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.

References


Figure 2: The relative maize meal price versus market share

Viewpoint: Short and Long Term Prospects for Sugar and Forestry in South Africa

GF Ortmann
Department of Agricultural Economics, University of Natal, Pietermaritzburg

Abstract

World sugar prices are at present falling and will affect domestic producers' profits detrimentally. Domestic consumers may not benefit from lower world prices because they have to buy A-pool sugar. Projections of sugar consumption over the long term suggest that aggregate consumption will increase slowly with population growth. Changes in domestic and international sugar policies could have a major impact on production and consumption trends.

Tender prices are now declining after five years of shortages and rising prices. Domestic demand for tender is expected to increase by 2.7 per cent per year over the next 20 years. Average annual planting rates ranging from 20 000 ha to 35 000 ha have been recommended by forestry officials.

Growers (and companies) decide on a particular enterprise mix according to the expected relative profitability of enterprises and perceptions of risk.

Ulterkehr
Kost- en langtermyn vooruitsigte vir suiker en bosbou in Suid-Afrika

Wêreld suikerpryse is tans besig om te daal en sal binnelandse produusente se winste nadelig beïnvloed. Binelandse verbruikers sal nie baat bêet by laer wêreldpryse nie omdat hulle A-poel suiker moet koop. Projeksies van suikerverbruik oor die wyfjar en die volgende vyfjaar sal nagekeurig word met die bevolkingsgroei en die suiker verbruik. Die suikervergelyking van die suikerindustrie se suikerverbruik is die volgende: Suikerverbruik sal daal van 21.8% in 1990/91 na 21.0% in 1991/92. Suikerpryse sal af daal van 2.7% per jaar en sal daal van 18.1% in 1990/91 na 18.4% in 1991/92.

1. Introduction

This section deals with the short and long term prospects for sugar and timber production and consumption in South Africa. It also considers factors that may influence production and consumption trends. The latter part of the paper considers the economics of interaction between sugar-case and forestry. It also considers the case versus timber debate that has been in progress in recent years.

2. Prospects for sugar

The area under sugarcane in April 1990 was 375 000 ha after declining from over 400 000 ha in 1985 to 365 000 ha in 1989. This can be attributed to the effects of the 1984 change in the cane transport scheme, the introduction of the two-tier price system in 1985 and the purchase of sugarcane farms by timber companies. The increased area in 1990 has been attributed to a slowing down of sales of cane farms to timber companies and an increase in small grower production (SASA, 1991:5).

Sugar production in the 1990/91 season will be over 130 000 tons less than the average of the previous six seasons (SASA, 1991:3) owing to unfavourable weather conditions and less area under cane (Frean, 1991). This will affect the amount of sugar for export as 46.5 per cent of the season's production will be required for the domestic market (SASA, 1991:3).

Sugar production in the 1990/91 season will be over 130 000 tons less than the average of the previous six seasons (SASA, 1991:3) owing to unfavourable weather conditions and less area under cane (Frean, 1991). This will affect the amount of sugar for export as 46.5 per cent of the season's production will be required for the domestic market (SASA, 1991:3).

This trend benefited domestic case growers directly through rising B-pool sucrose prices. The Industry was able to repay a substantial portion of its debt, which will be reduced to R287 million by the end of March 1991. By August 1990 the New York price had dropped to 30.5 US cents/pound ($570/ton) owing to reduced off-take and news of potentially good harvests in the USSR and India. The market has since stabilised at around 25 US cents/pound ($450/ton) level, although the most recent price (January 1991) is 7 cents/pound ($120/ton) (Jordan, 1991:2). The average spot price for the 1990/91 season is expected to be below 13 cents/pound ($200/ton) compared with 13 cents/pound ($270/ton) for the 1989/90 season. Average export earnings in the 1990/91 season will be between 21 per cent lower than in the previous season (SASA, 1991:5). B-pool prices are expected to be lower in the 1991/92 season at R220 - R250/ton sucrose owing to depressed export prices. A-pool prices are predicted to increase but by less than in the past due to the export element in the A-pool and the industrial loss repayment requirement (SASA, 1991:9). The A-pool price for the 1991/92 season has been estimated at R450 - R470/ton sucrose (Jordan, 1991:2).

Growers and speculators who had hoped for a repeat of the high 1980/81 prices will be disappointed. Although world consumption exceeded production in each of the past five years and sugar stocks were reduced to as low as 27 per cent of consumption (similar to the 1980/81 level), Agri-Africa (1990b) maintains that the advent of many substitutes has enabled consumers to switch consumption away from sugar easily when prices rise. Also, forecasts of increased production relative to consumption will lead to declining sugar prices. Owing to fewer countries with rigid domestic pricing systems, consumption and production are now more responsive to prices signals.
Concerning domestic sugar consumption, per capita consumption in the year period from 1975/76 to 1984/85 averaged 37 kg, ranging from a high of 40.4 kg in 1975/76 to a low of 35.5 kg in 1979/80. A downward trend has been observed and sugar consumption per capita in 1989/90 per capita consumption was on average nearly 10 per cent lower than in 1984/85, while in 1989/90 it was over 13 per cent lower (Peters, 1991). The downward trend has been mainly due to declining real per capita incomes and social wages (Anonymous, 1991:2). Improved consumption figures in 1990/91 have been attributed mainly to advertising and promotional activities by the sugar industry (SWA/SACU). Domestic sugar demand is also dependent on the price of sugar in neighbouring countries; the relocation of Coca-Cola to Swaziland is a case in point. Any sugar developments in countries such as Swaziland, Mozambique, Zimbabwe and Namibia should be considered by the SA Sugar Association in its sugar pricing strategy.

Agricultural and urban population groups have similar sugar expenditures per capita in 1985/86 and 1989/90 (R35.674,93 and R41.625,46 respectively) and R7.331. In rural areas the corresponding figures were: TBVC states R22.21, and the national states R7.216 (Nieuwoudt, 1990a). Per capita consumption depends on sugar prices compared with prices of "artificial" sweeteners, and social wages, while consumer real incomes and perceptions of the health aspects of sugar also may play a role. Ortmann (1985:56) estimated a price elasticity of demand for sugar of 4.35, implying that if real sugar prices (increase) by 1 per cent, per capita sugar consumption will fall (increase) by 0.25% per cent, other things remaining equal. Increased availability of substitutes to direct and industrial consumers would make sugar demand more price-elastic.

Long term predictions in aggregate sugar consumption were made by Nieuwoudt (1990). In predicting future consumption, estimates of income elasticities of demand for sugar (E) (income elasticities of demand for products in current prices) were indicated. UGing cross-sectional data, Nieuwoudt (1990) estimated income elasticities of demand for sugar (E) at 1.39 in South Africa, and 0.77 in the rest of the region. The main opponents of this scenario would be sugar millers in the domestic industry who are against the status quo on world markets. Cane consumption in the industry would decrease by about 26 per cent but concerning the domestic industry are abolished, area under cane land (a total of some 30 000 ha) were purchased by timber companies at relatively high prices. In 1989, for example, would fall if domestic quotas are abolished. In another study Ortmann (1986) predicted that, if all quotas in the domestic industry are abolished, area under cane would virtually halve, assuming the status quo on world markets. Cane production would be based on a series of suppression-price programmes with a comparative advantage in cane production (e.g. North Coast, KwaZulu). Employment in the cane growing industry would be reduced by 26 per cent but still consumers would benefit through lower sugar prices. Entrenched cane farmers would be compensated with a scenario owing to expected capital losses on abolished quotas, lower cane prices and increased production possibilities.

Agricultural and Urban Population Groups have similar sugar expenditures per capita in 1985/86 and 1989/90 (R35.674,93 and R41.625,46 respectively) and R7.331. In rural areas the corresponding figures were: TBVC states R22.21, and the national states R7.216 (Nieuwoudt, 1990a). Per capita consumption depends on sugar prices compared with prices of "artificial" sweeteners, and social wages, while consumer real incomes and perceptions of the health aspects of sugar also may play a role. Ortmann (1985:56) estimated a price elasticity of demand for sugar of 4.35, implying that if real sugar prices (increase) by 1 per cent, per capita sugar consumption will fall (increase) by 0.25% per cent, other things remaining equal. Increased availability of substitutes to direct and industrial consumers would make sugar demand more price-elastic.

Long term predictions in aggregate sugar consumption were made by Nieuwoudt (1990). In predicting future consumption, estimates of income elasticities of demand for sugar (E) (income elasticities of demand for products in current prices) were indicated. UGing cross-sectional data, Nieuwoudt (1990) estimated income elasticities of demand for sugar (E) at 1.39 in South Africa, and 0.77 in the rest of the region. The main opponents of this scenario would be sugar millers in the domestic industry who are against the status quo on world markets. Cane consumption in the industry would decrease by about 26 per cent but concerning the domestic industry are abolished, area under cane land (a total of some 30 000 ha) were purchased by timber companies at relatively high prices. In 1989, for example, would fall if domestic quotas are abolished. In another study Ortmann (1986) predicted that, if all quotas in the domestic industry are abolished, area under cane would virtually halve, assuming the status quo on world markets. Cane production would be based on a series of suppression-price programmes with a comparative advantage in cane production (e.g. North Coast, KwaZulu). Employment in the cane growing industry would be reduced by 26 per cent but still consumers would benefit through lower sugar prices. Entrenched cane farmers would be compensated with a scenario owing to expected capital losses on abolished quotas, lower cane prices and increased production possibilities.

Agricultural and Urban Population Groups have similar sugar expenditures per capita in 1985/86 and 1989/90 (R35.674,93 and R41.625,46 respectively) and R7.331. In rural areas the corresponding figures were: TBVC states R22.21, and the national states R7.216 (Nieuwoudt, 1990a). Per capita consumption depends on sugar prices compared with prices of "artificial" sweeteners, and social wages, while consumer real incomes and perceptions of the health aspects of sugar also may play a role. Ortmann (1985:56) estimated a price elasticity of demand for sugar of 4.35, implying that if real sugar prices (increase) by 1 per cent, per capita sugar consumption will fall (increase) by 0.25% per cent, other things remaining equal. Increased availability of substitutes to direct and industrial consumers would make sugar demand more price-elastic.

Long term predictions in aggregate sugar consumption were made by Nieuwoudt (1990). In predicting future consumption, estimates of income elasticities of demand for sugar (E) (income elasticities of demand for products in current prices) were indicated. UGing cross-sectional data, Nieuwoudt (1990) estimated income elasticities of demand for sugar (E) at 1.39 in South Africa, and 0.77 in the rest of the region. The main opponents of this scenario would be sugar millers in the domestic industry who are against the status quo on world markets. Cane consumption in the industry would decrease by about 26 per cent but concerning the domestic industry are abolished, area under cane land (a total of some 30 000 ha) were purchased by timber companies at relatively high prices. In 1989, for example, would fall if domestic quotas are abolished. In another study Ortmann (1986) predicted that, if all quotas in the domestic industry are abolished, area under cane would virtually halve, assuming the status quo on world markets. Cane production would be based on a series of suppression-price programmes with a comparative advantage in cane production (e.g. North Coast, KwaZulu). Employment in the cane growing industry would be reduced by 26 per cent but still consumers would benefit through lower sugar prices. Entrenched cane farmers would be compensated with a scenario owing to expected capital losses on abolished quotas, lower cane prices and increased production possibilities.

Agricultural and Urban Population Groups have similar sugar expenditures per capita in 1985/86 and 1989/90 (R35.674,93 and R41.625,46 respectively) and R7.331. In rural areas the corresponding figures were: TBVC states R22.21, and the national states R7.216 (Nieuwoudt, 1990a). Per capita consumption depends on sugar prices compared with prices of "artificial" sweeteners, and social wages, while consumer real incomes and perceptions of the health aspects of sugar also may play a role. Ortmann (1985:56) estimated a price elasticity of demand for sugar of 4.35, implying that if real sugar prices (increase) by 1 per cent, per capita sugar consumption will fall (increase) by 0.25% per cent, other things remaining equal. Increased availability of substitutes to direct and industrial consumers would make sugar demand more price-elastic.

Long term predictions in aggregate sugar consumption were made by Nieuwoudt (1990). In predicting future consumption, estimates of income elasticities of demand for sugar (E) (income elasticities of demand for products in current prices) were indicated. UGing cross-sectional data, Nieuwoudt (1990) estimated income elasticities of demand for sugar (E) at 1.39 in South Africa, and 0.77 in the rest of the region. The main opponents of this scenario would be sugar millers in the domestic industry who are against the status quo on world markets. Cane consumption in the industry would decrease by about 26 per cent but concerning the domestic industry are abolished, area under cane land (a total of some 30 000 ha) were purchased by timber companies at relatively high prices. In 1989, for example, would fall if domestic quotas are abolished. In another study Ortmann (1986) predicted that, if all quotas in the domestic industry are abolished, area under cane would virtually halve, assuming the status quo on world markets. Cane production would be based on a series of suppression-price programmes with a comparative advantage in cane production (e.g. North Coast, KwaZulu). Employment in the cane growing industry would be reduced by 26 per cent but still consumers would benefit through lower sugar prices. Entrenched cane farmers would be compensated with a scenario owing to expected capital losses on abolished quotas, lower cane prices and increased production possibilities.
Agrekon, Vol 30, No 3 (September 1991)

Concerning domestic sugar consumption, per capita consumption in the year period from 1975/76 to 1984/85 averaged 37 kg, ranging from a high of 40.4 kg in 1975/76 to a low of 35.3 kg in 1979/80. The downward trend has been mainly due to declining real incomes and social unrest, whereas land for continued cane farming in the same areas sold at relatively high prices. In 1989, for example, 11 per cent of the land area was under cultivation, with average yields of 0.30 m and 44 kg, respectively. Annual paper and pulp demand, which averaged 2,45 million m² in 1985/86, is expected to increase to 4.7 million m² by the year 2000. Prices, real incomes, social unrest and changing perceptions of the health aspects of sugar also play a role.

In the period from 1985/86 to 1990/91, per capita consumption was estimated to fall by 0.13 per cent. Increased availability of substitutes to direct and indirect consumers would make demand for sugar more price-elastic. In aggregate, sugar consumption was recently estimated by Nieuwoudt (1990). Using future income elasticities of demand for sugar (E), and other factors constant, to the remaining period, or at a 3 per cent growth in GDP per year, estimated overall E estimate of 0.13 shows that sugar consumption would fall (increase) by 0.25 per cent, other factors constant. Incomes elasticities of demand close to zero. Table 1 shows estimates of growth in aggregate sugar consumption by years 2000 and 2010 under two economic growth scenarios.

In 2000, per capita consumption of sugar was expected to decrease by 0.25 per cent, other factors constant. Incomes elasticities of demand close to zero. Table 1 shows estimates of growth in aggregate sugar consumption by years 2000 and 2010 under two economic growth scenarios.

In 2000, per capita consumption of sugar was expected to decrease by 0.25 per cent, other factors constant. Incomes elasticities of demand close to zero. Table 1 shows estimates of growth in aggregate sugar consumption by years 2000 and 2010 under two economic growth scenarios.

Agreement on the trend in per capita consumption of sugar is based in large part on the assumption that consumers are price elastic, which is unlikely given the tendency towards switching to alternatives such as maize and potatoes. However, if consumers were to become less price elastic, the impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.

The impact of changes in real per capita income on sugar consumption would be more significant.
prices, whether land is used for timber or cane growing, would have been the same for the same type (quality) of land because of market effects. It appears that timber companies, in their quest to secure a dependable supply of timber at relatively low risk, have used mill profits (rents) to pay the relatively high prices for land. Securing timber supplies through other means, for example by renting more on private growers or by renting land for timber production, were probably regarded by timber companies at the time as more risky alternatives. However, land purchases have slowed down, probably due to political uncertainty and liquidity constraints following lower world prices.

Farmers (and companies) decide on a particular enterprise mix according to the expected relative profitability of enterprises and perceptions of risk. If a farmer operates on his production function (PFP) then he will react to changing relative profits. Figure 1 illustrates this point for a farmer facing a concave PPF (where concavity may be caused by risk and other factors), using a case versus timber example.

The combination of timber and cane that will maximize profits will be where the highest profit line is attained, where the iso-profit line is tangent to the PPF, or where the slope of the two functions are equal. Since each farmer faces his own PFP (or set of resources and his own perception of risk) he will settle for a unique mix of enterprises that will maximize his objective (utility). Sugar and timber companies do the same. A farmer (company) facing a linear PPF would most likely specialize in one enterprise.

Owing to uncertainty about possible future land redistribution, timber companies may in future consider other options as less risky than land purchase in securing timber supplies, for example using mill profits (rents) to pay private farmer higher prices and thus making timber a relatively more attractive alternative enterprise, renting of land from black farmers and leasing of soft loans to private growers. Timber companies have recognized the large forestry potential in the homelands (e.g. KwaZulu and Transkei) and have initiated support programmes to develop this potential.

5. Conclusion

Would sugar prices are on the decline after failing to reach the heights attained in 1980/81. Structural changes have occurred in the world market; for example, numerous sub­stantial industries have enabled consumers in various countries to switch consumption away from sugar relatively easily as prices. Domestic com­pensation prices are relatively lower than the higher-predicted A-pool prices for most of their profits. Domestic consumers may not benefit from lower world prices because they have to buy A-pool sugar.

Income elasticities of demand for sugar indicate that per capita sugar consumption will not change much with changes in real incomes. Changes in economic growth are thus not expected to have a significant impact on sugar consumption. Per capita consumption is more responsive to changes in relative sugar prices, social unrest and perceptions of sugar. Long term predictions indicate that aggregate sugar consumption will increase roughly with population growth. However, deregulation in the domestic sugar industry, world trade liberalization and the rand exchange rate could have important effects on production and consumption trends.

The long term future of timber production in South Africa looks promising, judging by present supply and demand scenarios, and in spite of short term declining prices. A factor in favour of South Africa's timber producers in future is the rapid depletion of natural forests in the world and the expertise acquired in timber growing.

Notes

1. Based on a paper presented at the Agricultural Outlook Conference (AGROCON) in Pretoria on 19 February 1991. Helpful comments by Professor WJ Neefs, UCT, Dr MC Lyne and an anonymous referee on earlier drafts are gratefully acknowledged.

2. The exchange rate in February 1991 was approximately R 2.60 per US dollar.

References


YEAR CANE/PINE CANE/PINE CANE/GUM

1978/79 1.54 1.00 1.11
1979/80 1.35 0.98 0.97
1980/81 1.59 1.16 1.50
1981/82 1.21 0.88 0.77
1982/83 1.30 0.95 0.92
1983/84 1.16 1.16 1.10
1984/85 1.23 0.88 0.77
1985/86 1.23 0.88 0.77
1986/87 1.30 0.97 0.75
1987/88 1.05 0.87 0.58
1988/89 1.12 0.81 0.70
1989/90 1.31 0.84 0.73


Table 2: Case/timber price ratios

Year Case/pine sawlogs Case/pine pulpwood Case/gum pulpwood

1978/79 1.48 1.00 1.11
1979/80 1.54 1.04 1.22
1980/81 1.78 1.24 1.21
1981/82 1.38 0.98 0.97
1982/83 1.35 0.99 0.92
1983/84 1.59 1.16 1.10
1984/85 1.23 0.88 0.77
1985/86 1.22 0.99 0.75
1986/87 1.30 0.97 0.75
1987/88 1.05 0.87 0.58
1988/89 1.12 0.81 0.70
1989/90 1.31 0.84 0.73

Table 2: Case/timber price ratios

YEAR CANE/PINE CANE/PINE CANE/GUM

1978/79 1.48 1.00 1.11
1979/80 1.54 1.04 1.22
1980/81 1.78 1.24 1.21
1981/82 1.38 0.98 0.97
1982/83 1.35 0.99 0.92
1983/84 1.59 1.16 1.10
1984/85 1.23 0.88 0.77
1985/86 1.22 0.99 0.75
1986/87 1.30 0.97 0.75
1987/88 1.05 0.87 0.58
1988/89 1.12 0.81 0.70
1989/90 1.31 0.84 0.73


Table 2: Case/timber price ratios

Year Case/pine sawlogs Case/pine pulpwood Case/gum pulpwood

1978/79 1.48 1.00 1.11
1979/80 1.54 1.04 1.22
1980/81 1.78 1.24 1.21
1981/82 1.38 0.98 0.97
1982/83 1.35 0.99 0.92
1983/84 1.59 1.16 1.10
1984/85 1.23 0.88 0.77
1985/86 1.22 0.99 0.75
1986/87 1.30 0.97 0.75
1987/88 1.05 0.87 0.58
1988/89 1.12 0.81 0.70
1989/90 1.31 0.84 0.73

prices, whether land is used for timber or cane growing, would have been the same for the same type (quality) of land because of market effects. It appears that timber companies, in their quest to secure a dependable supply of timber at relatively low risk, have used mill profits (rents) to pay the relatively high prices for land. Securing timber supplies through other means, for example by renting more on private growers or by renting land for timber production, were probably regarded by timber companies at the time as more risky alternatives. However, land purchases have slowed down, probably due to political uncertainty and liquidity constraints following lower world prices.

Farmers (and companies) decide on a particular enterprise mix according to the expected relative profitability of enterprises and perceptions of risk. If a farmer faces a constant PPF (where convexity may be caused by risk and other factors), using a case versus timber example.

The combination of timber and cane that will maximize profits will be where the highest profit line is attained, where the iso-profit line is tangent to the PPF, or where the slopes of the two functions are equal. Since each farmer faces his own PPF (or set of resources and his own perception of risk) he will settle for a unique mix of enterprises that will maximize his objective (utility). Sugar and timber companies do the same. A farmer (company) facing a linear PPF would most likely specialize in one enterprise.

Table 2: Case/timber price ratios

<table>
<thead>
<tr>
<th>Year</th>
<th>Cane/pine sawlogs</th>
<th>Cane/pine pulpwood</th>
<th>Cane/gum pulpwood</th>
</tr>
</thead>
<tbody>
<tr>
<td>1978/79</td>
<td>1.48</td>
<td>1.00</td>
<td>1.11</td>
</tr>
<tr>
<td>1979/80</td>
<td>1.34</td>
<td>1.04</td>
<td>1.22</td>
</tr>
<tr>
<td>1980/81</td>
<td>1.28</td>
<td>1.04</td>
<td>1.31</td>
</tr>
<tr>
<td>1981/82</td>
<td>1.36</td>
<td>0.98</td>
<td>0.97</td>
</tr>
<tr>
<td>1982/83</td>
<td>1.35</td>
<td>0.91</td>
<td>1.02</td>
</tr>
<tr>
<td>1983/84</td>
<td>1.59</td>
<td>1.16</td>
<td>1.10</td>
</tr>
<tr>
<td>1984/85</td>
<td>1.21</td>
<td>0.88</td>
<td>1.07</td>
</tr>
<tr>
<td>1985/86</td>
<td>1.22</td>
<td>0.90</td>
<td>0.75</td>
</tr>
<tr>
<td>1986/87</td>
<td>1.30</td>
<td>0.97</td>
<td>0.75</td>
</tr>
<tr>
<td>1987/88</td>
<td>1.05</td>
<td>0.80</td>
<td>0.58</td>
</tr>
<tr>
<td>1988/89</td>
<td>1.12</td>
<td>0.81</td>
<td>0.70</td>
</tr>
<tr>
<td>1989/90</td>
<td>1.31</td>
<td>0.84</td>
<td>0.73</td>
</tr>
</tbody>
</table>

Sources: Agri-Africa, 1990a

Owing to uncertainty about possible future long term timber production, timber companies may in future consider other options as less risky than land purchase in securing timber supplies, for example using mill profits (rents) to pay private farmer higher prices and thus making timber a relatively more attractive alternative enterprise, renting of land from black farmers and leasing of soft loans to private grower. Timber companies have recognized the large forestry potential in the homelands (e.g. KwaZulu and Transkei) and have initiated support programmes to develop this potential.

5. Conclusion

Wood sugar prices are on the decline after falling to reach the heights attained in 1989/91. Structural changes have occurred in the world market; for example, numerous substituting for sugar have enabled consumers in various countries to switch consumption away from sugar relatively easily when prices rise. Domestic companies will be in the next few years rely more heavily on the higher-priced A-pool cane for most of their profits. Domestic consumers may not benefit from lower world prices because they have to buy A-pool cane sugar.

Income elasticities of demand for sugar indicate that per capita sugar consumption will not change much with changes in real incomes. Changes in economic growth are thus not expected to have a significant impact on sugar consumption. Per capita consumption is more responsive to changes in relative prices, social unrest and perceptions of sugar. Long term predictions indicate that aggregate sugar consumption will increase roughly with population growth. However, deregulation in the domestic sugar industry, world trade liberalisation and the rand exchange rate could impact important effects on production and consumption trends.

The long term period of timber production in South Africa has passed choosing logic to timber companies. The long run is a perfect market where firms have perfect information, and in spite of long term declining prices. A factor in favour of South Africa's timber companies is the rapid depletion of natural forests in the world and the continued and expertise developed locally in growing "artificial" plantations. South Africa could have a future comparative advantage in timber production owing to a favourable climate and the expertise acquired in timber growing.


Ottmann