COMMENT: PRICING POLICY IN THE MAIZE INDUSTRY: EFFECTS OF PRICE SENSITIVITY, INTERDEPENDENCE AND RELATIVE SHIFTS IN INCOME

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In a series of previous articles Van Zyl (1990) and Davel (1990) debated the pricing policy of the Maize Board for both white and yellow maize. Whilst it is agreed that elasticities are only one of a series of factors in the marketing milieu, recent research findings shed more light on the subject and need to be taken into account. The results pertain to white maize for human consumption.

It has been established that 94 per cent of the maize meal produced in the RSA is consumed by the Black population group (Elliott, 1991). To base income and price elasticity estimates on the total South African population is therefore erroneous. Past income and findings on price elasticities of demand may therefore be questioned.

Amongst the Black population alone there are four main linguistic groupings, with a number of subdivisions in each group. Regional differences are common in the market for white maize products. Regional estimates of income elasticity of demand for maize meal for Blacks support this premise by exhibiting substantial regional differences. Country-wide generalisations are therefore dangerous.

It was established that for Blacks, maize meal in general is a normal product and not an inferior product as previously believed. Van Zyl (1986) estimated the income elasticity for whole white maize at - 0,30. This estimate was for the total population based on data at the wholesale level. No previous estimates were available for maize meal at the retail level. Analysis of Bureau of Marketing Research data for 15 000 Black households revealed that for **urban regions** in 1985 the income elasticity for maize meal was 0,0610 and for all maize products it was 0,0474. **Rural areas** showed income elasticities of 0,1961 for maize meal and 0,1471 for maize products. Lipsey (1979) describes this type of product as being a normal good, that is income inelastic. With such a product the quantity demanded increases as income increases but less than in proportion to the increase in income. Indications are that maize meal, in general, is a normal product and as such will perform more favourably in future under a positive economic scenario than one of poor growth.

Certain other specific areas such as the PWV region, do however indicate the reverse to be true, i.e. that maize meal is an inferior good. This highlights the point about regional differences and sweeping generalisations being dangerous.

Groenewald (1991) and Nieuwoudt (1973) highlighted the limitations of data sources within the RSA. Published macro data should be handled with caution. Bar code scanning has been one of the first uncorrupted sources of data which has enabled a true fix on price elasticity at the retail level.

Estimates, based on bar code scanning data collected in urban regions, of price elasticities of demand for maize meal at the retail level generated for urban regions, indicate maize meal to be more price sensitive than previously believed. The price elasticity of demand for maize meal in urban regions was estimated at -0,69 (Elliott and Van Zyl, 1991). This is not comparable to that estimated by Van Zyl (1986) who estimated the price elasticity of demand for white maize for human consump-

tion at -0,14 at the wholesale level. Elasticity estimates will vary depending upon the level at which they are estimated in the marketing chain. It is expected that the elasticities at the retail level will be more elastic than at the wholesale level. The implication of the difference between the results is that the Maize Board may well have been following an incorrect pricing policy prior to 1987, if market expansion was the goal. Although the Maize Board is not the only link in the marketing chain, it is important to take note of such findings.

Figure 1 supports this line of argument. On May 1, 1987 the Maize Board was allowed greater autonomy in the setting of prices and the establishment of a more market related policy. Since that date a significant turn around in consumption of maize became apparent. Figure 1 indicates the percentage change in the price of white maize versus that of consumption. In other words the consumption sensitivity to price changes. An inverse relationship between price and quantity is clearly evident in the pre-policy change-over period.

	82/3	83/4*	84/5*	85/6	86/7*	87/8	88/9	89/0	90/1
% PRICE CHANGE	15.8	9.5	20	9.8	25.3	0.4	3.9	15.2	13.2
% CONSUMPTION CHANGE	9.7	-0.6	-7.3	3.7	-6.5	1.2	-2.4	3	2

MARKETING YEAR

···· % PRICE CHANGE —— % CONSUMPTION CHANGE
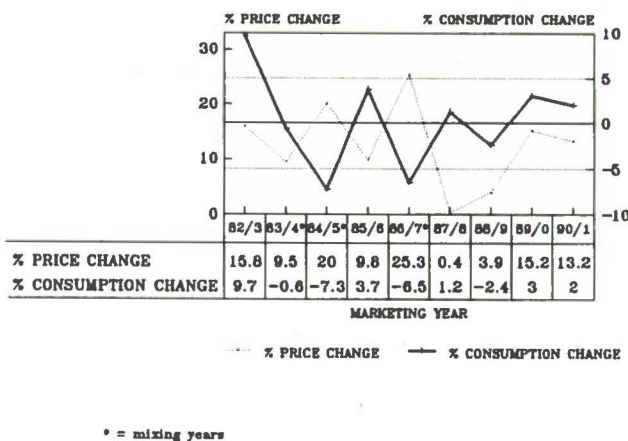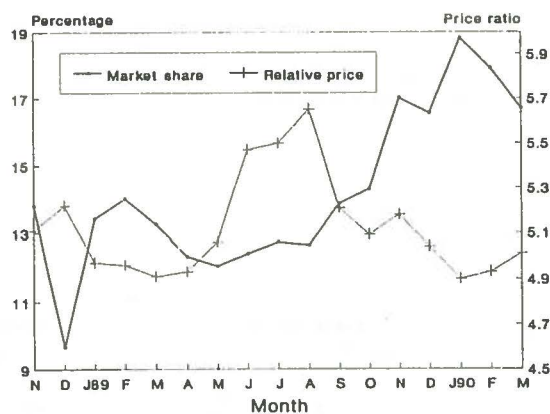
* = mixing years

Figure 1: White maize price and consumption changes

As from 1987 a different pattern is exhibited. Indications are that whilst price sensitivity still exists, the Maize Board has had greater success in determining a more market related pricing strategy.

It should however be noted that the years marked with an asterisk were years in which yellow maize was mixed in with white maize due to white maize shortages, which also coincided with large price increases.

Price and income changes are causally related in terms of the reactions of an individual. For example, a substantial price increase on a normal product which forms a reasonably large portion of the Black's budget is equivalent to a reduction in income, with the corresponding reduction in consumption. In other words, if market expansion was a priority before 1987, the policy for pricing white maize was contrary to this end.

Figure 2 shows other results of bar code scanning data for urban supermarkets, which according to other research estimates represents between 18 per cent and 28 per cent of the urban maize sales. Here the relative price of maize meal is plotted against the market share that maize meal holds in the urban supermarket sector. The relative price of maize meal is the price of maize meal divided by the sum of the prices of the most important sources of carbohydrate (bread, rice, potatoes, instant cereals and maize meal). Once again a more price sensitive relationship is displayed.

In conclusion, country-wide generalisations are dangerous. It is therefore also dangerous to base policy on generalisations. A regional policy approach is deemed necessary for the marketing of white maize.

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Source: Elliott and Van Zyl (1991)

Figure 2: The relative maize meal price versus market share