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The factors affecting illegal insider trading in firms with violations of GAAP ☆

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ABSTRACT

Consistent with the economics of crime approach, this paper finds that insider selling is decreasing in the perceived costs of potential private and public enforcement upon discovery of GAAP misstatements, and increasing in managerial private benefits as measured by the market reaction to the misstatement announcement. Additionally, insiders at fraud firms sell more on average, although the intensity of their trades is less likely to be associated with the magnitude of their private information. Further analysis suggests that managers perceive a higher cost of public enforcement in the post-Enron period.

1. Introduction

The high incidence of financial statement restatements and high-profile accounting scandals in the last decade has spurred a great deal of attention from the media, investors, legislators and researchers. A major concern is that managers not only "cook the books" to meet market expectations but they also profit from the violations through informed insider trading. This potential profit is not without risk, however, as trading on the knowledge of existing accounting misstatements by the firm's executives unquestionably fits the SEC's definition of illegal insider trading.[1] Consistently, prior research has documented a material increase in the probability of private litigation (Johnson et al., 2007) and other significant adverse effects (Wu, 2003; Palmrose et al., 2004; Hribar and Jenkins, 2004) in response to revelations of GAAP violations. This paper uses financial statement restatements to examine managerial incentives to engage in insider trading on material private information.

Academic research has paid scant attention to the trade-offs that managers face when trading on their own accounting misdeeds. To fill this gap, I rely on the economics of crime approach pioneered by Becker (1968), which suggests that criminal

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[1] The SEC defines illegal insider trading as "buying or selling a security, in breach of a fiduciary duty or other relationship of trust and confidence, while in possession of material, nonpublic information about the security."

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behavior is driven by the offender's rationality (i.e., his cost–benefit trade-offs, preferences and the environment) and is forward-looking, suggesting that criminals consider the future uncertain consequences of their actions. Specifically, I examine illegal insider trading as an equilibrium outcome based on managers' potential costs of private securities litigation and SEC enforcement, financial benefits of avoiding losses due to a drop in price, and personal characteristics such as behavioral preferences and values. Finally, I examine whether the overall shift in the economic environment and the enactment of the Sarbanes–Oxley Act (SOX) with provisions requiring increased personal responsibility and criminal penalties for misconduct (Hurt, 2007) has stifled managerial incentives to profit from their private information via insider trading.

To study illegal insider trading, I collect a sample of accounting irregularities from 1997 to 2006 related to problems with revenue recognition, cost or expense and restructuring, assets or inventory. The sample includes only cases of aggressive accounting or fraud that are more likely to be intentional and which lead to a higher drop in price when publicly disclosed (Hennes et al., 2008). This selection procedure provides a powerful setting to examine the research question because it emphasizes the factors that are hypothesized to affect illegal insider trading.

The theoretical factors arising from Becker's economic approach to crime are measured empirically by estimating managers' assessment of the potential future costs of private and public enforcement. To do so, I construct two models that provide estimates of the probabilities of class action lawsuits and SEC Accounting and Auditing Enforcement Releases (AAER). The dependent variables in the models are indicator variables for whether a class action lawsuit or an AAER were filed, and the explanatory variables consist of factors, presumably known to managers, likely to affect the two outcomes. This approach provides instruments of managers' assessment of litigation and SEC enforcement risks that vary over the sample depending on the firm's attributes. The financial benefit from trading is estimated by the market reaction to the restatement announcement, which can be interpreted as the magnitude of managers' private information about the GAAP violations. Non-financial factors, such as the firm's corporate environment and managers' traits and preferences are proxied by the presence of fraud. Finally, to investigate the effect of a potential change in the economic environment, I separate the sample into two periods based on Enron's first disclosure of its problems, which marked the beginning of the massive accounting scandals that led to calls for reforms and the enactment of SOX.

The results show that illegal insider sales decrease in the costs of potential private litigation and SEC enforcement. If the estimate of the litigation likelihood increases by 10 percentage points, the dollar value of net sales decreases by over $24 million. A 10 percentage point increase in the SEC enforcement probability is associated with a decrease in insider net selling of over $19 million. Therefore, the risks of shareholder litigation and SEC enforcement have incremental effects in deterring illegal insider trading in irregularity firms.

After controlling for the deterrent effects of enforcement, illegal insider selling intensity increases in the benefit from trading only in the absence of fraud; a 10 percentage point decrease in the market reaction to the restatement announcement is associated with an increase in net selling in firms without fraud of almost $25 million. Managers of fraud firms sell shares worth over $230 million more on average than managers of non-fraud firms, but their trading intensity is unrelated to the magnitude of the private information. This is consistent with managers of fraud firms understating the risk of trading in conjunction with an accounting violation, due to their overconfidence or low risk aversion, and unloading large amounts of stock even when the financial benefit is not the prompter of this behavior. Further analysis shows that the incentives to trade illegally during periods of intentional misstatements are mostly similar before and after Enron, except for the increased deterrent effect of public enforcement by the SEC in more recent years.

This paper provides a comprehensive analysis of illegal insider trading in firms with accounting irregularities and contributes to the research on the implications of enforcement risk for insider trading (see, e.g., Ke et al., 2003; Beneish et al., 2005; Cheng and Lo, 2006; Huddart et al., 2007). To my knowledge, this is the first study that provides evidence on the enforcement avoidance hypothesis directly by examining how insider trading varies with the variation in litigation and SEC enforcement risks. Moreover, studying the two enforcement mechanisms in tandem provides an insight into their relative deterrent effects. This paper is different from most of prior research that examines the profitability of insider trades in large samples of firms where the piece of private information is difficult to identify. The presence of a restatement allows for a direct test of the hypothesis that insiders trade on private, negative, firm-specific information. In addition, I provide evidence on the effect of non-financial factors and the recent overall shift in managers' cost–benefit trade-offs, which will be useful for evaluating the current enforcement environment.

The rest of the paper is organized as follows. Section 2 develops the hypotheses to be tested and discusses the potential effect of the increase in accounting malfeasances in the late 1990s and early 2000s that prompted the enactment of SOX. Section 3 outlines the sample selection and provides descriptive statistics. Section 4 develops the research design and Section 5 provides the empirical results. Section 6 presents a descriptive analysis of the sample restatements by the type of subsequent enforcement. Finally, Section 7 concludes.

2. Hypothesis development

Based on the economics of crime literature, pioneered by Becker (1968), every illegal act is viewed as an economic activity driven by self-interest and a rich set of values and inclinations. The presumption in this research is that everyone has the same motivations but criminals' costs, benefits, preferences and opportunities differ. Moreover, behavior is assumed to be forward-looking, which suggests that criminals consider the future consequences of their actions when they contemplate an illegal act.