What's Not There: The Odd-Lot Bias in TAQ Data

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Maureen O'Hara (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=16137)
Cornell University - Samuel Curtis Johnson Graduate School of Management; Cornell SC Johnson College of Business

Chen Yao (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=878251)
The Chinese University of Hong Kong (CUHK) - CUHK Business School

Mao Ye (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=538221)
Cornell University; National Bureau of Economic Research (NBER); Cornell SC Johnson College of Business

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Abstract

Odd-lots are trades for less than 100 shares of stock. These trades are missing from the TAQ data because they are not reported to the consolidated tape. We investigate the systematic bias that arises from the exclusion of odd lots from TAQ data. In our sample, the median number of missing trades per stock is 19%, but for some stocks missing trades are as high as 66% of total transactions. Missing trades are more pervasive for stocks with higher prices, lower liquidity, higher levels of information asymmetry and when volatility is low. We show that odd lot trades contribute 30 % of price discovery and trades of 100 shares contribute another 50 %, consistent with informed traders splitting orders into odd-lots and smaller trade sizes. The truncation of odd-lot trades leads to a significant bias for empirical measures such as order imbalance. The truncation also challenges the literature using trade size to proxy individual trades, and biases measures of individual sentiment. For example, Lee and Radhakrishna (2000) propose a $5000 cut-off value to identify individual (or retail) trades, but the odd lot truncation in TAQ data implies that any stock with price above $50 is truncated from the sample. These stocks, however, carry up to 70% of market value. Because odd-lot trades are more likely to arise from high frequency traders, we argue their exclusion from TAQ and the consolidated tape raises important regulatory issues.