

The Impacts of Tick Size Reduction in a Market with Multiple Tick Sizes

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We analyze the impact of tick size reduction on market quality, placing particular focus on whether a multiple tick rule helps to mitigate the impact of a tick rule size reduction in purely order-driven markets. Using a novel dataset covering an entire limit order book, our results suggest that the tick size reduction resulted in substantial declines in effective spread, quote depth, and market depth throughout the limit order book, whereas no significant effects on either trading volume or volatility are discernible. The multiple tick schedule does not eliminate divergence in the market quality for stocks in the same tick size group or across tick size groups. Within the same tick size group, spread and depth are reduced more for those stocks with lower prices, larger capitalization levels, and higher trading frequency. Across tick size groups, the impact of the tick size reduction is found to be stronger for groups where the original tick size was more of a binding constraint and for those groups which experienced a larger (relative) tick size reduction. Overall, our results suggest that a smaller tick size has reduced transaction costs for small trades yet impaired the provision of liquidity, particularly for large trades in high capitalization and more frequently-traded stocks. As a result, the net benefit of the new tick size schedule cannot be confirmed with certainty.

Key Words: Tick Size, Bid-ask Spread, Quote Depth, Entire Limit Order Book.

JEL Classification: G18, G198.

「政策與管理意涵」

本文研究發現，縮小股價升降單位一方面降低小額交易的成本，但另一方面有損市場流動性提供，對於大型股和交易頻繁的股票損害尤大，其對市場的正向效益並不明確。而現行多級距升降單位的制度似乎未能消弭個股流動性在同級距內或跨級距的差異。此研究對調整股票價格升降單位前後的市場流動性提供分析和評估，其發現可提供主管機構制定股票價格升降單位政策的原則方向。

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縮小股票價格升降單位對多級距 股價升降單位市場之影響研究

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本文探討縮小股票價格升降單位對臺灣上市公司的市場品質之影響。我們特別檢驗在多級距升降單位的制度下，流動性是否較不受升降單位改變的衝擊。為此，我們重建限價單委託簿的資料，檢視該研究問題。實證結果顯示：縮小股價升降單位將導致買賣價差、報價深度、市場深度大幅下降；但卻對於交易量和股價波動性沒有顯著的影響。就同一升降單位級距內的股票而言，低股價、高市值、和交易頻率較高的個股，其買賣價差、報價深度，以及市場深度受到縮小股價升降單位的影響較為劇烈。比較升降單位不同的個股，原升降單位相對股價較寬的個股和股價升降單位下降程度比較大的個股，在縮減價格升降單位後，流動性減低的現象較明顯。因此，多級距升降單位的制度似乎未能消弭個股市場品質在同級距內或跨級距的差異。整體而言，縮小股價升降單位一方面降低小額交易的成本，但另一方面有損市場流動性提供，對於大型股和交易頻繁的股票損害尤大，其對整體市場的正面效益並不明確。

關鍵詞：升降單位、買賣價差、報價深度、限價單委託簿。

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