The Investigation of Relationship between Volatile and Predictable Earnings in Accepted Companies of Tehran Stock Exchange (TSE)

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ABSTRACT

Existing research suggests that earnings volatility is used with economic variables and accounting factors and these factors reduce earnings predictability. In this research Relationship between Earnings Volatility and Earnings Predictability in Accepted Companies of Tehran Stock Exchange (TSE) have been examines for data base for the years 2000-2009 using panel data approach. Results show that there are significant relationship between Earnings Volatility and Earnings Predictability in Accepted Companies of Tehran Stock Exchange (TSE), so in other words, analysts do understand the implications and applications of earnings volatility in earnings predictability.

KEYWORDS: Earnings volatility, Earnings predictability, Tehran Stock Exchange (TSE), Panel Data.

1. INTRODUCTION

The Tehran Stock Exchange (TSE) as famous and large stock exchange market in world starts work in 1967. In last year's companies accepted in Tehran stock exchange is 337 in 2010 and 346 in 2011. This exchange market is in Tehran (Iran's Capital). Also total capitalization of these listed companies is arrived to 72 billion USD (Financial Times, 2010). Earnings are perhaps the single most studied number in a company's financial statements because they show a company's profitability. Nowadays, stock market performance in developed countries is used as an indicator for evaluating the financial changes in economic and trade policies of such countries. A business's quarterly and annual earnings are typically compared to analyst estimates and guidance provided by the business itself. In most situations, when earnings do not meet either of those estimates, a business's stock price will tend to drop. On the other hand, when actual earnings beat estimates by a significant amount, the share price will likely surge (Pourheydari and Aflatooni, 2006). The importance of earnings volatility for a firm's value has long been recognized in the accounting and finance literature. Such volatility can have an impact either through its relation to the discount rate or expected cash flows (earnings) in valuation models. Continuation of the stock exchange in any country is considered as a continuing process of economic development.

Stock Exchange is considered the pillars of economic. Most existing research has focused on the link to the discount rate or cost of capital. One established result is a positive relationship between earnings volatility and different measures of the cost of capital. A study by Mc Conaughy et al (1994) found that firms are more profitable and more productive, giving no reason for the low returns for firms in the initial years. Consequently, it could be argued that investors overpay for the growth prospects of firms. Studies such as McConnell and Sanger (1984) also confirm the idea that future earnings prospects are overvalued. They find that stock prices tend to decline for four to six weeks after listing before stabilizing at a price over three percent below the highest level reached just prior to the commencement of trading.

In this regard, the literature review is parented in second part. Section three is presented the methodology and data, section 4 is applied results and in last conclusion is applied in section five.

2. LITERATURE REVIEW

In a survey by Junior and Zani in 2001, it was expressed that in comparison between fixed assets and current assets, there is no significant difference in financial indices, debt indices, and long-term debt between these two groups. Bevan & Danbolt (2002) in their joint paper entitled "Capital structure and its determining factors in the Britain capital market", re-examined Rajan and Zingales findings about capital structure of British enterprises and re-tested the sensitivity of explanatory variables –studied by Rajan & Zingales- to various debt criteria and their forming elements. Obtained results indicated that, results of Rajan & Zingales research are extremely dependent to debt leverage or debt ratio. Hadlock & James (2002) evaluated the banking system in order to create ordered

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financing in companies and expressed that choosing the type of financing (capital or debt) is essentially made with regard to the company's stock market value. McNulty et al. (2002) who found the importance of exact capital cost estimation, note that if imprecise rates used to discount cash flows, the company may be mistaken to reject a project or invest in a wrong place. Lara & Mesquita (2003), in their study, using multivariate regression models to examine the relationship between asset structure and earnings ability of companies in Brazil found the following results: According to the independent variables used in the study including the coefficients of short-term and long-term debts and equity. Obtained results indicated that, earnings ability has a direct relationship with the short-term debts and equity and, has an inverse relationship with the long-term debts.

3. METHODOLOGY AND DATA

Considering that one of the objectives of this study is to describe the earnings quality of the companies listed in Tehran Stock Exchange from the independent auditors and explain or clarify their status, so a part of the study is a survey research. We use 2005-2009 Tehran Stock Exchange data to examine this paper's aim. This research's goal is to formulize the link between the Volatile earnings and Predictable Earnings in TSE based on some theoretical considerations. So this paper applies relationship among earnings predictability and earnings volatility using autoregressive regressions from AR (1) to AR (5).

In this regard, we start with below model:

$$E_t = \beta_0 + \beta_1 E_{t-1} + e_t \tag{1}$$

Witch this model is presented the AR (1). Variances of both sides are:

$$Var(E_t) = \beta_1^2 Var(E_{t-1}) + Var(e_t) \tag{2}$$

With stationary of the earnings variance and re-arranging of equation, we have:

$$Var(e_t) = Var(E_t)(1 - \beta_1^2) \tag{3}$$

In other words:

$$1 - Var(e_t)/Var(E_t) = \beta_1^2 \tag{4}$$

The last model presented that predictability of earnings is the explanatory coefficient (R^2) of the regression. So relationship among earnings predictability and earnings volatility is a main key of this paper.

In this paper the following cases are used for data collection:

- Using library resources to gather theoretical topic.
- Data collected through the stock software.

After data collection and using statistical software, hypotheses have been analyzed.

Sample surveys have been chosen based on the following assumptions:

- They are financial period leading to the Persian date Esfand 29 per year.
- The company's equity in all periods studied, is positive.
- The number of companies of any industry, not less than 5 participants.

4. RESULTS

Table 1 presents descriptive statistics.

Table1: descriptive statistics.

Variables	N	Mean	Std. Dev.	Minimum	Maximum
Earnings	142	0.057	0.016	-0.127	0.127
Accruals	142	-0.034	0.007	-0.138	0.247
CFOs	142	0.091	0.021	-0.135	0.214
Vol (Earnings)	142	0.012	0.012	0.000	1.245
Vol (CFOs)	142	0.034	0.014	0.000	0.274

Descriptive statistics for the full sample are presented in Table 1, The results are in line with much other research that explores similar variables and time period. Cash flow from operations is typically higher than earnings (mean of 9.1% vs. 5.7%), and accruals are negative. The descriptive statistics for volatility of earnings also reveal that this variable has a highly non-normal distribution, bounded at 0 on the left and heavily right skewed. To address such non-linearity's and aiming for a more robust estimation in general, much of the subsequent analysis relies on quintile portfolios formed on conditioning variables, mainly volatility of earnings. The portfolio-based analysis also provides an immediate and clear reflection of the economic importance of the results.

Table 2 shows the implications of earnings volatility for long-term earnings.

Regression results for the highest earnings volatility quintile		Regression results for the lowest earnings volatility quintile	
Model	β	Model	β
$E_t = \beta_0 + \beta_1 E_{t-1} + e_t$	0.741	$E_t = \beta_0 + \beta_1 E_{t-1} + e_t$	0.984
$E_t = \beta_0 + \beta_1 E_{t-2} + e_t$	0.692	$E_t = \beta_0 + \beta_1 E_{t-2} + e_t$	0.921
$E_t = \beta_0 + \beta_1 E_{t-3} + e_t$	0.524	$E_t = \beta_0 + \beta_1 E_{t-3} + e_t$	0.830
$E_t = \beta_0 + \beta_1 E_{t-4} + e_t$	0.397	$E_t = \beta_0 + \beta_1 E_{t-4} + e_t$	0.808
$E_t = \beta_0 + \beta_1 E_{t-5} + e_t$	0.167	$E_t = \beta_0 + \beta_1 E_{t-5} + e_t$	0.764

Table 2 presents results for 5-year-ahead prediction of earnings, conditional on earnings volatility. In investigating the effect of earnings volatility, for parsimony we focus the presentation on the extreme quintiles. In Table 2 presents the results for firm-years in the highest quintile of earnings volatility and the results for the lowest quintile of earnings volatility. Even a cursory examination of these two panels reveals dramatic differences in the long-run predictive characteristics of the underlying samples. In fact, a literal reading of these numbers implies that it is easier to predict earnings 5 years ahead for low – volatility firms than to predict earnings 1 year ahead for high volatility or even all firms. Results for 5-year-ahead prediction of earnings showed that we are in conditional on earnings volatility. In investigating the effect of earnings volatility, for parsimony we focus the presentation on the extreme quintiles. In Table 2 presents the results for firm-years in the highest quintile of earnings volatility and the results for the lowest quintile of earnings volatility. The combined pattern of these results suggests that earnings volatility has a remarkable differentiating power in the long-run prediction of earnings.

5. Conclusion

In this paper The Investigation of Relationship between Volatile and Predictable Earnings in Accepted Companies of Tehran Stock Exchange is tested. Research suggests that earnings volatility is delivered by economic variables and accounting factors and these factors reduce earnings predictability. This paper investigates the link between earnings volatility and earnings predictability. In this research Relationship between Earnings Volatility and Earnings Predictability in Accepted Companies of Tehran Stock Exchange (TSE) have been examines for data base for the years 2000-2009 using panel data approach. Another future direction is exploring the link between the identified fundamental relations and derived or observed equity values. Results show that there are significant relationship between Earnings Volatility and Earnings Predictability in Accepted Companies of Tehran Stock Exchange (TSE), so in other words, analysts do fully understand the implications of earnings volatility for earnings predictability.

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