

Test of the Contrarian Investment

Strategy-Evidence from the Taiwan Stock Markets

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Abstract

The study examines whether the contrarian investment strategy, implies simultaneously buying previous losers and selling previous winners, exists in stock market of Taiwan. This study utilizes De Bondt and Thaler (1985) contrarian strategies into listed electronic and informational stocks in Taiwan from January of 1996 to December of 2004. The empirical results consistent with the findings of De Bondt & Thaler (1990), we see contrarian profits are obtained in the long-term and profits increase over time.

Keywords: Behavioral Finance, Momentum Strategies, Contrarian Strategies, Investment Strategies.

1. Introduction

In recent years, there has been much work on the performance of investment strategies in stock markets. The previously well-accepted doctrine is the efficient markets hypothesis, which claimed the performance of portfolios of stocks should be independent of past returns. However, the empirical evidence appears to be inconsistent with the rational market hypothesis for the valuation of equity prices. De Bondt and

Thaler (1985, 1987) found evidence that investors in the U.S. stock market tend to overreact to some unexpected sensationalized news events regardless of whether the events are positive or negative, and that the overreact tends to affect stock prices. Their findings support the Contrarian Strategy (or Overreaction Hypothesis), which suggest that contrarian strategies of selling past “winners” and buying past “losers” generate abnormal returns for US stock market. Past research linking this behavior reveals that stocks that consistently underperform the markets would outperform, over the subsequent 1- to 3-year period. Support for the overreaction hypothesis within the U.S. marketplace also includes Conrad and Kaul (1993), who find the contrarian strategy is profitable for short-term (weekly, monthly) and long-term (2–5 years, or longer) intervals, while the momentum strategy is profitable for medium-term (3–12-month) holding periods. In contrast, Jegadeesh and Titman (1993) document the trading strategies that buy winner stocks and sell loser stocks (i.e. momentum strategies) generate significant positive returns over 3–12-month holding periods.

In Asian markets, Chang et al. (1995) find abnormal profits of contrarian strategies in the Japan

stock market. Hameed and Ting (2000) find the same in the Malaysia stock market. Chui et al. (2000) found support for contrarian profits in Japan and Korean markets, but with no evidence for those in other Asian countries. Hameed and Kusnadi (2002) found virtually no evidence of contrarian profits in the stock markets of six Pacific Basin countries, and although Kang et al. (2002) do find significant short-term contrarian profits in the Chinese market, their study was confined to the “A” shares traded exclusively by local investors.

It seems to us that the recent empirical findings on the financial markets are so important for the traditional ideas on how these markets work and provide international evidence on behavioral issues. In our context, as in previous papers, the overreaction hypothesis implies the two well-known consequences: (1) extreme movements in stock prices will be followed by subsequent price movements in the opposite direction; and (2) the more extreme the initial movement, the greater will be the subsequent adjustment. This paper investigates the contrarian strategy (or overreaction hypothesis) based on past performance within the stock markets in Taiwan.

2. Data and Methodology

The test for the profitability of contrarian trading strategies in this paper is based on the methodology used by De Bondt and Thaler (1985, 1987) and Jegadeesh and Titman (1993). All data used in this study are obtained from Taiwan Economic Journal Database and sampling the listed electronic and informational stocks in Taiwan

The analysis used in this paper to test for overreaction in stock markets of Taiwan can be best described as a two-step procedure. In the first step, at the beginning of the test period, the winner and loser stocks are determined by the past excess returns over

36-month portfolio formation period. This is accomplished simply by ranking the firms in terms of their performance as indicated by the three-year *CER* (Cumulative Excess Returns) data. The top 10% firms are assigned to the winner portfolio *W*, while the bottom 10% stocks make up the loser portfolio *L*. This step is repeated four times for overlapping 12-month periods starting in January 1996. This method of ranking is widely employed in the literature (see De Bondt & Thaler, 1985 and Conrad & Kaul, 1993). Therefore, for every stock *i* in the sample, the cumulative excess returns for the prior 36 months were estimated:

$$CER = \sum_{t=-35}^0 ER_{it} \quad (1)$$

The second step involves measuring the performance of winner and loser portfolios over the next 36 months. For both portfolios in each of the four overlapping three-year period, the Average Excess Returns (*AERs*), obtained by average the selected stocks, are used to calculate the Cumulative Average Excess Returns (*CAERs*) in each *t*, where $t=1, \dots, 36$ during test period, then repeat four times and average the *CAERs* for these four test periods to get Average Cumulative Average Excess Returns (*ACAERs*).

$$AER_{W,t} = \frac{1}{N} \sum_{i=1}^n ER_{it} \quad AER_{L,t} = \frac{1}{N} \sum_{i=1}^n ER_{it} \quad (2)$$

$$CAER_{W,t} = \sum_{t=1}^{36} AER_{W,t} \quad CAER_{L,t} = \sum_{t=1}^{36} AER_{L,t} \quad (3)$$

$$ACAER_{W,t} = \frac{\sum_{i=1}^k CAER_{W,t}}{k}, \quad ACAER_{L,t} = \frac{\sum_{i=1}^k CAER_{L,t}}{k} \quad (4)$$

n □ numbers of stock in each portfolio

$t=1, \dots, 36$

k □ times of test period

Therefore, $ACAER_W$ ($ACAER_L$) indicates how much cumulated excess returns stocks in the winner (loser) portfolio earn on the average during 36 months in test period. The overreaction hypothesis implies that $ACAER_W < 0$ and $ACAER_L > 0$. Alternatively, the null hypothesis can be written as $ACAER_L - ACAER_W > 0$. (5)

In order to establish the statistical significance of the difference between the loser and the winner portfolio, a pooled estimation of the variance in $ACAER$ is needed.

3. Empirical Results

The results of the empirical tests are reported in Fig.1. It contains the $ACAERs$ for the loser and winner portfolios as we move throughout the 36 months of the test period. The differences in $ACAERs$ between loser and winner portfolios are reported in Table 1 for selected months of the test period. The results show that the loser portfolio consistently outperforms the return over next 36-month holding periods, whereas we found no evidence with downward return of winner portfolio and is not consistent with the overreaction hypotheses.

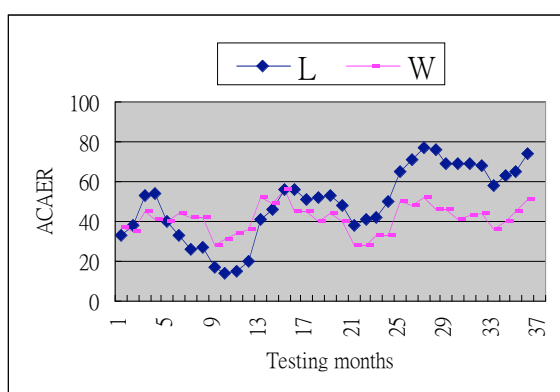


Fig. 1 Average cumulative average excess returns for losers and winners.

As shown in Table1, the difference in cumulative average excess returns between two portfolios, $ACAER_{L,12} - ACAER_{W,12}$, was equal

to -15.65% (t-value -1.619), which showed no evidence supporting the overreaction hypothesis. The evidence in favor of the overreaction hypothesis occurred 18 months after portfolio formation. The difference between the loser and winner portfolios was equal to 11.99% (t-value -0.971). As we move through the test period, we found strongly evidences occurred 30-months after portfolio formation, the loser portfolio outperformed the winner portfolio by, on average 27.71% (t-value 1.315) and the 36-month after portfolio formation, the difference slightly reduce to 23.34% (t-value 2.138).

Table 1: Difference in average cumulative average excess returns ($ACAERs$) between the loser and winner portfolios in the test period

Months	$ACAER_L$ %	$ACAER_W$ %	$ACAER_L - ACAER_W$ (t-value)
1	33.50	36.65	-3.15
6	32.56	44.19	-11.63 (0.389)
12	20.14	35.79	-15.65 (-1.619)
18	52.39	40.40	11.99 (-0.971)
24	49.66	32.75	16.91 (-0.042)
30	68.51	40.80	27.71 (1.315)*
36	73.86	50.52	23.34 (2.138)*

* Significant at the 10% level

4. Conclusion

The study examines whether the contrarian strategies can create excess returns, that is, whether overreaction phenomenon exists in stock investors of Taiwan. This study utilizes De Bondt and Thaler contrarian strategies into listing electronic and informational stocks in Taiwan from January of 1996 to December of 2004. With average buy and hold month return of holding period, this study finds evidence of performance reversal for loser portfolio, while winner portfolio with no evidence. Secondly, we find evidence in favor of long-term overreaction (i.e., significant positive return over a period of 30-36

months to the arbitrage portfolio based on past performance) in Taiwan stock markets. The differences in cumulative excess returns between loser and winner portfolios are significantly positive 30-month and 36-month after portfolio formation. These findings are similar to those obtained by De Bondt and Thaler (1985, 1987) and Jegadeesh and Titman (1993), which show that contrarian strategies prove to be more profitable over the long-term horizon.

Moreover, three points must be considered in interpreting our findings: first, as Conrad and Kaul (1993) have argued that returns to the contrarian strategy employed in this study are upwardly biased, since they are obtained by cumulating monthly returns over long periods, not only cumulates the true returns but also the upward bias in each monthly return. Secondly, as Lounghran and Ritter (1996) observed, when portfolios are formed on a single variable such as past returns, the impact of the variable will probably be overstated. Future extensions should include attempts to separate the overreaction from effects of other characteristics. Finally, the sample of this research includes only listed electronic and information stocks in Taiwan, although they account for over seventy percent of trading amounts of Taiwan stock marks. However, whether the result of current study could be applied to other industry of Taiwan stock market or not. It would be worthwhile to sampling the whole listed Taiwan stocks for future studies.

5. References

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