DIRECT MARKET ACCESS IN EXCHANGE-TRADED DERIVATIVES: EFFECTS OF ALGORITHMIC TRADING ON LIQUIDITY IN FUTURES MARKETS

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Algorithmic trading (AT) and high frequency trading (HFT) afforded by direct market access (DMA) may have a greater impact, due to existence of multiple contract months and inter/intra market trading, on the exchange-traded derivatives markets than has been seen in the equity markets. This study, to the best of our knowledge, is the first to provide empirical evidence for the positive effects of AT on liquidity in the U.S. futures markets. To analyze the potential effects of electronic trading, this study provides an extensive review of the research in both equity and derivatives market microstructure. Using a unique dataset that directly and explicitly identifies algorithmic trading activity in exchange-traded derivatives, our research presents empirical evidence that AT decreases spreads (market width) and increases market depth in the Crude Oil, Euro FX, Eurodollar, S&P 500 E-mini, and 10-year U.S. Treasury Note futures contracts traded at the CME Group exchanges.

Electronic trading has been one of the most significant catalysts throughout the evolution of financial markets, especially for exchange-traded instruments. Emergence of electronic communication and/or crossing networks (ECNs) and their widespread use by various market participants resulted in a substantial change in the ownership and organizational structure of exchanges starting with the equity markets. Advances in technologies that directly impact trading in financial markets (e.g., telecommunication capacity, computational power) coupled with changes in the regulatory environment helped competitive market forces establish various trade execution venues. This increase in competition intensified the need to analyze and manage various components of trading costs and led to enhanced trading sophistication. As a result of these fundamental changes, techniques such as direct market access (DMA), smart order routing (SOR), algorithmic trading (AT), and

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