Factors Influencing the Individual Investor and Stock Price Variation: Evidence from Karachi Stock Exchange

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Abstract: The purpose of this study is to analyze the individual investor behavior and stock price variation in the Karachi stock exchange (KSE), Pakistan. The present study focuses only those variables which are identified by ordinary investors through a survey namely; earning per share, dividend yield, foreign direct investment, and gross domestic product growth rate. A sample of 35 dividend paying firms has been selected for the period of 2001 to 2008. Multiple regression analysis has been applied to predict the relationship between influencing variables and stock prices. The obtained results show that the influencing variables have a significant impact on KSE.

Key words: Individual investor behavior, Stock price variation, Dividend paying firms.

INTRODUCTION

From the previous studies, there are so many factors influencing the individual investor for investing in equity market. (Somoye et al., 2009) worked on firms’ specific factors. In contrast, (Donatas, 2009) focused on macroeconomic factors. (Sidra et al., 2009) have also conducted a research on the macroeconomic factors and firms specific accounting factors in the KSE but there is still need to create investor awareness when they make decision to invest in the Pakistani stock markets.

The objective of this study is to predict the relationship between influencing variables and stock price variation in the Karachi stock exchange (KSE). This study will help out the individual investors to take decision for investing in the stock markets. In this way, it can save the investor community especially small investors because they normally don’t have enough capital to bear a great slump in capital markets.

The most fundamental objective of this research is to find out the main factors influencing the individual investor for investing in Karachi stock exchange. This research is also useful for stakeholder, individual investor and institutional investor when investing in Karachi stock exchange. The remainder of the paper is organized as follows. A review of the relevant literature regarding the factors influencing to the ordinary investors is given in section 2, and section 3 presents the materials and methods to be applied while section 4 contains the results and discussion. Lastly, the conclusion and future recommendations will be given in section 5.

Literature Review:

Robert and Obenberger, (1994) examined the factors influencing investor behavior by conducting a survey. Their findings suggested that classical wealth maximization criteria are necessary to investors, even though investors employ different criteria when choosing stocks. (Chaudhary and Nishat, 2002) focused on prime key factors and long-run price changes in the Emerging Markets. They tried to make clear the price changes due to the six speculation optional primary variables (payout ratio, size of the firm, asset growth, leverage, dividend yield and earning volatility) in Karachi Stock Exchange during the year 1981 to 2000. Their assessment indicates that variables other than prime variables may be more powerful and applicable to give an explanation the share price deviation in Pakistan.

Anna et al., (2004) have taken on a customized questionnaire to investigate factors influencing Greek individual investor behavior on the Athens Stock Exchange. The outcome shows that individuals obtain their stock purchase decisions on economic criteria combined with other various variables. Their results also exposed that there is a positive degree of relationship between the factors that behavioral finance theory and earlier empirical verification classify as the influencing factors for the standard equity investor.

Dimitrios, (2003) focused on macroeconomic factors and stock prices in the emerging Cypriot equity market. He identified the relationships between macroeconomic factors and stock prices in Cyprus. (Adam and George, 2008) focused on macroeconomic factors and stock Market movement in Ghana. Based on the outcome, they suggested that potential investors pay more concentration to inflation and exchange rate followed by net Foreign Direct Investment (FDI) inflow quite than the interest rate. (Donatas, 2009) focused on the stock market and macroeconomic variables from Lithuania. Granger causality tests have been engaging to guess the association among the index and forty (40) macroeconomic variables represent the strength of Lithuanian economy.
Sidra et al., (2009) focused on Impact of political event on trading volume and stock returns in Karachi stock exchange. They observed the correlation between aggregate stock market trading volume and of everyday stock returns during Feb 2008- Feb 2009, on KSE 100 index. They found that stock returns moved too much due fundamentals changes and aggregate expected returns.

Somoye et al., (2009) focused on determinants of equity prices in the stock markets. They selected 130 companies whose shares are trading in the Nigerian stock market. Their study has given to accessible literatures in verifying new issues with respect to additional factors influencing stock prices. They helped out to plan makers who are worrying about the growth of the capital market. The findings report how to organize the economic policies instruments as well other financial indices to achieve the preferred market growth.

**MATERIALS AND METHODS**

This research is focusing on the individual investors who are investing in the Karachi Stock Exchange (KSE). A sample of 200 individuals has been taken who have invested directly to the Karachi stock exchange. The sample does not contain personal information about the individual investors except their name, age and gender that they have. The questionnaire only asks about their preferences how they make decision to investing in KSE.

**Stock Price Variation Model:**

Stock price variation model has been constructed by applying the approach of (Kothari, 1995) which is generally used by numerous researchers. Three are four explanatory variables selected by observing the individual investor behavior in this model namely; dividend payout ratio, earnings per share, foreign investment and GDP growth rate as considered explaining the variation in the stock prices for the 35 dividend paying firms over a period from 2001 to 2008 in the Karachi stock exchange.

\[
\text{Stock Price} = \alpha + \beta_1 (\text{Div. yield}) + \beta_2 (\text{EPS}) + \beta_3 (\text{Foreign Investment}) + \beta_4 (\text{GDP rate}) + \varepsilon
\]

In the above model \( \alpha \) is intercept and \( \beta \) is regression coefficient and \( \varepsilon \) is the error term. The hypothesis of this study is:

**Hypothesis:**

\( H_0 \): Factors influencing the Individual investor have insignificant impact on stock prices in KSE.

\( H_1 \): Factors influencing the Individual investor have a significant impact on stock prices in KSE.

**RESULTS AND DISCUSSIONS**

**Autocorrelation:**

Table 1 reports the results of autocorrelation by Durbin-Watson (1950) test and it shows there is positive autocorrelation significant up to 2\(^{nd}\) orders in the model.

<table>
<thead>
<tr>
<th>Order</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>DW</td>
<td>1.2606</td>
<td>1.5272</td>
<td>1.8890</td>
<td>0.8985</td>
<td>1.8667</td>
<td>1.9858</td>
</tr>
<tr>
<td>Pr&lt;DW</td>
<td>(0.0001)*</td>
<td>(0.0001)*</td>
<td>(0.2404)</td>
<td>(0.2887)</td>
<td>(0.2210)</td>
<td>(0.5756)</td>
</tr>
<tr>
<td>Pr&gt;DW</td>
<td>(1.0000)</td>
<td>(0.9999)</td>
<td>(0.7596)</td>
<td>(0.7113)</td>
<td>(0.7790)</td>
<td>(0.4244)</td>
</tr>
</tbody>
</table>

*Significant at the 0.5 level

**Autocorrelation Correction:**

The Cochrane-Orcutt (1949) method has been applied for the correction of autocorrelation and results are presented in the table 2. The results show that there in no autocorrelation significant up to 42\(^{st}\) lags in this model.

<table>
<thead>
<tr>
<th>Up to Lags</th>
<th>6</th>
<th>12</th>
<th>18</th>
<th>24</th>
<th>30</th>
<th>36</th>
<th>42</th>
</tr>
</thead>
<tbody>
<tr>
<td>(\chi^2)</td>
<td>4.78</td>
<td>7.85</td>
<td>13.90</td>
<td>17.27</td>
<td>25.43</td>
<td>34.09</td>
<td>36.87</td>
</tr>
<tr>
<td>df</td>
<td>4</td>
<td>10</td>
<td>16</td>
<td>22</td>
<td>28</td>
<td>34</td>
<td>40</td>
</tr>
</tbody>
</table>

The Cochrane-Orcutt (1949) method has been applied for the correction of autocorrelation and results are presented in the table 2. The results show that there in no autocorrelation significant up to 42\(^{st}\) lags in this model.
Table 3 summarizes the results from estimating the pooled Ordinary Least Squares (OLS) regression functions and the Cochrane-Orcutt method (1949) after correcting the autocorrelation of the stock price variation model. The value of $R^2$ is 0.7229 which is satisfactory. All values of variance inflation factor (VIF) are less than 5, this shows the explanatory variables are not closely correlated in the model. The confidence interval for 95% of the parameter estimates is given in parentheses. The obtained results show that the earning per share (EPS), foreign investment (FDI) and GDP growth rate are positively correlated and have a significant impact on stock prices. The parameter estimate for dividend yield is not significant. This shows that the ordinary investors are more inclined towards growth oriented stocks. Based on the results, we can say that most of the factors which are identified by individual investor have a significant impact on stock prices in the Karachi stock exchange. This shows that ordinary investors have lots of awareness about the factors when they do invest in the stock market.

Table 3: Pooled Cross-Sectional and Time-Series OLS Estimations.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Ordinary Least Squares</th>
<th>Cochrane-Orcutt Method (ML)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>33.0263*</td>
<td>43.0203*</td>
</tr>
<tr>
<td>95% CI</td>
<td>[-68.1713; 2.1187]</td>
<td>[-67.9870; 1.9344]</td>
</tr>
<tr>
<td>P-Value</td>
<td>(0.0654)</td>
<td>(0.0084)</td>
</tr>
<tr>
<td>VIF</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Dividend Yield</td>
<td>0.2994</td>
<td>0.0017</td>
</tr>
<tr>
<td>95% CI</td>
<td>[-0.0357; 0.6345]</td>
<td>[-0.03397; 0.6328]</td>
</tr>
<tr>
<td>P-Value</td>
<td>(0.0797)</td>
<td>(0.9902)</td>
</tr>
<tr>
<td>VIF</td>
<td>1.1585</td>
<td>1.1125</td>
</tr>
<tr>
<td>Earning Per Share</td>
<td>5.8983*</td>
<td>4.2894*</td>
</tr>
<tr>
<td>95% CI</td>
<td>[5.2530; 6.5437]</td>
<td>[5.2563; 6.5403]</td>
</tr>
<tr>
<td>P-Value</td>
<td>(&lt;0.0001)</td>
<td>(&lt;0.0001)</td>
</tr>
<tr>
<td>VIF</td>
<td>1.1641</td>
<td>1.0269</td>
</tr>
<tr>
<td>Foreign Investment</td>
<td>0.0258*</td>
<td>0.0262*</td>
</tr>
<tr>
<td>95% CI</td>
<td>[0.01363; 0.0381]</td>
<td>[0.01368; 0.0380]</td>
</tr>
<tr>
<td>P-Value</td>
<td>(&lt;0.0001)</td>
<td>(&lt;0.0001)</td>
</tr>
<tr>
<td>VIF</td>
<td>1.3111</td>
<td>1.0369</td>
</tr>
<tr>
<td>GDP Growth rate</td>
<td>9.9864*</td>
<td>15.9367*</td>
</tr>
<tr>
<td>95% CI</td>
<td>[3.2551; 16.7177]</td>
<td>[3.2904; 16.6824]</td>
</tr>
<tr>
<td>P-Value</td>
<td>(0.0038)</td>
<td>(&lt;0.0001)</td>
</tr>
<tr>
<td>VIF</td>
<td>1.3806</td>
<td>1.2421</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.6678</td>
<td>0.7229</td>
</tr>
</tbody>
</table>

*Significant at the 0.05 level

Conclusion and Future Recommendations:

In this paper factors influencing the Pakistani investor behavior on Karachi Stock Exchange (KSE) were examined. We included only those variables in this research which are identified by ordinary investors through a survey namely; earning per share, dividend yield, foreign direct investment, and gross domestic product growth rate. A sample of 35 dividend paying firms has been taken for the period of 2001 to 2008. Multiple regression analysis has been applied to predict the relationship between influencing variables and stock prices.

The obtained results show that the earning per share (EPS), foreign investment (FDI) and GDP growth rate are positively correlated and have a significant impact on stock prices. The parameter estimate for dividend yield is insignificant. This shows that ordinary investors have lots of awareness about the factors when they do invest in the stock market. They are also more inclined towards growth oriented stocks. In the future this model may be modified by using more explanatory variables of macroeconomic and firms-specific accounting factors and it can give more accurate results by using monthly or quarterly data. This study deals with the data of dividend paying firms but there should also be constructed a model for non dividend paying firms in the future.

REFERENCES


