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Insider trading with private information and moral hazard

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Abstract

This paper studies the trading decisions of an insider who has both private information about firm value and actions that directly affect this value. An irrelevance result obtains. Contrary to the theme in some of the existing literature on corporate governance, I do not find that liquidity impairs effort provision. Increases in liquidity are shown to increase variance of effort while leaving the mean effort unchanged.

Keywords: Insider trading; Monitoring; Governance

1. Introduction

Since Kyle (1985), a large literature has arisen that studies the behavior of informed speculators. Although Kyle refers to these agents as "insiders" their actions do not impact firm value. His model, as well as most of the subsequent microstructure literature, is therefore an incomplete model of insider behavior if one takes insiders to mean a firm's top management.[1]

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[1] Shleifer and Vishny (1997) argue that activist institutional investors can have a role in affecting firm value as well, so a similar critique may apply to this category of strategic trader.

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While Kyle's strategic trading model isolates the effect of private information, another strand of literature isolates the effect of moral hazard. These latter papers, couched in terms of restructuring or takeovers, examine the relationship of stock market liquidity to the incentive of outside investors to undertake value-enhancing activities (Bolton and Von Thadden, 1998; Kyle and Vila, 1991; Maug, 1998; and Mello and Repullo, 2004). Traders in these models do not have private information. Rather, the question is whether market liquidity allows the investor to acquire a sufficient toehold to make intervention profitable.

This note studies the trading of insiders who have both private information about a firm's value and actions that directly affect this value. The model therefore admits both asymmetric information and moral hazard, asking how these two market imperfections interact. There has been some informal discussion about the nature of this interaction. One point of view is that speculation and insider effort are to some extent substitute activities (Coffee, 1991). Institutional investors in a soon-to-be-distressed firm may find it more profitable to spend time trading on superior information than actually intervening to prevent the firm's collapse. Strongly advocating this viewpoint, Bhide (1993) entitled his article "The hidden costs of stock market liquidity," arguing that

> "Institutions tend to follow the so-called Wall Street rule: sell the stock if you are unhappy with management ... stock market liquidity discourages internal monitoring by reducing the costs of exit."

A formal analysis of this problem using Kyle's model shows no such effect: in general, liquidity does not negatively impact corporate governance. The main finding is that the mean of the trader's effort[2] is constant in market liquidity. Thus the claim that liquidity markets tend to discourage insider effort is not supported. However, the *variance* of the insider's effort increases. The intuition for this is straightforward. When the insider makes his effort decision, he conditions this choice on not only current holdings, but on the future shares he expects to acquire. Given a good signal about firm value insiders increase holdings and, as a result, effort. Liquid markets facilitate this stock acquisition and therefore stimulate further effort. A similar argument shows that effort is attenuated given a bad signal. These two effects precisely cancel each other out in expectation, making social welfare implications ambiguous. This finding is in contrast to Coffee and Bhide's intuition that stock market liquidity is detrimental.

Kahn and Winton (1998) offer one of the few strategic trading models in which private information and moral hazard co-exist. A large shareholder decides whether to intervene in a distressed firm. Private information consists of a single signal which simultaneously yields information about both the asset value and the marginal benefit to intervention. An interaction between speculation and effort provision arises; the key determinant of the direction of this effect is whether effort increases or decreases the institution's informational advantage vis-a-vis the market. No comparative statics are offered on the liquidity of the market and so Coffee and Bhide's claim is not addressed.

[2] The model is framed in terms of an agent whose actions affect firm value. It is not specified whether this impact is direct (i.e., a manager making operational decisions) or indirect (i.e., an institutional investor expending costly effort to monitor management). In this model, there is no distinction between these two scenarios.