Effect of Earnings Growth Strategy on Earnings Response Coefficient and Earnings Sustainability

Leili Jamali, Majid Zanjirdar*
Department of Accounting, Faculty of Management, Khomein Science and Research Branch, Islamic Azad University, Khomein, Iran.
*E-mail: m.zanjirdar@chmail.ir

Abstract

One of the main guidance in experimental research works of financial accounting since Ball and Brown's work is understanding and describing different market reactions to earnings information. This research topic is called earnings response coefficient. Earnings response coefficient measures unexpected market returns in response to the unexpected component of reported earnings by the company. In the current research study, effect of earnings growth strategy on earnings response coefficient and earnings sustainability is measured for period 2006 – 2012, and overall 618 observations were used. Statistical method used in this research is average test. Research findings indicate average earnings response coefficient in the companies with earnings growth strategy is larger than average earnings response coefficient in companies with cost reduction strategy. Also, average earnings sustainability in companies with earnings growth strategy is larger than average earnings sustainability in companies with cost reduction strategy.

Keywords: earnings growth strategy, earnings response coefficient, earnings sustainability

Introduction

Earnings sustainability is considered as one of the qualitative features of accounting profit which is based on accounting information and helps investors in evaluation of future profits and cash flows. Investors pay more attention to sustainable part of earnings than its unsustainable part in estimation of expected future profits and cash flows (Francis, 2004).

The main emphasis is on "current" and "operational" terms in calculating earnings sustainability. Thus, in this concept of earnings, only the value or those events are considered which are in management control and resulting from current period decisions; however, it should be adjusted in such a way that it covers use off factors acquired in the previous period but used in the current period. The other aspect of earnings sustainability is the fact that related changes only result from the main company's activity, and thus it can be compared to operation of other companies, and better management effectiveness will be clear. Although unsustainable items related to non-operational activities are also influenced by the management, determining standards that results could be compared with which is difficult (Sloan, 1996).

Earning as one of the most important indexes for measurement of an economic unit's performance is an accounting subject that traditionally has assigned special status in the theoretical discussions (KhaleghiMoghadam and Azad, 2004). Accountants active in management accounting area traditionally views cost behavior as an important dimension of benefit analysis for the use of directors. Also, financial analysts calculate future costs of economic units based a process of future earnings prediction. Thus, predicting the cost behavior is an important and essential part of earnings prediction. Earnings prediction is crucially important, because it is considered as one of the variables affecting decisions and judgment of users and an important factor in capital market efficiency. Of course, value of accounting information prediction is not in the information itself, rather its value is in use of this information in prediction process.

Porter argues that investigation of earnings growth strategy provides useful information regarding profitability process of the companies, so that the companies with earnings growth strategy have more sustainable earnings growth and thus higher earnings quality compared to companies with cost reduction strategy. Earnings growth strategy includes revenue growth and cost reduction strategy. These strategies can be implemented in various forms such as increase in operating profit, an increase in non-operating income, and etc. Understanding and describing different market reactions to earnings information is the main experimental research works of financial accounting. This research topic is called earnings response coefficient. Earnings response coefficient measuresunexpected market returns in response to the unexpected component of reported earnings by the company. According to the literature, the companies using revenue growth strategy for increased earnings have higher earnings response coefficient than companies using cost reduction strategy. Current research study attempts to investigate relationship between earnings growth strategy and earnings response coefficient.

Review of Literature

Park and Pincus (2001) studied relationship between internal and external equity funding sources and earnings response coefficient. They believe that internal acquired cash have lower cost than cash acquired through issuance of common stock due to transaction costs and asymmetric information of managers and investors, and market rate for discounted unexpected earnings will be low. They stated the companies which use internal funding sources have higher earnings response coefficient than companies which use external funding sources.

Kormendi and Lipe (1987) performed the first research work in this regard. Assuming that earnings provide useful information, they raised this question: what is nature of information in reported earnings and how it is related to the company value? To answer this question, they focused on the magnitude of the relationship between earnings and returns, as well as a testing such magnitude in time series properties. In fact, they paid attention the differential response of the market to various elements of the earnings by introducing this question. Their findings suggested magnitude of relationship between stock return and earnings depends on the continuation of profitability trend.

Collins and Kothari (1989) studied relationship between systematic risk and earnings response coefficient and found that systematic risk (β) is the only factor decreasing earnings response coefficient. In addition, they found growth opportunities rate factor positively influences earnings response coefficient (ERC). Their work actually indicated as ERC helps quick testing of relationship between price and return, which is implicit in financial pricing model, some concurrent ERC differences can be described by involving systematic risk and growth variables.

Rock Wikpel (1990) performed his doctoral thesis entitled Effect of Audit Change on Earnings Quality and Earnings Response Coefficients in University of Nebraska. This research sought for answering this question: does audit change cause change in investor behavior, which is shown in the price. He assumed that earnings response coefficient face significant change in companies which changed their audit from 8 small audit institutes to one of 8 great audit institutes. Following conducting the research, statistical results showed that positive sign for earnings response coefficient is not statistical significant, though it is somehow surprising. He failed to support his hypothesis statistically.

Moradi et al. (2010) in a studyentities Relationship between Earnings Quality and Earnings Response Coefficient stated that different responses of investors toward earnings information lead to different market responses. The main research purpose was investigating effect of earnings quality on earnings response coefficient. Most financial analysts argue that earnings quality is measured

based on a collection of essential financial variables, which is useful in evaluation of securities. In this work, essential signs concerning inventory, accounts receivable, gross profit, sale and administrative expenses of the audit opinion were used by investors to assess the quality of earnings. Statistical population included manufacturing companies listed in Tehran Stock Exchange and statistical sample size was 93 companies. Research data are related to a nine-year time period (1999 - 2007). Cross-sectional method was used for data analysis. All essential sings mentioned were calculated for each sample company, and finally the companies were classified for each year into three groups (high quality, medium quality, and low quality). Obtained results suggest earnings response coefficient showed no significant difference in companies with different earnings quality (high quality, medium quality, and low quality).

Gharani (2010) in a study entitled Annual Earnings Information and Market Response to Change in net Profit in Tehran Stock Exchange stated that stakeholders as owners of business units seek for increasing their wealth, and considering the fact that wealth increase results from optimal performance of the business unit, evaluation of the business unit is crucial for the owners. Various criteria have been proposed for evaluating performance of the companies including earnings coverage percentage and earnings forecast error. This work aimed at investigating relationship between forecast error of standardized earnings, net profit coverage percentage, percentage of free float shares of companies with different market responses and the cumulative abnormal return. To this end, a sample composed of 117 companies listed in Tehran Stock Exchange was randomly selected following systematic exclusion. Bivariate and multivariate regression and Pearson's correlation coefficient were used to assess relationships between variables. Research findings suggest that at confidence level 95 percent it can be argued there is no relationship between forecast error of standardized earnings and cumulative abnormal returns around the time of assembly, while there is significant inverse relationship between forecast error of standardized earnings and stock market responses. At the same confidence level, it can be argued net profit coverage percentage is positively and directly related to cumulative abnormal returns, but there is inverse relationship with different responses of stock market of the companies. it can be stated percentage of free float shares has negative relationship with cumulative abnormal returns before assembly, and there is positive direct relationship with cumulative abnormal returns after assembly. However, it had no relationship with different responses of stock market of the companies.

Barzideh et al. (2010) in a study entitled Relationship between Earnings Quality Forecast and Earnings Response Coefficient and Ownership Concentration stated most changes in stock price in the capital market are influenced by different and various information which are given to the market by the companies. Some of the information have forecast and estimation origin, thus this work compared earnings response coefficient in the companies which have optimistic earnings forecast by the management and companies with pessimistic earnings forecast so that it is found market actors how react to pessimistic and optimistic forecast of managers from the earnings. They also investigated effect of earnings forecast adjustment by the management on earnings response coefficient and finally earnings forecast type by the management in the companies with high ownership concentration compared to those with low ownership concentration was examined. Research findings indicate there is no significant difference between earnings response coefficient in companies with optimistic earnings forecast compared to companies with pessimistic earnings forecast in Tehran Stock Exchange. Thus, presence of negative relationship between positive adjustment changes in earnings forecast and earnings response coefficient was supported, and it was found that earnings forecast by management is more optimistic in companies with low ownership concentration than companies with high ownership concentration.

Khoshtinat and Fallah (2006) examined relationship between financial leverage and earnings response coefficient. They studied influence of unexpected earnings on abnormal return with effect of financial leverage as an index of capital structure in presence of systematic risk and growth opportunities rate variables, which are known to be influential in earnings response coefficient. They were used as explanatory and control variables. They provided two definitions of financial leverage in their work:

1. Ratio of book value of total debt to book value of total assets, and
2. Book value of total debt to book value of equity.

Research findings indicated there is no relationship between financial leverage and earnings response coefficient in first definition of financial leverage and in lower level of leverage. At total sample level and high level of leverage, it was observed that financial leverage negatively influence earnings response coefficient. In the second definition of leverage and at total sample level and lower level of leverage, there is no relationship between financial leverage and earnings response coefficient, while there is weak relationship between leverage and earnings response coefficient at high level of leverage.

Norouzbeigi (2007) in a study entitled Information Content of Statements of Earnings per Share Based on Earnings Response Coefficient studied relationship between changes in anticipated and actual earnings per share and changes in return on equity in firms listed in Tehran Stock Exchange. Results for testing the research hypothesis indicate presence of co-directional relationship between changes in anticipated earnings per share and stock return volatility. Thus, increase in anticipated earnings per share increases volatility of stock return. Investigation of regression equations suggest slight tensile effect of change in anticipated earnings per share on stock return. Hence, despite of relationship between two variables and their correlation, considerable changes in anticipated earnings per share leads to smaller changes in stock price and thus in stock return. It is probably resulting from lack of information asymmetry between traders, considering decision making pattern of investors in Tehran Stock Exchange which is highly dependent on anticipated earnings per share. In case such condition is present due to asynchronous information reception, the main changes that must occur in the timeframe of official information release happen irregularly and at greater intervals.

Research Hypotheses

Main H1:

The average earnings response coefficient in companies with sale revenue growth strategy is greater than the average earnings response coefficient in companies with cost reduction strategy.

Minor H1:

The average earnings response coefficient in companies with sale revenue growth and operating profit strategy is greater than the average earnings response coefficient in companies with cost reduction and non-operating profit strategy.

Minor H2:

The average earnings response coefficient in companies with cost reduction and operating profit growth strategy is greater than the average earnings response coefficient in companies with cost reduction and non-operating profit growth strategy.

Main H2:

The average earnings sustainability in companies with sale revenue growth strategy is greater than the average earnings sustainability in companies with cost reduction strategy.

Minor H3:

The average earnings sustainability in companies, which their earnings growth accompanies by sale revenue growth and their operating profit is also increased, is greater than the average earnings sustainability in companies which their earnings growth accompanies by sale revenue growth, but their operating profit does not increase.

Minor H4:

The average earnings sustainability in companies, which their earnings growth does not accompany by sale revenue growth, but their operating profit increases, is greater than the average earnings sustainability in companies which earnings increase does not accompany by sale revenue growth and their operating profit does not increase.

Methodology

Statistical Population and Sample

The number of companies listed in Tehran Stock Exchange was 472 by March 2012.

Presupposition	472
1. The number of companies excluding the stock exchange during time interval	124
2. The number of companies entering stock exchange during time interval	152
3. The number of companies acting as financial investor and mediator (due to irrelevance to research subject)	28
4. The number of companies with transaction pause during research time interval	36
5. The number companies that their fiscal year does not end March 20 (due to homogeneity of fiscal years in terms of activity)	29
Total population	103

Considering above conditions, 103 companies were selected as purposive sample.

The data were obtained from financial statements and notes attached to financial statements as well as basic information in stock exchange panel (collected in Rah AvardNovin Software and database of Stock Exchange's Statistics Office).

Variable Measurement

Earnings sustainability: Sustainability means sustainability of earnings performance in the future period. Some authors associated sustainability directly to earnings quality, while some analyze only sustainability regardless of earnings quality. In the current work, following model was used for earnings sustainability measurement like Dechow et al. (2009):

$$\text{Earnings}_{i,t+1} = \beta_0 + \beta_1 \text{Earnings}_{i,t} + \varepsilon_{i,t} \quad (1)$$

Where,

Earnings: Earnings for t (current year) and t +1 (next year)

E: residual element

α1is sustainability criterion (lagging earnings slope coefficient) and its higher values suggest higher earnings quality and vice versa.

Regression Related to Earnings Sustainability Measurement

Earnings sustainability should be firstly calculated so that research hypotheses can be tested. Earnings sustainability measurement can be achieved through following process:

In order to test sustainability, firstly earnings sustainability coefficients should be estimated and then earnings sustainability should be included in the regression model so that the model can be studied and tested statistically. To this end, the formula described in section 3 was used. Results of coefficient estimation for calculation of earnings sustainability are as follows:

Results of Coefficient Estimation

Table 1.Correlation coefficient, coefficient of determination and Durbin – Watson test for independent variables and dependent variable

Durbin – Watson Statistics	Standard Error of Estimate	Adjusted Coefficient of Determination	Coefficient of Determination	Correlation Coefficient	Model
1.818	4.854E+05	0.517	0.518	0.720a	1

Correlation coefficient, coefficient of determination and adjusted coefficient of determination of earnings sustainability estimate model is given in this table.

Durbin – Watson statistics is 1.818 which is in range 1.5 – 2.5, assumption for lack of autocorrelation between the errors cannot be ruled out and thus earnings sustainability model regression can be used.

Following outcome includes analysis of regression variance to evaluate the certainty of a linear relationship between dependent and independent variables in the earnings sustainability model.

Table 2. The linear relationship between dependent and independent variables in the earnings sustainability model

Model		Sum of Squares	Degree of Freedom	Mean of Squares	F statistics	Sig. Level
1	Regression	1.637E+14	1	1.637E+14	694.955	0.000a
	Residual	1.524E+11	617	1.524E+14		
	Total	3.162E+14	618			

Results for earnings sustainability model suggest significance of earnings sustainability model.

Fisher distribution statistics and the significance level also confirm the results.

Following outcome indicate regression coefficients of the independent variables and the dependent variable.

Table 3.Regression coefficients of the independent variables and the dependent variable

Model	Denotation	Non-standardized coefficients		standardized coefficients	T statistics	Sig. level	Collinearity Statistics	
		B	B standard Error Column coefficient	Beta			Tolerance	Tolerance inflation factor
1	(constant)	36185.349	19910.207		1.817	0.070		
	EARNINGit	0.652	0.025	0.720	26.362	0.00	1.000	1.000

Considering above table, t statistics for dependent variables is significant at confidence level 95 percent. P-values obtained in the related column confirm it.

Regression equation is as follows:

$$\text{Earnings}_{it+1} = 36185.349 + .652\ \text{Earnings}_{it}$$

Considering coefficients in above regression equation, company's earnings sustainability can be calculated.

The figure obtained from model regression test used in hypotheses can be used.

$$ERC = \frac{\frac{\frac{P_1}{P_0}}{\frac{I_1}{I_0}} - 1}{\frac{EPS_1 - EPS_0}{EPS_0}} \quad (2)$$

P: company's stock price

I: stock market index

EPS: earnings per share in year t

ERC: earnings response coefficient

Revenue growth strategy: revenue growth strategy is applied to companies in which there is revenue growth for two consecutive years and the basis for it is Arab Mazar et al. (2011) work (Arab Mazaret al., 2011).

Cost reduction strategy: cost reduction strategy in this work is applied to the companies in which there is cost reduction for two consecutive years and the basis for it is Arab Mazaret al. (2011) work (Arab Mazaret al., 2011).

Revenue and operating profit growth strategy: Revenue and operating profit growth strategy in this work is applied on companies in which there is increase in revenue and operating profit for two consecutive years and the basis for it is Arab Mazaret al. (2011) work (Arab Mazaret al., 2011).

Revenue and non-operating profit growth strategy: Revenue and non-operating profit growth strategy in this work is applied on companies in which there is increase in revenue and non-operating profit for two consecutive years and the basis for it is Arab Mazaret al. (2011) work (Arab Mazaret al., 2011).

Statistical Model for Research Hypotheses

H1 Statistical Model:

$\{\mu(X_1) > \mu(Y_1)$

X1: earnings response coefficient in companies with revenue growth strategy

Y1: earnings response coefficient in companies with cost reduction strategy

Minor H1 Statistical Model:

$\{\mu(X_2) > \mu(Y_2)$

X2: earnings response coefficient in companies with revenue and operating profit growth strategy

Y2: earnings response coefficient in companies with revenue and operating profit growth strategy

Minor H2 Statistical Model:

$\{\mu(X_3) > \mu(Y_3)$

X3: earnings response coefficient in companies with cost reduction and operating profit growth strategy

Y3: earnings response coefficient in companies with cost reduction and non-operating profit growth strategy

Main H2 Statistical Model:

$\{\mu(X_4) > \mu(Y_4)$

X4: earnings sustainability in companies with revenue growth strategy

Y4: earnings sustainability in companies with cost reduction strategy

Minor H1 Statistical Model:

$\{\mu(X_5) > \mu(Y_5)$

X5: earnings sustainability in companies in which earnings growth accompanies by revenue growth and their operating profit is also increased.

Y5: earnings sustainability in companies in which earnings growth accompanies by revenue growth, but their operating profit is not increased.

Table 4. Summary of Statistical Tests Results

Hypothesis No.	Variable	Number of Data	Mean	SD	Mean Error	Result
Main H1	Average earnings response coefficient in companies with revenue growth strategy	422	0.6836	20.19976	0.98331	Support
	Average earnings response coefficient in companies with cost reduction strategy	255	-0.1983	14.44659	0.90468	
Minor H1	Earnings response coefficient in companies with revenue and operating profit growth strategy	218	0.5599	16.19348	1.09676	Support
	Earnings response coefficient in companies with revenue and non-operating profit growth strategy	206	-0.5231	14.73376	1.02655	
Minor H2	Average earnings response coefficient in companies with cost reduction and non-operating profit growth strategy	201	-0.2651	15.43202	1.08849	Support
	Average earnings response coefficient in companies with cost reduction and operating profit growth strategy	242	0.0617	14.25803	0.91654	
Main H2	Earnings sustainability in companies with revenue growth strategy	439	170594.83	5.23E+05	24946.036	Support
	Earnings sustainability in companies with cost reduction strategy	263	156062.53	4.59E+05	28308.195	
Minor H3	Average earnings sustainability in companies in which earnings growth accompanies by revenue growth, but operating profit does not increase	218	135855.36	3.42E+05	23190.436	Support
	Earnings sustainability in companies in which earnings growth accompanies by revenue growth, and operating profit increases	220	206540.3	6.54E+05	44066.247	
Minor H4	Earnings sustainability in companies in which earnings growth does not accompany by revenue growth, but operating profit increases	125	100795.57	4.91E+05	43946.719	Support
	Average earnings sustainability in companies in which earnings growth does not accompany by revenue growth, and operating profit does not increase	195	56726.484	2.26E+05	16168.736	

Minor H2 Statistical Model:

$\{\mu(X_6) > \mu(Y_6)$

X6: earnings sustainability in companies which their earnings growth does not accompany by revenue growth, but their operating profit is increased

Y6: earnings sustainability in companies which their earnings growth does not accompany by revenue growth and their operating profit is not increased.

Discussion and Conclusion

Result for Testing H1

1. The average earnings response coefficient in companies with sale revenue growth strategy is greater than the average earnings response coefficient in companies with cost reduction strategy.

Studies on sample companies during 2006 – 2012 and findings from tests and statistical analysis using mean test and pairwise t statistics in section 4 indicate that average earnings response coefficient in companies with revenue growth strategy is 0.6836 and average earnings response coefficient in companies with cost reduction strategy is -0.1938, and thus average earnings response coefficient in companies with sale revenue growth strategy is greater than the average earnings response coefficient in companies with cost reduction strategy.

Findings from testing this hypothesis are consistent with findings by Arab Mazaret al. (2011) in a study entitled Relationship between Earnings Growth Strategy and Earnings Response Coefficient, Evidence from Tehran Stock Exchange. They investigated relationship between earnings growth strategy and earnings response coefficient in companies listed in Tehran Stock Exchange. Their findings suggest significant relationship between earnings growth strategy and earnings response coefficient. In other words, companies with earnings growth strategy have greater earnings response coefficient than companies with cost reduction strategy, which is consistent with findings from testing this hypothesis.

Result for Testing Minor H1

1. The average earnings response coefficient in companies with sale revenue and operating profit growth strategy is greater than the average earnings response coefficient in companies with revenue and non-operating profit growth strategy.

Studies on sample companies during 2006 – 2012 and findings from tests and statistical analysis using mean test and pairwise t statistics in section 4 indicate that average earnings response coefficient in companies with revenue and operating profit growth strategy is 0.5599 and average earnings response coefficient in companies revenue and non-operating profit growth strategy is -0.5231, and thus average earnings response coefficient in companies with revenue and operating profit growth strategy is greater than the average earnings response coefficient in companies with revenue and non-operating profit growth strategy.

Result for Testing Minor H2

1. The average earnings response coefficient in companies with cost reduction and operating profit growth strategy is greater than the average earnings response coefficient in companies with cost reduction and non-operating profit growth strategy.

Studies on sample companies during 2006 – 2012 and findings from tests and statistical analysis using mean test and pairwise t statistics in section 4 indicate that average earnings response coefficient in companies with cost reduction and operating profit growth strategy is 0.0617 and average earnings response coefficient in companies with cost reduction and non-operating profit growth strategy is -0.2651, and thus average earnings response coefficient in companies with cost reduction and operating profit growth strategy is greater than the average earnings response coefficient in companies with cost reduction and non-operating profit growth strategy.

Result for Testing Main H2

1. Average earnings sustainability in companies with revenue growth strategy is greater than average earnings sustainability in companies with cost reduction strategy.

Studies on sample companies during 2006 – 2012 and findings from tests and statistical analysis using mean test and pairwise t statistics in section 4 indicate that average earnings sustainability in companies with revenue growth strategy is 170594.83 and average earnings sustainability in companies with cost reduction strategy is 156062.53, and thus average earnings sustainability in companies with revenue growth strategy is greater than the average earnings sustainability in companies with cost reduction strategy.

Findings from testing this hypothesis are consistent with findings by Arab Mazaret al. (2011) in a study entitled Relationship between Earnings Growth Strategy and Earnings Response Coefficient, Evidence from Tehran Stock Exchange. They investigated relationship between earnings growth strategy and earnings response coefficient in companies listed in Tehran Stock Exchange. Their findings suggest significant relationship between earnings growth strategy and earnings response coefficient. In other words, companies with earnings growth strategy have greater earnings response coefficient than companies with cost reduction strategy, which is consistent with findings from testing this hypothesis.

Result for Testing Minor H3

1. The average earnings sustainability in companies, which their earnings growth accompanies by sale revenue growth and their operating profit is also increased, is greater than the average earnings sustainability in companies which their earnings growth accompanies by sale revenue growth, but their operating profit does not increase.

Studies on sample companies during 2006 – 2012 and findings from tests and statistical analysis using mean test and pairwise t statistics in section 4 indicate that average earnings sustainability in companies, in which earnings growth accompanies by revenue growth and operating profit is also increase, is 206540.3 and average earnings sustainability in companies, in which earnings growth accompanies by revenue growth but the operating profit is not increased, is 135855.36. Thus, The average earnings sustainability in companies, which their earnings growth accompanies by sale revenue growth and their operating profit is also increased, is greater than the average earnings sustainability in companies which their earnings growth accompanies by sale revenue growth, but their operating profit does not increase.

Result for Testing Minor H4

1. The average earnings sustainability in companies, which their earnings growth does not accompany by sale revenue growth, but their operating profit increases, is greater than the average earnings sustainability in companies which earnings increase do not accompany by sale revenue growth and their operating profit does not increase.

Studies on sample companies during 2006 – 2012 and findings from tests and statistical analysis using mean test and pairwise t statistics in section 4 indicate that average earnings sustainability in companies, which their earnings growth does not accompany by sale revenue growth, but their operating profit increases, is 100795.57 and in companies which earnings increase does not accompany by sale revenue growth and their operating profit does not increase, is 56726.484, and thus average earnings sustainability in companies, which their earnings growth does not accompany by sale revenue growth, but their operating profit increases, is greater than the average earnings sustainability in companies which earnings increase does not accompany by sale revenue growth and their operating profit does not increase.

References

Barzideh, F., GhasemBulo, & AminiMotlagh, A. (2010). Relationship between earnings quality forecast and earnings response coefficient and ownership concentration. Journal of Accounting Research, 27.

Collins, D.W., and Kothari S.P., (1989). An Analysis of Intertemporal and Cross-sectional Determinants of Earnings Response Coefficients. Journal of Accounting and Economics .18, 49.

Francis, J., LaFond, R. and Olsson, P.M. (2004), Cost of Equity and Earnings Attributes, Accounting Review, 79 (4), 967–1010.

Khaleghi Moghadam, H. & Azad. M. (2004).Information content of corporate profit forecasts. Journal of Accounting Research, 7, 33-53.

Khoshtinat, M.; Fallah M. (2006).Relationship between financial leverage and earnings response coefficient. Journal of Accounting Research, 51, 8-22.

Kormendi, R. and R. Lipe (1987), Earnings Innovations, Earnings Persistence, and Stock Returns, Journal of Business.

Moradi, M., Fallahi, M.A. & Kami, M. (2010). Relationship between earnings quality and earnings response coefficients. Journal of Knowledge and Development (Scientific - Research), 18(33).

Norouzbeigi, A. (2007). Information content of statements of earnings per share based on earnings response coefficient. Master’s Thesis in Accounting, Allameh Tabatabai University.

Park C, Pincus M. (2001). Internal versus External Equity Funding Sources and Earnings Response Coefficients, Review of Quantitative Finance and Accounting, 16: 33-52.

Sloan, R., (1996). Do Stock Prices Fully Reflect Information in Cash Flows and Accruals About Future Earnings. Accounting Review, 71(3), 289-315.