Comparison of Accounting Earnings Informativeness in Family and Non-Family Firms Listed In Tehran Stock Exchange

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Abstract

Information development in recent decades has provided new opportunities for people and organizations, so interactions and communications have developed globally and new definition have emerged in different aspects of individual and social life. Accounting earnings is one of the factors whose presentation and information content have a significant impact on investors' behavior and stock price changes. This study aims to examine the effect of accounting earnings informativeness on stock prices in family and non-family firms. The research population consists of family and non-family firms listed in Tehran Stock Exchange among which the data of 23 family firms and 43 non-family firms have been collected as the sample during the fiscal years of 2007 to 2013. The research hypotheses have been tested using Spearman and regression tests. The results show that there is a significant relationship between accounting earnings informativeness and stock price in family and nonfamily firms. Moreover, the effect of accounting earnings informativeness on stock price is significantly different in family and non-family firms.

Key words

Accounting earnings informativeness, stock price, family firms, non-family firms, Tehran Stock Exchange

1. Introduction

The stock price is important on the account that it tries to reflect all events inside and outside the firms in the past, present and future and all movements in the capital market occur based on this mysterious element. That is why stock price and capital market indices are considered not only the market thermometer but also the economy thermometer of a country. Given that accounting earnings announcement is informative and the rate of accounting earnings informativeness is different in firms, it has been tried in this study investigate the rate of accounting earnings informativeness in family and non-family firms that have different structures.

2. Statement of the problem

Usually when new information is published on the status of companies in the market, the information is analyzed by analysts, investors and other users and accordingly the decisions are made to buy or sell stock. Ambiguity in investment keeps the investors away from the market and ultimately leads to recession which will be followed by adverse economic and social effects. Therefore, it is necessary to create conditions so that investors will be willing to enter the market and to invest in stocks and this cannot be achieved except by providing accurate information about the behavior of market and stock returns in the past. In today's financial world of investment in stock, financial knowledge, lower cost, selection of superior and more profitable stock, and efficient use of capital are the integral components of investors' activities and measures.

Today, economic development depends on the access to financial resources for investment and firms' investment, in return, depends on appropriate financial reporting of the firm because investors invest in an economic entity when they have enough information about it and the information is provided through financial reporting. Financial reporting discloses the allocation of capital resources in a commercial company and its profitability, and accounting standards in this regard call for the preparation of financial

statements in such a way that, on the one hand, it makes it possible for the users to adopt informed decisions in compliance with the qualitative characteristics of accounting information, and on the other hand it won't mislead them. In this regard, the qualitative characteristics are as follows:

Two useful features of accounting information content are relevancy and reliability (trust) which are called primary quality. Relevancy means that the information can make a difference in the decision. In addition, reliable (trusted) accounting information must be free of error and bias and must be honest in offering what it claims (Financial Accounting Standards Board (FASB), 1978).

An increasing amount of empirical research has been done on accounting with forecast approach. In this regard, there are two streams of thought. The first one deals with testing the ability of accounting data to explain and predict economic events. The second one tests the market reaction to the disclosure of the data based on accounting data. Accounting literature has always focused on providing information that could contribute to prediction and decision making (Belkaoui1, 1966). If accounting information is able to express stock price changes over time and between firms, this study is expected to focus on the use of accounting information in stock price assessment at different states of firms' structures (family and non-family). At present and according to the type of ownership in firms, the main subject of this study is to empirically test the difference between the rate of accounting earnings informativeness and stock price in family and non-family firms.

3. Research background

3.1. Accounting Earnings Informativeness

From the standpoint of intelligence, the concept of earnings expresses the result of economic activities, but it is still being questioned as the main benchmark of measurement. Based on the assumptions of the efficient capital market, empirical studies have confirmed that accounting earnings contain information content. Of course, professional accountants have still emphasized the role of earnings whether for the measurement of earnings or for the identification of information reflected in accounting earnings, and financial analysts also want to measure and publish it (Hendrickson, Michael and Van Breda, 1992). Vardfyl *et al.* have defined information content as the capacity to justify the stock returns, while Ahmed *et al.* consider information content of earnings as having information about future profits (Karami, 2008). In this study, accounting earnings informativeness is analyzed by measuring the correlation between the profitability of shares and earnings of accounting (profits rather than index).

3.2. Family Firms

In order to carry out this research, first of all a definition of family firms must be provided. Family firms can be defined from various aspects. The membership of family members in the board of directors, the percentage of stock ownership by family members and considerable control of the firm are the factors through which family firms are defined. Membership in the board of directors and stock ownership percentage are mentioned in most definitions of family firms, but there are different opinions about the percentage of stock ownership.

Villalonga and Amit (2006) define a family firm as the company whose founder or a member of the family or in-laws is the member of board of directors, chief executive, or the owner of at least 5% of the company's share, individually or in group.

Yang and Tsai (2008) state the ownership of at least ten percent of the shares by family members, as one of the conditions of family firms. In their view, these companies are considered to be family firms: companies who are controlling family owners jointly own at least 10% of the owners' equity of the company, or the family members or legal representatives of other family firms must jointly form more than fifty percent of the board of directors. Family ownership is used for the company which is controlled by a natural person as the shareholder. In other words, a person collects enough stock to ensure that he owns at least twenty percent of the company's stock (Chakrabarty 2009).

Those firms are considered family firms that at least 20% of their shares are in the hands of family members individually or in group, or at least one of the family members or in-laws is the member of a of directors or chief executive and actively participates in board of directors and at least two generations of the family have been involved in the control of the company (Namazi and Mohammadi, 2010).

With regard to the definitions that were presented, we propose a definition of family firms according to the terms and conditions in Iran. In above definitions, different percentages of ownership were stated in family firms. In order to state a certain percentage for Iran, it must be noted that when and how in Iran the shareholders have a considerable influence over a firm. Then, with respect to the considerable influence, family firms can be defined:

Iranian Accounting Standards Committee in paragraph 8 of Standards No. 20 says: "*Exercising considerable influence, essentially without having enough votes, is far-fetched and therefore, a certain amount of voting rights in the investee unit is considered as the assumption of considerable influence. To achieve a reasonable rate of uniformity in practice, it is assumed that in the absence of evidence of violation, in cases that the investor (directly or indirectly, through subsidiary business units) has at least 20% of the voting power in the investee unit, they have considerable influence on the investee unit. On the contrary, when the investment unit (directly or indirectly, through subsidiary business units) has less than 20% of the voting power in the investee unit, it is assumed that the investor does not have considerable influence, unless such influence can be clearly demonstrated*" (Iranian Accounting Standards Committee, 2007).

According to the above points having twenty percent of the firm stock by the family members is expressed as one of the conditions of family firms. In addition, the membership of family members in the board of directors of the firm is another criterion that is considered for family firms (Asgari, 2013).

4. Literature review

Chang and Lee (2014) examined earnings informativeness and smoothing. The research was conducted among the listed companies in the markets of China and the United States of America during 2003 to 2008. The results indicate that earnings smoothing affects earnings informativeness significantly but the effect is less between Chinese companies. Moreover, the effect is not visible in state-owned enterprises in China.

Faqani Makrani (2015) studied the relationship between stock price and book value, accounting earnings, and cash flow. Given the role of book value, accounting earnings, and cash flows as the bases for decision making and predicting beneficiaries, in this study the relevance of book value, accounting earnings, cash flows and stock price in listed companies at Tehran Stock Exchange with regard to the classification of firms into profitable and unprofitable companies as well as earnings management and non-earnings management companies individually and in combination. The present research was carried out using the data of 921 companies listed in Tehran Stock Exchange during 2007 to 2012. It is a descriptive correlational study and the statistical techniques used to test the hypotheses are linear and multivariable regressions. The results of the research showed that the relevancy of book value and stock price is more than those of accounting earnings and cash flows and it reduces over time; moreover, company profitability or unprofitability, as time passes, has no effect on relevance trend of combined book value and accounting earnings as well as the relevance trend of combined book value and cash flows associated with stock price.

In their article Banimahd *et al*. (2014) examined the positive changes of earnings per share and stock price. The research aimed to investigate behavioral stability hypothesis in Tehran Stock exchange. The research period was from 2004 to 2010 for 100 companies. The results showed that whenever the earnings per share increase over the previous year, the stock price increases in that year. Accordingly, it can be argued that positive changes in earnings per share are more than earnings management and this is consistent with behavioral stability hypothesis.

Morshed Zadeh *et al*., (2014) examined the stability of earnings, economic conditions, and content value of accounting information in Tehran Stock Exchange. The research aimed to investigate the content value of accounting information of companies with an emphasis on how to deal with the investment of resources which led to the division of sample into traditional and non-traditional companies with the separation of earnings into stable and unstable components. Furthermore, the effect of economic conditions on content value with the mentioned conditions was measured for a period of 7 years since 2005 to 2011. The results indicated that the content value of the information in non-traditional companies was more than traditional companies, although their difference from each other reduced over time and earnings separation into stable and unstable components increased the content value. Moreover, there

was no significant relationship between the content value of accounting information in Iranian firms and economic conditions.

Seddiqi *et al.* (2013) examined the relationship between the structure of board of directors and information content of accounting earnings during 2003-2008 in Iran. The researchers were seeking to find an answer to this question: "*Does the improvement of the structure of board of directors increase the information content of accounting earnings or not?*" in this study, the structure of board of directors was examined using four variables and the information content of accounting earnings was obtained through earnings response coefficients. The four variables of board of directors' structure include the size of the board of directors, membership of managing director on the board of directors, dichotomy between the responsibility of managing director and the board of directors' independence. To investigate the relationship between board structure and the information content of accounting earnings the model presented by Aston and Harris (1991) was used and to test the abovementioned model multivariate linear regression, generalized least squares method in panel and Wald test were used. The results showed that there was no significant relationship between the variables of board of directors and information content of accounting earnings.

Haqiqat and Alavi (2013) examined the relationship between accounting earnings transparency and abnormal stock returns of companies listed in Tehran Stock Exchange. The research aimed to investigate the relationship between accounting earnings transparency and abnormal stock returns. Therefore, initially the relationship between the two variables was examined regardless of the control variables and then the two variables were investigated by adding the control variables. The research hypotheses were tested using the financial information of 92 firms listed in Tehran Stock Exchange during 2005 to 2010. The findings of the research showed that there was a negative and significant relationship between the transparency of accounting earnings and abnormal returns of stocks with or without control variables in Tehran Stock Exchange. Sun (2011) analyzed earnings informativeness versus earnings smoothing in his article. The study examined whether the accounting earnings informativeness was influenced by earnings smoothing or not. The results showed that earnings smoothing has a significant effect on earnings informativeness and since the investors are influenced by the analysts the effectiveness would influence the analyses presented by the analysts.

Joseph and Wang (2002) in an article investigated the structure of companies' shares and accounting earnings informativeness in East Asia. The article examines the relationship between profitability output, accounting earnings informativeness and stock structure in 977 firms. The results show that there are centralized and hierarchical ownership structures along with conflict of interests in representation theory, control between owners and foreign investors; as a result, the interest to control shareholders, and understanding the informativeness of accounting information and reporting it for their own purposes as well as lack of informativeness of accounting earnings lead to the loss of credibility on the part of foreign investors. In addition, centralized ownership with low value income in relation to the concentration of ownership prevents data expansion and decreases accounting earnings informativeness.

Vafeas (2000) in an article titled "Board of directors Structure and accounting informativeness" investigated the role of corporate governance in accounting earnings accountability. The results showed that earnings information in companies with small board of directors provide more informativeness.

5. Conceptual model and variables of the research

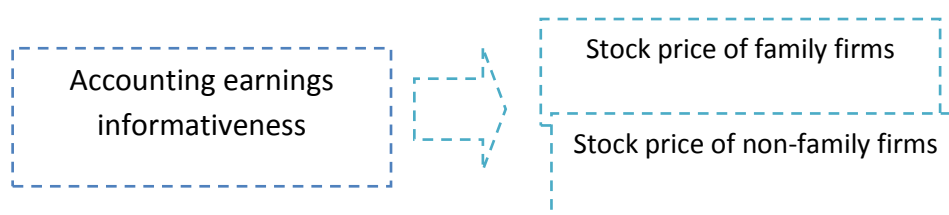Conceptual model of the research is as the following.

Figure 1. Conceptual model (1): The relationship between research variables

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5.1. How to Calculate Variables

•*Accounting Earnings Informativeness*

Abnormal stock return index is considered as accounting earnings informativeness. Abnormal stock return resulting from the disclosure of earnings information in market can be expressed as the informative index of accounting earnings that is calculated through the use of model (1):

$$AR_{it} = R_{it} - R_{mt} \tag{1}$$

AR_{it}: rate of abnormal returns
R_{it}: rate of real returns
R_{mt}: rate of expected returns

• *Stock Price*
The stock price at the end of June in next year is considered as the dependent variable.
 P = stock price at the end of June next year

• *Firm Size*
Logarithm of the company's assets is intended as a control variable.
Size = Log (Assets)

• *Operating Leverage*
The company's operating leverage is also considered as a control variable which is the percentage of changes in earnings before interest and taxes divided by the percentage of changes in production.

$$\{DOL = \{T (P-V)\} / \{(T (P-V) - FC \tag{2}$$

T: Number of manufactured or sold products
P: price per unit
V: variable cost per unit
FC: Fixed Costs

6. Research hypotheses

According to the statement of the problem, the following hypotheses are stated:
1. There is a significant relationship between accounting earnings informativeness and stocks of family firms.
2. There is a significant relationship between accounting earnings informativeness and stocks of non-family firms.
3. There is a significant difference between accounting earnings informativeness in family and non-family firms.

7. Research population and sample

The population in this research includes two groups: family firms and non-family firms listed in Tehran Stock Exchange during 2007 to 2013 that had the following conditions:
1. All financial information required during the research is available;
2. To enhance comparability, the fiscal year of the firms should end in March;
3. Firms should not be leasing companies, investment companies, credit institutions, insurance companies or financial intermediation companies.
There were 43 family firms listed in Tehran Stock Exchange among which 23 firms were selected as the sample through systematic elimination method. Some limitations were placed in this research to achieve better results:
-Companies should not change their fiscal year during the research period.
- Financial statements of the firms whose stocks were exchanged in subsidiary halls were removed.

- Companies that were impossible to access to their financial information were removed from the study.

- All financial and investment were removed from the research population because the nature of their operations is different from other companies.

Among the other firms, 43 ones as non-family firms were placed in the second group as the sample.

8. Data analysis

8.1. Descriptive data

For better understanding of the research population and more familiarity with the research variables, the descriptive data of the research variables are displayed in Table (1):

Table 1. Descriptive data

Variable	Family/Non-family	Number of observations	Standard Deviation	Mean	Maximum	Minimum
Stock price of ….. Firms	family	161	5269	4755	34902	587
	Non-family	301	6453	4756	64516	348
Accounting earnings informativeness of ….. firms	family	161	87/5	10/6	513	-127
	Non-family	301	113/6	21/1	819	-133
Size of ….. firms	family	161	450928	427837	2367091	18425
	Non-family	301	11064279	3098860	113768199	82191
Operating leverage of ….. firms	family	161	97/9	19/9	1119	-312
	Non-family	301	28/4	18/5	-169/9	-113/5

Based on the stock price index it can be seen that the mean stock price of family and non-family firms are 4755 and 6453, respectively, which indicates the higher price of non-family firms than family firms in the samples. Abnormal stock returns index which indicates the rate of accounting earnings informativeness is 87 in family firms and 113 in non-family firms which indicates higher abnormal stock returns in non-family firms. Moreover, according to the table, the average size of family firms is smaller than non-family firms while the operating leverage in family firms (97) is more than non-family firms.

To study the trend of variables during different years the following table of means is presented:

Table 2. Table of indices for the studied years

Variable	Family/Non-family	2013	2012	2011	2010	2009	2008	2007
Stock price of ….. Firms	family	9609	4529	5409	3849	3105	3648	3849
	Non-family	10245	5051	4806	3903	3168	2562	3641
Accounting earnings informativeness of ….. firms	family	59/3	-8/3	30	12/4	-25/1	8/6	6/8
	Non-family	92/1	8/6	16/2	-8/6	11	17/8	13/2

According to the table above it can be seen that the abnormal stock returns resulting from accounting earnings informativeness had a rising trend in family firms until 2009 and declined in 2009, and then continued its upward trend except the negative fluctuation in 2012. Stock price in family firms had a descending trend until 2009 and then began its ascending trend. Abnormal stock returns in nonfamily firms had more volatility but its stock price after2009 had always had a progressive trend.

8.2. Inferential data and hypotheses analysis

8.2.1. Kolmogorov - Smirnov Test

The null hypothesis in Kolmogorov-Smirnov test is following the desired distribution by the data which is meant normal distribution in this test. Its opposite hypothesis is not following the desired (normal) distribution. Kolmogorov-Smirnov test was used to assess the normality of the research variables. The results are as follows:

Table 3. Kolmogorov-Smirnov test

Variable	Type of firm	Significance level	Statistic
Stock price of firm	family	0/000	0/219
	Non-family	0/000	0/210
Accounting earnings informativeness	family	0/000	0/197
	Non-family	0/000	0/250

Since the null hypothesis of Kolmogorov-Smirnov test is that the data follow a normal distribution and as the value of p (Asymp. Sig) for the variables is 0.000, respectively, the null hypothesis of Kolmogorov-Smirnov test is rejected according to the results and the opposite hypothesis is accepted. Therefore, the distribution will be treated in accordance with the abnormal distribution. Given the abnormality of the variables, nonparametric methods can be used to assess the relationship between variables.

8.2.2. Examine the Hypothesis

To examine the hypotheses Spearman and regression tests were used; the results are briefly presented in the tables.

8.2.2.1. The First Hypothesis

According to the first hypothesis: there is a significant relationship between accounting earnings informativeness and stocks of family firms, H0 and H1 can be presented as the following:

H_0: *There is no significant relationship between accounting earnings informativeness and stocks of family firms.*

H_1: *There is a significant relationship between accounting earnings informativeness and stocks of family firms.*

In order to test the first hypothesis, the relationship between accounting earnings informativeness and stocks of family firms, Spearman test was used the results of which can be seen in the following table:

Table 4. Correlation between accounting earnings informativeness and stocks of family firms

Number of data (Number of firms- years)	Significance level sig	Spearman correlation coefficient	Features ⟍ variables
161	0/000	0/333	**RET – Price**

As can be seen in Table 4, significance level is less than 5%, thus H0 is rejected and H1 is accepted. Therefore, there is a significant relationship between accounting earnings informativeness and stocks of family firms. In order to investigate the effect of accounting earnings informativeness on stocks of family firms the following regression model can be offered:

Table 5. Results of the first hypothesis testing

RETFamily= α +β₁ Price + β₂Size +β₃Leverage +ε				
P- Value	**t.st**	**St. Err**	**Standard coefficients**	**Variable**
0/000	7/3	552	-	**Width of inception**
0/000	4/6	4/5	0/346	**Stock price**
0/195	1/3	0/001	0/097	**Firm size**
0/977	-0/02	4/03	-0/002	**Financial leverage**
Adj R-Squared		**R²**		
0/109		0/125		

In order to review the first model and the impact of accounting earnings informativeness on stocks of family firms, regression test is used. As can be seen in the table above, significance level of accounting earnings informativeness is less than 0.05, which reflects the impact of accounting earnings

informativeness on stocks of family firms with coefficient of (0.346). Also, the coefficient of regression effect in this model is (0.125) which reflects the impact resulting from the effect of the independent and control variables on the dependent variable.

8.2.2.2. The Second Hypothesis

According to the second hypothesis: there is a significant relationship between accounting earnings informativeness and stocks of non-family firms, H0 and H1 can be presented as the following:

H_0: *There is no significant relationship between accounting earnings informativeness and stocks of non-family firms.*

H_1: *There is a significant relationship between accounting earnings informativeness and stocks of non-family firms.*

In order to test the first hypothesis, the relationship between accounting earnings informativeness and stocks of non-family firms, Spearman test was used the results of which can be seen in the following table:

Table 6. Correlation between accounting earnings informativeness and stocks of non-family firms

Number of data (Number of firms- years)	Significance level sig	Spearman correlation coefficient	Features variables
301	0/000	3680/	**RET – Price**

As can be seen in Table 6, significance level is less than 5%, thus H0 is rejected and H1 is accepted. Therefore, there is a significant relationship between accounting earnings informativeness and stocks of non-family firms. In order to investigate the effect of accounting earnings informativeness on stocks of non-family firms the following regression model can be offered:

Table 7. Results of the first hypothesis testing

RET NonFamily= α +β₁ Price + β₂Size +β₃Leverage +ε				
P- Value	**t.st**	**St. Err**	**Standard coefficients**	**Variable**
0/000	1/9	434	-	**variable**
0/000	7/5	1/3	3140/	**Width of inception**
6970/	38/0	0000/	0220/	**Stock price**
0980/	160/	5/12	0920/	**Firm size**
Adj R-Squared		**R²**		
0980/		1070/		

In order to review the first model and the impact of accounting earnings informativeness on stocks of non-family firms, regression test is used. As can be seen in the table above, significance level of accounting earnings informativeness is less than 0.05, which reflects the impact of accounting earnings informativeness on stocks of non-family firms with coefficient of (0.314). Also, the coefficient of regression effect in this model is (0.098) which reflects the impact resulting from the effect of the independent and control variables on the dependent variable.

8.2.2.3. The Third Hypothesis

According to the third hypothesis: there is a significant difference between accounting earnings informativeness in family and non-family firms, H0 and H1 can be presented as the following:

H_0: *There is no significant difference between accounting earnings informativeness in family and non-family firms.*

H_1: *There is a significant difference between accounting earnings informativeness in family and non-family firms.*

In order to test the relationship between accounting earnings informativeness and stocks of family and non-family firms Spearman test was used the results of which can be seen in the following table:

Table 8. Correlation between accounting earnings informativeness and stocks of family and non-family firms

Number of data (Number of firms- years)	Significance level sig	Spearman correlation coefficient	Features / variables
161	0/000	0/333	RET(Family) – Price
301	0/000	3680/	RET(nonfamily) – Price

As can be seen in Table 8, the coefficient of the relationship between accounting earnings informativeness and stock price is 0.333 in family firms and 0.368 in non-family firms. As a result, there is a significant difference between accounting earnings informativeness in family and non-family firms.

9. Conclusions and recommendations

The results showed that there is a significant relationship between accounting earnings informativeness and stock price in family and non-family firms, but the relationship is significantly different in family and non-family firms and the degree of correlation indicates that the effect of accounting earnings informativeness on stock price in family firms is more than non-family firms. Given the difference of accounting earnings informativeness in family and non-family firms, the shareholders and all capital market participants are recommended to use accounting earnings informativeness in rational decisions and pay particular attention to the assessment and decision making with regard to the difference of the severity of the effect of these factors on stock price because accounting earning informativeness has different effects on stock price in family and non-family firms.

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