

Discussion of attempted rebuttal of “Short Sales, Long Sales, and the Lee-Ready Trade Classification Algorithm Revisited” (by Bidisha Chakrabarty, Pamela C. Moulton, and Andriy Shkilko, published in Journal of Financial Markets, 2012, volume 15, pages 467-491.)

Abstract of Chakrabarty, Moulton, and Shkilko (2012)

“Asquith, Oman, and Safaya (2010) conclude that short sales are often misclassified by the Lee-Ready algorithm. The algorithm identifies most short sales as buyer-initiated, whereas the authors posit that short sales should be overwhelmingly seller-initiated. Using order data to identify true trade initiator, we document that short sales are, in fact, predominantly buyer-initiated and that the Lee-Ready algorithm correctly classifies most of them. Misclassification rates for short and long sales are near zero at the daily level. At the trade level, misclassification rates are 31% using contemporaneous quotes and trades and decline to 21% when quotes are lagged one second.”

Discussion of rebuttal process and outcome

About nine months after my paper with Chakrabarty and Shkilko was published, Asquith, Oman and Safaya wrote a rebuttal to it, which they submitted to the Journal of Financial Markets. The journal editor sent the rebuttal to two referees. Two months later he responded to Asquith et al., copying me and my coauthors.

In his email to Asquith, Oman, and Safaya, the editor states “I asked not one but two referees to look at your original 2010 paper, CMS 2012 paper, and your rebuttal note. Both these referees are very senior and have extensively worked in the microstructure area.” The editor explained his decision not to publish the rebuttal as follows: “Both the referees write that there is very little merit in your rebuttal. Both the reports are written independently but there is lot of overlap in their comments. I agree with both the referees' assessment”.

Excerpts from referee reports

The first referee makes the point that “All of the conclusions drawn by Asquith et al. (2010) regarding the performance of trade classification algorithms are based on the unfounded assumption that short sales are, by definition, seller-initiated transactions. Thus, in their analyses, any short sales that are labeled buyer-initiated are considered misclassified. In contrast, Chakrabarty et al. (2012) have order data and are, therefore, able to determine the true initiator of each transaction in their sample. They find that over half of short sales are in fact buyer-initiated, counter to Asquith et al.'s claim.” The first referee further explains that “this is the key distinction between the papers: Asquith et al. assume that short sales cannot be buyer-initiated and Chakrabarty et al.'s order data demonstrate otherwise.”

The second referee states that “the authors of the original paper seem to misinterpret the goal of the Lee and Ready algorithm (or the tick test or any methodology for classifying trades). It simply intends to find which side submitted the market (or marketable) order. There is no other goal to the algorithm.” After detailing key features of how the market works, the second referee concludes that “the comment written by the authors of the first paper fails to acknowledge the problem they had in their

interpretation in the original paper, and hence reiterates something that I believe is simply a misunderstanding of these algorithms due to lack of knowledge about how markets operate at the microstructure level and what trade classification means. I see no reason for the JFM to consider publishing the comment. The second paper leaves readers hopefully with the correct impression, and there is no reason to confuse readers even further.”

Reflections

In the time since Asquith, Oman, and Safaya wrote their rebuttal, a few people have asked me whether I would have chosen to write my paper, had I known what the original authors’ response would be. I was surprised by the rebuttal. But I strongly believe that research matters. On those rare but inevitable occasions when a paper is published that gives an inaccurate impression of reality, the academy is better served by correcting the record than by ignoring the error. I do not believe that Asquith, Oman, and Safaya intended to mislead, nor did I intend to offend them. My coauthors’ and my goal was merely to correct the record and allow research to continue in a well-informed way. Trade classification algorithms such as the Lee-Ready algorithm are a critical tool in market microstructure research, and allowing the error to stand would have undermined a large body of academic research that we have no reason to believe is actually incorrect.