The Timescale Of Trading Volume*

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(New draft coming soon)

Abstract

The rise of high-frequency traders (HFTs) provides a new way to investigate the economic origins of trading-volume anomalies, such as the high-volume premium. If this anomaly is actually due to some predictable error in human decision making, then it should now only exist in stocks where humans do most of the trading. It shouldn't exist in stocks where HFTs do most of the trading. There are three parts to our analysis. First, we develop a new cross-sectional proxy for human trading volume that uses wavelets to estimate the characteristic timescale of fluctuations in trading volume. Then, we externally verify this proxy using a subset of stocks for which the NASDAQ separately reports human and HFT trading volume. Stocks with only high-frequency fluctuations in volume have more HFT activity; stocks that display significant low-frequency fluctuations in volume have more non-HFT activity. Finally, we show that the high-volume premium only exists from January 2002 to December 2010 among stocks that display significant low-frequency fluctuations in volume. This finding provides support for behavioral explanations of this anomaly where high trading volume signals excess investor attention. It also suggests that, in the future, researchers should only use the low-frequency component of trading volume as a proxy for investor attention.

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