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Seeing Is NOT Always Believing: Different Market Reactions and Cyber Breach

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Cybersecurity, because of data breaches' serious effect on society and firms, has become a primary concern for regulators and managers. Intuitively, information breaches are bad news for firms' stakeholders because their disclosure hurts public firms' stock prices. But evidence suggests a more complicated reality, with mixed effects of disclosures on firm market valuation. For example, Equifax's stock price decreased, whereas JP Morgan Chase's stock price didn't decrease.

Cybersecurity breaches create conditions where internal and external traders have asymmetric information about events. Executives, as internal managers, clearly know more about the data breaches than outside investors and are, therefore, more likely to possess an information advantage. In such circumstances, traders have heterogeneous levels of information so that insiders, as executives, can exploit such advantages to earn excess returns. Furthermore, research on insider trading indicates that trading by private information will drive stock price movement (Durnev et al., 2004), and thus, market reactions are affected. However, little literature investigates whether executives' such trade behavior impacts stock market reaction to cyber breach announcements.

To understand how financial markets react differently to cyber breach announcements, we will study the stock market's reactions to cyber breach announcements from an information advantage perspective. We extend the work of Lin et al. (2020), who found that executives sometimes act on insider information and earn savings before cyber breach announcements and probe the following: how trading behaviors impact the stock market's reaction to cyber breach announcements.

We will acquire data from the Thompson Reuters database and other sources. To the above question, we will employ an event study to calculate cumulative abnormal returns in the estimated window through the capital asset price model and then use regression of cumulative returns on executives' trading volume.

Our work will offer three contributions. First, we provide insights into insider trading as one of the reasons for different market reactions to breach announcements, which helps firms correctly cognize the stock market reaction, thereby making efficient security investment decisions. Second, our study helps individual investors mitigate information asymmetry around firms' cyber breach announcements and allocate investment efficiently. Third, this paper may give regulators suggestions on supervising insider trading in breaches.

References

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