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THE EFFECT OF CHANGES IN CASH DIVIDENDS DISTRIBUTION ON FORECASTING THE FUTURE PROFITABILITY OF LISTED COMPANIES IN TEHRAN STOCK EXCHANGE

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ABSTRACT

The main objective of this study is to evaluate the effect of changes in the distribution of cash dividends on forecasting future profitability of listed companies in the Stock Exchange in Tehran. For this purpose, 100 firms listed in the Tehran Stock Exchange were selected as sample and the study was conducted within 2004 to 2013.

In this study, the relationship between independent variables and the dependent variables was analyzed using a regression model and Eviwes7 software is used to analyze and test the data.

The results show that there is a significant relationship between the changes of the dividends and profitability of companies listed on Tehran Stock Exchange; in other words, the changes of cash dividend influence on the profits of listed companies in Tehran Stock Exchange.

Keywords : Cash Dividend, Forecasting Of Future Profitability, Equity Dividend Policy

Introduction

Information content of profit is the most relevant issue of accountancy profession, because its results directly reflect the utility of accounting activity. Economic theories introduce the main role of profit as a factor to allocate the resources in the capital market. Many models of stock valuation consider the expected profit as an explanatory variable. Its main relevance is due its tangible relationship with the potential for payment of future profit (Beaver, 1970).

Investors have various incentives to buy stocks. Some of them buy corporate stocks with an incentive to receive annual ordinary dividends regularly, while some others buy the ordinary stocks hoping to benefit from rising stock prices. Others buy them for the purpose of both receiving dividends and an increase in the price of ordinary shares. So, managers need to adopt different policies to meet the expectations of shareholders.

The most important source of information for investors, creditors and other users of corporate data are forecasting the offered earnings by the companies at regular intervals. Forecasting the profit should provide the information that is reasonable, reliable and timely. Similarly, accurate and timely predictions lead to improvement in decision making by the users of accounting reports (Marfou, 2006).

Over the time, earnings per share are seen as the only measure where the best performance of a company is highlighted. Earnings per share are the change in earnings per share which is totally important measure in the success or failure of a company (KhaleghiMoghaddam, 1995).

Equity dividend policy is one of the most important issues proposed in financial management because it represents the major cash dividends of companies and one of the most important choices and decisions of managers. The manager must decide how much of corporate profit is divided, and how much dividend to be reinvested again as accumulated equity in the company. Paying dividends directly benefits shareholders and affects the company's ability in accumulating profits in order to take advantage of growth opportunities. Any investor buys the stock of a company which its dividend policy is desirable. The amount of dividend offered by the board of directors usually contains some information about managers' expectations about future profitability of the company. (Jahankhani, 2005)

Dividend may be discussed from two aspects: on one hand, it is influential factor on company's future investments; namely, dividend will reduce the company's internal resources and increase of the need for external financing resources. On the other hand, many shareholders ask for company equity dividends .By maximization corporate wealth, managers will always make a balance between different interests and profitable investment opportunities. Therefore, dividend decision made by managers of companies is very important. (Mehrani, 2010)

Now, according to the directives of stock exchange, the companies listed in the Tehran Stock Exchange are required to provide information about actual earnings per share predicted and disclosed subsequent changes in the forecasts; however, there are no certain accounting standard on how to calculate and report earnings per share. In Accounting Standard No. 1, only earnings per share based on the number of shares on the balance sheet date and its disclosure in the profit and loss statement or in the explanatory notes are required in the calculations. The National Audit Office has recently started codification of a specific standard in this area that is expected to improve financial reporting. Likewise, dividends or dividend per share (DPS) show the available equity to common shareholders distributed as dividend. This reflects the corporate equity dividend ratio and to great extent indicates the knowledge of management with respect to the ambiguities related to future earnings.

Economic theorists has criticized and explored "maximizing profits" and used the concept "utility maximization" instead in recent years, but in general, despite of minor incentives for the establishment and administration of economic units, presence of equity and potential for profitably are signs of healthy body of an economic unit. (Shabahang, 2003)

Some believe that the real value of a company depends on flow of predicted profits of that company. Certainly, profit of the existing companies in an industry depends on the specific circumstances of the industry. The effect of existing conditions in an industry on corporate profits is further if the products of companies are more similar. Factors such as the current economic situation, inflation rate and interest payment policy made by the companies are of the factors that affect the company's profitability. Of course, the profitability of companies with high financial debt is more sensitive to economic conditions.

Despite most of its limitations, dividend is one of the main criteria that are adapted by people and companies to select stocks and they predicted them with regard to the rise and fall of their price. Analysts and investors who use the stock dividend as future stock-price change should be aware of accounting practices of the company perfectly in calculating the size of the dividend, stock payable equity and inflation rate. For example, the upward trend of stock equity may be due to reduced payable stock dividends or inflation.

The reduction of proportion of payable equity to shareholders would provide greater investment in the company and may affect positively on the profitability of the company.

With respect to the mentioned points in the present study, we seek to see whether the change of dividend has any effect on profitability of companies listed in Tehran Stock Exchange.

Theoretical Bases and Research History

Net profit is defined as the spread of incomes over expenditures in a certain period. This surplus value represents the net increase in the dividends of the stakeholders and originates from the continuous activities of trade unit, subsidiary operations, stochastic events and other events and circumstances affecting the trade unit. Net profit is identified and measured based on generally accepted principles of accounting (Aalivar, 1998:43).

Prediction of profit must provide reasonable, reliable and timely information. The income prediction should be also perceivable and relevant. Accurate and timely forecasting improve the decision making by users of accounting reports (Marfou, 2006).

Theories of Equity Dividend Policy

The theory of irrelevance of dividend (irrelevance theory): Miller and Modigliani offered the theory of irrelevance of dividend (irrelevance theory) in 1961. This theory states that there is no relationship between corporate value and dividend policy. They believed that the market value of a stock joint company could be determined only through investment and operational decisions (which will create the cash flows). Dividend policy is included in financial decisions and a way of dividing cash flows between investors. In this theory, investors are indifferent between cash dividends and capital profit.

Theory of Bird in the Hand

This theory argues that investors prefer cash dividends to capital profit because they believe that the risk (uncertainty) of current cash dividends is less than the expected capital profits in forth coming years. When the ratio of profit payment rises, discount rate decreases and share price rises, because investors are more ensured in receiving dividends compared to capital profit.

The Theory of Agency Cost and Free-Cash Flow

Agency theory is related to the conflict of interest that may take place between decision makers (managers) and beneficiaries (shareholders, lenders and employees). In this section, conflict of interest that happens between shareholders and managers due to management and control breakdown is considered. In practice, the control of managers by shareholders is difficult due to lack of adequate information. This inefficient control of shareholders allows managers to pursue their own interests and make decisions that may have many benefits for shareholders. If we define free cash flow as surplus cash, it is easy to understand this point that as free cash flow is higher, the agency cost between managers and shareholders is higher as well. Therefore, shareholders want higher equity dividend to reduce this cost. There may be also agency cost between debt holders and shareholders. While stakeholders need more equity dividends, the debtors try to divide controlling equity in order to ensure from presence of the adequate cash funds to pay off debts.

Signaling Hypothesis

Modigliani and Miller assume that investors and management have full knowledge of the company and as a result, there is no information-asymmetry practically in the real world. Therefore, there is a gap between company management and investors. To fill this gap, manager uses dividend as a tool to transfer information to shareholders. Signaling theory states that change in the dividend policy contains information on changes in the company's future cash flows. Signaling dividend refers to positive relationships among information symmetry and equity dividend policy. In other words, as the level of information asymmetry is higher, the sensitivity to the company's future outlook of dividend is higher.

The Effect of Customer

Different groups of investors (customers) prefer different dividend policies. In other words, a group of investors is interested in shares of companies that enjoy high payable equity. While another group of customers believe in lower rate of payable equity. These differences may occur for various reasons. Al Malkawi (2007) divided customer effect into two groups, tax effect and the effect of transaction costs; investors with high tax range prefer companies that pay low dividends or pay no cash dividend. These investors are seeking to take advantage of capital profit. On the other hand, small investors, due to their needs, are looking for companies that pay higher dividends because they do not want to increase transaction costs through capital profit and meeting their needs. It can be said that past dividend policies of companies determine the current clients for the company's stocks (Mousavi, Rezaei and Hejazi, 2011).

Mansour Isa. et al (2012) examined the relationship between changes among the stock equity and future profitability of companies in Malaysia Stock Exchange within 1998 to 2007. Using ordinary least square regression method, they concluded that there is a significant relationship between dividend changes and future profitability of the companies.

Siew (2010) examined the issue that whether managers' predictions for profit reflect the information latent in accruals (for good picture of future earnings). He found that accruals are related to future earnings prediction error. This shows that in their predictions managers overestimate the sustainability (continuity) of their accrual.

Fama and French (2000) examined the anticipated future profitability by modifying previous models with variable of profit before interest cost to total book assets of 2343 companies every year. The results showed that the rate of return on average is higher when profitability is farther than its average (higher or lower). For example, when the future profitability is lower than its mean, large changes in income (either increase or decrease) is faster than small changes in income trend to reverse in successive years, and negative changes tend to reverse faster than the positive changes. The statistical methods used by them were regression and cross-sectional regression year by year.

Vivian (2006) found a strong positive relation in 20 industries of England while examining the relationship between future earnings and dividend payout ratio and concluded that profit growth variable to time pause might fail in deducing the earnings but this variable is very efficient and effective in describing future earnings growth.

In examining the relationship between future earnings growth with the ratio of dividend payout, Giolim et al (2006) concluded that although the ratio of paying stock income is a vast subject in theoretical modeling by the financial researchers of the company, thus by ignoring the ratio of stock earnings payment by researchers, a positive correlation was found among the stock dividend payout ratio and growth during the next 10 years (1991- 2001).

Anthony Flynn et al (2010) examined the relationship between future profit growth and dividend payout ratio in the stock market of Australia and carried out their study in Australian companies within (1989- 2008). The results of their study were firstly derived by univariate analysis indicating an extremely strong relation among the payment of stock dividends and growth of future earnings in one, three, and five years. Then the relationship is positive and very significant among dividend payout ratio of future earnings growth in multivariate regression analysis.

Parker (2005) showed that the dividend payout ratio has a positive relation with future earnings growth at level of market index in America, Canada and Australia. It is because dividends and distributed dividends are some of features of big- size companies that strengthen these results, and increase in dividend payout ratio will result in increased future earnings growth, and the weakest data is in Australia within 1956- 2005.

Jahanshad et al (2011) examined the effect of changes in payable dividends on future growth, using data of listed companies in Tehran Stock Exchange from 2005 to 2009. To test the hypothesis of this study, multivariate regression has been used. Their results show that the effect of changes of the dividends paid on future earnings growth has a positive and significant relationship.

Fereshteh Eftekharnejad (2009) examined the effect of accumulated and distributed earnings on future profitability and stock return. In this study, she primarily divided profit in two components of accumulated earnings and distributed dividends and then studied the role of accumulated earnings and distributed dividends in future profitability and stock returns of companies listed in the Tehran Stock Exchange. A totally 50 companies listed in Tehran Stock Exchange were selected and studied through multivariate regression and panel data analyses for the years 2002 to 2007.

Namazi et al (2007) showed that there is no relationship among profit growth, sales growth, asset growth, and forecast profit in the past, financial leverage, stock price and accuracy of stock price prediction. The results of multiple regression model showed that there is a relationship between the growth in profits and financial leverage with accurate forecast of earnings.

Khaleghi Moghadam et al (2004) examined the expected information content of corporate profits. The results confirm a significant relationship between stock returns and earnings forecast, so this predicted earnings includes information content. The other research findings show that there is a significant difference between abnormal returns (17 weeks around notifying predictions).

Naderi Noureini (2006) identified and explained the determinant factors for role of the quality of earnings in anticipation of future payable earnings and showed interest payments has a positive (negative) relationship with the ratio of cash resulting from operating activities to operational profit (total accruals) and future earnings. To evaluate the above relationship in all models used, determination coefficient is higher than 97% (96%), which indicates a good fit and power of the relationship.

The Research Hypothesis

To find an answer to the question that whether there is a relationship between changes in the distribution of dividends and profit forecasts or not, the hypothesis is formulated as follows:

Changes in the dividend influence on the profits of listed companies in Tehran stock exchange.

Research Methodology

The above research is of descriptive type in terms of purpose and application and design of research in which historical data from companies and statistical methods are employed to confirm or reject the hypotheses.

Statistical Population and Sample

Spatial domain of the research includes the companies listed on the Stock Exchange in Tehran. Time domain of the research has been also determined from 2003 to 2012 (a period of ten years).

Similarly, the statistical population of present research includes companies that meet the following qualifications:

- During the whole study period, the given company should be accepted in Tehran Stock Exchange Organization.
- During the whole study period, that company should be actively transacted in Tehran Stock Exchange.
- Its fiscal year has ended to 20 March and in all years of the research; the company's fiscal year is unchanged.
- The field of activity of the company should not be financial operation and investment (Only companies that directly play role in the operational activities "manufacturing services").

Due to the above qualifications, only 100 companies (out of 1000 observations) were selected as statistical sample.

Research Model and Variables

In this study, to test the research hypothesis, panel-data regression has been used with (OLS) method ordinary least squares as in the following equation:

$$\boldsymbol{\Delta EpS_{it} = \alpha + \beta_1 \Delta DIV_{it} + \beta_2 DIDUM_{it} + e_{it}}$$

Dependent variable:

$$\Delta EPS = \frac{(EPS_t - EPS_{t-1})}{P_t}$$

Δ EPS: Changes to earnings per share for firm i inyear t.

T: time

P: stock price

EPS: Earnings per share

Independent variables:

$$\Delta DIV = \frac{(DIV_t - DIV_{t-1})}{DIV_{t-1}}$$

ΔDlV: Changes in dividend of firm i in year zero.

DlV: Dividend

MUDlD: increase in dividend compared to the year zero, with a value 1, if the cash dividend has increased in company otherwise 0.

Data Analysis of the Research

Descriptive statistics of the variables

Table 1 shows the descriptive statistics of the research variables. The statistical quantities include mean, median, maximum, minimum, standard deviation, coefficient of Skewness, kurtosis factor, Jack bra and finally the number of observations (for 100 years from 2004 to 2013). Due to non-payment of stock dividend by a number of companies during the research period, the number of observations to test the hypothesis was reduced from 1000 to 817.

Table 1. Descriptive statistics of variables

Variable	Mean	Median	Maximum	Minimum	SD	Coefficient of Skewness	Kurtosis Factor	Jock bra	Probability of Jock bra	Number of Observation
DIDUM	0.350	0.000	1.000	0.000	0.477	0.628	1.395	173.187	0.000	1000
ΔDIV	0.677	0.000	56.140	-0.990	3.926	9.663	112.418	435195.200	0.000	1000
PSEΔ	0.083	0.000	2.460	-1.430	0.339	1.643	10.760	5950.440	0.000	1000

In this study, to test the reliability of data, Fisher test has been used where its results are presented in Table 2:

Table 2.Results of reliability of variables

Variable	PSEΔ	ΔDIV	DIDUM
Statistics	495.137	483.560	266.943
Probability	0.0000	0.0000	0.0000

For all variables P-Value value is smaller than 5%. This means that all variables are stationary (stable). As a result using these variables in the model does not lead to false regression.

Hypothesis Test

To test the hypothesis, we use two regression models. The first model is based on the relationship or the effect of the explanatory variable (ΔDIV) with the dependent variable (PSEΔ). The second model is based on the impact of the dummy variable (the incremental trend in dividend per share) on the regression slope in research hypothesis.

Table 3. Results of regression of research models

Model	$\Delta EpS_{it} = \alpha + \beta_1 \Delta IV_{it} + e_{it}$		$\Delta EpS_{it} = \alpha + \beta_1 \Delta DIV_{it} + \beta_2 DIDUM_{it} + e_{it}$		
Variable	**Constant (C)**	ΔDiv	**Constant (C)**	ΔDiv	***DIDUM***
Coefficient	0.069746	0.019643	0.069491	0.017204	0.008826
SD	0.066889	0.004273	0.069707	0.005002	0.009396
t statistics	1.042712	4.596950	0.996898	3.439775	0.939426
The level of significance	0.2974	0.000	0.3191	0.0006	0.3478
The coefficient of determination	**0.025507**		**0.026587**		
F statistic	**21.33264**		**11.11638**		
f Statistic probability	**0.00004**		**0.000017**		
Durbin Watson statistics	**2.149436**		**2.163469**		

In testing the research hypothesis based on the first model with respectto the significance level of the model (probability of F-statistic), it is observed that itsvalue is smaller than 5%. As a result, there is a linear significant relationship between the explanatory and the dependent variables, so the above regression model is significant. On the other hand, Durbin-Watson statistic is equal to 2.149436, which reflects the lack of autocorrelation between the residuals of the estimated regression equation. The coefficient of determination is equal to 0.0255075, considering the significance level of regression coefficient; it is observed that there is a significant relationship between changes in cash earnings per share (ΔDIV) with changes in earnings per share (PSEΔ).In other words, there is a significant positive relationship between the effects of dividends on profits of changes of the companies listed on Tehran Stock Exchange.

Based on the second model, given the significant level of 0.3478 of regression coefficient for the dummy variable UMDlD, we conclude that the rising trend of the stock dividend during the given years does not affect the regression slope compared to the year zero or in other words, it is not significant. So at significance level of α=5%,hypothesis Ḥ: $\beta=0$ is not rejected and the mentioned hypothesis 0Ḩ : $\beta =$ is not accepted.

To test research hypothesis, we used two regression models. The first model is based on the relationship or the effect of the explanatory variable (ΔDIV) with the dependent variable (PSEΔ). The results showed that the level of significance of the model (F) is smaller than 5%. Durbin-Watson statistic is also equal to 2.149436, which reflects the lack of autocorrelation between the residuals of the estimated regression equation. The coefficient of determination is equal to 0.0255075. We therefore conclude that at the significant level of 5% there is a positive significant relationship between changes in dividend per share (ΔDIV) with changes in earning per share (PSEΔ).

Then, the second model is based on the effect of the dummy variable (the incremental trend in dividend per share) on regression slope of the research hypothesis. Given the significant level of 0.3478, dummy variable (DlDMU), which is greater than the 5%, we conclude that stock dividend increase of any company in the mentioned year in relation to the zero does not affect the slope of the regression of the research hypothesis or namely it is not significant.

Conclusion

This study has examined the effect of changes in dividends on profitability of companies listed on the Stock Exchange in Tehran. The results of tests done on the hypothesis show that change of dividend influence on the profitability of companies listed on the Stock Exchange, and there is a significant relationship between increases in the dividend per share with changes of earnings per share. These findings are consistent with research findings of Ling Sen and Zang (2007), Chang and VeeSou (2008), See Peng Lee et al. (2012), Azita Jahanshad and colleagues (2011), Anthony Flinn and colleagues (2010), Giolim et al. (2006) Vivien (2006) and also in compliance with the theories of relevance of dividends by Walter, Gordon and others.

The results of this study are of great importance in terms of use in investment and financing decisions, because prediction is a key factor in economic decisions. Investors, creditors, management and other entities rely on forecasts and expectations in their economic decisions. Since investors and financial analysts use profit as one of the main criteria for assessing companies, they tend to measure the future profitability to hold or sell their shares. By predicting profit, they judge on the status of a company because the difference in this forecast is what that determines the allocation of funds to different departments and business units. It is also important for potential investors. By predicting future cash flows and profits, they invest and allocate resources of their capital.

Similarly, a vague aspect of our stock market has been studied through this research to take a step, though small, in order to achieve an efficient capital market is our country's stock market.

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