent to 0% *ad valorem*)

*Calculation as at 25 October 2016

Adjustments to the level of protection will be based on quantum movements in the world reference price as follows:

The difference between the 21-day moving average of US No. 2 Yellow maize (fob) Gulf price (world reference price) and the domestic Dollar-based reference price for maize is calculated on a weekly basis. If the 21-day moving average of the US No. 2 Yellow maize (fob) Gulf price (world reference price) shows a variance of more than US$7/ton from the previous trigger level for 21 consecutive trading days, an adjustment to the tariff is triggered and a new duty calculated. The resulting Dollar specific duty is converted to Rand according to the Rand/Dollar exchange rate prevailing on the day that the adjustment is triggered and subsequently adjusted with the latest available Real Effective Exchange Rate Index as published by the South African Reserve Bank.

The levels of duty should not exceed the bound rate of 50 per cent *ad valorem* for maize.

The Dollar-based reference price should be reviewed periodically after every three years. This would ensure that the DBRP is adapted to recent developments in the domestic and global markets.