

MARKET NOTICE

Johannesburg
Stock Exchange

Tel: +27 11 520 7000
www.jse.co.za

Number: 634/2016

Relates to: Equity Market
 Equity Derivatives
 Commodity Derivatives
 Interest Rate and Currency Derivatives

Date: 17 November 2016

SUBJECT: COMMODITY FUTURES MTM METHODOLOGY

Name and Surname: Mark Randall

Designation: Manager Indices & Valuations

Introduction

Standard futures contracts on the Commodities and Global derivative markets are priced by the JSE using a standardised mark-to-market (MtM) methodology. This methodology is an attempt to reflect the price levels at which individual contracts are trading at the closing time of the particular market.

Current Methodology

Volume Weighted Average Price

Where a particular contract has seen significant trade near the end of the session, that contract is marked at its Volume Weighted Average Price (VWAP). In order to qualify for this methodology, a minimum of 50 contracts must be traded on screen during the last 15 minutes of trade. If this hurdle is met, an average price is taken of all on screen trades booked in the last 15 minutes of the session, using a volume weighted approach.

A VWAP MtM will not be used for the near expiry. Where there are multiple expiries of a particular future that qualify for a VWAP MtM, then the VWAP will only be used for that expiry with the most trades booked in the last 15 minutes of the trading session.

Last Trade / Better Bid / Lower Offer

Where there is insufficient volume traded to use the VWAP approach, the contract is priced using a market snapshot. This snapshot is taken of all contracts at a random point in time during the last 5 minutes of the trading session. The same time is used across the entire market to preserve any spread relationships.

For each contract, the following algorithm is applied to determine the MtM:

1. Determine the last traded price, using the previous day's MtM where no trades are booked for the day
2. If the best on screen bid is greater than the last traded price, then set MtM = Best Bid
3. If the best on screen offer is lower than the last traded price, then set MtM = Best Offer

4. If the last traded price falls between the best bid and best offer, then set MtM = Last Traded Price

Spread Adjustment

When the most liquid expiry is marked at VWAP, and all other expiries are marked at a snapshot price, this creates an inconsistent basis in the methodology applied. Using a 15-minute average for one contact, and a single snapshot for others will typically distort the prevailing calendar spread relationships. In order to maintain the observed spreads, the JSE applies a spread adjustment whenever a VWAP mark is used, using the following process:

1. Determine the snapshot price for each expiry, using the last trade / better bid / lower offer approach.
2. Determine the VWAP for the liquid expiry. Calculate the implied VWAP adjustment = VWAP – Snapshot Price. This is the amount by which the VWAP moves the MTM level.
3. Apply the same adjustment to the snapshot price of all other expiries. This effectively applies a parallel shift to the forward curve to bring the absolute levels in line with the VWAP whilst still maintaining the calendar spread relationships.

If the adjustment moves any price outside of the prevailing price limits, then the VWAP and spread adjustment is discarded entirely.

Principles

The MtM methodology is based on a number of key principles:

- Prices use a mark-to-*market* approach and should be reflective of the price levels prevailing at the end of the trading session.
- Due to both the importance of calendar spreads and the role of market makers in this market, it is essential to consider bids and offers in the valuations process, particularly for less liquid contracts.
- The methodology should be as simple, intuitive and transparent as possible. In addition, knowledgeable market participants should be able to predict closing marks with a high degree of confidence.

Concerns

Market participants have voiced a number of concerns with the current methodology:

- The random nature of the snapshot timing could lead to distortions. For example, if the snapshot is taken at 11:55:01 and a number of deals are subsequently booked at a significantly higher price, this would not be reflected in the MtM. Any participant observing activity over the last minutes of the market time would reasonably expect those levels to be reflected in the MtM level.
- The VWAP Spread Adjustment can lead to unexpected results. The fact that trade in one expiry impacts marks in another expiry can be very difficult to predict, and often leads to marks that are outside of the high/low and bid/offer ranges. Furthermore, not every pair of expiries have a fundamental spread relationship.

Proposed Methodology

In order to simplify and improved the predictability of the MtM process, the JSE proposes that the current methodology be replaced with a time-weighted average approach that is applied consistently across all standard contracts. The proposed methodology is as follows:

- Take a market snapshot of all contracts at 30 second intervals across the last 5 minutes of the trading session (i.e. at 11:55:30, 11:56:00, 11:56:30. ... , 11:59:30 and 12:00).
- Determine ten resultant snapshot prices for each contract using the last trade / better bid / better offer approach.
- Calculate an average snapshot price for each contract using a simple average of the ten snapshot prices.

Using a ten-snapshot approach makes it unlikely that any abnormal market activity will be reflected in the MtM level, and using known snapshot times will improve the transparency and predictability of the final mark. The JSE believes that this approach meets the required principles for the valuations methodology, and is more reflective of market prices than the current approach, as well as being more simple and predictable.

Next Steps

Market Participants are invited to provide feedback on the proposed methodology to valuations@jse.co.za on or before 15 December 2016. Any participant that would like to arrange a meeting to discuss their views or obtain further context on the proposal before providing final feedback is encouraged to do so.

This consultation is not confidential and should be distributed as widely as possible.

Should you have any questions with regards to this notice, please contact valuations@jse.co.za.

This Market Notice will be available on the website at <https://www.jse.co.za/redirects/market-notices-and-circulars>.