

Spread-changing orders and deletions affect stock prices

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The first rule on the stock market is to buy low and sell high. Economists are well aware of how this behaviour changes the prices of stocks, but in reality, trades alone don't tell the whole story. Parties like banks and insurance companies rarely trade stocks themselves; instead, they place orders for traders to do so on their behalf, which can be canceled at any time if they are no longer interested. The amount paid by those placing orders is affected by a highly variable quantity called the bid-ask 'spread'—the difference between the price initially quoted for a stock, and the final bidding price. In a new study published in *EPJ B*, Stephan Grimm and Thomas Guhr from Duisburg-Essen University in Germany compare the influences that three price-changing events have on these spread changes. Their work sheds new light on the intricate inner workings of the stock market.

For 96 stocks in the NASDAQ100 index, Grimm and Guhr calculated the frequencies of trades, order placements and deletions over a span of four days. They found that order deletions actually increase the bid-ask spread more often than trades

do, and that when the number of deletions exceeds the number of trades, the spreads associated with different stocks become far more varied. They also determined that the prices of individual stocks are raised by trades and order deletions which change their spread, but are lowered by spread-changing order placements. Finally, the duo showed that all three spread-changing events result in a cross-response to other stocks, thereby affecting the entire market.

Ultimately, Grimm and Guhr concluded that spread-changing order placements and deletions have nearly the same effect on stock prices as trades do. Their work improves economists' understanding of the deep-rooted interconnections which allow actions involving individual stocks to change the [market](#) as a whole.

More information: Stephan Grimm et al, How spread changes affect the order book: comparing the price responses of order deletions and placements to trades, *The European Physical Journal B* (2019). [DOI: 10.1140/epjb/e2019-90744-3](https://doi.org/10.1140/epjb/e2019-90744-3)

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