

“WHO WANTS MORE SUGAR?”

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South Africa is a net exporter of sugar and hence any increase in sugar output will be sold in the export market. This presentation illustrates how the revenue from increased sugar production is distributed between growers and individual millers.

Assume that a particular mill produces 1000 tons of additional sugar without purchasing any more sugarcane. In order to do this the mill spends capital to install a new process which will enhance sugar recovery say one of the new membrane separation processes.

Consider the following basic assumptions:-

- Increased sugar production arising out of the improved overall recovery amounts to 1000 tons.
- There is no change in the tonnage or quality of the cane crushed.
- The average export sugar price is R1000 per ton (equivalent to 6,48 US cents/pound).
- There is no change in molasses output (which is not strictly true, but at the current export price of around \$ 2 per ton from molasses, the change in total revenue would negligible).

Division of Proceeds

The additional 1000 tons of sugar would earn R1 000 000 for the industry, which would be divided as follows under the fixed division of proceeds system:

- The Growers' share would amount to R627 327.
- The Millers' share would be R372 673.

The Growers' share of R627 327 would be distributed to individual growers through the cane payment system. The impact which this would have on RV (Recoverable Value) and the cane price is as follows:

- Increase in RV price 23,01 cents per ton
- Increase in cane price 2,62 cents per ton

It is evident from the figures above that the additional revenue is hardly noticeable when spread across the total cane deliveries for the industry.

However the situation is slightly different when one looks at the milling sector. One of the features of the Division of Proceeds system is that each mill receives the average of the local market and the export price for its sugar. This means that while the industry only earns the world market (export) price for any additional sugar, the mill, which produced it, will be remuner-

ated at the average price (which is considerably higher). Consider how this looks in an example where a mill – say Sezela – has produced an additional 1000 tons of sugar.

According to the model, Sezela will earn an additional R1,579 million for this sugar. However the sugar only earned R1 million for the industry as a whole, of which 62,73% must go to the Growers. This means that there needs to be a re-distribution between millers, whereby all the other mills effectively give up some revenue in order for Sezela to get the full R1,579 million. The net upshot of this is demonstrated by the following figures:-

- Increased revenue at Sezela mill +R1,579 million
- Reduced revenue (other mills) -R1,206 million
- Overall Millers' share (by difference) R0,373 million

The situation is further complicated by the fact that the Illovo Group (which owns the Sezela mill) also has another six mills, all of which have “given up” some revenue to Sezela. If this is taken into account, then the net gain to the Illovo Group as a whole for the additional 1000 tons of sugar at Sezela reduces to R1,112 million.

Next consider how much money the Illovo Group could afford to invest in new technology at Sezela in order to produce 1000 tons of additional sugar from the same quantity of cane.

Potential for Investment

A number of assumptions have been made to simplify the financial calculations:-

- Assume no increase in operating costs (not strictly true).
- Take the required payback period on capital as four years and the corporate tax rate at 30%.

If one performs a simple discounted cash flow calculation using the above figures, it can be determined that the investment limits to achieve the specified hurdle rate of a four-year payback are as follows:

- For Sezela mill on a stand-alone basis R4,4 million
- For the Illovo Group as a whole R3,1 million

Due to the way in which the Division of Proceeds system works, the return on capital for new or improved factory technology is effectively diluted by the fact that:

- (a) the large milling groups will have the gains at the factory making the investment partially offset by a reduction in revenue at other factories within the group

(b) the Growers receive almost 63% of the revenue from the extra sugar produced

So what are the alternatives to the Miller?

Alternate Possibilities

Another means for increasing the output from a factory is simply to crush more cane. In the example used above, Sezela would need to crush another 9 430 tons of cane in order to produce an extra 1000 tons of sugar. For the Sezela mill this is less than 1 days crush and would not require any capital expenditure. In fact all that Sezela needs to do to accommodate this extra cane without any effect on season length is to improve it's Overall Time Efficiency by about 0,4%.

But where will this additional 9 430 tons of cane come from and how much will it cost? In the normal course of events some additional area would be planted to cane – in the Sezela area this would require around 200 hectares. The capital cost to plant up such an area will probably be considerably less than the estimated R4,4 million which is the maximum that Sezela could afford to spend – or even the R3,1 million limit for the Illovo Group as a whole. This accounts for the fact that Millers will often opt for marginal expansions in area instead of spending money to improve factory recoveries.

The other question which remains to be answered is whether Sezela would be able to achieve an extra 1000 tons of sugar – equivalent to an improvement of 0,33% in Overall Recovery – for the expenditure of only R3,1 million.

Another investment option for the miller is to invest capital in a byproduct venture. That is a topic which falls outside the scope of the present discussion.

There is an innovative way in which one of the factories in the Illovo Group dealt with the problem of investing in new technology. The factory in question is Monitor Sugar – the 150 000 ton beet sugar factory in Michigan, USA. They recently invested a substantial amount of money in a full-scale molasses desugarisation facility. However in order to achieve returns acceptable to the Board, they negotiated a special deal with their supplying beet farmers in terms of which the factory could retain 100% of the returns from the additional sugar output for the first five campaigns before passing on a share to the growers. It was a win-win situation – this sort of arrangement may also have application in the local industry.