Investigating the Relation between Degree of Liquidity of Firms with Overreaction Behavior of Investors in Tehran Stock Exchange

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ABSTRACT

Background: Tehran stock exchange has shown a sharp increase in the volume and number of trades in recent years which make it complicate for both investors and firms to trade. One major problem of registered firms is liquidity and the reaction of investors to this liquidity. Objective: The purpose of this study is to investigate the relation between firms’ liquidity and overreaction of the investors. Results: The sample of the study was 50 registered firms in Tehran stock exchange for the period of 2000 to 2012. Results showed that firms which were ranked among top firms regarding degree of liquidity were prone to more overreaction in comparison with firms with lower degree of liquidity. Managerial implications are discussed at the final section of the study.

INTRODUCTION

The overreaction hypothesis, as postulated by De Bondt and Thaler [9], dictates that stocks that have performed poorly in the past (low liquidate stocks) tend to outperform stocks that have performed well in the past (high liquidate stocks). Rooted in investor psychology, the overreaction hypothesis contends that investors suffer from cognitive biases that affect their trading activities and, consequently, stock prices. As news arrives, investors overestimate the impact of the information that has been disseminated and trade based on this misconception. As a result, prices tend to overshoot, causing mispricing to occur. Stocks for which favorable news is released tend to experience greater price increases than appropriate. Similarly, prices for stocks associated with negative news tend to fall further than ideally they should. Subsequently, when investors realise the true extent of the news, they revise their beliefs and trade to correct the lapse in judgment. This correction manifests itself as a reversal in stock prices. Investors adopting a contrarian strategy are able to profit from this overreaction. The contrarian strategy involves selling high liquidating stocks and buying losing stocks in the anticipation that the prices will reverse.

As noted by Lobe and Rieks, the literature on non-US short-term overreaction is limited compared to that on long-term overreaction. Thus, we have focused our attention on this area of research. In this study, we investigate whether overreaction is present in Tehran stock exchange and if the answer to the question is yes we want to see if overreaction among firms with high degree of liquidity is higher in comparison to firms with lower degree of liquidity.

1- Literature review:
2-1- Investors’ overreaction:

In their seminal work, De Bondt and Thaler [9] discovered patterns of return predictability in the U.S. stock market for the long-term horizon of 3 to 5 years. Stocks with poor past returns (low liquidate stocks) outperformed those with relatively well past performance (high liquidate stocks). In other words, high liquidate and low liquidate stock returns tend to reverse over time. De Bondt and Thaler [9] suggested that investor's overreactions to good and bad news were the cause of this phenomenon. The authors postulated the overreaction hypothesis based on the findings of an experimental study in psychology conducted by Kahneman and Tversky [13], wherein individuals were found to initially overreact to the arrival of unexpected news. In a similar vein, the overreaction hypothesis states that investors tend to overweight the significance of recent news. Investor's misjudgments cause prices to increase or decrease beyond reasonable levels. Investors then realize their error in
judgment, revise their beliefs and trade in a manner that results in a return reversal. Follow-up studies have shown that the observed overreaction could not be fully attributed to seasonality [10], size [18] or risk [2].

In addition to the long-term overreaction documented by De Bondt and Thaler [9], many studies have documented the existence of short-term overreaction. Among these studies, that of Jegadeesh found significant returns for contrarian portfolios that had been formed based on the previous one-month return. Additionally, Lehman (1990) examined whether overreaction existed in weekly returns. High liquidate and low liquidate stocks were selected based on the returns for the past week. Portfolio returns were then evaluated for five holding periods ranging from 1 to 52 weeks. Notable return reversals were documented for both high liquidate and low liquidate portfolios.

Evaluating weekly returns, Lo and MacKinlay focused on whether contrarian profits are caused by overreaction. Based on their results, the authors concluded that stock market overreaction generated less than 50% of the profits. Moreover, the authors suggested that contrarian profits might not be solely driven by stock market overreaction and presented the lead lag effect as a primary contributor. However, Jegadeesh and Titman argued that contrarian profits are not generated by the lead lag effect. In their study, a similar strategy to that of Lo and MacKinlay was employed where stocks were ranked using past one-week returns, and the contrarian portfolio was held for the follow high liquidate week. A larger sample of stocks was employed over the period from 1963 to 1990. Significant contrarian profits were reported. A decomposition of the contrarian profits revealed that a majority of the profits could indeed be attributed to the overreaction of stock prices to firm-specific information. Providing further support, Da, Liu and Schaumburg [8] recently discovered that contrarian returns arise as a result of investor overreaction in response to the arrival of firm-specific news on discount rate as well as liquidity shocks.

In markets other than the U.S., Kang, Liu and Ni [14] found short-term contrarian returns for the Chinese stock market. Unfortunately, the low liquidate minus High liquidate portfolio (formed based on the past 1-week return) yielded significant returns for only the holding period of 1 week. Whilst returns were largely positive from weeks 2 to 26, none of the returns were significant. A later study by Wang, Burton and Power [17] corroborated the evidence by documenting significant returns for only the first week after portfolio formation. Returns for weeks 2 to 20 were insignificant. In contrast to situation in the Chinese market, Chou, Wei and Chung [5] documented highly profitable contrarian returns for the Tokyo stock exchange. For the one-month formation period, the returns were significant for all holding periods, from 1 to 24 months. Recently, a study by Griffin, Kelly and Nardari [12] covered 56 stock markets with low liquidate minus high liquidate portfolios constructed based on 1-week holding and formation periods. Argentina, Zimbabwe, Canada and Pakistan recorded some of the highest average weekly returns for the contrarian portfolio. Overall, returns were significant for 21 out of the 26 developed stock markets and 14 out of the 17 emerging markets that were examined.

2-2- Liquidity in stock market:

Maug and Kahn and High liquidate suggest that greater liquidity can be an opportunity for large shareholders to increase their profit by monitoring the firm’s management. They mention the case where a large shareholder chooses to buy more shares when the firm’s performance is expected to improve as a result of monitoring activities. The greater the liquidity, the more shares can be bought in the market due to lower transaction costs. Thus, a higher concentration of ownership does not necessarily mean a trade-off between corporate governance and illiquidity. This differs from past views such as in Bhide, where a stock’s high liquidity renders large shareholders less aggressive in their monitoring and more likely to sell shares when they find poor performance of the firm’s management.

Amihud and Mendelson model predicts that illiquid stocks are owned by investors with longer investment horizon. If these investors do not actively monitor a firm’s management and they do not trade, the firm’s share liquidity remains low. As suggested by Maug and Kahn and High liquidate if a firm’s shareholders commit to monitoring management, they trade frequently to maximize their profits from their private information and thus contribute to improve the stock’s liquidity.

Bhide and Holmstrom and Tirole demonstrate a negative correlation between ownership concentration and firm liquidity. When the founding shareholder owns all of a firm’s shares, there is no liquidity. If the founding shareholder sells off a small part of the shares, liquidity improves but monitoring incentives are decreased gradually. This is due to a free rider problem in which minority shareholders enjoy the monitoring efforts of a large shareholder. On the other hand, the informational advantage of large shareholders who commit to monitoring increases information asymmetry among investors, causing lower liquidity. Thus, a trade-off exists between liquidity and monitoring. Neither of the authors considers the investment horizon of the firm’s shareholders.

Kahn and High liquidate and Maug argue that large shareholders might not release their ownership when market liquidity is high. While a large shareholder continues monitoring management to improve the firm’s value, more shares can be bought to maximize profit. The decision on how many shares to add depends upon
market liquidity or transaction costs. The authors also point out that for monitoring to remain profitable, it is crucial that the monitoring information be accurate. They do not, however, examine the investment horizon of large shareholders.

A small number of empirical studies have been carried out on the trade-off between liquidity and corporate governance. Gaspar and Massa empirically examine the trade-off between monitoring and liquidity. They show that informed ownership improves governance and induces value-enhanced decisions, but reduces liquidity due to increased adverse selection cost. Rubin finds that liquidity is positively correlated to total institutional holdings but negatively correlated to institutional block holdings. The level of institutional holdings proxies for trading activity, and the concentration of ownership, such as block holdings, proxies for adverse selection costs.

Sarin and et al. analyze ownership concentration by insiders and by institutional investors. They report decreased liquidity in both cases: by insiders from increased asymmetric information and by institutional investors from inventory costs. Garvey and Swan empirically verify Holmstrom and Tirole’s hypothesis with a sample of 1,500 U.S. companies and report that high liquidity has a positive impact on shareholder value.

Methodology:
Given the limitations of previous studies, it is necessary to conduct a more comprehensive examination of overreaction. Accordingly, we investigate the overreaction hypothesis in relation to the Tehran stock exchange. Stock price, stock index, trading volume and outstanding stock data are obtained from DataStream Advance. For the purpose of this study, we utilize weekly stock price data for the period from January 2000 to October 2010. Stocks with incomplete data are excluded from the study. The final sample comprises 50 stocks listed on the Tehran stock exchange.

Firms with high, medium and low degree of liquidity portfolios are constructed similarly to the method used by Ihara et al. First, the stocks are ranked according to the past week’s return. We use the top and bottom one third of the stocks for portfolio construction rather than deciles or quintiles due to the smaller number of stocks compared to studies in other markets. The top one third are classified as high liquidate stocks and the bottom one third are classified as low liquidate stocks. Equally weighted high liquidate and low liquidate portfolios are then constructed using these selected stocks. The portfolios are held for the follow high liquidate $H$ weeks, where $H$ takes the value 1, 2, 3, 4, 12, 24, 36 or 52. The portfolio returns are calculated accordingly to assess whether there is any overreaction. Under the overreaction hypothesis, the ACAR of the low liquidate minus high liquidate portfolio should be greater than zero when overreaction is present.

As in De Bondt and Thaler [9], abnormal returns are computed for all stocks for each week using the market-adjusted model. The market-adjusted returns are calculated as follows:

\[ AR_{it} = R_{it} - R_{mt} \]  

where $R_{it}$ is the return for stock $i$ at week $t$, and $R_{mt}$ is the return for the market at week $t$. The FTSE Bursa Tehran KLCI index is used as a proxy for market return.

Cumulative abnormal returns (CARs) are calculated over the next $H$ weeks (where $H$ takes the value 1, 2, 3, 4, 12, 24, 36, or 52). CAR is simply the sum of abnormal returns over $H$ weeks. Finally, the average cumulative abnormal return (ACAR) is computed for the high liquidate and low liquidate portfolios as follows:

\[ \text{ACAR}_{p} = \frac{1}{Z} \sum_{i=1}^{Z} AR_{it} \]  

where ACAR$_{p}$ is the average CAR for portfolio $p$, $Z$ represents the test periods and CAR is the cumulative abnormal return for portfolio $p$. The ACAR for the arbitrage portfolio is the difference between the low liquidate and high liquidate portfolios (i.e., ACARlow liquidate – ACARhigh liquidate).

As dictated by the overreaction hypothesis, if there is significant return for the arbitrage portfolio (ACARlow liquidate – ACARhigh liquidate $> 0$), then overreaction is present in the market. For efficient markets, the Efficient Market Hypothesis (EMH) implies that the difference should be zero (ACARlow liquidate – ACARhigh liquidate $= 0$).

For the second part of the analysis, we segregate the stocks based on volume. We define trading volume as the turnover ratio at the end of previous year. Trading volume may have elements of firm size high liquidate with it such that any finding obtained from the analysis could have resulted from trading volume and/or size. Thus, turnover ratio is used to separate components of any size from the trading volume. Turnover ratio is the trading volume divided by the number of shares outstanding. The turnover ratio at the end of the previous year is used to sort the stocks equally into high-, medium- and low-volume stocks. Follow high liquidate stocks within each volume category are sorted again based on the returns for the previous week, and high liquidate and low liquidate portfolios are formed accordingly. In other words, overreaction is tested within each of the high-, medium- and low-volume categories to examine the relationship between overreaction and trading volume.

2- Findings:
Descriptive statistics are provided in Table 1. Panel A describes the total sample. The average return for the 50 stocks is 0.07% per week. The study encompasses 591 weeks. As portfolios are formed each week, the results presented in the follow high liquidate sections are the average of 591 test periods. Panel B details the
return characteristic for each volume category. The returns for the low-volume stocks are higher than those of the high- and medium-volume stocks. This is consistent with the study of Chen et al. [4], where high-volume stocks were found to have lower returns than low-volume stocks. Low-volume stocks have higher returns and lower standard deviations than high- and medium-volume stocks. The high-volume stocks appear to be more volatile based on their higher standard deviations. The highest return (maximum) and lowest return (minimum) are both found in the high-volume category.

Table 1: Descriptive statistics.

<table>
<thead>
<tr>
<th>Panel A: Descriptive statistics for total sample</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of stocks</td>
<td>297</td>
</tr>
<tr>
<td>No. of weeks</td>
<td>591</td>
</tr>
<tr>
<td>Average weekly return %</td>
<td>0.07</td>
</tr>
<tr>
<td>Average annual market capitalisation MYR 000's</td>
<td>1,373</td>
</tr>
<tr>
<td>Average annual turnover ratio</td>
<td>0.36</td>
</tr>
</tbody>
</table>

Table 2: ACAR (%) for high liquidate, low liquidate and low liquidate-high liquidate portfolios.

<table>
<thead>
<tr>
<th>Holding Period (weeks)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>12</th>
<th>24</th>
<th>36</th>
<th>52</th>
</tr>
</thead>
<tbody>
<tr>
<td>W</td>
<td>-5.27</td>
<td>-1.50</td>
<td>-0.35</td>
<td>-0.58</td>
<td>-0.47</td>
<td>0.03</td>
<td>0.64</td>
<td>1.20</td>
</tr>
<tr>
<td>t-stat</td>
<td>-5.12</td>
<td>-5.41</td>
<td>-4.09</td>
<td>-3.88</td>
<td>-2.79</td>
<td>0.12</td>
<td>1.56</td>
<td>2.47</td>
</tr>
<tr>
<td>L</td>
<td>0.58</td>
<td>0.71</td>
<td>0.85</td>
<td>0.90</td>
<td>1.03</td>
<td>1.15</td>
<td>1.64</td>
<td>2.60</td>
</tr>
<tr>
<td>t-stat</td>
<td>0.06</td>
<td>0.09</td>
<td>0.12</td>
<td>0.13</td>
<td>0.13</td>
<td>0.15</td>
<td>0.21</td>
<td>0.29</td>
</tr>
<tr>
<td>L-W</td>
<td>1.08</td>
<td>1.24</td>
<td>1.44</td>
<td>1.36</td>
<td>1.00</td>
<td>0.55</td>
<td>0.44</td>
<td>0.56</td>
</tr>
<tr>
<td>t-stat</td>
<td>0.81</td>
<td>0.83</td>
<td>1.07</td>
<td>0.87</td>
<td>0.62</td>
<td>0.25</td>
<td>0.75</td>
<td>1.20</td>
</tr>
</tbody>
</table>

Overall, there are disproportionate levels of reversal for high liquidate and low liquidate portfolios. The reversals extend up to 52 weeks for the low liquidate portfolio, but weaken for high liquidate portfolios for holding periods exceeding 4 weeks. This implies that the overreactions for the low liquidate stocks are more severe than those for the high liquidate stocks. Several other studies have also documented notably greater reversals for low liquidates [3]. We relate this result to the findings of Kahneman and Tversky [13], wherein individuals were found to place a larger emphasis on unexpected bad news than on good news. Similarly, it would appear that investors tend to overestimate the effect of negative news than that of positive news on the stock market. This propels greater overreaction and subsequent return reversals for low liquidate stocks.

The last row in Table 2 provides the difference in ACAR between the low liquidate and high liquidate for the various holding periods. If the returns are positive, then there is support for the overreaction hypothesis. We find positive ACARs throughout the holding periods. The returns are particularly prominent for periods from 1 to 12 weeks with returns ranging from 1% to 1.44%. In addition, highly significant returns (at the 1% level) can be found for periods from 1 to 12 weeks. Though the returns are only marginally significant for 24 weeks and insignificant for 36 and 52 weeks, nevertheless the ACARs remain positive. The lower returns towards the one-year period are due to the cessation of reversal for high liquidate stocks. By 52 weeks, high liquidate stocks yield a return of 2.03% and low liquidate stocks yield a slightly higher return of 2.60%. Overall, the results of this study present strong evidence in support of overreaction. A contrarian strategy would be profitable, particularly when the arbitrage portfolio is held for 12 weeks or less.

Overall, we document much stronger and more consistent overreaction in the Tehran market than did Mohd Arifin and Power [16]. Mohd Arifin and Power found significant overreaction for only weeks 1 and 2. The severely limited sample size of 47 stocks and the small number of stocks in the low liquidate-high liquidate portfolio could have caused the lower and less significant returns that were documented by Mohd Arifin and Power [16]. In any case, the findings broadly corroborate the findings of the earlier study in that overreaction is present in Tehran. On the other hand, the findings are contradictory to those of Ahmad and Tjan [1], where the low liquidate minus high liquidate portfolio did not yield any positive returns. In contrast, our study documents economically and statistically significant positive returns. This could possibly be due to differences in the methodology used. As highlighted, the study by Ahmad and Tjan [1] was conducted only for the year 1997.

We have established the presence of significant overreaction in the Tehran stock market. In the follow high liquidate; we proceed to investigate the relationship between the level of overreaction and the stock trading volume. The sample is divided into high-, medium- and low-volume categories based on the turnover ratio at the end of the previous year, and the presence of overreaction is tested within each volume category. The results are provided in Table 3. The formation period returns (%) are in the first column.

To begin, we examine the immediate reaction of investors by comparing the formation period returns at week t−1 with the ACAR for week 1. For all volume portfolios, the returns for high liquidates are negative for the first week. Similarly, low liquidate portfolios experience immediate reversals, as evidenced by the positive returns in the post-formation week. Thus, there are notable reversals for the week liquidates portfolio formation. To understand the extent of reversal, we examine the returns for low-volume low liquidates. The return for week
The return for the low liquidate minus high liquidate are significantly positive at the 1% level for week 1 throughout all volume divisions. The highest ACAR for week 1 can be found for the low-volume stocks, which yield a return of 1.23% (t-value = 13.98). To surmise, there is a prompt reaction from investors who revise their judgment and trade to correct the mispricing.

For the high-volume high liquidates, there are positive returns for all holding periods except 52 weeks. However, the returns are statistically significant from weeks 1 to 4. The levels of returns are inconsistent, and there are no conspicuous trends for the holding periods. Interestingly, the reversals for low liquidate are also present predominantly for up to 4 weeks. Beyond 4 weeks, the returns are no longer significant, and there are negative returns for holding periods of 24, 36 and 52 weeks. Overall, the reversals are short lived for high-volume stocks and do not last for more than 1 month. The ACAR for the low liquidate minus high liquidate portfolio is consistently positive for all holding periods. As expected, the ACAR is highly significant for periods of up to 12 weeks.

**Table 3:**

<table>
<thead>
<tr>
<th>ACAR (%) for high, medium and low volume stocks Trading volume</th>
<th>Portfolios</th>
<th>Formation period</th>
<th>Holding period (weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High-volume</strong></td>
<td><strong>High liquidate</strong></td>
<td>5.62</td>
<td>-0.56</td>
</tr>
<tr>
<td><strong>t-stat</strong></td>
<td>33.51</td>
<td>-3.36</td>
<td>-3.36</td>
</tr>
<tr>
<td><strong>Low liquidate</strong></td>
<td><strong>t-stat</strong></td>
<td>-5.21</td>
<td>0.54</td>
</tr>
<tr>
<td><strong>High liquidate</strong></td>
<td><strong>Low liquidate</strong></td>
<td>-10.83</td>
<td>1.10</td>
</tr>
<tr>
<td><strong>t-stat</strong></td>
<td>-71.69</td>
<td>9.84</td>
<td>9.64</td>
</tr>
<tr>
<td><strong>Medium-volume</strong></td>
<td><strong>High liquidate</strong></td>
<td>4.95</td>
<td>-0.47</td>
</tr>
<tr>
<td><strong>t-stat</strong></td>
<td>41.08</td>
<td>-4.63</td>
<td>-3.27</td>
</tr>
<tr>
<td><strong>Low liquidate</strong></td>
<td><strong>Low liquidate</strong></td>
<td>-53.01</td>
<td>5.88</td>
</tr>
<tr>
<td><strong>Low liquidate</strong></td>
<td><strong>High liquidate</strong></td>
<td>-9.49</td>
<td>0.97</td>
</tr>
<tr>
<td><strong>t-stat</strong></td>
<td>-79.08</td>
<td>10.60</td>
<td>8.18</td>
</tr>
<tr>
<td><strong>Low-volume</strong></td>
<td><strong>High liquidate</strong></td>
<td>4.96</td>
<td>-0.50</td>
</tr>
<tr>
<td><strong>t-stat</strong></td>
<td>41.68</td>
<td>-3.59</td>
<td>-4.01</td>
</tr>
<tr>
<td><strong>Low liquidate</strong></td>
<td><strong>t-stat</strong></td>
<td>-4.43</td>
<td>0.72</td>
</tr>
<tr>
<td><strong>Low liquidate</strong></td>
<td><strong>High liquidate</strong></td>
<td>-9.40</td>
<td>1.23</td>
</tr>
<tr>
<td><strong>t-stat</strong></td>
<td>-73.87</td>
<td>13.98</td>
<td>11.30</td>
</tr>
</tbody>
</table>

For the low liquidate stocks is higher than for the high liquidate stocks. This suggests that investors overreact to a greater extent on the arrival of negative news. The return for the low liquidate minus high liquidate portfolio is significantly positive for up to 12 weeks. Nevertheless, the returns tend to decrease from week 3 onwards. At 24 weeks, the returns are lower and marginally significant at the 10% level. The ACARs are no longer significant for the holding periods of 36 and 52 weeks.

Except for week 4, low volume high liquidates display significant returns at the 1% level for all holding periods. However, not all returns are negative. Weeks 12 to 52 have positive returns indicating that a price continuation exists rather than a price reversal. This evidence appears to agree with the results obtained by Jegadeesh and Titman, where price continuation (or momentum) was found to be present for 3 to 12 months. However, low liquidates do not display any momentum; instead strong return reversals could be found for all periods. The return reversal increases drastically with time and are as high as 5.75%. The low liquidate minus high liquidate portfolio provides further support for the overreaction hypothesis, as the returns are consistently above 1% and statistically significant at 1% level for all weeks. Such strong evidence contributes compelling
evidence for stock market overreaction. Moreover, it documents that greater overreaction is present for low-volume stocks. Indeed, the returns are clearly more prominent for low-volume stocks than for high-volume stocks. The overreaction for low-volume stocks is more persistent, as demonstrated by the relatively consistent ACAR throughout the holding periods. In contrast, return reversal reduces over time for high-volume stocks. This reduction is particularly evident after 12 weeks, where the ACAR is smaller and no longer statistically significant. The differences become more prominent as the holding period increases. For the 52-week holding period, the ACAR for the low liquidate minus high liquidate portfolio is 1.39% for low-volume stocks, but the returns are merely an insignificant 0.44% for high-volume stocks.

Overall, the evidence indicates that low-volume stocks tend to overreact more than high-volume stocks and exhibit correspondingly higher return reversals. The results corroborate the evidence presented by Cooper, Lee et al. [15] and Iihara et al. Low-volume stocks may have less analyst coverage, and the information available to investors with regards to these stocks may not be as extensive as that of high-volume stocks. As suggested by Iihara et al., low-volume stocks are more likely to be neglected and are thus more prone to mispricing. Hence, a greater level of overreaction would be present for low-volume stocks than high-volume stocks.

However, our findings are inconsistent with the study of Hameed and Ting on the Tehran stock market, which found no reversals for low-

Volume portfolios and concluded that high trading volumes are required for overreaction to occur. Moreover, the level of overreaction presented in this study appears to be much higher than that reported by Hameed and Ting. One possible explanation is the difference in the periods examined. Hameed and Ting examined the pre-1997 Asian financial crisis period. As documented by Ahmad and Tjan [1], the returns for a low liquidate minus high liquidate portfolio were negative for the pre-crisis period but turned positive for the crisis period. A positive return for the low liquidate minus high liquidate portfolio could be anticipated to persist for the post-crisis period. In addition, the positive return could be due to the differences in portfolio formation; the portfolios in Hameed and Ting were formed based on weighted relative strength rather than equal weighting.

The findings indicate that investors might be able to profit from employing a contrarian strategy implemented on the Tehran stock market. However, overreaction is present only for periods of up to 12 weeks; thus, a portfolio holding period beyond 12 weeks would not be profitable. Nevertheless, further investigation reveals that overreaction persists for low-volume stocks for periods of up to 52 weeks. Capitalizing on trading volume information would allow investors to implement profitable contrarian strategies for up to a year (52 weeks). Moreover, low-volume stocks appear to overreact more than high- or medium-volume stocks. Thus, the results imply that investors could generate greater returns by focusing on low-volume stocks. However, further investigation should be undertaken regarding whether the contrarian strategy remains profitable after taking transaction costs into consideration.

Conclusion:

Overall, we find strong evidence in support of the overreaction hypothesis in the Tehran market for periods ranging from 1 to 52 weeks. In particular, the overreaction is stronger for holding periods of 1 to 4 weeks. The evidence also suggests that high liquidate firms experience greater overreaction in comparison with lower liquidate firms. Moreover, the overreaction is higher for low-volume stocks than for high- and medium-volume stocks.

Based on the findings of this study, a contrarian strategy of buying low liquidate stocks and selling high liquidate stocks could yield significant profits especially for periods of between 1 and 12 weeks. It should be noted that the returns might not be economically significant after considering transaction costs. Nevertheless, we expect that investors would be able to profit from overreaction despite the trading costs by adopting a ‘smart’ approach to portfolio construction as suggested by de Groot et al. [11]. In addition, the results also imply that a strategy focused on low-liquidate stocks would be able to generate higher contrarian returns, and these returns could be sustained over a longer horizon of up to 52 weeks. However, a low-volume portfolio could possibly be composed of small stocks that are illiquid, and this could reduce the profitability of the arbitrage portfolio.

REFERENCES


