An Assessment of the Forecast of Future Earnings and its Impact on Financing through Retained Earnings Considering Payable Dividends in Pharmaceutical Companies Listed in Stock Exchange

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Abstract

Forecasting earnings have a valuable status for investments so that the idea of creating highly efficient business without access to and the presence of predictable earnings seems impossible. In other words, forecasts have become much more important than their past periods. Accordingly, in this study, future earnings and their impact on financing through retained earnings was assessed with regard to the payable dividends for 26 pharmaceutical companies listed in Tehran Stock Exchange for the time period of 2005 to 2012. The investigation of linear correlation matrix of these variables shows a positive relationship between financing through retained earnings and forecasting earnings of companies and negative relationship between payout dividends and forecasting earnings. The results of this study showed that forecasting earnings has a positive impact on financing through retained earnings of these companies and in the opposite direction, payout dividends had a negative impact on this variable.

Keywords: Forecasting Earning, Financing, Retained Earnings, Pharmaceutical Companies, Integrated Data.
Introduction
The role of commercial enterprises in countries’ economic structure is no secret in today’s world. Today, as the basis of countries’ economy, commercial enterprises use a lot of economic resources such as labor force, raw materials, investment, etc. and in contrast, given the volume of production and sale, they play a large role in the economic development of countries. That’s why the debate on future earnings and firms’ dividends, investment structure, and its details in forecasting future earnings is highly influential in determining and identifying the optimal stock and ultimately its impact on payout dividends. One characteristic of efficient market in strong form is that the future earnings of companies reflect the intrinsic value of stock and payout dividends to shareholders at any time (Modigliani and Miller, 1963). So, if factors affecting Company's future earnings and their impact on financing companies can be identified, market performance will be more and on the basis of retained earnings, its impact is just possible through the identification of factors associated with it. According to the conducted studies, it has been determined that there is a relationship between forecasting future earnings and its impact on financing through retained earnings by taking into account payout dividends and the number of published financial information. If such a relationship is proved in Iranian capital market, inefficiency can be somewhat reduced and parameters of efficient market in strong form can be attainable (Mashayekh et al., 2007).

Statement of the problem
The main factor that every investor takes into account in his decision-making is the rate of return i.e. investors are looking for the most highly efficient opportunities to invest their surplus resources in investment markets. However, in the field of furcating stock returns which is one of the subjects interested by investors and financial researchers, a bulk of efforts have so far been done to provide a model that can forecast stock returns to be worthy of reliance. Until the 1990s, it was thought that Capital Asset Pricing Model (CAPM) was a perfect model to forecast stock returns while the results of studies indicated that this model does not have the ability to forecast stock returns. By the loss of the validity of this model, a bulk of attempts were done to replace the model which can determine stock returns in the best way but so far, financial analysts have not agreed on an alternative model. Today, investors can somewhat forecast stock returns through creating a bridge between stock returns and other accounting information (including information of cash flow statement) provided that accounting information has an effect on price; in other words, it is at the strong level in terms of efficiency. Substantial financial statements are the extract of all financial activities and events occurred over the course of time, usually one year. For example, balance sheet is to provide useful information about assets, debts and shareholders’ equity and relationship among them at the end of the financial period. In the income and expense statement, the results from continuing and main operations is reported while measuring the items reflected in income and expense statement and balance sheet based on assumption is accrual and for this reason and because of the inherent problems caused by applying methods of allocating and using historical unit cost of events operations, doubts have been emerged to the adequacy of the mentioned financial statements to meet the informational demands and needs of users.

Due to some innate and accrual orientations on accrual basis, there is doubt that traditional accounting methods are sufficient for reporting today's complex economic activities. One of the ways to avoid these orientations is to emphasize on reporting cash flows so that the users of financial statements will be able to do their forecasts. Investors and users of financial statements try to lead their financial resources through these forecasts to the lowest risk and
highest return. So, return on equity is one of the very important factors in choosing the best investment opportunity from the perspective of investors. Future stock return may depend on several factors and tendency to use cash-based accounting data has been increasing in recent decades. In many empirical studies done over these years, the relationship between cash and accrual accounting with the stock returns of companies has been investigated in various forms (Dastgir et al, 1991).

It is tried to realize the relationship among forecasted budget earnings and financing through retained earnings of companies and its effect on payable dividends to shareholders in this study and in general, whether a relationship can be found between forecasting earnings with retained earnings and payable dividends. Forecasting earnings has had a valuable position for investments in a way that the notion of creating a high efficient business without assessment and predictable earnings seems impossible. In other words, forecasts have become much more important than their past such that management and having a detailed plan seems to be necessary for it. On the other hand, the move toward economic development to increase living standards and achieve desires is considered as an integral part of human evolutionary trends. Forecasting earning and its earning costs can be known as a way to achieve desired demands in the form of industries. Through scientific recognition and without any purpose for the ways to forecast plan and decisions, this study aimed to establish a relationship between it and creation of efficient return in the cement industry known as one of the most important and economic industries and after determining the main objective that is the evaluation of the relationship between these forecasts and dividends and finally how to affect these forecasts ten largest cement manufacturers listed on Tehran Stock Exchange, investigate an increase of investor wealth, the value of cement companies and type of their relationship. By taking advantage of scientific research and needed data collection, these hypotheses were tested so that by accepting or rejecting them, the necessary conclusions can be drawn. Accordingly, the present study seeks to determine the impact of the forecast of future income on the financing through retained earnings and finally evaluate the financial strength of the companies producing drugs and criticize the dependency of dividends variables and financing of the company's cash through earnings forecasts. In this regard, using the available information of 26 pharmaceutical companies with the most presence in capital market during the years 2005 to 2012, the issue is studied. In summary, given the material presented above, it can be said that the research question is formulated as follows: Is earnings forecast through retained earnings effective in financing in light of payable dividends in pharmaceutical companies listed in Tehran Stock Exchange?

Review of the related literature
1- Internal studies
Ismailzadeh (2010) examined the impact of corporate governance on the quality of earnings in Tehran Stock Exchange during 2004-2008. Testing Corporate governance mechanisms which were investigated in this study included the percentage of institutional ownership, number of blocks of major shareholders, the percentage of non-executive directors on the Board, lack of CEO as chairman or vice chairman of the Board of Directors and the independent auditor of the company. The study hypotheses were run using Panli analysis and using the information panel of 94 companies listed in Tehran Stock Exchange during the years 2004-2008 through a combination of time series and cross-sectional data. The results show that there is a significant positive relationship between the percentage of institutional ownership, number of blocks of major shareholders, the percentage of non-executive directors on the Board, lack of CEO as
chairman or vice chairman of the Board of Directors and the auditor of the company and the quality of earnings.

In a study, Haghighat, et al. (2011) studied factors affecting the accuracy of earnings forecast of companies listed in Tehran Stock Exchange at the time of the capital increase and the impact of their size on the accuracy of earnings forecasts from the year 2005 to the end of the year 2008 and after the evaluation of the independent variables including the expected time horizon (short-term or long-term), the number of revised profit forecast of the previous year, the kind of the comment by the audit on the financial statements of the previous year, industry type and company size through multi regression analysis, ANOVA, and coefficient determination, they concluded that among the factors mentioned, the forecast horizon and industry type and then earnings forecast were determined. Also, no significant relationship was found between all the factors and the accuracy of earnings forecast.

In their study entitled the evaluation of the anticipated benefit ratio and its impact on stock prices in the petroleum and chemical Companies listed in Tehran Stock Exchange, Nikbakht and Talebnia (2011) investigated the difference between the projected profit per share and earning per share and its effect on the stock price of the companies. In this empirical study, the information of 29 companies from 2005 to 2008 was analyzed using the t-Student and regression model. The hypothesis i.e. a significant difference between the earnings forecast per share and realized earnings of these companies was confirmed.

Hashemi and Akhlaghi (2011) investigated the relationship between the future value of the company and capital structure, dividend policy and profitability for companies listed in Tehran Stock Exchange. There were two hypotheses formulated in the study. The first hypothesis tested the relationship between structure capital, policy dividends and earnings by the company value, and the second one examined the relationship between the mentioned variables and future value of the company through the multivariate linear regression and exponential model for manufacturing companies listed in stock exchange from 2001 to 2008. The two hypotheses confirmed the significant relationship between these variables.

Janjani (2011) conducted a study entitled the relationship between income and its components and stock returns with an emphasis on the quality of earnings in companies listed in Tehran Stock Exchange. To investigate the issue, a sample of 230 companies listed in Tehran Stock Exchange for the period of 7 years between 2002 and 2008 was selected. The results based on a combined method suggested that earnings components both have information content, but the cash to the accrual component of earnings has greater information content. Also, the results showed that companies with high earnings quality earn positive returns and low earnings quality companies earn negative returns, so that companies with the highest quality were able to benefit in the studied period 17% higher than the lowest earnings quality companies that have their business efficiency.

2. Foreign Studies
In a study entitled “The capacity of estimating forecasted earnings and dividends”, Penman (1983) evaluated attributes of dividend and compared the management of forecasting earnings as forecasted profit and company's value. He initially assessed forecasts based on the company's ability to forecast earnings and used information obtained from them to change company's value in the performance of investment strategies. Finally, the effects of dividend on stock prices were examined because despite great efforts in this regard, the role of dividend has not still been recognized correctly in financial theories and according to Miller and Modiliani, dividend plays a role in forecasting future earnings. Accordingly, this means the
hypothesis of companies in which the level of dividend is based on the assessment of future income was evaluated and using Bhattacharyya model, he confirmed that dividend depends on the forecasted earnings.

Francies et al (2003) evaluated the relationship between earnings quality and certain cost of debt and shareholders' normal equity. In this study, the relationship between eight indicators of earning quality and certain cost of debt and shareholders' normal equity was examined. The obtained results indicate that companies with low earnings quality have higher cost of debt and normal equity capital in comparison with companies with high earnings quality.

Gecsh et al (2004) investigated the earnings quality and Earning Response Coefficient (ERC) during increasing earnings and sale persistence. The results of their study revealed that companies with profit growth along with increasing sale have higher earnings quality and Earning Response Coefficient compared to companies with earnings growth along with reducing cost.

Chan et al (2004) evaluated the relationship between accruals (difference between profit and cash flow) and future stock returns and indicated that the stock returns of companies with large accruals is decreased in the period after reporting financial information. These results are interpreted so that companies with low earnings quality (i.e. companies with high accruals) suffer from loss of efficiency in the period after reporting profits because investors realize low earnings quality in companies and adjust the stock prices according to it.

In their study, Caito et al (2005) examined the optional forecast of profit by management in companies listed in Japan stock. The study period is between the years of 1997 and 2006. The results of the study showed that the first forecast of profit is often higher than the actual profit while the forecast is adjusted and reduced during a year. Moreover, these forecasts have averagely information load; however, forecasting the profit of companies with weak performance and managers who have had poor and optimistic forecasts has low information load and low reliability.

Chiu (2009) investigated the effect of the transparency of financial reporting on the performance and value of companies in Taiwan Stock Exchange. The results of the study showed that the transparency of disclosure of financial information maximizes the value of company and prevents creating moral hazards between the manager and owner.

**Hypotheses:**
According to the contents presented in the previous sections, the study hypotheses are as follows:

1. There is a significant relationship between financing through retained earnings and earning forecasting in the pharmaceutical joint stocks.
2. There is a significant relationship between financing through retained earnings and payable stock dividends.

**Type of study**
Since the results of this study can be used in the decisions of managers, investors and capital market participants, this is an applied study in terms of the objective. Also, in terms of the study hypotheses, this is a cross-correlation study because to explore relationships among variables of the study, regression and correlation techniques will be used and so, it is an inductive reasoning in terms of reasoning. Also, since we will conclude through testing available data, this study is classified in positive theories group.
Population
The population consists of a collection of individuals or entities with at least one common trait. The population of this study consists of all pharmaceutical factories in Tehran Stock Exchange. In this regard, using available information related to 26 pharmaceutical companies with the most years of presence in capital market, this issue was discussed during the years of 2005 to 2012.

The considered criteria are as follows:
1. Accepted at Tehran Stock Exchange before the period of the study
2. No change in financial year during the study period
3. The end of financial year of the investigated companies be March 29
4. The book value of the equity of these companies be positive.

The study model and variables
Independent variables:
1. Forecast earnings, the budget of earning which is prepared each year for the following year and presented to Stock Exchange after confirming audit.
2. Payable dividends

Dividends
\[ D_t = (d_t - d_{t-1}) \]
Where \( D_t \), \( d_t \) and \( d_{t-1} \) represent an increase of dividends, dividends in \( t \) period and dividends in the past period, respectively.

Dependent variable:
Financing through retained earnings are calculated as follows:
\[ E = (C_1 - C_0) - B \]
Where \( E \), \( C_0 \), \( C_1 \) and \( B \) represent an increase of financing through retained earnings, the amount of investment before increasing investment, investment after increasing investment and the percentage of increasing stockholders funds, respectively.

Results
According to the literature on econometrics, before estimating the regression models, testing homogeneity of data and as a result, the use of panel data estimation method is necessary using F-Limer test statistic. The results of F-test indicate the lack of significance of using panel data method rather than integrated method. The results of this test are given in Table 1.

<table>
<thead>
<tr>
<th>Table 1: F-Limer statistic</th>
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<tbody>
<tr>
<td>Possibility Value (PV)</td>
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<tr>
<td>F-test statistic</td>
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</tbody>
</table>

So, in this part, the study hypotheses will be tested using consolidated regression method (Pool). The results of estimating the model by consolidated regression method (dependent variable: financing through retained earnings in pharmaceutical companies) in Table two show that:

Increasing the forecasted earnings or decreasing it has an effect on financing through retained earnings of pharmaceutical companies because the level of significance has been obtained equal to zero for this variable with the t-statistic of 4.17 which is smaller than 0.05. So, for the increase of one unit change in the variable, financing through retained earnings of pharmaceutical companies will increase 0.241 unit. Therefore, the first hypothesis is confirmed at the level of significance of 0.05. Also, to test the second hypothesis, according to the t-statistic and level of significance of these variables, it is understood that payout dividends

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influences financing by pharmaceutical companies in a way that by increasing a unit of dividend of tested pharmaceutical companies, financing is reduced 0.381 unit through retained earnings of pharmaceutical companies. In should be mentioned that dividend as a mediating variable affects the regression. It will have significant results which are addressed below.

Each year, companies keep a portion of net income in accordance with law and another portion based on the need of companies and they divide the rest among shareholders. A dividend per share is obtained from dividing total dividend payout (approved by annual general meeting) into the number of shares of company. Since DPS is part of the profit of EPS that shareholders view on dividing it, this amount is usually less than EPS and its rest is transferred to this account as retained earnings and it makes financing by company possible through retained earnings under a special mechanisms. So, by increasing dividend, it is expected that financing reduces through retained earnings that is the result confirmed by regression of Table 2 at the level of significance of 0.05.

On the other hand, payout dividends is sometimes done as an emission of bonus share in a way that the company accounts profit for a year as retained earnings and raises investment from retained earnings in extraordinary general meeting that is emission a new stock and gives it to company’s current shareholders for free. By increasing investment through the distribution of bonus share, the number of shares and rate of company’s investment are increased and retained earnings reduce while shareholders’ equity remains unchanged. It is completely obvious in this case, by increasing dividend payout through stock, retained earnings is decreased which leads to decrease the possibility of financing through retained earnings for company. The effect is confirmed on the coefficient estimated for dividend payout at the level of significance of 0.05.

In other words, in both cases and with regard to the above comments, the payment of dividends in cash and stock leads to the reduction of financing through retained earnings in the studied pharmaceutical companies. Therefore, the second hypothesis is confirmed.

Table 2: Results of estimating the model using POOL (dependent variable: financing through retained earnings)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Standard Deviation</th>
<th>t-value</th>
<th>Level of significance</th>
<th>Compared with 0.05</th>
<th>Result in the model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td></td>
<td></td>
<td></td>
<td>Less than 0.05</td>
<td>effective</td>
<td></td>
</tr>
<tr>
<td>Revenue projections</td>
<td></td>
<td></td>
<td></td>
<td>Less than 0.05</td>
<td>effective</td>
<td></td>
</tr>
<tr>
<td>Dividend</td>
<td></td>
<td></td>
<td></td>
<td>Less than 0.05</td>
<td>effective</td>
<td></td>
</tr>
<tr>
<td>Durbin-Watson statistic</td>
<td>Errors in the model are not correlated</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determining factor</td>
<td>87% of changes in income predicted by the independent variables are discussed.</td>
<td></td>
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<tr>
<td>Fisher statistics</td>
<td></td>
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<tr>
<td>Significance level of the model</td>
<td>The linearity of the model is conformed</td>
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</table>

Conclusion
The results show that the increase in the predicted earnings or its reduction has an impact on financing through retained earnings of pharmaceutical companies so that for the increase of one unit change in the variable, financing increases 0.24 unit through retained earnings of pharmaceutical companies. This result is also obtained from the correlation matrix and shows a
positive relationship between these two variables. The relationship between dividend and financing has negative and linear relationship through retained earnings of pharmaceutical companies. To ensure the issue, in order to test the second hypothesis and according to t-test and level of significance of these variables, it can be understood that dividend affects financing by retained earnings of pharmaceutical companies in a way that by increasing a unit in dividend of tested pharmaceutical companies, financing reduced 0.38 unit through retained earnings of pharmaceutical companies. It should be noted that given that payout dividends in cash leads to decrease retained earnings and payout dividends stock leads to increase company's capital and subsequently, decrease retained earnings, these two factors can reduce the use of retained earnings to finance and this result was also confirmed by panel regression model. In other words, in both cases and with regard to the above comments, the payment of dividends in cash and stock leads to the reduction of financing through retained earnings in the studied pharmaceutical companies. Considering the above contents, it is concluded that the results of this study are in line with the results of studies proposed in this area.

**Recommendations**

1. **Recommendations of the study results**
   1. It is recommended that during formulating the policies of financing, decision- and policy-makers in pharmaceutical companies examine its impacts and the effect of dividend on the predicted earnings and analyze it more fundamentally.
   2. Given the positive relationship between financing through retained earnings and forecasted earnings of pharmaceutical companies in Tehran Stock Exchange, it is recommended that companies have a considerable attention to using financial leverage and how to finance them.

2. **Recommendations for future studies**
   1. Given that this study was done in the Period of seven years, researchers are recommended to consider longer period of study for future studies.
   2. Researchers are recommended to consider the observation of finance and its relation with predicting earnings in developing and developed countries; compare it with the capital structure of pharmaceutical companies in Iran and investigate reasons for the potential differences among them.
   3. It seems that this study can meet the needs of any industry on the forecast of future earnings in other industries and firms well. Accordingly, researchers are recommended to apply this study in other industries and how to influence different variables on it.
   4. Given the variety of firm characteristics and economic factors such as competitiveness, profitability, return on equity, return on assets, economic added value and interest rate, there is no opportunity to investigate all of them in this study. Therefore, it is recommended to examine and test other effective factors.
   5. Change in statistical methods and tests used to test the study hypotheses and also extend the time period of study can be useful in achieving more valid results.
   6. According to the significance of regression coefficients applied in the tested variables, it is recommended to measure the direction of their causality.
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