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The relationship between staff costs, the value relevance and profit forecasts at companies-listed on Tehran Stock Exchange

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ABSTRACT

The value and profit forecasts both qualitative benefit and salary costs of employees as human capital models and predictions related to the value entered. The aim of this study was to investigate the relationship between staff costs, the value relevance and profit forecasts at companies listed on the Stock Exchange in Tehran. Data research using a sample of 70 firms listed in the Tehran Stock Exchange, for a period of time from 2009 to 2013. These data have been analyzed in compilation methods and models multivariate regression. The results showed that in the firms studied have earnings predictability and relevance, and with the addition of variable staff costs (human), both predictable earnings and the relevance, can be increased. In the other word, there is a significant positive correlation value between the cost of labor and profit forecasts and relevance.

1. Introduction

Tehran Stock Exchange growth in recent years has led to empirical research in the field of accounting and finance is useful. In this study, as well as to help advance the field of accounting literature the relationship between staff costs, the value relevance and profit forecasts in the Tehran Stock Exchange companies have been investigated. The importance of value content and predicted profit for shareholders is one of the important motivations in this research. The relationship between these variables using the data of companies in Tehran Stock Exchange in the form of multivariate regression and combined data analysis and formulate hypotheses were tested. The results could be useful for various groups, including managers and shareholders.

2. Problem statement research

Accounting profit figure as an important part of accounting information should have qualitative characteristics to help the investors and other users in the decision making process. Relevance and reliability are the two main characteristics earnings. For the relevancy of the benefit, in addition to other features, the benefit should be predictive value (Al-Dhamari et al., 2013). According to the conceptual framework of the Financial Accounting Standards Board, The ability to predict is considered one of the qualitative characteristics of the relevance of information (conceptual statement No. 2 FASB).

Direct and indirect observations of market research, suggests that the reported earnings on stock prices has a direct effect. In other words, it is treated as capital market earnings, with time and information content. The first study to examine the behavior of capital market earnings accounting for payment and evidence of the value relevance of lost profits by the Ball and Brown (1968) was done. Therefore, one of the criteria for assessing the performance of the company are used by a range of users is accounting profit (Francis and Schipper, 1999).

The benefit also features predictive, relevant as well. This means that shareholders use the benefit information for their own future investment decisions. In other words, shareholders will be able to predict future stock price or yield from information on their dividends.

Buy and sell shares causes stimulate the capital market and the economic prosperity that it depends on the identification of shareholders in dividends and stock price changes are lies. Awareness of changes in earnings per share and stock price can provide good knowledge to the shareholders. This requires an understanding of the factors that could affect the stock price. Shareholders constant concern is to know to what extent can the companies reported financial and accounting information and between different information than other

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information to which their attention (Habib, 2004) to predict future cash flows and stock prices rely on?

In a different study, the influence of various factors on the earnings forecast and the stock value has been investigated. In the literature of accounting in the country, the effect of the cost of wages has not been investigated. An important part of the income statement, the expense is payroll. Thus, the cost of salary compensation paid by the experience and expertise of the workforce on the company's performance is impressive. In this study, the effect of the cost of the salary paid to the content and the earnings forecast (Schiemann and Guenther, 2013). Therefore, this study is the basic question of whether the cost of staff, the value relevance and profit forecasts at companies listed on Tehran Stock Exchange has a significant relationship.

3. The importance of and need for research

The necessity of this research is important from two aspects: First, the earnings forecast and the value relevance for the actual and potential stakeholders of the company has been always very important because their decisions to buy, sell or hold shares in the company depends on the company's profitability and efficiency. Therefore, we are always looking to forecast future profitability. The second important point is the cost of wages in Iran. The cost of the salary represents the share of labor in the production of goods and provision of services and one of the biggest expenses for most companies. The cost of wages as a key factor cost requires ongoing measurement, control and analysis. Increased production leads to lower cost per unit, coupled with rising wage rates and benefits, an increase in the use of advanced equipment and machinery to produce more with less working hours is sent. Calculate and pay the right salary is one of the factors that create a good relationship between employees (workers) and the Employer. Also, so far the cost of the salary and earnings forecast in the country has not been investigated. Thus, the present study is the research questions that concern the shareholders also are answered.

In different studies, the effects of various items on value relevance and the ability to forecast profits in the Tehran Stock Exchange companies have been investigated. But in the meantime one of the gaps in domestic research is the impact of the cost of salary (as expenses related to human resources) and spending on research and development that will be addressed in this study. To do this we use the model introduced by international researchers and hope that the results will lead to an increase in accounting literature.

4. Research literature

Dastgir and Rastegar (2011) examined the relationship between earnings quality, the size of accruals and Return on equity and quality of accruals in the Tehran Stock Exchange during the period 2000 to 2007. In this study, they used 95 companies in Tehran Stock Exchange and by using the combined data, the results of hypotheses were tested. Their results showed that earnings quality is directly related to the quality of accruals, while by decreased the quality of accruals and increased the size of accruals, the stock returns increased.

Baghumian et al. (2013) examines the relationship between normal and abnormal output value and profit shares on the Tehran Stock Exchange during the period from 2005 to 2010 began. In this study, they used 74 companies in Tehran Stock Exchange and by using combined data; the results of hypotheses were tested. The results of the analysis of the data indicate that earnings for the users associated value. In other words, both variable, normal annual returns and Annual abnormal return has a significant relationship with accounting profit. In this case, the accounting earnings impact on stock prices. They used data in the period from 2001 to 2011 to examine the relationship between volatility profit and the earnings forecast by using 400 companies in the Tehran Stock Exchange. The results showed that the earnings forecast reduced by volatility profit. And in addition, in the long term the power of predictions, to be reduced. Also, with controlling losing companies (based on the theoretical framework of causes fluctuations in interest), the results did not change. They used 95 companies in Tehran Stock Exchange in the period from 2007 to 2012, to examine the relationship between labor costs, productivity and market value of Tehran's stock exchange. The results showed that there is the relationship between human capital performance with two measures of labor productivity and cost efficiency of the staff, but there is not the relationship between human capital and efficiency of fixed assets. Also, human capital performance significantly by market value, but there was no significant correlation with the stock market value.

Ballester et al. (2002) in their study in America during the period 1996 to 2000, review the value of information of capital expenditure wage. The results of their study showed that the increase in staff costs associated with significant increase future stock returns (Ballester et al., 2002).

Amir and Livne (2005) used 126 companies from Canada to examine the relationship between the cost of salary and the earnings forecast and the information content of interest. The results showed that the disclosure of payments to employees, resulting in increased information content, but, not improve earnings forecast (Amir and Livne, 2005).

Bagna et al. (2011) examines the impact of staff costs on the information content of interest among 144 companies from Hong Kong during 2002 and 2009. The results revealed that labor costs has a significant effect on reported profits is content (Bagna et al., 2011).

Schiemann and Guenther (2013) examine the relationship between personnel expenses, related to the value and potential earnings forecast during the

period from 1999 to 2010 by examined 938 companies from Germany. The results showed that the disclosure of personnel expenses led to an increase in the value and power is earnings forecast (Schiemann and Guenther, 2013).

Gu and Li (2010) in their study among 322 companies from America during the period from 2000 to 2011 found that almost 16% of the market capitalization of the companies surveyed, including human capital. Therefore, higher salary costs affect the market value of stock and returns (Gu and Li, 2014).

Penman (2009) examines the relationship between staff costs and the value of the 228 companies during the period 2004 to 2012 in Canada. The results showed that the cost of human capital can be used as stimulus for determining the market value (Penman, 2009).

5. Hypotheses

1) Salary costs have a significant relationship with the earnings forecast.
2) Payroll costs have a significant relationship with value relevance.

6. Methodology, population and time period research

This research is applied research in the field of research proving accounting that using multiple regression and econometric models. The population of this research, firms listed on Tehran Stock Exchange since the beginning of 2009 until the end of 2013 for a period of 5 years during this period has maintained their membership on the stock exchange. In addition, the population is adjusted using the following conditions:
1) The company must be accepted before 1384 and the beginning of 1384 in exchange for its shares to be traded on exchanges
2) The end of the fiscal year end of March and during the course of the research, there is no change in the fiscal year
3) The company should not during the study period; the Stock Exchange may halt trading for over a year.

After applying these restrictions, 70 companies, all have a presence in the population. The final analysis of the data was performed using econometric software Eveiws8.

7. Variables

7.1. The dependent variables

The profit forecasts: Through regression variable interest to be measured (Eq. 1).

$$Earn_{t+1} = \alpha + \beta_1 Earn_t + \varepsilon \quad (1)$$

In this model, $Earn_t + 1$ represents the net profit next year (t + 1) and $Earn_t$ represents the net profit of the current year.

The value relevance: These variables through the regression model used profits and efficiency. The dividend yield year after year, with stronger links to be content higher profit (Eq. 2).

$$RET_{t+1} = \alpha + \beta_1 Earn_t + \varepsilon \quad (2)$$

In this model, RETt + 1 indicates the stock return next year (t + 1) and $Earn_t$ represents the net profit of the current year. Stock returns (RET) through of changes in stock prices during the year plus dividend paid divided by the share price is calculated beginning of the year.

7.2. The independent variable

Staff costs (EMPEXP): This variable notes accompanying the financial statements of firms in the sample is extracted and the ratio of payroll costs to total sales is calculated. Then, to enter the virtual model is changing. To do this, the middle of the range calculated and then, and the companies with Mid-high, was one and the companies with lower middle was zero.

8. Regression model for research

To test the hypotheses, variable staff costs will be added to the above model. In order to test the first hypothesis we use the following econometric model (Schiemann and Guenther, 2013) (Eq. 3):

$$Earn_{t+1} = \alpha + \beta_1 Earn_t + \beta_2 EMPEXP + \beta_3 EMPEXP * Earn_t + \varepsilon \quad (3)$$

Model number (1) is used to measure the earnings forecast. To examine the impact of staff costs on the earnings forecast, EMPEXP variable in model (1) Add and model (3) was created. To confirm or refute hypotheses first β3 factor in the model (3) should be meaningful. Also, once the profit regression model (model 1) and once again estimated legal costs added (Model 3) and is estimated. Then, by comparing R2 (coefficient of determination) the impact of the independent variable on the dependent variable regression models evaluated.

To test the second hypothesis we use econometric model below (Schiemann and Guenther, 2013) (Eq. 4):

$$RET_{t+1} = \alpha + \beta_1 Earn_t + \beta_2 EMPEXP + \beta_3 EMPEXP * Earn_t + \varepsilon \quad (4)$$

To confirm or refute the hypothesis β3 factor in this model should be meaningful. Also, once the profit regression model (model 2) estimated legal costs have been added again (model 4) and is estimated. Then, by comparing R2 (coefficient of determination) the impact of the independent variable on the dependent variable regression models evaluated.

9. The model using panel data

To select the appropriate method for estimating the model given in sections for different time periods combined, bound F test (Chow) is used. The results

of the tests listed in Table 2 are expressed. As can be seen, the results of this test Chow test the null hypothesis that the data compilation has approved admission (greater than 5% error level). Therefore, panel data estimation method used to estimate the model, a more suitable option. Under this method, all the data together and by ordinary least squares (OLS) estimates.

Table 1: Results of pent-F test (Chow)

Chow test	model	F statistic	*p-v*	test results	Type of test
H_0: Intercept of the same section	The first model	1.78	0.12	H_0 :Not rejected	Pooled data
H_0: Intercept of the same section	The second model	1.61	0.22	H_0 :Not rejected	Pooled data

10. The results of the study hypothesis

The results of the model (1) and (2) research for the years 2009 to 2013 in Table 2 is inserted.

Table 2: The results of the model (1) and (2)

Description		Model Number (1) $Earn_{t+1} = \alpha + \beta_1 Earn_t + \varepsilon$		Model Number (2) $RET_{t+1} = \alpha + \beta_1 Earn_t + \varepsilon$	
		Factor	t-static p-value	Factor	t-static p-value
Constant factor	A	***0.26***	***4.76 0.00***	***0.21***	***3.21 0.03***
$Earn_t$	β_1	***0.14***	***3.14 0.06***	***0.36***	***6.12 0.00***
Adjusted R^2		***0.46***		***0.36***	
F-static		***6.14***		***4.78***	
F (p-value)		***0.00***		***0.00***	
D-W		***1.77***		***2.09***	
Number of observations		***350***		***350***	

Results of the early models (1) and (2) indicate meaningful statistic Fisher (F) on the 99% confidence level. Because, achieved a significant level (p-value) for both models was less than 1%. As well as the independent variable coefficient ($Earn_t$) in both models was significant at 99% confidence level. As a result, it can be concluded that the results of the first model estimates show that earnings this year to next year's forecast earnings. Also, in the latter model forecast that profit this year may reflect the information in the next year's stock returns, in other words, profit value content. Therefore, it can be stated that the first model to add variable EMPEXP and this estimate is desirable.

Then, as I stated earlier EMPEXP variable added to both models to new models of (3) and (4) respectively.

$Earn_{t+1} = \alpha + \beta_1 Earn_t + \beta_2 EMPEXP + \beta_3 EMPEXP * Earn_t + \varepsilon$ (3)

$RET_{t+1} = \alpha + \beta_1 Earn_t + \beta_2 EMPEXP + \beta_3 EMPEXP * Earn_t + \varepsilon$ (4)

The significant test results (3) and (4) research for the years 2009 to 2013 in Table 3 is available.

Table 3: Results of research models

Description of variables		Model Number (3)		Model Number (4)	
		Factor	t-static p-value	Factor	t-static p-value
Constant factor	A	*0.07*	*6.82 0.00*	*0.16*	*2.41 0.04*
$Earn_t$	β_1	*0.06*	*4.11 0.01*	*0.11*	*4.98 0.00*
EMPEXP	β_2	*0.14*	*1.36 0.12*	*0.08*	*1.08 0.31*
EMPEXP * $Earn_t$	β_3	*0.37*	*3.26 0.02*	*0.46*	*4.76 0.00*
Adjusted R^2		*0.59*		*0.51*	
F-static		*8.89*		*6.63*	
F (p-value)		*0.00*		*0.00*	
D-W		*1.96*		*1.89*	

According to the statistical probability (F), less than 1% significance level model, so it can be concluded that the regression equation was significant at 99% confidence level. The results of the coefficient of determination (R2) and adjusted coefficient of determination (Adjusted R2) of regression in Table 3 is visible. The coefficient of determination and adjusted coefficient of determination and terms of similar meaning correlation calculation are different. Adjusted coefficient of determination provides a better interpretation and more carefully calculated. In this

model, (3) study the adjusted coefficient of determination was made 0.59. This figure shows that about 59 percent of the dependent variable profits next year due to the independent and control variables in the model and 41 percent of other changes caused by other factors. Other factors cannot be identified for researchers. In model (4) research, the adjusted coefficient of determination was made 0.51. This figure shows that about 51 percent of the dependent variable, the output next year due to the independent and control variables in the model and 49 percent of other changes caused by other factors. The Durbin-Watson test models show that 1.5 to 2.5 which expresses the absence of auto correlation in the model error terms.

11. Interpretation of the hypothesis

11.1. Result of testing the first hypotheses

In this hypothesis, the dependent variable is the capabilities earnings forecast and independent variable is the proportion of staff costs. The cost of employees through payroll expense to total sales ratio measured and added to the profit model. According to the results Table 3; t statistic for the hypothesis independent variable coefficient (β3) and its significance level (p-value) in the estimation model (3) are -3.26 and 0.02 respectively. Given that a significant level of 0.05 or less variable, so factor this variable was significant. In the next step to determine the coefficient of variation (1) and (3) will be discussed. Adjusted coefficient of model (1) of 0.46 and a model (3) is equal to 0.59. That is, the coefficient of determination (3) to the 0.13 coefficient of the model (1) is higher. In other words, the coefficient of determination model of earnings forecast after adding a variable staff costs increased. So, it follows that the disclosure of the cost of wages as human capital leads to an increase in the company's ability to predict future earnings. According to the statement, the first hypothesis has been confirmed.

11.2. Result of the second test hypotheses

In this hypothesis, the dependent variable is the value relevance of profit and independent variable is staff costs. According to the results Table 3 of the t-statistic of the variables in the second hypothesis (β3) and its significance level (p-value) in model (4) are 4.76 and 0.00, respectively. Due to the significant level of 01/0 or less variable, so it follows that the variable factor (EMPEXP * $Earn_t$) was significant at 95% confidence level. In the next step to determine the coefficient of variation (2) and (4) will be discussed. Adjusted coefficient of model (2) equal to 0.36 and in the model (4) is equal to 0.51. That is, the coefficient of determination (4) around 0.15 coefficients of determination of the model (2) was higher. In other words, the coefficient of determination of profit efficiency model after adding a variable staff costs increased. So, it follows that the disclosure of the cost of wages as human capital leads to an increase in company value relevance of earnings information. According to the statement, the second hypothesis was confirmed.

12. Conclusion

This study investigates the relationship between labor costs (staff), the predictability of profits and the value of companies listed on Tehran Stock Exchange has been using two hypotheses. The first hypothesis of the relationship between the staff costs and the profit forecast was examined. The results showed that there is a significant positive relationship between the cost of wages and the earnings forecast for next year and as a result, this hypothesis was confirmed. This model was used to predict interest. This model represents a significant estimation of the model and the ability to predict future earnings through the current year's profit. After this, another variable as the ratio of staff costs to total sales and re-estimated the models. A comparison of the two models showed that the addition of staff costs, increased efficiency model and increase the coefficient of determination. As a result, it can be argued that the cost of payroll employees has a significant positive correlation with earnings forecast. The cost of employees represents the cost of human resources and human capital in the company. The results of the first hypothesis are consistent with the results of Schiemann and Guenther (2013). They concluded that staff costs associated with the earnings forecast significantly in Germany.

The second hypothesis reviewed the relationship between staff costs and the value relevance of benefit. The results indicate that there is a significant positive relationship between the cost of salaries and the value relevance of benefit therefore, this hypothesis was confirmed. To do this profit – efficiency model was used. The results of the model indicate a significant relationship between the variables. After this, another variable as the ratio of staff costs to total sales and re-estimated the models. A comparison of the two models showed that the addition of staff costs, increased efficiency model and increase the coefficient of determination. As a result, it can be argued that the cost of payroll employees has a significant positive correlation with the value relevance of the benefit. The results of the second hypothesis are consistent with the results of Schiemann and Guenther (2013). They concluded that staff costs associated with the value relevance of benefit significantly in Germany.

13. Research Offers

The results of this study indicate that more disclosure of the cost of staff salaries would lead to increased earnings forecast capability for next years. Therefore, it is recommended to shareholders and managers to make better forecasts of future

earnings, pay attention to the details of human resource costs.

The results of this study indicate that more disclosure of the cost of staff salaries would lead to increase the value relevance of benefit for next years. Therefore, it is recommended to shareholders and managers to make better forecasts of stock prices and future returns, pay attention to the details of human resource costs.

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