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The Application of Public and Private Information to the Prediction of Abnormal Returns and Portfolio Management

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ABSTRACT

By using the technology of text mining to capture the information content of Chinese news, this paper empirically investigates the correlation between the information content of Chinese news and announcement drift. News announced before the earnings announcement influences investor sentiment and the trend of the stock price. This study applies financial news-corps mining by referring to Vega (2006) and Demers and Vega (2011) to proxy the information content of news, for which the proxy variables are measured by the media coverage (*MEDIA*), public news surprises (*SUR*) and sentiment ratio (*SR*). The probability of informed trading (*PIN*), as proposed by Easley, Hvidkjaer and O'Hara (2002), is adopted as the proxy variable for private information. The abnormal return around the earnings announcement date is calculated by the Fama and French three factors model (1992). The standardized unexpected earnings (*SUE*) and turnover (*TURN*) are regarded as the control variables. The empirical results show that there is a positive (negative) relationship between the sentiment ratio (*SR*) and the cumulative abnormal returns before (after) the earnings announcement. Our results confirm that the market's response to news covers the relevant information regarding the company during the earnings announcement period. The application of public news sentiment to portfolio management suggests that "long stocks with low *SR* and high *SUR*" or "short stocks with high *SR* and high *MEDIA*"

before the earnings announcement generate a positive excess return. This study confirms that information sentiment extracted by public news contains relevant information content and plays an important role in the prediction of abnormal returns and portfolio management.

KEY WORDS: **Public News, Sentiment, Linguistic Text Mining, Abnormal Return, Earnings Announcement**

JEL: G12, G14, D82

1. Introduction

Which factors drive the process of price movements? According to research on market microstructure, the process of price movements is driven by informed traders having private information or an information advantage. Therefore, the impression is given that public information is mere noise or valueless. However, the availability of public news, which is regarded as a source of public information, means that it is easy and common for investors to obtain information related to companies, and some investors propose that relevant information is contained in the public news. Market trends or security prices will change because investors may have different explanations of the 'information' which will then result in under- or over-reaction.

Both academics and regulators are interested in how investors respond to public information and what the effects of their behaviour are on security price movements. Technical analysis and fundamental analysis are two common ways of analyzing the movement in securities prices, but both of them ignore the impact of public information on short-term (i.e., pre- and post-earnings announcement) variations in securities prices. Rather than adjusting immediately to news surprises, stock prices tend to drift over time in the same direction as the initial surprise. Post-earnings announcement drift (PEAD) or earnings