Stock index adjustments, analyst coverage and institutional holdings: Evidence from China

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\textbf{ARTICLE INFO}

\textbf{Article history:}
Received 25 February 2016
Accepted 6 December 2016
Available online xxxx

\textbf{JEL:}
G2
M3

\textbf{Keywords:}
Stock index adjustment
Analyst coverage
Institutional holding

\textbf{ABSTRACT}

Using 231 pairs of matched firms from 2009 to 2012 in Chinese stock market, we find that the stock index adjustment significantly affects the analyst coverage, which in addition to the stock index leads to more analyst coverage, while deletion from the stock index has no significant effect, indicating that stock index adjustment can significantly change the information environments of firms that are added to the index. An index adjustment also affects institutional holdings in consideration of new information (e.g., changes in fundamentals and information environments). Changes in institutional holdings are partially due to changes in analyst coverage, and both index funds and other types can change their portfolios in response to changes in the target firms’ informativeness.

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1. Introduction

The “S&P game” is another name for the arbitrage that occurs in response to the addition of stocks in the S&P 500 index (Lee et al., 2008), which is conducted by both index fund managers and other traders. Usually, significantly positive (negative) abnormal returns around the index addition (deletion) are found (Harris and Gurel, 1986). A large increase occurs in correlating the trading volume of stocks added to the index with the volume of those that remained in the index, and the opposite is true as a result of the deletions (Greenwood and Sosner, 2007). Due to the arbitrage surrounding the times of index changes, investors in funds linked to the S&P 500 Index and the Russell 2000 Index lose between $1 and 2.1 billion a year for the two indices combined, and the losses can be greater if benchmarked assets are considered; the pre-reconstitution period

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\textsuperscript{\textcopyright This paper is sponsored by a National Natural Science Fund (71302023).}

http://dx.doi.org/10.1016/j.cjar.2016.12.005
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is lengthened or involuntary deletions are taken into account (Chen et al., 2006). However, recent research finds that a buy–hold index portfolio outperformed the annually rebalanced index in the 1979–2004 period. Although the short-term momentum and poor long-term returns of new issues partially explain these returns, index deletions were found to provide significantly higher factor-adjusted returns than index additions (Cai and Houge, 2008). This suggests that changing holdings around index adjustment may not be a wise decision.

Although changes in institutional index fund holdings are responsible for the observed abnormal returns in response to S&P 500 changes (Shleifer, 1986; Harris and Gurel, 1986), there has been scant supporting empirical evidence (Pruitt and Wei, 1989; Chen et al., 2004; Green and Jame, 2011). Do changes in institutional holding only result from the portfolio management of index funds? Addition and deletion announcements also contain valuable and relevant new information that may further affect the portfolio management for both index funds and other institutional investors. Moreover, Beneish and Whaley (1996) and Shleifer (1986) suggest that analysts may also alter their attitudes regarding firms that are added to or deleted from the stock index, which is not supported by evidence. Do stock index adjustments also affect analysts’ coverage and stock recommendations, further influencing changes in institutional holdings and ultimately leading to a more volatile market reaction to index adjustment? There are no clear answers, as little work has been done in this area.

We use 231 pairs of matched Chinese firms in the same industry, during the same year and the same quarter with similar assets over the 2009–2012 period, and find that stock index adjustments significantly affect analyst coverage, which in addition to the stock index, leads to more analyst coverage (proxied by the number of analysts and stock recommendations). In contrast, deletion from the stock index has no significant effect, indicating that stock index adjustments can significantly change the information environments of firms added to the index, as Beneish and Whaley (1996) and Shleifer (1986) suggest. Index adjustments also affect institutional holdings, as Pruitt and Wei (1989) note, even in cases of new information, such as changes in fundamentals and information environments. Moreover, changes in institutional holdings can be partially due to changes in analyst coverage, such that index and other funds change their portfolios in response to changes in the informativeness of the target firms.

Our paper contributes to the literature in the following ways. First, we provide more rigorous evidence for the effects of stock index adjustments on institutional holdings in relation to the validity of the related hypotheses. We use matched samples and a multi-regression to investigate the information content of stock index changes, such as changes in firms’ profitability, growth potential or the information available for decisions—any of which may coincide with stock index adjustments and lead to changes in institutional holdings. Second, we examine the influence of index adjustments on firms’ information environments and show how the former affects the latter’s analyst coverage and stock recommendations, which then influence their market performance and investor holdings. Our finding provides some evidence for the information content hypothesis concerning stock index adjustment. Third, our work provides further evidence of the stock index adjustments, analyst coverage and institutional holdings in the Asian Pacific and other emerging markets. Finally, the conclusions of this paper will be useful for studies on the future of stock indices in China. In 2015, China’s stock market experienced a dramatic uprush and collapse, and the stock index future is now heavily criticized by many scholars and investors. Our work on the logic and patterns of institutional investors’ reactions to stock index adjustments can provide some evidence and useful clues about the regulation of stock indices in China’s future.

The remainder of this paper is organized as follows. Section 2 reviews the relevant literature and Section 3 presents the stock index adjustments in China. Section 4 describes the research design and the empirical analysis is shown in Section 5. The final section concludes our paper and discusses future research.

2. Literature review

There are many studies on the market created in reaction to stock index adjustments, and several hypotheses are proposed. The downward-sloping demand curve hypothesis suggests that the demand of index fund managers reduces the stock’s supply for non-indexing investors, permanently increasing the market clearing price (Shleifer, 1986; Chakrabarti et al., 2005). The liquidity hypothesis suggests that the addition or deletion of a stock from the index alters the stock’s liquidity, which affects its price (Shleifer, 1986; Beneish and Whaley, 1996). Price pressure is attributable to index trading, because index fund managers must add or delete the stock from their portfolios to avoid unfavorable tracking errors by which they may be evaluated. Reflect-
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