Soya bean crush complex – the right product at the right time

By Raphael N Karuaihe

South Africa's soya bean product has been a great success story over the last ten years, with a ramp up in production reaching 1,3 million tons in the current season. At the same time, South Africa's soya bean crushing capacity has also seen a significant increase.

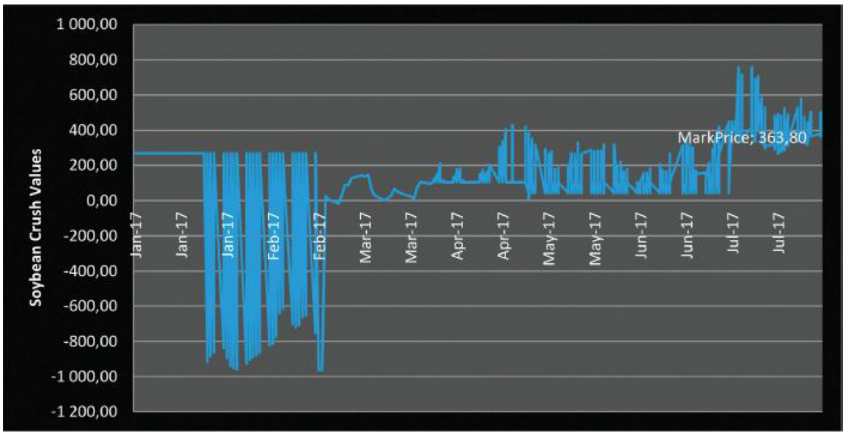
For this reason, soya bean crushers and commodity traders have expressed significant interest in the ability to trade the entire crush complex. This crush complex includes local soya beans and then relies on CME meal and oil as a proxy for global prices.

The complex is a key component in the soya bean market in what is known as the 'crush' spread. Soya beans are processed into two products, namely soya bean meal and soya bean oil. The crush spread is the difference between the combined value of the products and the value of the soya beans.

Measure of profit margin

It is a measure of profit margin for the soya bean processor. The soya bean processor will be interested in the crush spread as part of its hedging strategy, and the speculator will look at the crush spread for trading opportunities.

Figure 1: A time series of the soya crush margin since inception in January 2017.



Although we have the individual contracts listed, the challenge today has been the initial margin efficiency to wrap all three as a single product in the desired ratios. For example, when crushing 100 tons of beans, this will result in 74 tons of meal and 17 tons oil, with 9 tons as wastage.

A crush spread can thus be calculated as the price of soya bean meal (R/t) multiplied by 74%, plus the price of soya bean oil (R/t) multiplied by 17%, less the price of soya beans (R/t). The current clearing solution could not allow for this. So, this necessitated the introduction of a separate contract, namely the Soya Bean Crush complex, which will then trade the complex wrapped up as a single product.

Accessible hedging tool

The JSE Soya Bean Crush complex is an easily accessible hedging tool for the crusher while traders are also able to participate in the movements of this crush complex. This product is not unique to the JSE as globally the CME Group is offering this not only for their local soya beans, but also linking with Dalian Commodity Exchange in China.

In *Figure 1*, a time series of the crush margin since inception in January this year is indicated. The series clearly underscores the need for a price risk management tool such as this one. A spread margin above zero means that the processor is running a profitable operation.

About the author

Raphael joined the JSE at the beginning of 2012 as manager of commodities. Since 1 July 2017, Raphael has been appointed head of commodities where he oversees agricultural and non-agricultural commodities within the Capital Markets Division of the JSE.

Raphael spent many years in the financial services industry where he had advised institutional clients on retirement planning, investments and risk management. He holds a doctorate in agricultural economics from Washington State University.

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