Analysis the most effective factors on the policy of share dividends in the Tehran Stock Exchange companies

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Abstract: This research aims to review factors affecting the dividend payment in companies registered with the Tehran Stock Exchange. We used six variables in this research which are effective on the dividend policy including shareholders' return on equity, cash flow, sales growth, company size, financial leverage systematic risk. To test the research hypothesis, we used the combination data analysis by using a sample of 130 companies registered with the Tehran Stock Exchange for the period of 2005-2012. According to research results, shareholders' return on equity, free cash flow, sales growth and company financial leverage were considered as effective variables on the ratio of dividend in the companies registered with the Tehran Stock Exchange.

Key words: *Dividend policy; Financial Leverage; Free cash flow; Profitability; Systemic risk*

1. Introduction

The role of information in economic decision making is vital. Investors who lack sufficient information do not recognize investment risks and opportunities properly because financial information is sensitive to passing of time and lose their value and use in decision making eventually. In order for information to effect the decisions of financial statement users, it has to be at their disposal at an appropriate time. Investors are one of the most important users of accounting information for earning profits. Some methods of earning profit include receiving profit, dividends, shares purchase priority certificate and share price increase. Today, considering the increasing importance and expansion of investment markets in outfitting and attracting individual small capitals toward production activities, identifying investors behavior and effective variables on price and share revenues, has acquired great importance. The general objective of present research is to review the effect of the most important factors on the policy of share dividends in companies registered with the Tehran Stock Exchange. After reviewing the theoretical basis and literature in section four, variables and the model have been described. The results of the research are presented in section five.

2. Theoretical basis of research

Policy of dividend is one of the most important discussions in financial management; because dividend expresses main cash payments of companies and is one of the most important options and decisions facing the managers. Manager has to decide how much of profit is dividend and how much is reinvested in the form retained earnings. Although paying dividend directly benefits the shareholders, it affects company's ability to retain earnings for exploiting growth opportunities (Baiker and Pavel, 2005). Additionally, this policy in stock market has information content and its alteration also contains information for shareholders. Every investor buys a company's shares whose dividends he considers desirable. The recommended dividend by the board of directors usually contains information about expectations of managers regarding future profitability. Dividend policy is one of the cases affected by conflict of representation.

Generally, two views exist on relation of dividend and conflict of representation. The 1st view considers dividend as a solution to reducing conflicts of representation between managers and shareholders, the 2nd sees dividend as replacement for representational issues (Hu and Liu, 2006).

Paying dividend has become a standard procedure in companies for hundreds of years. This question is posed that why paying dividends is considered as success? One of the stronger arguments for effect of dividend is expressed by Modigliani and Miller (1961), where they have declared company value independent of dividend policy and instead consider companies dependent on assets' profitability and investment policies and not dividing company revenues among shareholders. According to this argument, if paying dividend does not create added value for shareholders, no company will pay dividend and this contradicts Bareli's theory which considers disagreement on paying dividend as a major unsolved problem of companies and Linter (1956) claims that dividend plays a major role in

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added value and Gordon's[6] research shows that shareholders prefer dividend to investment profit.

According to this theory, dividend is important for shareholders and managers because it increases company value and shareholders will pay higher prices for shares that pay higher dividend. This is important because shareholders should be informed of factors that affect payment of dividends. Jensen (1986) remarks about cash flow and Miller and Rock's research see company growth as the main determining factor in paying of dividends. But these factors are not the only ones effecting company dividends.

Some researchers point out that many companies have a long term programed for paying dividend while, fewer companies are inclined to divide their current year's profit among shareholders. Some managers will therefore try paying fewer dividends for the fear of losing an appropriate level of liquidity. They state that one of the most important decisions in financial management concerns dividends.

3. Research background

According to Modigliani and Miller (1961) research, with the assumption of company investment decisions being constant, profit policy has no effect on shareholder's' wealth. Also, according to dividend research results, some information on future profits is published, particularly if managers adopt a constant dividend policy and seek help from fluctuation in dividend payment to show the change in their view toward future profitability.

According to Ramsomi and Litzenberger's (1982) research, if income tax rate is less than share price increase, companies can prepare the basis for an increase of share prices by reducing the dividend payment. They also reviewed the information content of dividend and their correlation with each share's return in relation to future profits. This research was conducted among 25 companies during a 7 years period in America. According to findings, dividends bear information about future profits and a reciprocal correlation was found between dividend and each share's return in relation to future profits. Rozeff (1982) reviewed a sample of 1000 companies in 64 industries in the US. The findings indicated a positive correlation between the number of shareholders and dividend payment ratio. He argues that companies which have more external shareholders pay out more dividends to reduce the costs of representation. There is also a negative correlation between paying dividend and risk; internal ownership and growth. The negative correlation between profit and internal ownership relates to representational validations. Since a large part of shares are purchased by insiders; company is not obliged to pay more dividends. Growth opportunities are more effective on profit in comparison to previous realized growth.

Holder et al. (1998) conducted a research on this subject between 1983 and 1990, using a sample of 477 companies in various American industries. Results indicated that there is positive correlation between payment of dividend and size (sales logarithm) and cash flow. He stated that larger companies have easier access to capital markets. They should therefore be able to pay more dividend than smaller companies. Companies with higher cash flow are more inclined to pay dividend. Researcher's statements support representational theory which states that large companies are forced to pay more dividends to avoid representation validations. There is also a negative correlation between dividend and risk (revenues standard deviation); internal ownership and growth.

Casky and Hanlon (2005) studied the correlation between dividends and income quality and showed that in companies where dividend is low, income quality is less than in companies which pay higher dividend. In other words, there is a direct correlation between level of dividend and income quality (income quality means that the higher the profit reported by the business unit, the more possibility of assessing that unit's performance and it also shows the institution's profitability more clearly).

Gill et al. (2006) found a positive correlation between dividend and tax's independent variables and a negative correlation with growth independent variable. Amidu and Abor (2006) found a positive correlation between dividend and cash flow, tax and profit and a negative correlation between risk, market value and book value, growth and ownership.

Hanlon, Mayers, and Shevlin (2007) reviewed the level of dividend informing regarding future profits and concluded that the higher dividend payment in companies, the more accurate is forecasting of future profits.

Hussainey et al. (2009) during their research on ability of forecasting dividend and its relation to revenues and future profitability, concluded that current year's dividend and future years have a positive correlation with share revenues. They also concluded that we can use dividend information to forecast future profitability.

Asif, Rasool and Kamal (2011) also reviewed the effect of financial leverage on dividend policies in Karachi companies during their research. Their research revealed a significant negative correlation between financial leverage and dividend. Their research also showed that the changes to the net profit and cash dividend yield are effective on dividend policies.

Izadinia (1390) gathered data for his research from among 141 companies in the exchange during a period between 2001 and 2008. Among the factors considered, lack of trust in cash flow, stage of company life, investment opportunities and profitability were effective on dividend payments. After model estimate, using marginal effect calculation, it became clear that stage of company life and profitability had the greatest effect. Karami and Mehrani (2010) tested two views namely the representation theory and indicating theory regarding institutional investors to determine the

relation between existing institutional ownership in structure of companies registered at Tehran Stock Exchange and their dividend policy. Results of research reflect a negative correlation between institutional investors' level and dividend paid by companies that are subsidiary of indicating theory. During this research, it became evident that presence of institutional investors reduces the use of dividend as a sign of company's good performance. There is also a significant correlation between institutional concentration and dividend payment by company, which is consistent with the representation theory. It also indicates a positive significant correlation between the size and dividend.

Reviewing the effective factors on the dividend policy of the companies accepted into the Tehran Stock Exchange, with the consideration of theoretical basis and previous researches is emphasized.

4. Research variables

Considering the definitions in this research, free cash flow, growth, financial leverage, profitability, risk and company size are independent variables. Ratio of dividend payment is also independent variable. Correlation between independent and dependent variables is assessed by a regression model. This research's regression model is as below:

$DPR_i, t+1 = \beta o + \beta 1 prof_i\, t + \beta 2 FCF, t + \beta\, 3 Growth_i\, t + \beta 4 Size_i\, t + \beta 5 Leverage_i\, t + \beta 6 Risk_i\, t + \in$

In this equation:

profit represents profitability (shareholders' return on equity) in the year t for company I; and $FCF_i\, t$ represents the free cash flow in the year t for company I; and $Growth_i\, t$ is for sales growth in the year t for company I; and $Leverage_i\, t$ is for the ratio of financial leverage in the year t for company I and $Risk_i\, t$ represents the risk (beta index) in the year t for company I, and ϵ; is the error coefficient model.

DPR (Dividend Payment Ratio): it is gained by dividing the ratio of divided profit for each share earnings.

Prof (Profitability): in this research, it is the shareholders' return on equity (ROE) which is assessed by the net profit dividend ratio to total of return on equity of the shareholders.

FCF (Free Cash Flow): this is calculated by the difference between operational cash flow (extractable from cash flow) and investment costs (net investment activities in the cash flow statement).

Growth (Company Growth): the sales growth in this research is used as the company growth index.

Size (Company Size): is the natural logarithm of company's total assets.

Leverage (Financial Leverage): ratio of total debts to company's total assets.

Risk: company risk is calculated via beta index which reflects the company's systematic risk.

$\beta = \frac{cov(ri,rm)}{var(rm)}$, in which: r_i reflects company's return on equity and it is calculated via share price changes ratio and cash profit to price at start of the year.

$$R_t = \frac{P_1 + D - P_0}{P_0}$$

, rm represents market revenue and here the TSE index has been used as the market revenue.

5. Methodology and statistic community

For the theoretical formulation of the research, we used library method and the initial data relating to companies for calculating variables was gathered directly from the TSE site and financial statements and also, Tadbir Pardaz Software which were used to review the research hypothesis. Statistic community in this research included all companies which were admitted into TSE between 2005 and 2012 and, have preserved their membership for this period. Among all admitted companies, those whose end of fiscal year was not on 19 or 20 March, banks and financial institutions, investment companies and companies who did not have the necessary data for calculating the variables and companies that had changed their fiscal year, during the above period were deleted from the review.

By reviewing admitted companies in the Tehran Stock Exchange and imposing the above conditions and limitations, some 130 companies (equal to 1040 years–company) selected for assessment of models and test of research hypothesis.

6. Assessment of regression model and hypothesis

In this research, the number of observations of each section included 130 companies for an 8 year period.

To review the type of model test in various periods and sections of combination data, the bound Chi F Test was employed. The results of Chi Test are shown in table 1.

Table 1: Chi Test results (bound F)

Model's dependent variable	Chi statistic	p-value
DPR	0.9970	0.4955

$DPR_i, = \beta o + \beta 1 prof_i, t + \beta 2 FCF_i, t + \beta 3 Growth_i, t + \beta 4 Size_i, t + \beta 5 Leverage_i, t + \beta 6 Risk_i, t + \mathcal{E}i,,t$

As can be seen in table 1, the Chi test has strongly emphasized the null hypothesis of this test based on similarity of intercept in all the periods. Therefore,

the syncretism data estimation to assess the research hypothesis test models is a more appropriate option. According to this method, all the

data are combined and are estimated using Ordinary Least Square Regressions[22].

For the review of autocorrelation of regression model remains, the Durbin-Watson Test was employed. Considering the level of Durbin-Watson statistic obtained, existence of autocorrelation in the model error values were rejected.

Results of significance test of research model for the years 2005-2012 are described in table (2) as combined analysis of data.

Adjusted coefficient of determination from model test is 0.92. This figure shows that about 92 percent dependent variable change, namely dividend ratio of each share is from existing independent variables in the model.

Considering the results of research model test, model coefficients will be thus:

$DPR_{it+1} = 0.03 + 0.89\ prof_{I,t} + 0.07\ FCF_{i,t} + 0.008\ Growth_{i,t} - 0.25\ Leverage_{i,t}$

Among model variables, two variables of **Size** and Risk do not have significant coefficient (because their significance level is less than 0.05) therefore, are eliminated from the final model.

Table 2: Results of research model estimations at combined data level

Description	Coefficient	t-static p-value	R^2	Adjusted R^2	F-static p-value	D-W
Constant coefficient	0.03	5.5 0.0005				
Prof	0.89	106 *0.0000*				
FCF	0.07	5.14 *0.0000*				
Growth	0.008	2.27 0.0389	0.92	0.91	2257 0.0000	1.77
Size	0.01	1.81 *0.06*				
Leverage	-0.25	-11.66 0.0000				
Risk	-0.08	*-1.3266* 0.1439				

Considering the results in Table 2, ratio variable of shareholders' return on equity has a significant effect on each share's dividend ratio and there is a direct correlation between shareholders' return on equity and dividend ratio. Free cash flow variable also has a significant effect on each share's dividend ratio. There is direct correlation between free cash flow and dividend ratio. Sales growth variable has a significant positive effect on each share's dividend's ratio. Company size variable has no significant effect on each share's dividend ratio. Financial leverage ratio variable has significant effect on each share's dividend ratio. There is an inverse relationship between financial leverage and dividend ratio. Systematic risk variable has no significant effect on each share's dividend ratio.

7. Conclusion

Regarding the first independent variable in the model and the results of regression model estimate, results of research indicate a significant positive correlation between return on equity as research's profitability index and each share's dividend which verifies this hypothesis. In other words, it can be claimed that with increase of profitability in Tehran Stock Exchange companies, the percentage of dividend for each share also increases. We justify the reasons for results of this hypothesis in that company amends shareholders' expectations by increasing dividend as its profits increase on last year's performance. The increase of profitability index in companies registered with the Tehran Stock Exchange does therefore accompany the increase in shares' dividend ratio. Increase in shares' dividend ratio is considered positive and good news for current investors and potential investors alike. A company that has higher dividend ratio, namely that it provides a higher percentage of its profits to its shareholders, will be noticed more than other companies. This will lead to higher demands for the purchase of that company's shares and consequently, value of company shares increase. Results of findings of the first hypothesis are similar to results of research by Holstrom and Inagoamba (2012).

The relations between free cash flows and dividend ratio were reviewed in 2nd hypothesis. It was earlier stated in reviewing theoretical basis that initial expectation is for a positive correlation between free cash flow and each dividend ratio. This was also stated with reference to Holstrom and Inagoamba's research (2012).

Research results based on regression model test with combined analysis of data which was stated in chapter four, states that there was a significant positive correlation between free cash flow, as research's liquidity index and each share's dividend. This hypothesis was therefore verified. In other words, with the increase of liquidity between companies registered with the Tehran Stock Exchange during review period, percentage of dividend for each share has also increased. These findings match Jenssen's representation theory which argues that with the increase of free cash flow, companies increase dividend to reduce costs of representation. Increase in dividend ratio has been

positively good news for current investors and potential investors and can lead to increase in value of shares. Findings of the second hypothesis are similar to Holstrom and Inagoamba's research (2012).

Results of research based on regression model test with combined analysis of data reflect a significant and positive correlation between sales growth and dividend on each share and consequently, this hypothesis was verified. In other words, it can be claimed that the percentage of each share's dividend increases with the increase of sales growth among companies in the TSE. The justified reasons for result of this hypothesis can be stated thus, that sales growth leads to company's profitability and companies increase their dividend with increase of profits above last year's performance to compensate shareholders expectations. Results of the third hypothesis are similar to Holstrom and Inagoamba's research (2012).

The objective of the fourth hypothesis is to review the relation between company size and dividend ratio and the results based on regression model test indicate that there is no significant correlation between total company assets and dividends and this hypothesis is not therefore verified. In other words, with the increase of tested companies' sizes, the company's dividends have not had a significant change. Results relating to findings of the fourth hypothesis are not similar to those of Holstrom and Inagoamba's research (2012).

Relation between financial leverage ratio and dividend ratio was reviewed in the 5th hypothesis and it was stated that companies which have a high debt ratio, tend to have lower levels of dividend. Results of research based on regression model test with combined analysis of data reflect that there is a significant correlation between financial leverage ratio and each share's dividend and therefore, this hypothesis was verified. In other words, it can be claimed that the percentage of each dividend is reduced with the increase of the company's financial leverage ratio. Results of the fifth hypothesis were not similar to Holstrom and Inagoamba's research (2012).

The sixth hypothesis was not statistically significant. Systematic risk was reviewed in this hypothesis. Results based on regression model test state that there is no significant correlation between systematic risk (beta coefficient) and dividends. Results of the sixth hypothesis' findings did not match Hailstorm and Inagoamba's research (2012) either.

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