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Market structure and insider trading

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Abstract

In this paper we examine the real and financial effects of two insiders trading in a static Jain and Mirman model [Jain, N., & Mirman, L. J. (2000). Real and financial effects of insider trading with correlated signals. Economic Theory, 16, 333–353] (henceforth JM). The first insider is the manager of the firm. The second insider is the owner. First, we study the change of the linear-equilibrium variables, in the presence of two insiders. Specifically, we show that the trading order and the real output of the manager are less in this model than in JM model [Jain, N., & Mirman, L. J. (2000). Real and financial effects of insider trading with correlated signals. *Economic Theory*, 16, 333–353]. Secondly, we show that the stock price reveals more information than in Cournot duopoly and monopoly models studied by Jain and Mirman [Jain, N., & Mirman, L. J. (2000). Real and financial effects of insider trading with correlated signals. *Economic Theory*, 16, 333–353; Jain, N., & Mirman, L. J. (2002). Effects of insider trading under different market structures. *The Quarterly Review of Economics and Finance*, 42, 19–39]. Finally, we analyze the comparative statics (insiders' profits) of this model, when the market maker receives one or two signals.

JEL classification: G14; D82
Keywords: Insider trading; Stock prices; Correlated signals; Kyle model

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1. Introduction

Competition has a profound effect on the transmission of information in market economies. This information plays a very important and natural role in influencing the price of securities in a world in which information is de-centralized and is not or cannot be made public, except by observing market outputs. In the world of stock markets and firms, there are many different types of competitive interactions that produce information. Insiders are individuals who hold proprietary knowledge about aspects of the firm they are associated with. They may not have managerial responsibilities in the firm, for example, the president or members of the board of directors, with oversight duties but not operational duties. Hence, there are many different types of insiders, each with the objective of maximizing their profits from trading the stock of the firm whose inside information they possess. Hence, one form of competition that influences the stock price, the amount of information disseminated through trading in the stock market as well as the real output decisions of the firm, is the competition among insiders. However, this is not the only type of competition that influences the stock price, the transmission of information or the output of the firm. Firms often are in competition with other firms in their market or firms producing substitutes or compliments for their products. This competition has an effect on the real output of the firm. Moreover, it also influences the trading in the stock of the firm as well as the information revealed by the insiders. In this scenario insiders of the firm (those who have information that affects the profitability of the firm) might also include the managers and directors of competing firms. However, as a first approximation, even without thinking about the effect of insiders on other firms, the competition in the real side of the market affects the financial side of all firms in the market. In sum, there are many types of competition in complex market structures. It would be instructive to study a model in which there is competition in both the real and financial sectors. However, in our paper, we limit ourselves to only competition in the financial side leaving the addition of competition in the real side for future research.

Competition among insiders has an effect on both the financial and the real part of the firm. It is the purpose of this paper to study these real and financial interactions in a model in which insiders trade on their information, while some insiders are involved in the output decisions of the firm and others are not. The effect of this competition in the stock market is the focus of this paper. We present a model that is consistent with the microstructure literature and add competition among informed traders to study the effect of this competition on the equilibrium outcome.

Most of the theoretical literature on insider trading focuses on the financial market, like Kyle (1985), Tighe (1989), Rochet and Vila (1994) and Holden & Subrahmanyam (1992).[1] Some recent works like Dow and Rahi (2003), Leland (1992), Manove (1989) and Jain and Mirman (2000, 2002), (hereafter JM and JMC, respectively), incorporate real as well as financial sectors in their models of insider trading. The relationship between the real and financial effects of insider trading has recently been studied by JM (2000) and JMC (2002), who focus on the interplay between the information flow from the insider and the real and financial variables of the model, e.g. the stock price and the real output of the firm. This generalization of the Kyle model (1985), allows one to study a rich class of relationships as well as interesting comparative statics.

[1] For excellent surveys, see O'Hara (1995).