Vol 1 | No. 19 | July 26, 2010

KNOWLEDGE *for* MARKETS
A Financial Technologies Group Initiative

MARKETS IN MOTION
developments that matter in financial markets

Call Auctions for Price Discovery

"In theory, call auctions provide an efficient mechanism for aggregating diverse information because trading does not take place until price discovery has occurred."
Nicholas Economides and Robert Schwartz

Introduction

In a bid to reduce volatility in the opening prices and introduce international standards, the Securities and Exchange Board of India (SEBI) issued guidelines on July 15, 2010 for call auction mechanism in the Indian stock markets to be conducted in the pre-open session for 15 minutes, i.e., from 9:00 am to 9:15 am, on a pilot basis.

The call auction is an alternative price discovery mechanism. Exchanges overseas use call auctions to improve price discovery where continuous trading has not delivered desirable market outcomes. Today, trading in the vast majority of equity markets takes place in a continuous market, either via an electronic limit order book (LOB) or with the intermediation of dealers. The most widely used application of these call auctions is the determination of the opening and closing prices.

The call auction is expected to make improvements in the Indian securities market by:

- Giving investors a choice of achieving a zero impact cost trade
- Reducing transaction costs and execution risk in derivatives arbitrage
- Reducing bid-offer spreads in the continuous market when any news breaks out

Price Determination

In a call auction, price is arrived at as shown below. Assume that bids are received at different prices on a particular day between 9:00 am and 9:05 am.

Call Auction

Share Price	Order Book		Demand/Supply Schedule	
Rs	Sell	Buy	Supply	Demand
245	2,000	50,000	2,000	70,000
254	12,000	8,000	14,000	20,000
267	6,000	10,000	20,000	12,000
274	-	2,000	20,000	2,000
281	4,000	-	24,000	-

In the above example, the opening price will be arrived at Rs 254 where 14,000 shares will be bought/ sold.

Several exchanges overseas open the markets with call auctions. These exchanges report that price discovery improves when call auctions are used at market opening.

New York Stock Exchange

Trading at New York Stock Exchange (NYSE) begins with a call auction. Traditionally, this is not an electronic auction. The auction is managed by Designated Market Makers (DMMs) who post a price depending upon the limit orders they received during the opening period. The DMM is given some flexibility with respect to setting opening prices (first trade and first quotes). If there is an order imbalance at the market clearing price, the DMM is obliged to fill the imbalance out of his/its own inventory.

London Stock Exchange

London Stock Exchange (LSE) shifted to continuous electronic trading in 1997. While the exchange used call auctions to open the market from the beginning, a call auction for the closing was introduced only in 2000. The continuous market on LSE stops trading at 4:30 pm and is followed by a call auction, where both limit orders and market orders are accepted. At 4:35 pm, the closing call algorithm runs to clear the market. The algorithm and price-setting rules are the same as that used in the opening call. If there is no price generated in the closing call auction, then the settlement price for a stock at the end of the day is calculated from the last ten minutes of continuous trading. Since the introduction of a call auction at the closing, there have been instances where the closing auction process has thrown up rogue prices.

Paris Stock Exchange

Before the merger with Euronext in 2000, Paris Stock Exchange (PSE) ran a combination of continuous market and call auctions, where electronic call auctions were used in the opening price discovery for all stocks and in the closing price determination for all stocks. For illiquid stocks, two more call auctions were conducted to consolidate orders during the day, in addition to the opening and closing auctions. These were conducted mid-morning (11:30 am) and late afternoon (4:00 pm). PSE ran these auctions alongside with a dealer market.

Shanghai Stock Exchange

The trading system in Shanghai Stock Exchange is based on the electronic Consolidated Open Limit Order Book (COLOB). A 10-minute opening call auction is held at 9:15 am and ends at 9:25 am. This is followed by two continuous auction sessions, the morning session from 9:30 am to 11:30 am and the afternoon session from 1:00 pm to 3:00 pm.

Call auctions can improve market outcomes only when it can attract sufficient order flow to create a demand-supply schedule, well populated with information-rich orders. The behaviour of intra-day equity volatility and liquidity in India suggests that the call auction could prove beneficial and may enable better price discovery during a market disruption.

Contributed by M Ravindran

Published by
FT Knowledge Management Company Limited
Exchange Square, 1st Floor, Suren Road,
Chakala, Andheri (East), Mumbai - 400093. India.
Tel: +91 22 6731 8888 • Fax: +91 22 6726 9541
Email: marketsinmotion@ftkmc.com • Website : www.ftkmc.com