
Abbasali Pouraghajan¹, Elham Mansourinia², Seyyedeh Maryam Babanejad Bagheri³, Milad Emamgholipour², Bahareh Emamgholipour⁴

1. Department of Accounting, Qaemshahr Branch, Islamic Azad University, Qaemshahr, Iran
2. Young Researchers Club, Babol Branch, Islamic Azad University, Babol, Iran
3. Department of Accounting, Babol Branch, Islamic Azad University, Babol, Iran
4. Department of Accounting, Rahe Danesh, Collage of Higher Education, Babol, Iran

Corresponding Author email: abbas_acc46@yahoo.com, m_emamgholipour@yahoo.com

ABSTRACT: Financial ratios not only are used to understand the current and past performance and future prediction of company, but also they are used as a tool for planning and controlling the activities of the company. Therefore, the main objective of this study is to investigate the effect of financial ratios, operating cash flows and firm size on earnings per share of listed companies in Tehran Stock Exchange. To test the research hypotheses, the financial data of 140 companies listed in Tehran stock exchange during the time span 2006-2010 has been used. In the present study, the ratios of profitability, liquidity, leverage, activity and market value to book value and also operating cash flows and firm size are used as independent variables and the earnings per share is used as the dependent variable. The results indicate that there is a positive and significant relationship between financial ratios and firm size with earnings per share. But a significant relationship between the ratio of operating cash flows and earnings per share has not been observed.

Keywords: financial ratios, operating cash flows, earnings per share, firm size.

INTRODUCTION

The first step in financial statement analysis is study and scrutiny of bills and attached notes. The next step which is the most common method to analyze financial information is along with the preparation of financial ratios based on the information of balance sheet, income statement and cash flow statement. In fact, the financial ratios are the summary of the company's financial reports that present a lot of information from the internal state of
Financial ratios not only are used to understand the current and past performance and future prediction of company, but also they are used as a tool for planning and controlling the activities of the company. (Khajavi et al., 2010). Also using ratios, problems and financial strengths and weaknesses of companies are determined.

Users of financial statements allow different levels of importance for financial ratios. Investors of business unit have special attention to profitability ratios and among profitability ratios, return on equity ratio (ROE) is more important than the other ratios from the perspective of investors, because it is indicative of their investment returns and lower this rate in companies cause to reduce earnings per share. Thus, they consider tow liquidity and debt ratios in future considerations. Holders of debt securities may be more attention to debt ratio but we should keep in mind that an experienced analyst largely considers all financial ratios considering their degree of application importance.

From the managers’ view, cash flows of each business unit is an important part of his responsibilities in order to accountability and reply to shareholders, since most of management decisions have cash consequences and cash flows have information content, they can have ability to influence the decisions of investors and also decisions of managers. Thus, financial ratios especially debt ratio do considerable assistance to investigate the financial structure of business units.

On the other hand, one of the other internal factors of companies, that is effective on returns and profitability, is firm size. In which one of the larger or smaller companies have more profitability and returns is disagreement among researchers. Some researchers believe that larger companies due to variety of activity and the amount of credit they have in capital global markets, supply their funds with lower interest and can have more profitability and returns (Hashemi and Saeedi, 2009).

So profit is the main source of supply cash flow and increase shareholder wealth. Determination the profit level which is related to financial analysis is a complex analytical process. One of the ways to standardize figure of profit is converting it to an amount of earnings per share. This importance and EPS sensitivity is caused that calculation and reporting real EPS and its prediction based on capital market rules become obligatory in many countries and accounting standards setting bodies also ordain certain requirements about how to calculate and disclose it.

Earnings per share are indicative of earnings that earn each ordinary share and often are used to assess the profitability and risk associated with profit and also judgment about stock price. In many countries of the world, the importance of this figure is to extents that know it as one of the effective basic criteria in determining stock price and in stock assessment models also are used from it widely.

Currently Listed Companies in Tehran Stock Exchange, under the directives of stock, are required to present information of real EPS and predict and disclosure further changes, but now there is no certain accounting standard about how to calculate and report EPS.

Therefore identification of financial ratios, which can be an appropriate predictor of earnings and stock returns, is important and since cash flow within a company to assess its liquidity power and position is important, naturally the cash dividend per share also for holders of shares as one of the sources of creating the liquidity has particular importance. On the other hand, earnings per share typically content a special message to the market, thus increasing dividend carry a message to the market based on this fact that is expected to improve the company’s performance (Aharony and Swary, 1980). Since dividends require paying cash, company's liquidity will affect decisions related to dividend.
In fact the present study addresses this issue that financial ratios, operating cash flows and firm size have what effect on the earnings per share of listed companies in Tehran Stock Exchange. In this study, similar studies are reviewed first, then hypotheses are formulated, the scope of the study is specified, using regression model data are analyzed and hypotheses were tested and finally the research results are presented.

**Literature Review**

Legziyan et al. (2011) investigate the effect of financial ratios on company's earnings prediction and stock returns in Tehran Stock Exchange. In their study, they tested 10 cases of the most important financial ratios for a sample of 252 companies during the years 2001-2006. Research findings showed that profitability ratios and activity ratios can be a good predictor for future stock returns in the Tehran Stock Exchange. While no significant relationship was found between the financial ratios and future earnings.

Zeynali and Mohammadshilan (2011) in their study studied the effect of capital structure on the size, rate of return on capital and earnings per share of listed companies in Tehran Stock Exchange in the pharmaceutical industry in the period 2007-2009. The result showed that there is significant relationship between financial structure of these companies and their size. But there is no significant relationship between their financial structure with the rate of return on capital and earnings per share.

Martani et al. (2009) in their study studied the relationship between financial ratios, firm size, and cash flows from operating activities with stock returns in the manufacturing business units listed in the Indonesia Stock Exchange during the years 2003 to 2006. Results showed that the ratios of profitability and market have positive and significant relationship with stock returns and there is no relationship between the debt ratios, firm size with stock returns.

Karaca and Savsar (2012) investigated the effect of financial ratios on the company's value in 36 companies during the years 2002-2009 in Turkey. Research findings indicated that analysis of financial ratios is effective on firm value and there is significant and negative relationship between inventory turnover ratio and return on equity.

Taani and Banykhaled (2011) in their study investigated the effect of financial ratios, firm size and cash flow from operating activities on earnings per share. This study was performed on the 40 listed companies in the Amman Stock Exchange during the years 2000-2009. The research results indicate that there is positive and significant relationship between debt ratio, market value, operating cash flows and return on equity with earnings per share. While was not found a significant relationship between firm size and earnings per share.

Kothari and Shanken (1997) in their study tested the relationship between the ratio of book value to market value and dividend yield with the expected market returns. Results show that there is positive and significant relationship between ratio of book value to market value and dividend yield with the expected market returns.

Auret and Sinclaire (2006) studied the relationship between the ratio of book value to market value and stock returns during the years 1990 to 2000 in listed companies in the Johannesburg Stock Exchange (JSE). In this study, the ratio of market value to book value, price to earnings, dividend yield, cash flow to price, price to net asset value and firm size are used as control and independent variables. Results indicate that there is positive and significant relationship between the ratio of book value to market value and stock returns.

**Research Hypotheses**

To investigate the effect of financial ratios, operating cash flows and firm size on earnings per share and given to the expressed theoretical bases, the following hypotheses are formulated to test:
H1: There is significant relationship between net profit margin and earnings per share.
H2: There is significant relationship between return on equity and earnings per share.
H3: There is significant relationship between current ratio and earnings per share.
H4: There is significant relationship between debt ratio and earnings per share.
H5: There is significant relationship the asset turnover ratio and earnings per share.
H6: There is significant relationship between market value to book value ratio and earnings per share.
H7: There is significant relationship between the ratio of operating cash flows and earnings per share.
H8: There is significant relationship between firm size and earnings per share.

**RESEARCH METHOD**

**Statistical Population and Sample**

All listed companies in Tehran Stock Exchange constitute the statistical population of the present study. To select the statistical sample, the following conditions have been considered:

1. They are listed in stock before the year 2006.
2. In order to information homogeneity, they are not among financial institutions, investment and banks.
3. In order to compare the data, the end of their fiscal year lead up to December 31.
4. Their financial period has not changed during the studied fiscal year.

Considering the above conditions, 140 companies during the period 2006-2010 were selected to test the research hypotheses. The data used in this study are from historical and real data which are derived from the financial statements of companies. Also to collect financial statements has been used from the site of the Tehran Stock Exchange (Note 1) and CDs of financial information of companies listed in Tehran Stock Exchange.

**Methods of Data Analysis and Hypothesis Testing**

The present study is the type of application research in terms of purpose, and is descriptive-correlation in terms of nature and method and its main purpose is to determine existence, amount and type of relationship between variables. Hypotheses testing are collected using panel data and are performed using multivariable regression. To test the significance of estimated coefficients of independent variables of regression model is used t student test. To test the significance of regression model in general is used the Fisher F test. If significance of Fisher F statistic is less than 5% (Sig F <5%), indicates the presence of a significant relationship in the model. To test the predictive power of the models is used the adjusted R². Also for lack of correlation between the model error and the dependent variable can be used Durbin-Watson test (DW). Finally, for the final analysis and statistical tests was used SPSS.19 and EXCEL software.

**Model and Operational Variables of Research**

In this study, the following model is used to test the hypotheses. How to calculate each of the research variables is presented in Table (1).

\[
EPS_{it} = \beta_0 + \beta_1NPM_{it} + \beta_2ROE_{it} + \beta_3CR_{it} + \beta_4DER_{it} + \beta_5TATO_{it} + \beta_6MTB_{it} + \beta_7CFO_{it} + \beta_8SIZE_{it} + \epsilon_{it}
\]

That in this model:

- \( EPS_{it} \) = Earnings per share of firm \( i \) in year \( t \).
NPM<sub>it</sub> = Profit margin of firm i in year t.
ROE<sub>it</sub> = Return on equity of firm i in year t.
CR<sub>it</sub> = Current ratio of firm i in year t.
DER<sub>it</sub> = Debt ratio of firm i in year t.
TATO<sub>it</sub> = Assets turnover ratio of firm i in year t.
MTB<sub>it</sub> = Market value to book value ratio of firm i in year t.
CFO<sub>it</sub> = Operating cash flows ratio of firm i in year t.
SIZE<sub>it</sub> = Size of firm i in year t.
ε<sub>it</sub> = Error component model of firm i in year t.

β<sub>0</sub> = Constant coefficient (the intercept) and β<sub>1</sub> to β<sub>8</sub> = coefficients of independent variables.

<table>
<thead>
<tr>
<th>Variables</th>
<th>How to calculate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earnings Per Share</td>
<td>It is calculated by dividing the net profit of company on the number of issued ordinary shares.</td>
</tr>
<tr>
<td>Net Profit Margin</td>
<td>It is calculated by dividing the net profit on net sales.</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>It is calculated by dividing net profit after tax on book value of equity.</td>
</tr>
<tr>
<td>Current Ratio</td>
<td>It is calculated by dividing current assets on current liabilities.</td>
</tr>
<tr>
<td>Debt Ratio</td>
<td>It is calculated by dividing total debt on total equity.</td>
</tr>
<tr>
<td>Assets Turnover Ratio</td>
<td>It is calculated by dividing net sales on total assets.</td>
</tr>
<tr>
<td>Market Value to Book Value Ratio</td>
<td>It is calculated by dividing market value of equity on book value of equity.</td>
</tr>
<tr>
<td>Operating Cash Flows Ratio</td>
<td>It is calculated by dividing cash flows from operating activities on net sales.</td>
</tr>
<tr>
<td>Firm Size</td>
<td>It is calculated using the natural logarithm of the total assets of a company.</td>
</tr>
</tbody>
</table>

**Research Findings**

Table 2 shows the results of testing research hypotheses. As can be seen from the results of table, there is significant and positive relationship between the net profit margin (NPM) and earnings per share (EPS) at error level less than 1%. This is indicated that if the net sales of the studied companies increase, their net profit will also increase. Thus, the first research hypothesis is confirmed.

The second research hypothesis investigates the relationship of return on equity and earnings per share. The results suggest that statistically there is significant and positive relationship between return on equity (ROE) and earnings per share (EPS) at error level less than 1%. Thus, the second research hypothesis also is confirmed. The results of the third research hypothesis test has shown that there is significant and positive relationship between the current ratio (CR) and earnings per share (EPS) at error level less than 1%. Consequently, the third hypothesis cannot be rejected.

The fourth hypothesis states that there is significant relationship between debt ratio and earnings per share. The results show that there is significant and positive relationship between debt ratio (DER) and earnings per share (EPS) and indicates that whatever debt ratio of a company is higher, net profit of a company is higher. This relation also shows the companies by financing through debts intern them in operating activities of company that lead to profitability. Consequently, the fourth hypothesis of study also is confirmed.
The fifth research hypothesis tested the relationship between asset turnover ratio and earnings per share. The results indicate that statistically there is significant and positive relationship between asset turnover ratio (TATO) and earnings per share (EPS) at error level less than 1% that states by increasing corporate assets, net sales of company increase and the increase in sales will increase in net profit of company. It is noteworthy that the fifth research hypothesis also is not rejected.

The results of the sixth research hypothesis testing show that there is significant and positive relationship between the ratio of market value to book value (MTB) and earnings per share (EPS) at error level less than 1%. Thus, this hypothesis also is confirmed. Also the results of the seventh hypothesis indicate that there is no significant relationship between the ratio of operating cash flow (CFO) and earnings per share (EPS). So, the seventh research hypothesis is rejected.

Finally, the eighth hypothesis studied the relationship between firm size (SIZE) and earnings per share (EPS). The research findings show that there is significant and positive relationship between firm size and earnings per share at error level less than 10%. So the eighth research hypothesis is confirmed.

### Table 2. Results of regression testing

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>t-Statistic</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-625.680</td>
<td>-3.288</td>
<td>0.001</td>
</tr>
<tr>
<td>NPM</td>
<td>2404.279</td>
<td>15.343</td>
<td>0.000</td>
</tr>
<tr>
<td>ROE</td>
<td>531.828</td>
<td>7.616</td>
<td>0.000</td>
</tr>
<tr>
<td>CR</td>
<td>247.552</td>
<td>6.082</td>
<td>0.000</td>
</tr>
<tr>
<td>DER</td>
<td>24.879</td>
<td>3.320</td>
<td>0.001</td>
</tr>
<tr>
<td>TATO</td>
<td>180.631</td>
<td>5.377</td>
<td>0.000</td>
</tr>
<tr>
<td>MTB</td>
<td>58.326</td>
<td>4.542</td>
<td>0.000</td>
</tr>
<tr>
<td>CFO</td>
<td>104.161</td>
<td>0.872</td>
<td>0.383</td>
</tr>
<tr>
<td>SIZE</td>
<td>36.446</td>
<td>1.749</td>
<td>0.081</td>
</tr>
<tr>
<td>$R^2$</td>
<td></td>
<td></td>
<td>0.503</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td></td>
<td></td>
<td>0.498</td>
</tr>
<tr>
<td>F-statistic</td>
<td></td>
<td></td>
<td>103.318</td>
</tr>
<tr>
<td>Sig(F-statistic)</td>
<td></td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>Durbin Watson</td>
<td></td>
<td></td>
<td>2.015</td>
</tr>
</tbody>
</table>

### Table 3. Summary of the results of research hypotheses testing

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Hypotheses Title</th>
<th>Result</th>
<th>Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H_1$</td>
<td>There is significant relationship between net profit margin and earnings per share.</td>
<td>Confirmed</td>
<td>Positive</td>
</tr>
<tr>
<td>$H_2$</td>
<td>There is significant relationship between return on equity and earnings per share.</td>
<td>Confirmed</td>
<td>Positive</td>
</tr>
<tr>
<td>$H_3$</td>
<td>There is significant relationship between current ratio and earnings per share.</td>
<td>Confirmed</td>
<td>Positive</td>
</tr>
<tr>
<td>$H_4$</td>
<td>There is significant relationship between debt ratio and earnings per share.</td>
<td>Confirmed</td>
<td>Positive</td>
</tr>
<tr>
<td>$H_5$</td>
<td>There is significant relationship the asset turnover ratio and earnings per share.</td>
<td>Confirmed</td>
<td>Positive</td>
</tr>
<tr>
<td>$H_6$</td>
<td>There is significant relationship between market value to book value ratio and earnings per share.</td>
<td>Confirmed</td>
<td>Positive</td>
</tr>
<tr>
<td>$H_7$</td>
<td>There is significant relationship between the ratio of operating cash flows and earnings per share.</td>
<td>Rejected</td>
<td>-</td>
</tr>
<tr>
<td>$H_8$</td>
<td>There is significant relationship between firm size and earnings per share.</td>
<td>Confirmed</td>
<td>Positive</td>
</tr>
</tbody>
</table>
As it is clear from the results of Table (2), the amount of F statistic is equal to 103.318 and its significance level is 0.000 which indicate that the research regression model is significant in general. Adjusted $R^2$ value indicate that financial ratios, operating cash flows and firm size as independent variables can explain about 50 percent of the changes in earnings per share (dependent variable) of studied companies.

The value of calculated Durbin-Watson statistic is equal to 2.015. Since this value is between 1.5 and 2.5, therefore we can conclude that disruption component of the model is independent in investigated period. In other words, the amounts of disruption component of the model are random and the assumption of existence autocorrelation between variables is rejected.

**CONCLUSIONS**

Financial ratios not only are used to understand the current and past performance and future prediction of company, but also they are used as a tool for planning and controlling the activities of the company. Therefore, the present study investigates the effect of financial ratios, operating cash flows and firm size on earnings per share of listed companies in Tehran Stock Exchange. For this purpose, a sample of 140 companies during the years 2006-2010 was chosen to test the research hypotheses. In this study, the ratios of profitability (NPM and ROE), liquidity (CR), leverage (DER), activity (TATO) and market value to book value (MTB) and also operating cash flow (CFO) and firm size (SIZE) are used as the independent variables and the earnings per share (EPS) is used as the dependent variable.

Eight hypotheses were formulated to investigate the research independent variables with earnings per share and were tested using regression model. The first hypothesis results state that if the company's net sales increase, net earnings per share would increase and the results of the second hypothesis showed that the proper use of financial resources which shareholders give to the company, lead to increase the company's net profit. The results of the first and second hypotheses test is consistent with the research results of Legziyan et al. (2011), Martani et al. (2009) and Taani and Banykhaled (2011). But it is not consistent with the research results of Zeynali and Mohammadshilan (2011).

The third research hypothesis test results showed that whatever the current ratio, or in other words, the amount of current assets exceed current liabilities of the company, earnings per share of company will increase that it is consistent with the research results of Taani and Banykhaled (2011). The fourth hypothesis findings indicate that there is positive and significant relationship between debt ratio and earnings per share. In other words, whatever the company's debts are greater than equity, the net profit of company is higher. The results of this hypothesis are consistent with the research results of Taani and Banykhaled (2011). But is contrary to the research results of Martani et al. (2009).

The results of fifth hypothesis state that whatever assets of a company have more role in creating sale revenue, cause to increase net profit that it is consistent with the research results of Legziyan et al. (2011) and Tainan and Bonnie Khalid (2011). Also the results of sixth hypothesis state that whatever the ratio of market value to
book value is more, net profit of company increases which is consistent with the research results of Martani et al. (2009), Taani and Banykhaled (2011) and Kothari and Shanken (1997).

In the seventh research hypothesis test results, it was not observed a significant relationship between net cash obtained from the sale of the company with earnings per share that is against the research results of Taani and Banykhaled (2011). Finally, the eighth hypothesis test showed that the net profit in large companies is more than small companies that is not consistent with the research results of Martani et al. (2009) and Taani and Banykhaled (2011). Summary of the results of research hypotheses testing is presented in Table (3).

REFERENCES


Notes