

價格叢聚與交易規模叢聚之實證研究

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本文利用日內交易逐筆成交資料，探討臺灣股市是否存在價格叢聚 (price clustering) 及交易規模叢聚 (trade-size clustering) 現象。實證結果顯示，臺灣股市存在價格叢聚及交易規模叢聚現象。投資人買賣股票時，成交價格尾數為 0 和 5 的發生頻率明顯高於其他價格尾數，其中價格尾數為 0 的發生頻率又明顯高於價格尾數為 5 之頻率。至於交易規模叢聚現象，當控制交易規模對交易頻率的影響程度後，交易規模愈大時，規模叢聚的現象愈明顯。另外，本文發現不論是機構法人或一般自然人，皆存在價格叢聚與交易規模叢聚的現象。最後，實證結果顯示價格叢聚與交易規模叢聚的發生並非獨立現象，亦即兩種叢聚現象是相互關聯的。其中，影響價格叢聚的主要因素可歸納如下：股票價格對整數價格交易具有正向影響關係；大單交易（交易規模大於等於 20,000 股）或交易規模大於當時市場深度時，該筆交易對整數價格亦具有正向影響關係；公司規模及買賣價差對整數價格交易則具有負向影響效果。至於影響交易規模叢聚的主要因素有：大單交易及整數交易規模持續性（上一筆交易亦為整數交易規模）對交易規模叢聚具有正向影響關係；而股票價格及交易規模大於當時市場深度之交易對交易規模叢聚則具有負向影響關係。

關鍵字：價格叢聚、交易規模叢聚、升降單位、投資人類別、雙變量 probit 模型。

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Price Clustering and Trade-size Clustering in Taiwan Stock Market

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By using intraday trading data in Taiwan Stock Market, we first examine whether there exists price clustering and trade-size clustering. Second, to study whether there also exist price clustering or trade-size clustering across different investors, all investors are decomposed into five categories, named foreign investors, mutual funds, dealers, other institutions and individuals. Finally, we further investigate the determinants of price clustering and trade-size clustering. In our research, we first find there exists price clustering and trade-size clustering in Taiwan Stock Market. The price ends with 0 and 5 are more frequent than other figures, particularly with 0. After controlling for the trade-size on the effect of the frequency of trades, results show that the frequency of trade-size clustering increases with trade-size. Second, price clustering and trade-size clustering exist across various investor types. Third, we find the relationship between price clustering and trade-size clustering is not independent. The factors of price clustering include the inverse of the quote midpoint, the large trade, the firm size, whether the trade size is greater than the quoted depth or not, and the quoted spread. A trade is more likely to be rounded in price when the stock price is high and when the trade size is greater than 20,000 shares or the quoted depth, but the firm size and the quoted spread have the negative effect on the rounded price. The determinants of trade-size clustering are as follows: a trade is more likely to be rounded in size when the trade is large and when the trade follows a rounded size, but the stock price and the quoted depth have negative effect on the rounded size.

Keyword: Price Clustering, Trade-size Clustering, Tick Size, Investor Types, Bivariate Probit Model.