Quote-based competition, market share, and execution quality in NASDAQ-listed securities

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Abstract

We show that competitive quotes help increase dealer market share on NASDAQ, despite the fact that a large proportion of order flow is preferenced. We find that decimal pricing and the introduction of new trading platforms such as SuperSOES and SuperMontage have significantly changed the effect of quote aggressiveness on dealer market share. In particular, decimal pricing reduces (increases) the price (size) elasticity, SuperSOES increases the size elasticity, and SuperMontage increases both the size and price elasticity of dealer market share. We also show that market centers provide greater price improvements and faster executions when they post competitive quotes. © 2007 Elsevier B.V. All rights reserved.

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1. Introduction

In this study we examine the extent to which dealer market share in NASDAQ securities is related to quote aggressiveness and how the effect of quote aggressiveness on market

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share has been affected by changes in trading environments such as decimalization, SuperSOES, and SuperMontage. Whether the elasticity of market share with respect to quote aggressiveness varies with trading environments is an important question because the answer to the question can help devise better trading environments and platforms.

Prior research offers limited evidence concerning the relation between quote aggressiveness and market share. Only recently have studies begun to shed some light on the direct empirical link between quote aggressiveness and market share. Blume and Goldstein (1997) find that non-NYSE market makers attract more order flow for NYSE stocks when they post the best available quotes. Bessembinder (2003a) finds substantial quote-based competition for order flow in NYSE-listed stocks. Bessembinder also shows that off-NYSE liquidity providers post aggressive quotes when they are willing to give better-than-normal executions. However, the results of NYSE-listed securities may not be directly relevant for NASDAQ-listed securities because the nature of order flow competition between NASDAQ dealers is different from that between trading venues for NYSE-listed stocks.

Klock and McCormick (2002) examine the effect of quote aggressiveness on dealer market share and find a positive relation between the two variables. However, their results are based on limited data (i.e., seven months in 1996) before the introduction of the new order handling rules in 1997. Consequently, whether their results hold in the post market reform environment is unclear. Chung et al. (2006) analyze the relation between dealer market share and quote aggressiveness using the cross-sectional regression method that is similar to the one employed in the present study. Their study also uses limited data (i.e., November 2000 and June 2001) and it does not examine how the effect of quote aggressiveness on market share has been affected by changes in trading environments. Goldstein et al. (2005) analyze inter-market competition in NASDAQ-listed securities during the second quarter of 2003 using a sample of 100 stocks. They show that ECNs are capable of competing with NASDAQ on quotes, while AMEX and Chicago use non-price methods to attract trades. The authors also find that trading venues attract more orders when they quote aggressively on both sides.

In this study, we analyze how quote aggressiveness affects dealer market share during the five-year period from 1999 through 2003 using a large sample of NASDAQ stocks. In particular, we investigate whether changes in trading environments such as decimal pricing, SuperSOES, and SuperMontage can explain changes in the price and size elasticity of dealer market share over time. Considering the academic and regulatory debates on how these new protocols and trading platforms can affect market quality and investor welfare, the results of our study would be of great interest to both regulatory authorities and the general public. To the extent that the incentive to quote aggressively is determined by whether aggressive quotes attract more order flow and this incentive ultimately determines the inside spreads (i.e., execution costs), it is important to understand how different trading protocols and platforms have changed the price and size elasticity of market share.

Our results show that aggressive quotes help increase dealer market share, despite the fact that a large proportion of NASDAQ order flow is preferenced.¹ We find that decimal

¹ The rule of best execution is also likely to reduce both the effect of quote aggressiveness on market share and the dealer’s incentive to quote aggressively. In deciding how to execute orders, brokers and dealers have a duty to seek the best execution that is reasonably available for customers’ orders. Best execution requires dealers to execute customer orders at prices that are equal to or better than the National Best Bid or Offer (NBBO), regardless of their own quotes. Under this rule, execution quality may be similar between dealers who quote aggressively and dealers who do not. Consequently, brokers may not have a strong incentive to send orders only to those dealers who post competitive quotes.
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