Do ‘thinly-traded’ stocks benefit from specialist intervention?

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Abstract

This paper addresses the issue of the optimal trading system for less actively traded (i.e., ‘thinly-traded’) stocks. We compare the performance of a pure order driven market with limit order book (POD) with that of a hybrid order driven market with specialist and limit order book (HOD). We find that the HOD system offers superior performance along several dimensions of market quality. In particular, the specialist-based system offers lower execution costs, greater depth, a significant increase in the depth-to-spread ratio, and lower adverse selection costs. Very ‘thinly-traded’ stocks benefit more than less inactive stocks from the adoption of a hybrid trading system both in terms of greater liquidity and in terms of lower adverse selection costs.

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1. Introduction

The structure and design of exchanges is an important issue that has received considerable attention in market microstructure studies. ¹ The research in this field has mainly focused on the implications of alternative market structures for metrics of

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¹ O’Hara (1995), Madhavan (2000), as well as Biais et al. (2002) provide excellent summaries of the theoretical, empirical, and experimental contributions in this area.
market quality, such as explicit and implicit trading costs, liquidity, price discovery, and informational efficiency. One of the most important developments in financial markets over the past decade is the proliferation of new markets and automated trading systems. Many of these automated markets use an order driven system, with a high degree of transparency where current and away public limit orders are continuously displayed. Even though there has been a tremendous growth in order driven systems, there is little empirical research into the relative performance of order driven and quote driven systems, especially for less frequently traded (i.e., ‘thinly-traded’) stocks.

Recent reorganization of the Italian Stock Exchange (ISE) offers a unique institutional setting to study the relative performance of pure and hybrid order driven systems for trading illiquid stocks. In May 1997, the ISE implemented a plan, named Thin Stocks Plan, to improve market quality of ‘thinly-traded’ stocks. \(^2\) Under this plan, stocks defined as ‘thinly-traded’ by ISE were given the choice to trade under one of two alternative regimes: a pure order driven system with a limit order book (POD), or a hybrid order driven system with a specialist and a limit order book (HOD). In this paper we examine the quality of the two market structures for trading illiquid stocks and test two hypotheses, the first related to trading costs and the second to the adverse selection component of the spread.

Examining the effects of trading architecture on market quality for less actively traded stocks is important for several reasons. First, several empirical studies document a statistically significant relation between thinness and poor market quality. ‘Thinly-traded’ stocks are usually associated with poor market quality indicators – such as large spreads, high transitory volatility, and low price efficiency (Pagano, 1997), and high adverse selection costs (Easley et al., 1996). Second, negative effects associated with “thinness” may not only be detrimental for the market behavior of firms that are already listed, but they may also deter new companies from listing for fear of falling into a vicious cycle of low trading activity leading to low attractiveness for investors which in turn lead to even lower trading activity. \(^3\) Thus, improving the market quality for these firms could also help the listing of new companies. The third motive for this study is the widespread presence of ‘thinly-traded’ stocks on the main stock exchanges. As documented by Easley et al. (1996), on the London Stock Exchange the bottom 50% of stocks by capitalization account for only 1.2% of the overall market trading volume, and over 1000 stocks average less than one trade a day.

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\(^2\) Since 1994 several major European exchanges have adopted different trading rules for different types of securities (by market capitalization and/or its liquidity) or different types of orders (small vs. large, retail vs. institutional). Demarchi and Foucault (2000) a survey of these changes.

\(^3\) In a game theoretical model of market participation Pagano (1989) shows that, depending on traders’ beliefs, two very different equilibria arise: (i) high trading activity will tend to high liquidity equilibrium and liquidity virtuous cycle; and (ii) low trading activity will give rise to low liquidity equilibrium and self-fulfilling liquidity trap. Whether the market will settle on one or another equilibrium mainly depends on the expectations held by economic agents. Any new trader entry (exit) makes the market more (less) liquid. Such kind of participation externality leads to unstable multiple rational expectations equilibria.
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