Review of relationship between dividend policy and performance: Evidence of Iran's capital market

Majid Zanjirdar and Monireh Seifi*

Department of Management, Arak Branch, Islamic Azad University, Arak, Iran.

Accepted 21 February, 2012

The aim of this study is to review the relationship between dividend and company performance on equity capital markets in Iran, consequently two groups of performance indexes based on economical trend and accounting trend were studied. In this study, library method of collecting information was employed and the numbers of 93 companies whose required information were available were chosen in 6-year-old study (2004 to 2009). This study is correlation based on method and nature and it has been used for correlation and regression tests to research hypothesis test. For performance, evaluation was carried out with two groups of indicators: accounting and economic indicators. The experimental results of study has shown that generally, there is a positive relationship between economic and accounting performance indexes and dividend policy, and that accounting performance indicators also have more explanatory power than economic performance indicators in predicting dividend in Iranian capital market.

Key words: Dividend policy, economic value added (EVA), market value added (MVA), operation cash flow (OCF), return on equity (ROE), return on asset (ROA).

INTRODUCTION

One of the main objectives of companies is creating value and increasing the wealth of shareholders in long term which will result in desirable performance (Anvari et al., 2004). Dividend payout decisions have effect on the firm's valuation. Moreover, cash dividend has a special position among the shareholders. However, the main problem is the reasons for adopting a policy of divided payout (Mehrani et al., 2011). Dividend policies are adopted across countries (LaPorta et al., 2000). Prior studies suggested significant differences in dividend policy between developed countries and developing countries (Abdelsalam et al., 2008). Studies on dividend policy are therefore of clear policy relevance, especially for a country that is interested in rapid and sustained economic growth (Musa, 2009). It is important to understand the relationship between performance and dividend policy in undeveloped countries with traditional market structure. According to prior studies (Denis and Osobav, 2008; Bahramfar and Mehrani, 2004), in developing countries that have high economical growth, their dividend is lower than countries that have low economical growth; meanwhile, importance of dividend subject is reviewable in two dimensions: (1) In view of micro: to maximize shareholders' wealth, (2) In view of macro: for economic effectiveness and optimization allocation of recourses in a country (Asif et al., 2011).

To identify effective factors on dividend policy in different countries, many researches were done. For example Kim and Jang (2010) have studied the impact of profitability, investment opportunities, firm size, life-cycle stage and the dividend payout ratio of preceding year on dividend and Adlegan (2003) studied relationship between dividend policy with investment changes and cash flow in corporation.

Deshmukh (2003) studied the impact of cash flow, investment opportunities and information asymmetric on dividend. In Iran, the relationship between dividend policy with accounting profit and operation cash flow has been studied (Chalaki, 2005), and factors such as: finance leverage of company, firm size, last year dividend, existence investment opportunities, cash flow from operational activities, expected profit in next year, average

*Corresponding author. E-mail: monireh.seifi@gmail.com.
profit paid by competitive companies, inflation rate, percentage of free stock, average rate of profit growth in past five years and earnings per share (Saeedi et al., 2010) has been studied. A more detailed description will be provided subsequently.

Already it express different indexes for evaluating managers’ performance and measurement of shareholders’ wealth, that economical performance indexes such as economic value added and market value added, that are the newest indexes. These are considered along with traditional accounting performance indexes in this project.

The main theme of this project is about reviewing relationship between economical value added and market value added as economic performance indexes and operational cash flow, return on equity rate and return on assets rate as accounting performance indexes with rate of dividend in accepted companies in stock exchange of Tehran.

LITERATURE REVIEW

Studies done about dividend, pointed out Linter (1956), who stated that cash dividend, depend upon present income of company and also on previous year dividend. Miller and Modigliani (1961) stated that pay out policy is not irrelevant and investment policy is not the sole determinant of value, even in frictionless markets. Kormendi and Zarowin (1996) in the review of relation of permanent and temporary changes of profit concluded that in framework of permanent profits, permanent element of profit is the absent factor in profit payment and it is possible that it is one of the main important effective factors on dividend. Seifert (1997) reviewed the adjusted profit changes and payable stock profit changes and concluded exactly that when changing the payable stock profit, it is important to consider the balanced changes in profit.

Fukuda (2000) in the review of market response to profit payment found out that managers tend to change dividend policy when profit was in the highest or the lowest limit. Beiner (2001) reviewed the relationship between dividend and financial leverage, size of company, investment opportunity, last year dividend, and he concluded that dividend have negative relation by size of company and investment opportunities but dividend have positive relation by last year dividend and he stated that financial leverage is only important in the selection of dividend policy.

Adelegan (2003) stated that relation between cash flow and dividend changes depend on growth level and selection of enterprise structure and size of company and changes in economic policies. Skinner (2003) stated that managers of firms with long-standing dividends are increasingly by setting their firms’ dividend policies, leading to reduction in the strength of the link between dividends and earnings.

Bahramfar and Mehrani (2004) have reviewed the relationship between earning per share, dividend and investment in accepted companies in Tehran stock exchange and they concluded that the review of the relationship between dividend, earning per share and predictive profit in company was confirmed and in combination data; it confirms relation profit, dividend and investment.

Chalaki (2005) reviewed relationship of cash dividend with operational profit, earning per share, cash earnings per share and operational cash flows and also concluded that rate of dividend in accepted companies in Tehran stock exchange are functions of earning per share, operational profit and operational cash flows.

Deshmuk and Fatemi (2008) finds that participants in the preferred stock market respond more slowly to the announcement than those in the common stock market. Brockman (2009) shows that country level creditor rights influence dividend policies around the world by establishing the balance of power between dept and equity claimants and also shows that agency costs of dept play a more decisive role in determining dividend policies than the previously documented agency cost of equity. Wei and Zazhong (2009) find that the cash dividend level is significantly and positively related to the proportion of non-publicly tradable shares and this relation is mainly driven by legal person shareholders’ preferences for cash dividends.

In contrast, the stock dividend level is significantly and positively associated with the proportion of publicly tradable shares. Rezvani et al. (2009) concluded that companies with low enterprise opportunities due to lack of effective opportunities embrace great companies with high ability in financial preparation to have high free cash flow. In order to satisfy shareholders and encourage enterprisers and generally to maximize shareholders’ wealth, there should be distribution to the main part of free aspects among shareholders.

Saeedi and Behnam (2010) in their study about effective factors on dividend policies in Tehran stock exchange, stated that there is a relationship between dividend policies and some factors such as: size of company, last year dividend, investment opportunities, expected profit in future year and rate of inflation and there are no relationships between dividend polices and other factors such as: average rate of profit growth in past five years, percentage of free stock, cash flow from operational activities, finance leverage of company, earning per share and average profit of rival companies. Hang (2010) explored the causual relationships among investment, financing, dividend policies, and corporate performance.

Chemmanur et al. (2010) in the results of their studies: First, a test of the Lintner model reveals that the extent of dividend smoothing by firms in Hong Kong is significantly less than those in the U.S (Lintner, 1956). Second, the
signaling effects of dividend changes on stock returns are stronger in the U.S. compared to those in Hong Kong. Third, our logic analysis of the determinants of dividend changes indicates that, while the lagged dividend yield significantly affects dividend changes in both countries in the same fashion, prior year stock returns have opposite effects on dividend changes in the two countries. Finally, the extent of dividend smoothing is not systematically related to block holder equity ownership in either country.

Kim and Jang (2010) examined lodging firm’s dividend behavior with a framework that clearly distinguishes between the two steps of dividend decisions: whether or not to pay and show how much to pay. They examined the factors that affect lodging firm’s dividend decisions. The results indicate that factors affecting each step of the dividend decisions of lodging firms are indeed different. On the payment decision, most of the explanatory variables have the expected and statistically significant influence. That is, the likelihood of paying dividends is positively related to such firm characteristics as profitability, investment opportunities, firm size, life-cycle stage and the dividend payout ratio of preceding year in terms of the amount of dividends, however only dividend payout ratio for the preceding year and a specific dummy year have statically significant influence.

**METHODOLOGY**

This study is application research in view of categorization based on purpose and it is a correlation study in view of categorization based on method and nature. Correlation coefficient is an accurate index that expresses how much variables’ changes depend on other variables. In this study, the method employed for information collection is the library method. Statistical society, including 405 companies in Iran exchange market out of which, 93 companies whose required information were available were chosen in 6-year-old study (2004 to 2009) as purposeful and systematic sample.

**Empirical models of dividend policy**

Figure 1 shows Conceptual model for research. This study examined the relationship between economic value added (EVA), market value added (MVA) (economic performance indexes), operation cash flow (OCF), return on equity (ROE), return on asset (ROA) (accounting performance indexes) and dividend with controlling variable: firm size, future growth opportunities, debt maturity, cost of cash opportunity, financial leverage, cash flow ability, growth earning per share, liquidity, cash flow in company, proportion of bank debts to other company’s debts. The model is:

\[
\text{DIVIDEND} = \alpha_0 + \alpha_1 \text{EVA} + \alpha_2 \text{MVA} + \alpha_3 \text{OCF} + \alpha_4 \text{ROE} + \alpha_5 \text{ROA} + \alpha_6 \text{SIZE} + \alpha_7 \text{GROWPIT} + \alpha_8 \text{LTDEBT} + \alpha_9 \text{PSPRAD} + \alpha_{10} \text{LEV} + \alpha_{11} \text{CFLOW} + \alpha_{12} \text{GEPS} + \alpha_{13} \text{LIQ} + \alpha_{14} \text{CASH} + \alpha_{15} \text{BANKD} + \varepsilon
\]

\(\alpha_0\): Intercept regression; \(\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5, \alpha_6, \alpha_7, \alpha_8, \alpha_9, \alpha_{10}, \alpha_{11}, \alpha_{12}, \alpha_{13}, \alpha_{14}, \alpha_{15}\): Estimate the slope of the regression line; \(\varepsilon\): error estimate.

**Operationalization of variables**

**Dependent variable**

DIVIDEND: Cash dividend for each stock in fiscal year

**Independent variables**

a) EVA = \((r - \text{WACC}) \times \text{CAPITAL}\)

b) MVA = average of market value of shareholders’ rights – average of book value of shareholders’ rights

c) OCF: the existed cash flow results from operation of a company that it usually obtains by reduction of all operational costs from
Table 1. Control variable and their method measurement.

<table>
<thead>
<tr>
<th>Control variables</th>
<th>Definition or method measurement</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of company</td>
<td>Log sales</td>
<td>SIZE</td>
</tr>
<tr>
<td>Future growth opportunities</td>
<td>Present value of company / book value of assets</td>
<td>GROWPIT</td>
</tr>
<tr>
<td>Debts maturity</td>
<td>Long term debts / sum of assets</td>
<td>LTDEBT</td>
</tr>
<tr>
<td>Cash opportunity cost</td>
<td>(Net profit / sum of assets) – (net profit / receivable documents)</td>
<td>PSPRAD</td>
</tr>
<tr>
<td>Financial leverage</td>
<td>Sum of debts / sum of assets</td>
<td>LEV</td>
</tr>
<tr>
<td>Cash flow ability</td>
<td>Operational cash flow / sales</td>
<td>CFLOW</td>
</tr>
<tr>
<td>Growth earning per share</td>
<td>(EPS1-EPS0)/EPS0</td>
<td>GEPS</td>
</tr>
<tr>
<td>Liquidity assets</td>
<td>(current assets–cash flow)/sum of assets</td>
<td>LIQ</td>
</tr>
<tr>
<td>cash flow of company</td>
<td>Cash flow in bank or company that it is available easily / sum of assets</td>
<td>CASH</td>
</tr>
<tr>
<td>Proportion of bank debts to other company’s debts</td>
<td>Bank debts / total debts</td>
<td>BANKD</td>
</tr>
</tbody>
</table>

Table 2. Descriptive statistics of variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Maximum</th>
<th>Minimum</th>
<th>Std.dev</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIVIDEND</td>
<td>899</td>
<td>600</td>
<td>400</td>
<td>7300</td>
<td>35</td>
<td>967.17</td>
<td>12.13</td>
</tr>
<tr>
<td>EVA</td>
<td>-40565</td>
<td>-9880</td>
<td>-58000</td>
<td>697000</td>
<td>-1810000</td>
<td>150501.25</td>
<td>59.04</td>
</tr>
<tr>
<td>MVA</td>
<td>589676</td>
<td>131500</td>
<td>10800</td>
<td>1570000</td>
<td>-9630000</td>
<td>1638661.96</td>
<td>29.31</td>
</tr>
<tr>
<td>OCF</td>
<td>246492</td>
<td>52650</td>
<td>135000</td>
<td>10500000</td>
<td>-1410000</td>
<td>923054.51</td>
<td>65.12</td>
</tr>
<tr>
<td>ROE</td>
<td>0.445</td>
<td>0.388</td>
<td>0.14</td>
<td>1</td>
<td>0.02</td>
<td>0.360</td>
<td>0.459</td>
</tr>
<tr>
<td>ROA</td>
<td>0.165</td>
<td>0.140</td>
<td>0.15</td>
<td>0.63</td>
<td>0</td>
<td>0.111</td>
<td>1.75</td>
</tr>
<tr>
<td>SIZE</td>
<td>11.60</td>
<td>11.54</td>
<td>9.86</td>
<td>13.64</td>
<td>9.86</td>
<td>0.53</td>
<td>1.26</td>
</tr>
<tr>
<td>GROWPIT</td>
<td>1.01</td>
<td>0.71</td>
<td>0</td>
<td>4.52</td>
<td>0</td>
<td>1.02</td>
<td>16.12</td>
</tr>
<tr>
<td>LTDEBT</td>
<td>0.83</td>
<td>0.05</td>
<td>0.02</td>
<td>0.57</td>
<td>0</td>
<td>0.091</td>
<td>7.50</td>
</tr>
<tr>
<td>PSPRAD</td>
<td>-1.46</td>
<td>-0.34</td>
<td>-30.9</td>
<td>-30.91</td>
<td>0.08</td>
<td>4.08</td>
<td>25.39</td>
</tr>
<tr>
<td>LEV</td>
<td>0.61</td>
<td>0.63</td>
<td>0.39</td>
<td>0.91</td>
<td>0.04</td>
<td>0.148</td>
<td>0.034</td>
</tr>
<tr>
<td>CFLOW</td>
<td>0.27</td>
<td>0.168</td>
<td>0.02</td>
<td>21.22</td>
<td>-0.67</td>
<td>0.956</td>
<td>427.1</td>
</tr>
<tr>
<td>GEPT</td>
<td>0.29</td>
<td>0.048</td>
<td>0.26</td>
<td>25.97</td>
<td>-1.74</td>
<td>1.629</td>
<td>129.9</td>
</tr>
<tr>
<td>LIQ</td>
<td>0.57</td>
<td>0.595</td>
<td>0.19</td>
<td>0.94</td>
<td>0.06</td>
<td>0.208</td>
<td>-0.62</td>
</tr>
<tr>
<td>CASH</td>
<td>0.067</td>
<td>0.038</td>
<td>0.01</td>
<td>0.58</td>
<td>0</td>
<td>0.083</td>
<td>10.33</td>
</tr>
<tr>
<td>BANKD</td>
<td>0.384</td>
<td>0.372</td>
<td>0</td>
<td>4.95</td>
<td>0</td>
<td>0.292</td>
<td>108.9</td>
</tr>
</tbody>
</table>

incomes.
d) ROE: it was calculated operational net profit divided by sum of equity
e) ROA: it was calculated operational net profit divided by sum of assets

Control variables
In the past studies, variables have been influenced in determining cash dividend, this project variables were used as control variables. These variables such as: size of company, future growth opportunities, debts maturity, cash opportunity cost, financial leverage, cash flow ability, growth earning per share, liquidity assets, cash flow of company and proportion of bank debts to other debts. There is definition and method measurement of control variables in Table 1.

Research hypotheses
H1: There is relationship between economic value added and cash dividend in capital market of Iran.
H2: There is relationship between market value added and cash dividend in capital market of Iran.
H3: There is relationship between operational cash flow and cash dividend in capital market of Iran.
H4: There is relationship between return on equity and cash dividend in capital market of Iran.
H5: There is relationship between return on assets and cash dividend in capital market of Iran.

Descriptive statistics
Table 2 presents the descriptive statistics of the study. The table indicates that during the period of the study, the average payment dividends for each share of the sampled firms is about 899 Rial, while The average economic value added of the companies studied are negative. And among the main variables of the model, market value added has the highest standard deviation signifying its low contribution to dividend policy model while return on asset has the lowest standard deviation which indicates that it is the variable that


Table 3. Pearson correlation matrix and regression analysis of DIVIDEND and EVA, MVA, OCF, ROE, ROA; separately.

<table>
<thead>
<tr>
<th>Variable</th>
<th>EVA</th>
<th>MVA</th>
<th>OCF</th>
<th>ROE</th>
<th>ROA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson coefficient</td>
<td>-0.591</td>
<td>0.587</td>
<td>0.581</td>
<td>0.656</td>
<td>0.765</td>
</tr>
<tr>
<td>R²</td>
<td>0.349</td>
<td>0.345</td>
<td>0.338</td>
<td>0.431</td>
<td>0.589</td>
</tr>
<tr>
<td>Adj R²</td>
<td>0.336</td>
<td>0.331</td>
<td>0.324</td>
<td>0.419</td>
<td>0.577</td>
</tr>
<tr>
<td>F-value</td>
<td>26.080</td>
<td>25.515</td>
<td>24.760</td>
<td>36.707</td>
<td>68.677</td>
</tr>
<tr>
<td>Sig</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>D-W</td>
<td>2.054</td>
<td>1.959</td>
<td>2.072</td>
<td>2.202</td>
<td>1.554</td>
</tr>
</tbody>
</table>

Represent significant level of 0.05.

RESULTS OF HYPOTHESES

H₁: There is relationship between economic value added and cash dividend in capital market of Iran. With regards to statistical analysis about this hypothesis in Table 3, correlation coefficient between economic value added and dividend is -0.591 and detriment coefficient is 0.349. With regards to meaningfulness of variables relation (sig <0.05), it was concluded and accepted that there is a relation between economic value added and dividend in confidence level is 95% and there is negative relation between cash dividend and economic value added. Otherwise economic value added can only explain 34.9% cash dividend changes.

H₂: There is relationship between market value added and cash dividend in capital market of Iran. With regards to statistical analysis about this hypothesis in Table 3, correlation coefficient between market value added and dividend is 0.587 and detriment coefficient is 0.345. With regards to meaningfulness of variables relation (sig <0.05), it was concluded and accepted that there is a relation between market value added and dividend in confidence level up to 95% and there is a positive relation between cash dividend and market value added. Otherwise market value added with assumption of all other factors as constant can only explain 34.5% cash dividend changes.

H₃: There is relationship between operational cash flow and cash dividend in capital market of Iran. With regards to statistical analysis about this hypothesis in Table 3, correlation coefficient between operation cash flow and dividend is 0.581 and detriment coefficient is 0.338. With regards to meaningfulness of variables relation (sig <0.05), it was concluded and accepted that there is a relation between operation cash flow and dividend in confidence level up to 95% and there is positive relation between cash dividend and operation cash flow. Otherwise operational cash flow with assumption of all other factors as constant can only explain 33.8% cash dividend changes.

H₄: There is relationship between return on equity and cash dividend in capital market of Iran. With regards to statistical analysis about this hypothesis in Table 3, correlation coefficient between return on equity and dividend is 0.562 and detriment coefficient is 0.431. With regards to meaningfulness of variables relation (sig <0.05), it was concluded and accepted that there is a relation between return on equity and dividend in confidence level up to 95% and there is positive relation between cash dividend and return on equity. Otherwise return on equity with assumption of all other factors as constant can only explain 43.1% cash dividend changes.

H₅: There is relationship between return on assets and cash dividend in capital market of Iran. With regards to statistical analysis about this hypothesis in Table 3, correlation coefficient between return on asset and dividend is 0.765 and detriment coefficient is 0.589. With regards to meaningfulness of variables relation (sig <0.05), it was concluded that there is 95% relation between return on asset and dividend in confidence level and there is positive relation between cash dividend and return on asset. Otherwise return on asset with assumption of all other factors as constant can only explain 58.9% cash dividend changes.

DISCUSSION AND CONCLUSION

After one by one testing of hypothesis and analyzing results about them, it was concluded that there is meaningful relationship between dividend and performance of companies in Tehran stock exchange in Iran. With regards to findings of two main hypotheses, there is highest correlation coefficient in performance indexes based on accounting related to performances indexes based on economy by dividend in capital market of Iran. To extract final model by backward method in SPSS software, it was used in presence of all control variables and it is summarized in Table 4. Notwithstanding the indication of non multicollinearity in the correlation matrix, two advanced measures of assessing multicollinearity were further employed. These are the tolerance value and the variance inflation factor (VIF).
The variance inflation factors are consistently smaller than ten indicating complete absence of multicollinearity (Neter et al., 1996; Casey and Anderson, 1999). This shows the appropriateness of fitting the model of the study with all the independent variables.

In addition, the tolerance values were consistently smaller than 0.7. This further substantiates the fact that there is complete absence of multicollinearity. As seen, control variables of firm size and future growth opportunities, debts maturity, financial leverage and liquidity are significant in the model. Then we concluded that it is important to consider the foregoing control variables to predict rate of dividend, in addition to main variables of model. The final model is:

$$DIVIDEND = 2.33 -8.25 \times 10^{-7} \text{EVA} -1.08 \times 10^{-7} \text{OCF} + 7.728 \text{ROA} + 0.233 \text{ROE} + 0.129 \text{SIZE} - 0.108 \text{GROWPIT} + 0.679 \text{LIDEBT} + 1.604 \text{LEV} + 0.411 \text{LIQ}$$

These findings are equal to documents in theoretical frameworks and literature. For example, Kim and Jang (2010) concluded that assets equity (profitability) and shareholders' equity (life cycle) and size of company share a meaningful and positive relationship.

Deshmukh (2008) also found that there is direct relation between dividend and cash flow current level. Of course, Adelgan (2003) expressed that relation between current cash flow and dividend changes depend on level of growth and selection of enterprise structure and size of company and economy policies changes. Chalaki (2005) concluded that there is positive relation between dividend and operational cash flow.

According to the results and hypothesis testing, it is recommended that the investors should invest to receive dividends and corporate executives to make decisions about the amount of cash dividend and pay more attention to Return on assets and return on equity at first and take note that the economic value added has negative relation with dividends, while firm size and future growth opportunities, debts maturity, financial leverage and liquidity are important.

**REFERENCES**


Chalaki P (2005). Impact of accounting profit and operational cash flows on dividend in accepted companies in exchange stock of Tehran, Thesis M.A. in accounting course, University of Tarbiat Modares. p. 31-47


Hang min Wang D (2010). Corporate investment, financing and