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The information content of insider trading: Evidence from China

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ABSTRACT

We examine the source of return predictability by insider trading in the setting of China's stock market from 2005 to 2016. We find that insiders' net share purchase contains favorable information about earnings beyond what is incorporated in the current stock market. We further show that the information contained in insiders trading is about operating rather than the non-operating component of earnings. We also find that firms with significant net share purchase are not associated with lower earnings quality afterwards. Overall, we provide evidence that insider trading delivers significant value-relevant information about earnings to the stock market.

1. Introduction

Because of the large stake committed with the companies, firm insiders have the incentives and cost advantage in obtaining information beyond public financial statements of the firms (e.g., Shleifer and Vishny, 1986). Researchers have shown that insider trading is associated with significantly positive future stock returns in the US (e.g., Lakonishok and Lee, 2001; Seyhun, 1986) and Europe (e.g., Eckbo and Smith, 2002). Recent studies confirm the stock return predictability by insider trading in China's stock market (e.g., He and Rui, 2016; Zeng and Zhang, 2013) and provide further cross-country evidence (Brochet, 2017). However, the source of return predictability by insider trading is less explored in the literature. While insiders may trade after observing innovations to earnings, insider trading could also be related with earnings manipulations (Park and Park, 2004; Sawicki and Shrestha, 2008).

In this paper, we specifically examine the information content of insider trading in the setting of China's stock market. There are two characteristics that make the Chinese market distinctive from developed markets and to be a unique setting to examine the source of return predictability by insider trading. First, in contrast to developed markets that are mainly composed of institutional investors, China's stock market is dominated by retail investors. According to the 2016 Statistics Annual published by Shanghai Stock Exchange (SSE, 2016), retail investors account for 87% of total trading volume in mainland China's stock market. Compared with institutional investors, individual investors have less expertise in collecting and processing information. The retail investor-dominated market structure in China's stock market significantly increases insiders' incentives to trade with significant informational advantage over general market participants.

Second, the legal system that governs information disclosure and enforcement in China is not only weaker than those of well-developed markets but is even poorer than the legal systems of major developing countries, such as India and Brazil (Allen et al., 2005). The relatively more opaque disclosure environment and weak law enforcement significantly increase the benefits and reduce the costs for insiders to take advantage of private information in trading.

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The return predictability by insider trading could come from two different sources. First, trading by insiders may reveal significant value-relevant information about firm fundamentals. Firm management and large shareholders obtain private information about firm fundamentals beyond what has been incorporated in the current stock market (Yung, 2005). Through trading, insiders reveal perspectives on firm prospects which influence the market valuation. Second, insider trading could be related to earnings manipulations. Firm insiders may purchase stocks in anticipation of future earnings management that will boost stock price in the short-run.

To examine the information content of trading by insiders, we collect data on all trades by firm management and blockholders (whose holding is more than 5% of a firm's total shares) from 2005 to 2016, and construct a data set of 93,075 transactions made by 26,644 insiders from 2747 Chinese listed companies. The Chinese Security Regulatory Committee regulates that firm managers, and shareholders who own more than 5% of total shares of a company should disclose their trading of the company's share to the firm. Firms should disclose the information about insider trading after receiving notifications from insiders. The disclosure contains the identity of insiders, and also provides information on trading (including both transaction dates and trading volume) and holding of the insiders. The disclosure of insider trading forms our main source of data.

We first examine if insider trading could predict future earnings changes. We document that the net volume of shares purchased by insiders scaled by total outstanding is a strong predictor of firms' future earnings changes, measured by quarterly earnings surprises and earnings announcement returns. The predictability by insider trading exists after controlling for past stock returns and market valuations. We also distinguish operating profits from non-operating profits, and find that while insider trading is informative about future operating profits, trading by insiders do not predict the non-operating component of profits. These findings are consistent with the channel that insider trading is informative about firms' future operating performance.

We further examine the other possible channel through earnings manipulations. If insiders trade in anticipation of short-run stock price movements caused by earnings manipulation, insider trading could predict earnings quality. We therefore compile a panel data with 59,671 observations from annual financial statements for Chinese listed firms between 2005 and 2016. We use total accruals and discretionary accruals to proxy for earnings management. We find that the net purchase of shares by firm insiders is not related to accruals. The results show that earnings management is not the source of return predictability by insider trading.

Our paper proceeds as follows. Section 2 introduces data and variable construction. Section 3 presents the empirical findings. We conclude in Section 4.

2. Data and variable

2.1. Data source

We collect data on quarterly firm financial items and earnings announcements from the CSMAR database. We collect data on stock market and insider trading from the Wind database. For insider trading, we collect information on the end date, trading volume and direction of the transactions. The sample period is from Q1-2005 to Q4-2016.

2.2. Variable construction

We adopt two different variables to proxy for firms' earnings changes. First, *Total earnings surprise* is total profit in quarter q minus total profit in quarter $q-4$, divided by assets at the end of last fiscal year. We also use operating profit and non-operating profit to construct *Oper. earnings surprise* and *Non-oper. earnings surprise*.

Second, *CAR*(3, 3) is earnings announcement returns, measured as cumulative abnormal returns during the window of 3-day before and after the earnings announcement date[1]. We use weekly data between 8 and 60 weeks before the earnings announcement day to calculate α and β in the following single-index model[2]:

$$R_{i,t} - r_{f,t} = \alpha + \beta^*(R_{m,t} - r_{f,t}) + \epsilon_{i,t} \tag{1}$$

To evaluate the intensity of insider trading for a firm, we use the net volume of shares purchased by insiders of the firm scaled by the firm's total number of shares. For each stock, we calculate the net purchasing volume by insiders as the difference between the total number of shares purchased and the total shares sold by insiders. We scale the net trading volume in the past quarter, half-year, three-quarter, and one-year by the total number of outstanding shares, respectively. If a company does not have insider transactions within the time span, the net trading volume is set to zero. Therefore, our sample includes firms with insider transactions and firms without trading by insiders.

In all regressions of firms' fundamental performance, we include size, book to market and past returns to control the information that is already incorporated in the current stock market. We estimate a firm's size using the market value (in Chinese Yuan) that is 2 trading-days before earnings announcement of the firm. Book to market is the book value of equity of the last fiscal year scaled by firm size. Both firm size and book to market are in natural logarithm form. We also control average weekly stock returns over the 50 weeks and 4 weeks prior to earnings announcement. In addition, we include state ownership and managerial ownership to control for the influence of agency costs on firm fundamental performance. We winsorize all variables at the 1% and 99% level.

Table 1 reports the summary statistics of the sample with 59,671 observations. On average, quarterly change in total profit is

[1] We obtain similar findings with alternative window such as CAR(5,5)

[2] We use the yield to maturity of the 1-year Treasury in China as the risk free rate.