

## **Pre-opening price discovery: Manipulation or Information?**

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December 2004

### Abstract

The pre-opening phase of trading is designed to increase the efficiency of price discovery at the beginning of the trading day based on the information encapsulated in buy and sell orders. In this study we examine the extent to which the price discovery process in the pre-opening phase of trading represents information or manipulation. The study is based on a unique data sample from the Tel Aviv Stock Exchange, whose features include (1) The TASE continuously calculates theoretical share prices and trading volume in the pre-opening phase – prices are determined according to the demand and supply orders at the time, which allow us to track the price discovery process. (2) The data include all buy and sell orders, including cancelled or modified orders in the pre-opening and opening phases. (3) The data allow us to estimate the demand and supply functions at the pre-opening phase and to study the impact of the information they encapsulate on the price discovery process. (4) A comparison of option expiry days with other days, and a comparison on days on which opening prices are determined at a random time with other days, allow us to distinguish manipulation and information effects on the price discovery process. The main finding of this study is that the price discovery process in the pre-opening phase is primarily a learning process, but it also involves some manipulation of information through partial or non-genuine sell and buy orders, or timing orders in a manner that minimizes other investors' ability to respond accordingly. Determining the opening price at a random time reduced the manipulation effect. Specifically we found that on option expiry days and during periods in which share prices were not determined at a random time of day, share price fluctuations increased and the demand and supply curves contained more limited information, compared to other days. We also found that share prices at the opening phase are occasionally influenced by manipulative orders in the pre-opening phase.

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