The Effect of the Changes of External and Intra-Organizational Factors on Share Price in Tehran Stock Exchange

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ABSTRACT

The investigation of the determining factors of the changes of share price in Tehran Stock Exchange (TSE) leads into the identification of the price changes and the improvement of investors’ decision making and optimum resources assignment. The question is raised that what factors increase the value of a company. The present study aims to evaluate the effect of external and intra-organizational and economical factors on share price. The present study is applied in terms of the aim and is descriptive-correlation in terms of the method. The current study is post facto design. The sample population was the selected companies listed in TSE during 2007-2011 eligible among 87 companies. The results of the study showed that among the internal, asset increase variable had positively significant effect on share price and share trading was considered as an external factor on share price. Inflation and foreign exchange rates as macro economical factors had significant effect on share price and the effect of foreign exchange was negative and inflation rate had positive effect.

KEYWORDS: Intra-organizational factors, External organizational factors, Economical factors, Share price

1. INTRODUCTION

Financial markets by providing the stock exchange trading in the enterprises and institutions presented the required financial resources to the clients and also provided good return for the providers of the resources. Thus, they are strong leverage in the economy of Iran and act as to develop the industrial development namely in developing countries. One of the issues being considered in the companies listed in TSE is the increase of the company value. However, the question is raised that what factors increase the value of a company. Some of the factors are in the realm of the power of the company and some of them are out of the scope of a company. The factors in the scope of the company are intra-organizational factors and the factors out of the scope of the company are external factors. Macro economical factors are external factors affecting the performance of the companies. The investigation of the important factors of share price in TSE can identify the determining variables of price changes and the improvement of the decision making of the investors and optimum resources assignment. By defining the important factors of share price changes, the decision of the investors is changed about the effective factors on share price changes and because of true pricing, the capital market attraction is increased and the mentioned marked can be developed.

2. STATEMENT OF THE PROBLEM

The development of capital market is of great importance in the economical development of a country because of the potential role in resources collection of small and big saving in national economy and directing them to the long-term economical activities. In recent years, the movement to globalization made some changes in Iran economical environment and the optimized economical decisions require reliable financial information. In financial markets, the companies are required to reveal the information by which making the investor trusted to take the suitable decisions. On the other hand, share price fluctuation is common in stock exchange market being influenced by various factors including external and intra-organizational factors and is changed with each factor. The first and the most important factor for taking decision in stock exchange market for an investor is price factor. Therefore, the information of the effective factors on share price is of great importance and as the share price is changed under various factors and each of the factors reduces or increases the share price, the investigation of each of the factors is necessary [1, 2].

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The present study is aimed to evaluate the effect of intra-organizational factors (increase of income, increase of capital, increase of asset volume) and external factors (increase of the price to earnings per share and the increase of share trading volume) and macro economical factors (The increase of foreign exchange and inflation rate) on share price.

The main questions of the study are as following:
1. What is the effect of intra-organizational factors on share price?
2. What is the effect of external factors on share price?
3. What is the effect of economical factors on share price?

3. SIGNIFICANCE OF THE STUDY

One of the aims of accounting is providing information for the investors and analyzers to aid the prediction of share return of the companies. If the accounting information is useful to determine the price, the changes of accounting data should change the share price of the companies. Various local and international studies have been conducted regarding the relationship between the accounting data and share price or share return. Saqafi, Talane and Pourheidari et al. are some examples. The studies mostly focused on some variables as profit, book value, operating cash flow and cash share profit and a few studies have been conducted on some variables as share trading volume, asset volume, profiting changes, companies’ capital increase. A few local studies are conducted on inflation rate and foreign exchange rate. The present study aimed to evaluate the effective factors on share price in Iran economical environment. As economical environment in Iran is different from other countries, the effective factors on price can be different from other countries.

4. REVIEW OF LITERATURE

The studies regarding the evaluation of the information content of the variables assumed to fully reflect the accounting information and investigated the link between the accounting variables and market variables including share price and share return. Most of the researches conducted in the past showed the relationship between accounting variables, company characteristics and share price. Some of them are explained in this section. Gallizo and Salvador (2006) investigated the relation between accounting variables and share price [2]. The aim of their research was determining the effect of accounting variables (e.g. operating cash flow and book value of each share) on share. They used Hierarchical Bayesian method. The results of the study showed that company size and asset turnover ratio were the most relevant factors on stock price. Rahgozar tested application of discounting cash flow model, added-value of market and increasing coefficient in stock assessment of existing companies of Dow Jones indices, transportation and public services. The results of the study showed that there is significant difference between stock prices mentioned with their true prices [2].

Dichev (1997) examined the relationship between accounting variables and the company’s share price. The more unpredictable the variable changes, the more relevant the variable with stock market value. He selected four variables as the independent variables; theses four variables were operating cash flow, earnings before interest and tax, net income and the book value of share. The Results of the study showed that operating cash flows and net income were unpredictable [3].

Bernard (1995) evaluated the relationship between accounting data and firms’ stock price. He presented two models for predicting stock market value and compared the explanatory power of these two models. In the first model he used two independent variables: the book value and dividend. In the second model he just used dividend as the independent variable. The results of the study showed that the explanatory power of the first model was more than the second model and also supported the relationship between the accounting data and firms’ stock price [4].

Although various studies were conducted regarding the relationship between inflation and share price, the researches didn’t show the same results. Some of them believed that there was a positive association between the share price and inflation rate. In other words, the higher the inflation, the higher the share price and the real share return will be fixed. We can say that the investment in the stock covers inflation to some extent. Other researchers in empirical studies showed that there was a negative relationship between inflation and share price. In other words, by the increase of inflation, the real share return is reduced and the investment in the stock can not cover the inflation. However, other researchers believed that there is no significant association between inflation and share return. According to the above review of literature, it can be said that despite many studies conducted in various countries including the developing and developed countries, there is not the same results about the relationship between the inflation and share return [5].

Keshmarzi et al., 2013
The relationship between the inflation and share price is one of the challenging issues among the researchers. Alchian & Kessel (1959) by dividing the companies to net monetary debtors (creditors), measured the share return of the companies in the periods with high inflation and found about the negative relation between the net monetary creditors and unexpected inflation rate [6]. Adet (1973) and Nekson (1976) found some evidences in this regard [7, 8]. Feldstein (1980) showed the reverse relationship between inflation and share price in 1970s [5]. Fert (1979) showed that there was a positive relationship between share price and inflation in England [9]. Gultekin (1983) evaluated the relation between stock price and inflation in 26 countries and tested Fisher hypothesis regarding that the common stock price and expected inflation rates are independent and expected nominal stock returns vary in one-to-one correspondence [10]. He showed that for most of the studied countries, the relationship between the stock price and inflation was not significant and it was negatively significant about four countries. However, there was a positively significant relationship between two countries [10]. Branch (1974) showed that stock is a weak inflationary shield and it can not be considered as a full inflationary shield in long term [11]. Boudoukh & Richardson (1993) found that there is a one-to-one correspondence between the expected inflation and share price [12]. The results of the empirical study conducted by Graham (1996) showed that there is an unstable relation between share price and inflation, it means that in some periods, it is positive and in other period is negative [13].

As is shown in the results of the studies, the relation between inflation and share return is different. In some countries, these two variables have positive relationship and in other countries, there is a negative relation and there is no significant relation in some examples. It can be said that there is no consensus about this relationship among various researchers.

A study done by Lam (2002) showed that by the investigation of the effect of beta variables, company size, book-to-market equity ratio, earnings-price ratio and return for the Hong Kong stock market found that Beta couldn’t determine the stock return in Hong Kong market but three variables including company size, book-to-market equity ratio and earnings-price ratio and return are relevant [14].

Chen, P. and Zhang (2007) evaluated the relationship between the financial variables and return. The studied variables were including earnings return, the percent of the owners’ investment, the change in profitability, the change in growth opportunities, the change in discounting rate. The results of their study showed that there was a significant association between the five variables and stock return [15].

Kim and Park (2008) showed that a market can apply fluctuation limit to control the high fluctuation of stock price. Indeed, this is the clearest logical reason for the fluctuation limit rules [16]. A research done by Dimitropoulos and Asteriou in their study titled “The relationship between valuable financial statements and their effect on stock price” analyzed 101 publicly traded firms in the Athens Stock Exchange in the period of 10 years. They investigated the effect of discretionary, non-discretionary accruals, earnings per share and six special financial ratios as indicators of earnings manipulation on share price. Their study results illustrated that 4 ratios from the 6 selected ratios and both non-discretionary and discretionary accruals had important roles in describing the changes in the share price. However, the importance of non-discretionary accruals was more than discretionary accruals. In addition, it was shown that the accounting variable was the most profitable variable and the less the investment of the managers in current assets, the better the effect on their share price [17].

A research done by Azizi (2004) regarding the empirical test of the relation between inflation and share return in TSE presented an empirical analysis of the relation between inflation and share return. The review of literature showed various views about the relation between share return and inflation and there was no agreement among the economists in this regard. Some of them believed that there is a positive relationship between the share return and inflation and others considered a negative relation between share return and inflation. However, the other groups believed that there is no significant relationship between the two variables. By the brief review of some empirical studies, the relationship between inflation and share return in TSE was evaluated during 1998-2003 in the present study and the results were compared with other studies. By applying common econometric methods, the relation between inflation and share price return was tested in the present study. The results of the study showed that inflation can explain cash return index and total return (price and cash) but it can not explain the share price index [18].

A study done by Javaheri-Kamal (2007) evaluated the relationship between earnings and share price in TSE during 2000-2005. The results of the study showed that there was a significant relationship between the predicted earnings and earnings per share with share price. Also, there was a significant relation between earnings per share and dividend per share and most of the companies predicted their earnings more than the real value. The results of the study were applied by financial and economical policy makers, decision makers of capital market, the companies listed in TSE and financial institutions and personal investors [19].

A study done by Eslami-Bidgoli et al. (2009) evaluated the strong fluctuations of share price of share price fluctuation limit to restrict strong fluctuations of share price. The results of the study showed that fluctuation limit change of share price from 2% to 3% in TSE during the studied period didn’t have significant effect on market
fluctuation, market return and the number of trading, but it had significant association with market trading size and stock turnover speed. The increase of fluctuation limit of share price increased the trading size and the reduction of stock turnover speed or the reduction of market liquidity. In other words, the results of the study showed that the 1% increase of fluctuation limit of share price in TSE didn’t have considerable effect on the main variables of market [20]. A research conducted by Najjarzade (2009) stated that foreign exchange and inflation rate were effective variables on share price index in the famous stocks in the world. As the effects of the variables can have some outcomes including income distribution change and considerable welfare results in each society. The review and the estimation of the effects are of great importance. The results showed that there is a significant association between the long-term equilibrium between share price index of TSE and real foreign exchange and inflation rate variables and the shocks of inflation rate and exchange rate had negative effect on share price index in long-term and had positive effect in short-term. The effect of the shocks of inflation rate on real return of the share was stronger than the shocks of foreign exchange [21].

A research done by Ebrahimi & Saeedi (2010) evaluated the relation between accounting variables, company characteristic and share price of the companies listed in TSE. To do this, 92 companies during 2001-2007 were selected. The results of the study showed that there was a direct association between share price and three variables of earnings per share, asset return and share price of the previous period and three variables including operating cash flow per share, the activity duration of the company and asset turnover ratio didn’t have any effect on share price but there was a reverse relation between share price and company size [22].

Hashemi (2011) in a study showed that financial statements ability in summarizing the effective information on share return and the association of the information with company value was always considered by the managers and investors. The present study aimed to evaluate the relationship of accrual item components and the selected financial ratios with share price of the companies listed in TSE. To do this, 9 hypotheses were formulated and three regression models were applied for data analysis. For data analysis, the financial information of 137 companies and combined data were applied during 2001-2008. The results of the study showed that earnings per share were the most relevant accounting variable to company value and there was a reverse relation between current asset and share price [23].

A research conducted by Bahar-Moghadam (2012) evaluated the effect of the investment of the companies on the relationship between loss and company value. The study duration was the beginning of 2000 to the end of 2009 and the study population was all the companies listed in TSE. The results of the study hypothesis test showed that the investment of the companies had positive effect on the relation between loss and the stock market value of the companies at loss. It means that the investment of the companies reduced the negative relation between the loss and stock market value [24].

A study done by Khodamipour, Ahmad; Didekonan, Seyed Mohammad (2012) evaluated the effect of the income of the export on share price of the companies listed in TSE. The study aimed to evaluate the effect of the income of export on share price of the companies listed in TSE by the analysis of the real data. The study population was 69 export companies and 50 non-export companies being active in TSE during 2003-2007 and their export was not stopped. The results of the hypotheses test showed the positively correlated and partial relation between the average income of export and the average share price of the companies but the correlation was not significant. The results showed the high share price of the export companies compared to the share of non-export companies [1].

5- HYPOTHESES

To respond the main question of the study, the study hypotheses are as following:

The first main hypothesis: The changes of intra-organizational factors had significant effect on share price.

Sub hypothesis 1: Increasing the income had positive and significant effect on share price.

Sub hypothesis 2: Increasing the capital had positive and significant effect on share price.

Sub hypothesis 3: Increasing the asset had positive and significant effect on share price.

The second main hypothesis: The changes of external organizational factors had significant effect on share price.

Sub hypothesis 4: Increasing the price to earnings per share had positive and significant effect on share price.

Sub hypothesis 5: Increasing share trading volume had positive and significant effect on share price.

The third main hypothesis: The changes of economical factors had significant effect on share price.

Sub hypothesis 6: Increasing foreign exchange rate had positive and significant effect on share price.

Sub hypothesis 7: Increasing inflation rate had positive and significant effect on share price.
6- METHOD

The current study is applied in terms of aim and is correlation design in terms of nature and method. This is ex-post facto design in terms of data collection as it applied the previous data of the studied companies. The required data in the study were collected by library method as the books, papers and internet were applied for review of literature and central bank and TSE site and Rahavard Novin software were used for data collection.

The study population was all the companies listed in TSE during 2007-2011. They were selected among 87 eligible companies:
1- The end of the period of fiscal year of all the companies should be Esfand 29.
2- All the companies should be active during 2007-2011
3- The companies shouldn’t have the fiscal year change during 2007-2011
4- Their trading volume shouldn’t be less than 160 days
5- The required data in these companies should be available

Finally, after the calculation of the study variables by EXCEL software, E-views software was applied for data analysis and hypotheses test.

7- The variables and their calculation method

The dependent variable in the current study was share price being extracted via stock data at the end of the period. To calculate the changes of the variable, the difference of share price of period t and t-1 was divided by share price period t-1. The independent variables of the study were (income, capital, asset volume, price to earnings per share, trading volume, foreign exchange rate, and inflation rate).

To calculate all the independent variables, the changes percent of the variables was considered as the difference of period t, t-1 of each of the variables was divided by the variable value in period t-1. The foreign exchange and inflation rate were the foreign exchange and inflation rate stated by Central Bank.

8) Data analysis

8-1 Pearson correlation coefficient test

Table 1- The results of Pearson Correlation coefficient between the independent and dependent variables

<table>
<thead>
<tr>
<th></th>
<th>Share price</th>
<th>Exchange rate changes percent</th>
<th>Total asset changes percent</th>
<th>Sale changes percent</th>
<th>Trading volume changes percent</th>
<th>Price to earnings per share changes percent</th>
<th>Capital changes percent</th>
<th>Inflation rate changes percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share price</td>
<td>1.000000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exchange rate changes percent</td>
<td>0.055668</td>
<td>1.000000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.2466</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total asset changes percent</td>
<td>0.210991</td>
<td>0.177409</td>
<td>1.000000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.0000</td>
<td>0.0002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sale changes percent</td>
<td>0.104509</td>
<td>-0.059075</td>
<td>0.113681</td>
<td>1.000000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.0293</td>
<td>0.2188</td>
<td>0.0177</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trading volume changes percent</td>
<td>0.178599</td>
<td>0.165366</td>
<td>0.018133</td>
<td>-0.003782</td>
<td>1.000000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.0002</td>
<td>0.0005</td>
<td>0.7061</td>
<td>0.9373</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The price to earnings per share changes percent</td>
<td>-0.045214</td>
<td>0.067194</td>
<td>-0.042265</td>
<td>-0.046951</td>
<td>-0.007187</td>
<td>1.000000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.3468</td>
<td>0.1618</td>
<td>0.3792</td>
<td>0.3286</td>
<td>0.8812</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital changes percent</td>
<td>-0.011621</td>
<td>0.037504</td>
<td>0.116433</td>
<td>0.121843</td>
<td>0.018416</td>
<td>-0.017680</td>
<td>1.000000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.8090</td>
<td>0.4353</td>
<td>0.0151</td>
<td>0.0110</td>
<td>0.7017</td>
<td>0.7131</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inflation rate changes percent</td>
<td>0.097678</td>
<td>0.758724</td>
<td>0.064199</td>
<td>-0.146705</td>
<td>0.160603</td>
<td>0.028029</td>
<td>-0.059481</td>
<td>1.000000</td>
</tr>
<tr>
<td></td>
<td>0.0417</td>
<td>0.0000</td>
<td>0.1814</td>
<td>0.0022</td>
<td>0.0008</td>
<td>0.5599</td>
<td>0.2157</td>
<td></td>
</tr>
</tbody>
</table>
As is shown, Pearson correlation coefficient between share price variable and foreign exchange changes percent was 0.055 with probability 0.24 and it showed the insignificant relation between the two variables at confidence level 95%. The Pearson correlation coefficient between share price and the changes percent in total asset was 0.210 with probability 0 and it showed direct and significant correlation between the two variables at confidence level 95%. The Pearson correlation coefficient between share price and the changes percent in trading volume was 0.178 with probability 0.00 and it showed direct and significant correlation between the two variables at confidence level 95%. The Pearson correlation coefficient between share price and changes percent variable in price to earnings per share was -0.045 with probability 0.34 and it showed the insignificant relation between the two variables at confidence level 95%. The Pearson correlation coefficient between share price and changes percent of capital was -0.011 with probability 0.80 and it showed the insignificant relation between two variables at confidence level 95%. Pearson correlation coefficient between share price variable and changes percent at inflation rate was 0.097 with probability 0.04 and it showed significant correlation between two variables at confidence level 95%.

8-2 The tests of study hypotheses
8-2-1 The normality test of residuals
To test the normality of residuals, Jark-Bra statistics was applied. The results of the probability showed the normality of residuals in all the study hypotheses.

8-2-2 Chav test for the hypotheses:
Before the estimation of the model, it is required to evaluate by panel data of Chav test. The results of the test for all the models are shown in the following table. Based on the results of the test we can say that the effects of the model were fixed in all the study hypotheses.

Table 2-Chav Test

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Fisher statistics</th>
<th>Degree of freedom</th>
<th>Probability</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main hypothesis 1</td>
<td>15.114345</td>
<td>(86,345)</td>
<td>000</td>
<td>Fixed effects</td>
</tr>
<tr>
<td>Main hypothesis 2</td>
<td>16.284417</td>
<td>(86,346)</td>
<td>000</td>
<td>Fixed effects</td>
</tr>
<tr>
<td>Main hypothesis 3</td>
<td>35.388824</td>
<td>(86,346)</td>
<td>000</td>
<td>Fixed effects</td>
</tr>
</tbody>
</table>

9) The fixed and random effects test for the study models: (Hausman test)
In Hausman test, the random effects were evaluated and based on the results in Table 3, it is observed that for the main hypotheses 1, 2, there are not random effects and the model is estimated based on fixed effects while in hypothesis 3 of the study, the random effects are observed and the model is estimated based on random effects.

Table 3- Hausman test

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Chi-square</th>
<th>Degree of freedom</th>
<th>Probability</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main hypothesis 1</td>
<td>17.606005</td>
<td>3</td>
<td>0.0005</td>
<td>Fixed effects</td>
</tr>
<tr>
<td>Main hypothesis 2</td>
<td>13.484535</td>
<td>2</td>
<td>0.0051</td>
<td>Fixed effects</td>
</tr>
<tr>
<td>Main hypothesis 3</td>
<td>0.000000</td>
<td>2</td>
<td>1.0000</td>
<td>Random effects</td>
</tr>
</tbody>
</table>

10- The model estimation in the main first hypothesis by OLS method
Main hypothesis 1: The changes of intra-organizational factors had significant effect on share price.
Ordinary Least Squares (OLS) was applied in this method as panel data to estimate the main models of the study. The results of model estimation by OLS method and Eviews software were as following:

\[
P = 4007.57 + 12.41 \Delta TS - 404.10 \Delta TC + 564.657 \Delta TA + \epsilon\]

Equation (1)

\[R^2 = 0.80 \quad D.W = 1.69 \quad F\text{-statistic} = 15.6\]

Other characteristics of the estimation model are shown in the following table:

Table 4- The coefficients of regression model in the first main hypothesis

<table>
<thead>
<tr>
<th>Model coefficients</th>
<th>SD</th>
<th>statistics</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sale changes percent</td>
<td>12.41873</td>
<td>184.0082</td>
<td>0.067490</td>
</tr>
<tr>
<td>Capital changes percent</td>
<td>-404.1078</td>
<td>259.7745</td>
<td>-1.555610</td>
</tr>
<tr>
<td>Total asset changes percent</td>
<td>564.6599</td>
<td>214.4732</td>
<td>2.632776</td>
</tr>
<tr>
<td>Constant value</td>
<td>4007.554</td>
<td>113.9967</td>
<td>35.15500</td>
</tr>
<tr>
<td>R2</td>
<td>0.801404</td>
<td>Fisher statistics</td>
<td>15.64268</td>
</tr>
<tr>
<td>Adjusted R2</td>
<td>0.750172</td>
<td>Durbin-Watson statistics</td>
<td>1.695947</td>
</tr>
<tr>
<td>Model standard deviation</td>
<td>2002.126</td>
<td></td>
<td>0.000000</td>
</tr>
</tbody>
</table>
The results of model estimation and other calculations and tests showed the following:

1. High F statistics of model (15.64268) showed the significance of total regression.
2. T statistics and the probability of the changes percent of total assets (Pvalue = 0.008 < 5%) showed the significance of this variable at confidence level 95%. Regarding the sale and capital changes, we can say that significance level of the two variables was bigger than 0.05 and it is not significant at confidence level 95%.
3. Statistics R2 showed that 80% of the changes of dependent variable are explained by explanatory variable and this showed the high explanatory power of the model.
4. Durbin-Watson statistics in the model was 1.695947 and it rejected the self-correlation hypothesis between the model components.

11- The model estimation in the second main and sub-hypothesis by OLS method

The second main hypothesis: The changes of external factors had significant effect on share price.

OLS method was applied in the study as panel data to estimate the main models of the study. Regression model of the study in the main second hypothesis test is equation 2 as following:

\[ P = 3906.61 + 498.284 \Delta TT + 0.1904 \Delta T PE + \varepsilon \]  

Equation (2)

\[ R^2 = 0.80 \quad D.W = 1.746413 \quad F-statistic = 16.60917 \]

Other characteristics of the estimation model were as following:

<table>
<thead>
<tr>
<th>Model coefficients</th>
<th>SD</th>
<th>Fisher statistics</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trading volume changes percent</td>
<td>498.284</td>
<td>106.5928</td>
<td>4.674658</td>
</tr>
<tr>
<td>The price to earnings per share changes percent</td>
<td>0.190472</td>
<td>10.77185</td>
<td>0.017682</td>
</tr>
<tr>
<td>Constant value</td>
<td>3906.612</td>
<td>109.32178</td>
<td>39.33288</td>
</tr>
<tr>
<td>R2</td>
<td>0.808587</td>
<td>Fisher statistics</td>
<td>16.60917</td>
</tr>
<tr>
<td>Adjusted R2</td>
<td>0.759904</td>
<td>Durbin-Watson statistics</td>
<td>1.746413</td>
</tr>
<tr>
<td>Model standard deviation</td>
<td>1910.331</td>
<td>Significance level</td>
<td>0.000000</td>
</tr>
</tbody>
</table>

The model estimation in the main third hypothesis test by OLS method

The main third hypothesis: The changes of economical factors had significant effect on share price.

In this study, OLS method was applied as panel data to estimate the main models of the study. The regression model of the study in the third main hypothesis is equation (3) as following.

\[ P = \alpha + \beta_1 \Delta TI + \beta_2 \Delta TF + \varepsilon \]  

Equation (3)

\[ P = 3296.340 + 6045.214 \Delta TI - 317.9567 \Delta TF + \varepsilon \]  

Equation (3)

The results of the model estimation by OLS and Eviews are as following:

\[ R^2 = 0.041121 \quad D.W = 1.292449 \quad F-statistic = 9.262976 \]

Other characteristics of the estimation model are as following:
The results of model estimation and other calculations and tests showed the following:

1. High F statistics of model (9.262976) showed the significance of total regression.
2. T statistics and the probability of the changes percent of the changes of inflation rate (P-value=0.0007<5%) showed the significance of this variable at confidence level 95%. However, the significance level of the variable of the changes percent foreign exchange rate was bigger than 0.05 and it showed the insignificance of the variable.
3. Durbin-Watson statistics in the model was 1.292449 and it rejected the self-correlation hypothesis between the model components.

**13- The model estimation in the main hypotheses test by OLS method**

In this study, OLS method is applied as panel data to estimate the main models of the study. The regression model is the main hypothesis of the equation as following.

\[ P = \beta_1 \text{ (DS)} + \beta_2 \text{ (DTA)} + \beta_3 \text{ (DTC)} + \beta_4 \text{ (DTP/E)} + \beta_5 \text{ (DTT)} \]

The results of the model estimation by OLS and Eviews software are as following:

\[ P = 3045.633 + 196.6047(DTS) + 662.7627(DTA) - 322.704(DTC) + 0.76022(DTP/E) + 476.9246(DTT) + 6266.470(DTI) - 573.5564(DTF) + \epsilon \]

Equation (4)

\[ R^2 = 0.106772 \quad \text{D.W = 1.29} \quad F\text{-statistic} = 9.262 \]

Other characteristics of the estimation model are shown in the following table:

**Table 7- Final regression model coefficients**

<table>
<thead>
<tr>
<th>Model coefficients</th>
<th>SD</th>
<th>statistics</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exchange rate changes percent</td>
<td>-317.9567</td>
<td>220.3182</td>
<td>-1.443170</td>
</tr>
<tr>
<td>Inflation rate changes percent</td>
<td>6045.214</td>
<td>1773.683</td>
<td>3.408284</td>
</tr>
<tr>
<td>Constant value</td>
<td>3926.340</td>
<td>354.9919</td>
<td>9.285676</td>
</tr>
</tbody>
</table>

The results of model estimation and other calculations and tests showed the following:

1. High F statistics of model (9.262976) showed the significance of total regression.
2. T statistics and the (5%) showed the significance of the changes percent of total asset, inflation rate changes percent, trading volume changes percent and foreign exchange rate changes percent at confidence level 95%.
3. Durbin-Watson statistics in the model was 1.292449 and it rejected the self-correlation hypothesis between the model components.

Thus, at confidence level 95%, it can be said that among intra-organizational factors, the asset increase variable had positive and significant effect on share price and trading volume as an external factor was effective on share price.
Also, inflation and foreign exchange rates as macro economical factors had significant effect on share price. As the effect of foreign exchange was negative and inflation rate had positive effect.

14- CONCLUSION AND RECOMMENDATIONS

As it was said, the effect of intra-organizational factors (e.g. income, capital, asset volume), external factors (price to earnings per share ratio, trading volume) and macro economical factors (foreign exchange and inflation rate) on share price was evaluated. After the data analysis and hypotheses test and model estimation by OLS, it was found that among three intra-organizational factors, only total asset variable had positive and significant effect on share price as the increase of total asset increased the share price. Among two external factors, only trading volume had positive and significant effect on share price as by the increase of trading volume, the share price increased. Finally, after the investigation of the effect of macro economical factors of foreign exchange and inflation rate, it was found that only inflation rate had positive and significant effect on share price. The results of the study were consistent with the results of the study performed by Dimitropoulos (2009), Boudoukh & Richardson (1993) and Capril and Jung (1997) and they results were inconsistent with the studies performed by Graham (1996) and Lam (2002). Based on the results of the study, it is recommended to the investors in TSE to invest in the companies in which stock trading is high because it has direct effect on share price. On the other hand, they should be cautious about investing on total asset and inflation rate. The companies with great asset are less riskful for the investors and the increase of inflation rate leads in to the increase of share price of the companies. Based on the results of the study, the increase of price to earnings per share can not have considerable effect on price; it is recommended that the professional investors consider this issue in the market.

Based on the results of the study, net sale merely can not have significant effect on share price. It is recommended not to apply this variable along in financial decisions.

REFERENCES


