行政院國家科學委員會專題研究計畫  成果報告

子計畫十：市場過度樂觀，內線交易以及長期績效表現：以追蹤股票發行為例

計畫類別：整合型計畫
計畫編號：NSC92-2416-H-006-045-EF
執行期間：92年09月01日至93年08月31日
執行單位：國立成功大學國際企業研究所

計畫主持人：張紹基
共同主持人：陳聖賢
計畫參與人員：陳麗宇

報告類型：精簡報告
處理方式：本計畫可公開查詢

中華民國 93年12月6日
Overoptimism, Insider Trading and Long-run Performance

Surrounding Tracking Stock Announcements

Abstract

Prior studies document positive announcement returns, but declining long-run performance for tracking stocks. This study examines two possible explanations from the perspective of behavior finance: investors’ overoptimism and window-of-opportunity hypotheses. We find insiders engage in selling transaction before track stock announcements. The analysis suggests that insider trading activities are associated with post-issue three-year stock market performance of tacking stocks. This evidence holds after controlling other control variables. Our findings imply that managers may be knowingly taking advantage of the temporary irrational market demand for a particular segment. However, the evidence on operating performance surrounding tracking stock issues does not support the overoptimism hypothesis.
Overoptimism, Insider Trading and Long-run Performance Surrounding Tracking Stock Announcement

1. Background and Motivation

Tracking stock is a form of common equity with its value linked with the performance of a particular business segment within the firm. Upon shareholder’s approval, the parent corporation and the tracking unit file separate financial data with the Security and Exchange Commission, and thus the tracking unit receives an independent valuation from the market. In this aspect, tracking stock is similar with equity carve-out and spin-off. On the other hand, although ownership of tracking stocks entitles the holder to the earnings stream of a particular industry segment, the segment for which the tracking stock is issued remains legally a part of the consolidated company. It is therefore conjectured that managers of conglomerates use tracking stock to gain some of the benefit of spin-off without the loss of corporate control [9].

As tracking stocks share some important features of the share of spun-off unit, previous literature documented a very similar announcement effect of tracking stock issues with that for the spin-outs. Billet and Mauer [4], D'Souza and Jacobs [9] and Harper and Madura [11] document that the abnormal announcement returns of tracking stock issue is about 3% for a three-day event window. D’Souza and Jacobs [9] argue that the value creation may come from the monitoring and motivational advantage as well as the tax effect. Billet and Mauer [4] find that the announcement of tracking stock issues is positively associated with the value assessment of issuing firm’s internal capital market. Harper and Madura [4] argue that the potential sources of value creation from stock markets may come from the sources of diversification discount, asymmetric information and agency costs.

While tracking stock issues experience significantly positive short-run market response, the long-run performance of tracking stocks, is a far cry from the findings of spin outs. Billet and Vijh [5] find that tracking stocks underperform the market by

---

1While tracking stock issues are similar with stocks of spun-off units in many respects, they differ in ownership transfer, tax treatment, board of directors responsibility and cash flow change. Please see Harper and Madura [11] for detailed description.
40.5% over the three years post-issue, and underperform a size benchmark by 23.76%. Harper and Madura [11] document similar evidence, and they also find that the long-run underperformance of tracking stock cannot be explained by factors of information asymmetry, agency costs or diversification discount. If both managers and investors are rational as suggested in traditional finance theory, how can the inconsistency of short-run and long-run market performance be reconciled? Indeed, some academics have been very critical of the use of tracking stocks. According to The New York Times, Professor Bruce Greenwald of Columbia University commented that “It is absolutely the purest form of financial engineering and it yield no benefit at all” (July 12, 1994, P.D1).

Theory of behavioral finance has shed new insights into many anomalies documented in the literature by assuming that the managers and investors are not always rational at the market [20]. Under behavioral finance, one explanation for the anomaly in tracking stock is that investors may be overly optimistic about the issuing firms’ future prospects at the time of announcement. Studies in Psychology have documented that people tend to be overconfident in their judgments and beliefs [1]. Researchers in behavioral finance have also found that the overoptimism at the time of issue may reflect the behavioral tendency of humans to overweight recent experience at the expense of long-run average, as observed in psychology study [16]. Irani [14] shows that managers in the US appear to be seriously overconfident in their earnings forecasts over an eight-month time horizon. Loughran and Ritter [19] provides evidence that the operating performance peaks at the time seasoned equity issues, and suggests that post-announcement stock price decline reflects investors disappointment that the favorable trend in earnings prior to the issues does not continue after the issues of tracking stocks. Therefore, the literature in behavioral finance suggests that if investors or managers are overly optimistic about the future prospects at tracking stock announcements, the short-run positive market response will then be followed by long-run underperformance.

Another possible explanation from behavioral finance for the anomaly of tracking stock issues is that rational managers attempt to exploit the irrational demand for certain units of the business. The timing of tracking stocks will happen when one

---

2 Heaton [12] argues that a model of overoptimism leads to the resolution of several puzzles that plague the standard approach.
division of a firm is highly regarded or exhibit temporarily high multiples, tracking stock issues provide a good opportunity to exploit investors’ enthusiasm for the particular segment. Stein [25] provides a model supporting the window of opportunity hypothesis that rational managers take advantage of irrational market. Lamont and Thaler [17] examine equity carve outs in the high-tech industries, and find overwhelming evidence of wide-spread market mispricing, and the sample clusters heavily in certain years Their evidence suggests that investors demand for certain types of stocks was unusually high. Ritter [22] suggests that managers time initial public offerings when share prices are perceived to be near the peak.

Just as managers decide to go public when they perceive the firm’s market value to be high, they may issue tracking stocks for a business segment when the market valuation of the unit is promising. While tracking stocks may increase firm value when the price-multiple of unit-comparable firms are near their peak, valuation may subsequently decline after the issues. Harper and Madura [11] argue that one explanation for the ultimate underperformance of tracking stock is that it could be merely a cosmetic transaction conceived to take advantage of temporary conditions.

2. The Goal of this Study

This study attempts to test if the long-run underperformance of tracking stocks can be explained by investors’ overoptimism and managers’ exploitation of irrational market demand, as argued in behavioral finance theory. To investigate the overoptimism hypothesis, we examine the operating performance surrounding the announcement of tracking stocks. If the behavioral tendency for humans to overweight recent performance is able to explain the positive announcement effects, we would expect to observe a good operating performance prior to tracking stock issues. To further investigate the nature of managers’ overoptimism at the time of tracking stock issue announcements, we will examine the pattern of capital and R&D expenditure in the period surrounding the tracking stock issues. Loughran and Ritter [19] report that firms that public issue tends to have above average capital expenditure both before and after the issue, and view this as evidence that investors and managers may be too optimistic about the future prospects of growth opportunity. Hertzel, Lemmon, Linck and Rees [13] also follow similar methodology in examining the issues of private placements. In addition, we will also investigate the nature of
investors’ expectation at the time tracking stock issues by investigating stock price performance prior to the announcements.

To test the window-of-opportunity hypothesis, we examine insider-trading activity to infer managerial motives [18]. If managers effectively seek to arbitrage against market mispricing, we would expect managers to be net sellers prior to the tracking stock issues announcements. In addition, we could also expect to observe a strong relationship between post-issue long-run performance and insider trading activity prior to the announcements. Specifically, if firms with more net sales (sales minus purchases) experience long-run underperformance, managers may indeed take advantage of their insider information in selling overvalued tracking stocks. On the contrary, if firms with more net sales don’t underperform the benchmark, then the argument that rational managers exploiting irrational demand of tracking stocks can not be supported.

3. Data and Sample

The sample of tracking stock issues and announcements are collected from Wall Street Index and Lexis/Nexis database. D’Souza and Jacob [9], Billet and Mauer [4] and Matthew and Yiming [21] provide detailed information of tracking stock issue announcements up to 1998. We enlarge the sample to include announcements up to 2003. Firms included in the sample should have their shares listed on the NYSE, AMEX or Nasdaq, and their security returns available from CRSP database. The initial search yields totally 51 tracking stick issue announcements that involve 36 firms. To investigate the post-issue performance, we eliminate those announcing firms without subsequent actual issues of tracking stocks. To avoid double-counting, those firms with multiple tracking stock issues on the same announcement day are considered as one observation in our sample. We find that there are 4 firms issues two tracking stocks, and 1 firm issued 3 tracking stock on the announcement day. Two announcements are made by non-US firms and thus deleted from the sample. Consequently, we have 30 announcements that involve 24 firms in our sample. The largest number of announcement is 9 (30.0%) in 1999, followed by 4 (13.3%) in 1995.

Announcement Period Abnormal Returns

The results show that on the announcement day, announcing firms experience an average significant and positive abnormal return of 2.41%. In addition, the results
show that the median abnormal returns on the announcement day is also statistically significant, and 68% of sample firms experience positive stock market reaction, indicating that the results are not driven by outlier observations. No significant abnormal returns are observed preceding and following the announcement day, suggesting that the strong market reactions are mainly caused by announcements of tracking stocks. Our findings of significant positive announcement abnormal returns are consistent with prior studies.

Operating Performance Surrounding Tracking Stock Issues

We use six measures of operating performance. Return on assets (ROA) is measured by net income to total assets. Since this measure of accounting profitability is easily biased, we also use measure of operating return on assets (OROA) to measure the operating efficiency of assets utilization. Operating return on assets is defined as net sales minus cost of goods sold and administrative expense before depreciation, depletion and amortization divided by total assets. The fourth measure of operating performance is operating cash flow to total assets (OCFA), measured as operating income before depreciation minus capital expenditure divided by total assets. In addition, we compute the ratio of operating income to total assets (OIBD/Assets) where operating income is operating income before depreciation, amortization, and taxes, plus interest income [13]. Finally, we measure investment activities by the ratio of capital plus research and development expenditure to total assets (CE+RD/Assets).

If the positive announcement returns of tracking stock issues are due to investors’ overoptimism, then we expect to observe a superior performance surrounding the announcements. The evidence indicates no obvious trend that the operating performance is experiencing improvement before tracking stocks issue. In fact, all the yearly changes under each different measure are not significantly different from zero. No significant change in operating performance is found before tracking stocks issues. Therefore, our results do not support investors’ overoptimism hypothesis. We also examine managers’ view by investigating the investment activity. We find that the variable of (CE + RD)/Assets do not exhibit an upward trend before tracking stock issues. No evidence is found in sporting the argument that managers of tracking
stocks issuing firms are optimistic to future prospect as shown in the investment activities.

*Insiders Trading Behavior Surrounding Tracking Stock Announcement*

To test the window-of-opportunity hypothesis, we examine insider-trading activity to infer managerial motives [18]. The data of insider trading are from the *Daily Custom Data Files* by Thomson Financial, which contain all transactions by insiders subject to disclosure based on Security and Exchange Act of 1986. Additionally, we collect the insider-trading data from Ownership Reporting System (ORS) through Access to Archival Databases (AAD). ORS data come from three forms: SEC Form 3, SEC Form 4, and SEC Form 5. Form 5 was added in April 1991. AAD has records of security transactions and holdings in securities by people with "insider relationships" or beneficial ownership of securities, primarily officers, directors and principal stockholders.

We find that, on average, the number of selling transactions is much greater than that for purchasing. Furthermore, the selling trend continues after tracking stock announcements. Since the insider trading activity may have different pattern, we also calculate the adjusted insider trading (abnormal insider trading) surrounding tracking stock. Following Clarke, Dunbar and Kahle [6] abnormal insider trading is measured by actual trading minus expected trading, where the expected trading is the mean trading of a firm in the 36 months period beginning 48 months prior to the announcing date and ending 13 months prior to the announcing date. The results of the adjusted insider trading activities also show that insiders are generally on the selling side of the parent firms shares before tracking stock announcements.

In order to check the sensitivity of the qualitative results, we will discard sample firms with more than one issues of tracking stocks and redo the analysis. The results are similar.

4. Conclusion

Prior research shows that tracking stocks experience positive announcement period abnormal returns, but negative post-issue stock market performance. We attempt to investigate two possible reasons for this empirical inconsistency. The overoptimism hypothesis suggests that the empirical findings are because that
investors are over-optimistic toward future performance upon tracking stock issues. Our findings, however, do not lend any support for this hypothesis. The results suggest that the operating performance is not experiencing improvement before issuing tracking stocks. Thus, the explanation of behavioral tendency for humans to overweight recent experience is not supported. Furthermore, we fail to find any significant changes in capital and R&D expenditures prior to issuing date, indicating no evidence that managers are optimistic about the firms’ growth prospects.

The window-of-opportunity hypothesis suggests that rational managers intend to take advantage of irrational demand of some particular segments from investors. We find some evidence of insider trading that support this hypothesis. Specifically, we find that insiders engage in selling transaction before issues of tracking stock. This evidence holds even after controlling the normal pattern of insider trading. The analysis also show that the extent of insider trading contribute to the post-issue inferior stock performance of tracking stocks. We find that pre-issue insider trading is significantly negatively associated with post-issue stock performance.
Reference


