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Which firms are more prone to stock market manipulation?

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ABSTRACT

This study empirically investigates which firms are more susceptible to successful manipulation. For this purpose, a unique data set consisting of manipulation cases from 1998 to 2006 from the Istanbul Stock Exchange (ISE) was collected and firm-specific variables are used to explain these manipulations. Probit regression results show that small firms, firms with less free float rate and a higher leverage ratio are more prone to stock price manipulation. Dynamic probit analysis concludes that the probability of manipulation of a stock is significantly higher for stocks that have been previously manipulated.

1. Introduction

Stock market manipulation harms public confidence in capital markets through distorting the fair pricing of securities by creating artificial prices. Mainly for this reason manipulation is strictly forbidden in most legislative systems. For decades, capital market regulators have been increasing their enforcement efforts in order to cope with manipulators as well as amplifying international cooperation with each other. In this study, we investigate firm-specific factors that make a stock more susceptible to manipulation. In other words, we identify which stocks are more likely to be manipulated by looking at the previous incidents of manipulation that were detected by the market supervisor. We construct a unique data set of individual manipulation cases by analyzing the Capital Markets Board of Turkey's (CMBT) releases for the period 1998–2006. We conduct panel dynamic probit

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regression analysis in order to identify the firm-specific and market-specific factors which affect the probability that a specific stock will be manipulated.

Several studies empirically examine the effect of manipulation on stock prices. Aggarwal and Wu (2006) investigate the price and volume effects of past manipulation cases which are prosecuted by the Securities Exchange Commission (SEC). They find that manipulation leads to a rise in volatility, liquidity and returns of the stocks. In general, prices rise in the mean time of the manipulation scheme but drop after the end of the manipulation period. Theoretical studies like Goldstein and Guembel (2008) display the harmful effect on the allocation role of prices on the financial markets.

On the other hand, means of manipulative schemes are continuously evolving over time since manipulators are trying to avoid being caught. Allen and Gale (1992) showed in their theoretical framework that an uninformed manipulator could profit by mimicking the behaviors of an informed trader with the help of information asymmetries. But in reality manipulators do not only mimic the buy and sell behaviors of informed large traders but they also use some special tools to accomplish successful schemes of manipulation.

The International Organization of Securities Commissions (IOSCO) (2000) specified some manipulative methods that are commonly used by manipulators such as:

- wash sales
- advancing the bid
- pumping and dumping
- marking the close
- cornering the market
- squeezing the market etc.

IOSCO's findings consist of the joint efforts of many capital market regulators across the world. So, we can assert that these means of manipulations are themes of successful manipulations in various exchange markets.

Researchers investigate some of these manipulative methods individually. Comerton-Forde and Putnins (2013) studied closing price manipulation cases. They constructed an index of probability and intensity of closing price manipulation by using a sample of manipulation cases prosecuted by US and Canadian prosecutors. Allen et al. (2006) examined stock market and commodity market corners from 1863 to 1980. They asserted that large investors and insiders have market power that may let them manipulate prices and these manipulations with corners lead to increases in volatility. Merrick et al. (2005) investigated manipulation cases with a squeeze on the bond future market. Mei (2004) showed that an uninformed manipulator could use investors' behavioral biases in order to profit by using pump and dump strategies.

A successful manipulation scheme usually contains more than one manipulative method. Almost all of these manipulative means do have some costs for the manipulator. By doing wash sales, a manipulator buys and sells the same stock without changing the real ownership of these stocks for the sake of artificially creating an appearance of an active trading environment in order to direct attention of some information seekers to this stock. This scheme of wash sales creates transaction costs for the manipulator. Likewise, pumping and dumping, and cornering or squeezing the market have similar kinds of costs.

Cost characteristics of manipulative methods may differ for different stocks depending on the firm-specific characteristics. It may be less expensive to manipulate smaller firms' stocks or stocks with lower free float than the others since a manipulator needs much less effort to artificially create an appearance of an active market or corner the market. Aggarwal and Wu (2006) report that most manipulation cases occur in inefficient markets in their data set, such as the OTC Bulletin Board and the Pink Sheet. Jiang et al. (2005) broadly studied the well-known stock pools of the 1920s and their results also support the idea that regulatory enforcement should focus on illiquid segments of the market. These findings indicate that firm-specific characteristics and market characteristics should be studied empirically as conducted in this study.

In a related study, Comerton-Forde and Putnins (2013) focus on closing price manipulation and construct an index which can determine closing price manipulation. They argue that returns, spreads, trading frequencies and return reversals can be used to distinguish manipulated closing prices from normal trading behavior.

Accounting literature also investigates detection of manipulation. Several studies like Beneish (1999) and Wuerges and Borba (2010) analyze detection of earnings manipulation. Beneish (1999) constructs an M-score composed of eight accounting ratios that capture financial statement distortions. Wuerges and Borba (2010) conduct a probit analysis to examine accounting fraud in US companies. These studies are similar to