

# Identifying the Effects of Anticipated Benefit on the Price of Accepted Companies in Tehran Stock Exchange

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## ABSTRACT

The rate of profitability is one of the most important evaluating criteria of companies from investors' views. For this reason this study used method of estimating model based on panel data, this compound method is acquired from information during 9 years (2001, 2009) and cross-sectional data of 140 companies that are accepted in Tehran Stock Market and this model is in the form of a logarithm function. Results of this study show that there is a positive relationship between anticipated benefit and share price.

**KEYWORDS:** Tehran Stock Exchange, time series, unanticipated benefit, trading volume

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## INTRODUCTION

### Statement of the problem

According to the development and importance of capital markets is formation of small capitals, identifying behavior of investors and price of share in the market is very important. Today, the share price of companies influences from different financial and non-financial variables. The accounting price of the main product is a commitment. Nothing takes the attention of investor groups except income per share. Probably in analyzing stock exchange relationship between accounting benefit and price of stock exchange is one of the most important relationships. Importance and significance of this subject is totally clear in the emphasis that has devoted to this price. The rate of benefit is of the most important evaluating criteria of companies from investors. Announcements of company benefit by an acknowledging public source will be provided for market actors to evaluate the operation of company. The main purpose of this research is analyzing the relationship of anticipated benefit on the price of share. Therefore, based on the importance of this subject we aimed to analyze the subject and evaluate the rate of anticipated profit on the price of share.

## LITERATURE REVIEW

Patel (1976) to evaluate the information content of anticipated benefit decided to test it by the impact of representing anticipated profit on the price of share. Result of this study shows that representing anticipations entails the adjustment of share price.

Penman (1980) showed that anticipations of benefit by manager are valid. These studies verify the reaction of the share price than benefit anticipations and represent the positive relationship between unnatural revenues of share and information of unexpected benefit that is transferred by predictions.

Bior, Lambert and Rian (1987) based on information of 1958 to 1976 reported a sensitivity (it means slope of regression of percentage of changes in the price than changing's of benefit) with the mean of 0.31 that dramatically distanced from one and zero. In other words, prices and benefits usually change in one direction but not in one ratio. But prices may change because of unrelated and independent factors that influences on correlation. This lack of total correlation is according to this idea that if benefits have an impermanent part, then reaction of prices to them is not influential.

Studies of Kim and Verkechia (1991) that assumed to be informational symmetry among investors showed that in the time period close to the announcement of income per share the price of share changes significantly and because of increasing variance of changing price the trading volume will be affected similarly. Therefore, because of informational symmetry in the market, announcement of income per share by sensible influences in changings of price result in considerable changes in the volume of trading.

In 2001 Bruit using variables based on accounting analyzed this subject that whether official value with cash benefit is more able to justify the share price or official price and anticipated benefit per share. He emphasized that

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in decision making market considers the cash benefit or benefit per share more than everything. Results show that first official and cash value have similar justifying potential to official value and benefit per share, second for companies that by higher discontinuous benefit the cash benefit is more potent to justify in determining the share price than benefit per share.

ShokriHabashi (2005) analyzed the rate of achievement of EPS of investment companies than anticipated EPS and its impact on the price of share Tehran Stock Exchange from 1999 to 2003. Result showed that there is no significant relationship between the rate of adjusting benefit per share and price of share. But, there is a relatively weak relationship between achievement of benefit per share and price of share.

To specify the role of benefit and official value in evaluating the price of share and specifying its relationship with anticipated benefit in this research the models of evaluating share (PRDCHG) is used and result of this research showed that predicting benefit and ability to justify the price by benefit of share showed that by increasing of deviation in predicting benefit the rate of correlation of benefit decreases by price, in means conditions that deviation of anticipated benefit is low and benefit market is considered as a suitable index for future benefits and benefit has more power to justify the price of share, but in the conditions that deviation from anticipated benefit is greater, market decreases from the rate of its dependency to the profit as an influential factor and share less is influenced by profit and other indexes of market replace decreasing of dependency to the benefit in the market. Anticipating benefit and ability to justify the price by official value showed that increasing deviation in anticipating benefit official value cannot change as an independent variable and create considerable changes in the model. In these conditions market decreases its dependency to the benefit as an influential factor and price of share less is influenced by benefit.

Evaluating the performance of managing accepted companies in Tehran Stock Exchange by CVA model and analyzing its relationship with the mode of share revenue (Noravesh, Haidari 2004), showed that if managers of a company have no good performance then they will have better revenue and conversely if they don't have good performance the price of its share decreases the there will be lower revenue. In this research we analyze the priority of the cash added value criteria than operational benefit and operational cash flows in describing changes of the price of share to reach purposes and then after approving priority of the criteria cash added value criteria deals with evaluating the operation of each industry, thought relative priority of the criteria cash added value on accounting profit and approved cash flows, but from low specified coefficients we conclude that the role of financial information and accounting in invoking the price of share is considerable and most of the changing's of price of share are the result of other factors.

## METHODOLOGY

In this study the method of estimating model is based on panel data. This method is a compound of information in the time series from 2001 to 2009 and cross-sectional data (140 accepted companies in Tehran Stock Exchange market). The ns model that is estimated in this research is in the form of one logarithm. In this type of function the absolute changes of descriptive variables causes stable percentage changes in dependent variable.

Logarithm of the beginning period price, logarithm of beginning period anticipated benefit, logarithm of beginning of period price, logarithm of anticipated price of beginning of period, logarithm of the number of buyers, logarithm of trading volume and logarithm of the rate of inflation are inserted in this article as main variables.

Data and statistics of this research derived from 9 years financial lists of Tehran Stock Exchange companies in which this information elicited from annual records of Tehran Stock Exchange using tact processes and new strategy software. After collecting data and necessary information about this period (2001-2009) using econometrics methods of these models are estimated. Software program that was used in this research is Eviws 6 software.

### Research variables

In this research anticipated profit is independent variable and share price is dependent variable. Also, changes of the price of share in the previous years, the specific condition of industry, financial and monetary policies of government, division of benefit, validity and duration of company, demand and supply of share, and management of company are considered as controlling variables.

### Data analysis

**First model: (analyzing the impact of beginning period anticipated benefit on the price of beginning period share)**

$$\ln p_{1it} = \beta_0 + \beta_1 \ln s_{1it} + \beta_2 \ln \text{haridaran}_{it} + \beta_3 \ln p_{1it-1} + \varepsilon_{it}$$

$\beta_0$  Is latitude from the origin?

$\ln p1_{it}$  logarithm of share price of the beginning period of i company in year of t.  
 $\ln s1_{it}$  logarithm of anticipated benefit the beginning period of i company in year of t.  
 $\ln \text{haridaran}_{it}$  Logarithm of the number of buyers of share of i company in the year t.  
 $\ln p1_{it-1}$  logarithm of the price of share in the beginning period of i company in (t-1).  
 $\varepsilon_{it}$  Shows unobservable factors that are different during the time and in the entire companies

**F-Limer test**

In this type of test we should analyze this subject that is it possible to compound data among sample units or by analyzing parameters of every unit independently. In the first model as the p-value in the level of insurance of 95% is 0.0074, we can say that it is P-Value <0.05, therefore  $H_0$  considering as pooling of the model is rejected and contrary hypothesis is accepted. Therefore, each of studied sections has unique separate latitude from the origin. By the way it is possible to use panel method in estimations.

Table 1: summary of results of the first model of F Limer test

Type of test	Statistic	P-Value
F limer	1.346	0.0074

**Hasman test**

In this part it is specified that to estimate data in the data panel which method (stable or accidental impacts) is more suitable. For this reason the Hasman test used. In estimating stable impacts it is assumed that there is similar latitude from the origin for every cross-section (accepted companies in Tehran Stock Exchange) in which latitude from origin for each company is different that can be correlated with descriptive variables of model or not. While in this model the impact of time is not seen the only impact that belongs to every company is considered as individual impact. While in the model of accidental impact, individual impacts are stable during the time but they change from one company to another.

Hasman test states that assuming  $H_0$  correlation between accidental impacts and model regressions, application of both models of the minimum of usual squares (in the least squares of virtual variables) and minimum generalized squares (in the model of accidental impacts) is compatible, but the method of minimum usual squares is incompatible. Therefore, imagining  $H_0$  the method of minimum usual squares is compatible, but the method of minimum generalized squares is incompatible.

Based on the results of Hasman test for the first model, as for value of Hasman statistics is 121.772 and on one hand the rate of p-value is less than 0.05 (p-value<0.05). Therefore, the  $H_0$  is rejected. Rejection of  $H_0$  shows that the method of accidental impacts is incompatible and we should use the method of stable impacts.

Table 2: summary of results of the first model of Husman test

$(\chi^2)$ Husman statistics	Degree of freedom	Level of probability
121.772	3	0.000

The result of estimation is as follow:

$$\ln p1_{it} = 0.776 + 0.174 \ln s1_{it} + 0.022 \ln \text{haridaran}_{it} + 0.744 \ln p1_{it-1}$$

The summary of estimation results are shown in table (3).

Table 3: the summary of results of model of stable impacts of first model

Model of stable impacts	Coefficients	T statistics	P-Value
C	0.776	5.611	0.000
$\ln s1_{it}$	0.174	7.51	0.000
$\ln \text{haridaran}_{it}$	0.0226	2.697	0.0071
$\ln p1_{it-1}$	0.744	34.4	0.000
$R^2$	0.743893		
$\bar{R}^2$	07431		
D.W	1.8		
F Fisher	1078.4		

Based on the model of stable impacts it is observed that latitude from the origin is significant statistically that in fact significant or lack of signification of latitude from the origin is not important.

However, based on the results it is seen that relation of the anticipated benefit of the beginning period with the price of share of the beginning period is positive and is so that if one percent anticipated benefit of beginning period increases the price of share for the beginning period increases 17 percent. However, result indicates that relationship between the number of buyers and price of share for the beginning period is positive and by one percent increasing of the number of buyers the price of share increases one percent. Finally, variable of share price in the beginning period in the year (t-1) has a positive relationship with the price of share in the year t, so that increasing one percent of price in the year t-1causes 75%increasing in the price of share in the year of t.

Correlation coefficient (R2) is 0.74 that shows independent variables are able to describe 74% of changings of dependent variable. But its low rate is for high fluctuations in the prices and indexes of financial markets, that causes high variance and lowering correlative coefficient and determination of coefficient. Adjusted determination coefficient ( $\bar{R}^2$ ) is 0.74 that means ability of appropriate determination of model.

F-fisher statistics test is equal to 1078.4 (p-value<0.05) that represents validity of fitting of the entire regression. D.W statistics is 1.8 that shows lack of self correlation.

**Estimation and result analysis of second model**

Second model: (analyzing the impact of anticipated profit of beginning of period on the share price of beginning of period)

$$\ln p_{2it} = \beta_0 + \beta_1 \ln s_{2it} + \beta_2 \ln kharidaran_{it} + \beta_3 \ln p_{2it-1} + \varphi_{it}$$

$$\ln p_{1it} = \beta_0 + \beta_1 \ln s_{1it} + \beta_2 \ln kharidaran_{it} + \beta_3 \ln p_{1it-1} + \varepsilon_{it}$$

$\beta_0$  Is latitude from the origin

$\ln p_{1it}$  logarithm of share price of the ending period of i company in year of t.

$\ln s_{1it}$  logarithm of anticipated benefit the ending period of i company in year of t.

$kharidaran_{it}$  Logarithm of the number of buyers of share of i company in the year t.

$\ln p_{1it-1}$  logarithm of the price of share in the ending period of i company in (t-1).

$\varepsilon_{it}$  Shows unobservable factors that are different during the time and in the entire companies

**F Limer test**

In the second model as p-value in the insurance level of 95% is 0.001, then p-value<0.05; therefore, H0 that represent the pooling of model (that equality of latitude from origin is for the entire sections) is rejected and contrary hypothesis is accepted. Therefore, for each of the studied sections (accepted companies in Tehran Stock Market) one individual latitude from origin should be considered. Therefore, to for estimation panel model was used.

Table 4: Summary of the result of F limer test for second model

Type of test	Statistic	P-Value
F limer	1.25	0.033

**Husman test**

Based on the result of Husman test for the second model as rate of Husman statistics is 117.92 and on one hand the rate of p-value<0.05; therefore, H0 is rejected. Rejection of H0 showed that the method of accidental impacts is incompatible and we should use the method of stable impacts.

Table 5: summary of the results of Husman test for second model

( $\chi^2$ )Husman statistics	(df) Degree of freedom	Level of probability
117.92	3	0.000

Result of estimation is as follow:

$$\ln p_{2it} = 0.99 + 0.146 \ln s_{2it} + 0.023 \ln kharidaran_{it} + 0.737 \ln p_{2it-1}$$

Summary of the results of estimation is shown in table 6.

Table 6: summary of the results of model of stable impacts for second model

Model of stable impacts	Coefficients	t-statistics	P-Value
C	0.993	7.825	0.000
$\ln s_{2it}$	0.14677	6.611	0.000
$\ln kharidaran_{it}$	0.0236	2.913	0.0037
$\ln p_{2it-1}$	0.737	34.576	0.000
$R^2$		0.7549	
$\bar{R}^2$		0.7542	
D.W		1.895	
F		1145.681	

Based on the model of stable impacts it is observed that anticipated benefit of ending period has a positive relationship with the price of share in the ending period, so that one percent increasing of anticipated benefit for ending period causes 14.7% increasing of the price of share in the ending period. Number of buyers has a positive relationship with the price of share and one percent increasing the number of buyers 1.9% increases the share price for ending period. Share price in the year t-1 has positive impact on the price of share in the year of t and increasing one percent price of share in the year of t0 causes approximately 73.7 percent increasing the share price in the year of t.

Correlation coefficient ( $R^2$ ) is 0.75 that shows independent variables of model are able to approximately describe 75% of changing's of dependent variable. Here the low value of correlative coefficient is for high fluctuations of prices and financial indexes of the market that causes high separation of data and lowering of correlative coefficient and determination coefficient. The adjusted determination coefficient ( $\bar{R}^2$ ) is equal to 0.75 in which this coefficient means appropriate determination ability of model. F-fisher test statistics is equal to 1145.681 with ( $p$ -value $<0.05$ ) that represents validity of fitting the total regression. D.W statistics is 1.895 that represents lack of self correlation.

## **Conclusion**

The rate of benefit is of the most important criteria of evaluating companies from investors. Results of this study showed that relationship of anticipated benefit of beginning period with the price of share in the beginning of period is positive and if the anticipated benefit of beginning period increases by one percent the share price of beginning period approximately increases by 17 percent. However, results show that relationship between number of buyers and price of share in the beginning of period is positive and by one percent increasing the number of buyers the price of share increases to approximately 1 percent. Anticipated benefit of ending period has a positive relationship with the price of share in the ending period, so that one present increasing of predicted benefit of ending period causes increasing of 14.7% of share price in the ending period.

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