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Market structure, liquidity, and information based trading at the Prague Stock Exchange

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Abstract

This paper investigates the relation between liquidity and information based trading and the possible impact of market microstructure changes on this relationship. A model similar in spirit to that of [Easley et al. (1996b) J. Financ. 51(3) (1996) 811–833] is used to determine how often new information occurs and how it influences the composition of orders submitted to the market. There have been several major market structure changes implemented by the Prague Stock Exchange (PSE) over the past 5 years. Thanks to its unique development path, where a given set of stocks were subjected to several changes in trading environment design, PSE trading data can be used to examine how market conditions impact the extent of informed trading and market liquidity.

JEL classifications: G14; G15

Keywords: Market microstructure; Liquidity; Informed trading; Prague Stock Exchange

1. Introduction

In the framework of newly emerged central and eastern European capital markets, the lack of regulations would negatively affect overall functioning of the market.

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Investors are usually concerned about transparency, liquidity and market structure, so negative features like significant information/insider trading would erode investor confidence in a given capital market and cause the withdrawal of foreign and local institutional investors. In such circumstances capital markets cannot fulfill their key role—bringing new capital for companies and transferring savings to investment.

Surprisingly, policy makers in several central and eastern European countries have ignored these considerations and allowed a non-standard creation of capital markets in their countries (typically as a by-product of voucher privatization programs).[2] The Czech Republic is an illustrative case, since policy makers ignored the step-by-step creation of the capital markets and simply transferred hundreds of voucher shares to the newly created market. As opposed to the classical gradual way, they transferred vast number of shares without any listing requirement, which created a complicated and non-transparent market environment. Many practitioners argued that this ill-conceived approach would not create a functioning market, and that in combination with the lack of a strong supervisory body there would be enormous latitude for informed/insider trading.

Let us note that estimation of information driven trading covers two components: legal trading; and illegal insider trading. In theory there is a significant difference between these components; however, in transactions data both informed and insider trading have similar effects and thus it is not feasible to separate the two without more detailed data.[3]

The current paper estimates the extent of informed trading on the Prague Stock Exchange (PSE) over the period 1993–2000, hence, covering significant changes in market structure. Let us note that while starting years are associated with the birth of the market and transfers of hundreds of shares from voucher privatization, later we can observe several institutional changes. These changes include introducing different tiers (with different qualification and information-disclosure requirements); de-listing a large number of shares; and changing the secondary market organization from a single price auction market to a continuous price auction market and then a combined auction and dealers' market. Therefore, by estimating the extent of information/insider trading over those periods, we can test the sensitivity of our findings with respect to differences in institutional structures. This approach should enable us to analyze the relative influence of market structure on the extent of informed trading on the PSE. Let us list a few major questions/hypotheses we would like to address:

- One would expect the probability of informed trading to increase with decreasing liquidity (increased probability of non-trading). This hypothesis relates to the higher importance of more liquid stocks both in the information transmission

[2] See, for example reports of European Bank for Reconstruction and development EBRD 1996–2000, as well as early issues. For related background on transparency and corruption see Lízal and Kočenda (2001).

[3] Bhattacharya et al. (2000) is one of the very few studies that deals with insider and informed trading on emerging markets.