A study on the effects of quarterly financial reports on systematic risk and return on assets: A case study of Tehran Stock Exchange

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CHRONICLE	ABSTRACT
	Financial statements are considered as primary sources of information for most investors to make investment decisions. A crystal clear and comprehensive annual report helps many interested parties about the performance of any business unit. However, many rules and regulations ask management teams of organizations to provide quarterly financial results. In this paper, we perform an empirical investigation to study the effects of quarterly financial reports on three ratios including systematic risk, return on assets and firm size. The proposed study gathers the necessary data from 72 firms listed on Tehran Stock Exchange over the period of 2000-2006. The study determined the performances of these 72 firms before and after the releases of three quarterly reports and using Freedman test determined whether there were any meaningful differences between two groups of data or not. The results of Freedman test indicate that there were not any meaningful differences between stock performance and systematic risk before and after quarterly results. The survey also examines the relationship between systematic risk and size of firms using Pearson correlation test and the results indicate there were some meaningful differences size and systematic risk.

1. Introduction

Financial statements are considered as primary sources of information for most investors to make investment decisions. A crystal clear and comprehensive annual report helps many interested parties about the performance of any business unit. However, many rules and regulations ask management teams of organizations to provide quarterly financial results. During the past few years, there have been tremendous efforts on measuring the impact of various factors on return of stocks on Tehran Stock Exchange. Aghasi et al. (2013) investigated the relationship between bank interest rates on performance of stock exchange over the period 2001-2010. They categorized interest rates into five various categories including short-term interest rate, special short-term rate, one-year, two-year, three-year, four-year and five-year terms. The results of performing regression analysis confirmed

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that there were some positive and meaningful relationship between interest rate in all groups and performance of stock exchange.

Dehaghani et al. (2013) measured the impacts of privatization on some selected firms listed on Tehran Stock Exchange. They selected eleven relatively big sized Iranian firms whose structures were privatized prior year 2011. The main hypothesis of this survey was whether there was a meaningful relationship between ownership structure and enterprise value of privatized firms. They collected the necessary information before and after privatization process completed and using a regression model tested the main hypothesis as well as five sub-hypotheses. The results of the survey indicated that the number of major shareholders had been reduced after privatization process accomplished, the number of shares had no impact on firms' values. In addition, non-board members' duty had not impact on firms' value before and after privatization process, institutional investors did not play important role before and after privatization process, and separations played important role on firms' value before and after privatization occurred.

Tehrani et al. (2013) presented an empirical study on some selected firms on Tehran Stock exchange by looking the impacts of quarterly earning adjustment on firm and market's return. The proposed study selected all firms whose shares were actively and publicly traded over the period 2006-2011. The study investigated whether there was a meaningful relationship between the content of quarterly earnings report and stock price with/without the presence of control variables. The results concluded that there were some meaningful relationships between change in earning and market value and return on firm with market value but market value seems to had no relationship with market return changes.

Asle et al. (2013) investigated the relationship between Tobin's Q and illiquidity in some selected firms in Tehran Stock Exchange. The proposed study selected non-financial stocks over the period of 2001-2010. The result of the survey indicates that there was a negative relationship between illiquidity and Tobin's Q but the ratio was approximately seven percent. In other words, as illiquidity increases by one percent, we could expect only a small change in firms' performance.

Neghabi and Rafiee (2013) investigated the relationship between capital structure as dependent variable and seven independent variables including tax rate, growth rate, fixed assets, firms' size, operating risk, profitability and industry type. The proposed study of this paper implemented the financial information of 107 selected firms from 18 various industries listed on Tehran Stock Exchange over the period of 2004-2011 covering 40% of total number of companies listed in this stock exchange. They used ordinary least square technique to study the relationships. The results of the survey indicated that the there was a positive relationship between tax rate and firm's growth rate, and capital structure. The result of the survey also indicated there was a negative relationship between firm's profitability and capital structure. However, there was no evidence to believe that there was any relationship between fixed assets and capital structure. They concluded that there was a negative relationship between firm's profitability and capital structure but the results of their survey did not indicate that there was any difference between the mean of profitability in various sectors.

Farzinfar (2012) studied the relationship between intellectual capital, earning per share and income growth for a case study of Tehran Stock Exchange in Iran. There were 120 companies listed in Tehran Stock Exchange and, using a simple sampling technique, they chose 50 firms, randomly. The results of the survey indicated that the components of intellectual capital including human capital, customer capital, and structural capital had significantly positive relationship with the earning per share of the companies over the period of 2005- 2010. The results also indicated that the components of intellectual capital including human capital, customer capital, and structural capital were positively associated with the income growth of the companies for the period from 2005 to 2010.

2. The results

In this paper, we perform an empirical investigation to study the effects of quarterly financial reports on three ratios including systematic risk, return on assets and firm size. The proposed study gathers the necessary data from 72 firms listed on Tehran Stock Exchange over the period of 2000-2006. The study considers the following criteria for making selection process,

1. The shares of the selected firms must be accepted prior to year 2000.

2. They must the same fiscal calendars.

3. Investment firm, insurance companies or holding companies are not permitted.

4. The firms must be profitable over the period of study.

5. There must be no change on fiscal calendar.

The study determined the performances of these 72 firms before and after the releases of three quarterly reports and using Freedman test determined whether there were any meaningful differences between two groups of data or not. The proposed study considers the following three hypotheses,

1. Quarterly information of financial statements influences positively on return of selected firms.

2. Quarterly information of financial statements influences positively on systematic risks of selected firms.

3. There is a meaningful relationship between size of firms and systematic risk.

3. The results

In this section, we present details of our survey on testing three hypotheses of this survey. In order to examine the effects of quarterly financial results, we use Freedman ranking test to see whether there is any meaningful differences between two groups of data or not.

3.1. The first hypothesis: The relationship between financial statements and stock performance

The first hypothesis of this survey considers whether quarterly financial reported could make any change on stock performance or not.

$$\begin{cases} H_0: & \text{Quarterly information of financial statements has not influence on return of selected firms.} \\ H_1: & \text{Quarterly information of financial statements has some effects on return of selected firms.} \end{cases}$$

In order to examine the first hypothesis, we have compared stock performances on three quarter before and after quarterly information were presented on stock exchange over the period of 2000-2006.

Table 1
The results of testing the first hypothesis for the years of 2000-2001

Period	2000 Before/After		2000 Before/After		2000 Before/After		2001 Before/After		2001 Before/After		2001 Before/After	
Quarter	1st	1st	2nd	2nd	3rd	3rd	1st	1st	2nd	2nd	3rd	3rd
Mean	2.97	3.37	3.37	3.61	3.82	3.87	3.11	3.24	3.47	3.65	3.75	3.78
Rank	5		4		3	2	1	6	5	4	3	2	1
Result	√		√		√	√	√	√	√	√	√	√	√

Table 2
The results of testing the first hypothesis for the years of 2002-2003

	2002		2002		2002		2003		2003		2003	
	Before/After		Before/After		Before/After		Before/After		Before/After		Before/After	
Period												
Quarter	1st	1st	2nd	2nd	3rd	3rd	1st	1st	2nd	2nd	3rd	3rd
Mean	3.18	3.38	3.45	3.56	3.71	3.73	3.35	3.46	3.37	3.44	3.63	3.73
Rank	6	5	4	3	2	1	6	5	4	3	2	1
Result	√	√	√	√	√	√	√	√	√	√	√	√

Table 3
The results of testing the first hypothesis for the years of 2004-2005

	2004		2004		2004		2005		2005		2005	
	Before/After		Before/After		Before/After		Before/After		Before/After		Before/After	
Period												
Quarter	1st	1st	2nd	2nd	3rd	3rd	1st	1st	2nd	2nd	3rd	3rd
Mean	3.66	3.72	3.25	3.84	3.29	3.24	3.25	3.05	3.75	3.75	3.83	3.35
Rank	3	2	5	1	4	6	4	5	2	2	1	3
Result	√	√	√	√	√	√	√	√	√	√	√	√

Table 4
The results of testing the first hypothesis for the years of 2006

	2006		2006		2006	
	Before/After		Before/After		Before/After	
Period						
Quarter	1st	1st	2nd	2nd	3rd	3rd
Mean	3.74	3.65	3.63	3.08	3.12	3.22
Rank	1	2	3	6	5	4
Result	√	√	√	√	√	√

According to the results of Table 1 to Table 4, we can conclude that the null hypothesis has been accepted since the results of Freedman test is not statistically significance either in 5% level or even 10 % level. Therefore, we can conclude that quarterly financial results had no impact on stock return over the period of 2000-2006.

3.2. The second hypothesis: The relationship between financial statements and systematic risk

The second hypothesis of this survey considers whether quarterly financial reported could make any change on systematic risks of the listed firms or not.

$\begin{cases} H_0 : & \text{Quarterly information of financial statements has not influence on systematic risk of selected firms.} \\ H_1 : & \text{Quarterly information of financial statements has some effects on systematic risk of selected firms.} \end{cases}$

In order to examine the second hypothesis, we have compared systematic risk on three quarter before and after quarterly information were presented on stock exchange over the period of 2000-2006.

Table 5
The results of testing the second hypothesis for the years of 2000-2001

	2000		2000		2000		2001		2001		2001	
	Before/After		Before/After		Before/After		Before/After		Before/After		Before/After	
Period												
Quarter	1st	1st	2nd	2nd	3rd	3rd	1st	1st	2nd	2nd	3rd	3rd
Mean	3.64	3.21	3.76	3.46	3.64	3.29	3.33	3.60	3.66	3.72	3.38	3.31
Rank	2	5	1	3	2	4	5	3	2	1	4	6
Result	√	√	√	√	√	√	√	√	√	√	√	√

Table 6
The results of testing the second hypothesis for the years of 2002-2003

	2002 Before/After		2002 Before/After		2002 Before/After		2003 Before/After		2003 Before/After		2003 Before/After	
Period	Before/After		Before/After		Before/After		Before/After		Before/After		Before/After	
Quarter	1st	1st	2nd	2nd	3rd	3rd	1st	1st	2nd	2nd	3rd	3rd
Mean	3.58	3.43	3.67	3.56	3.66	3.10	3.65	3.16	3.66	3.22	3.70	3.60
Rank	3	5	1	4	2	6	3	6	2	5	1	4
Result	√	√	√	√	√	√	√	√	√	√	√	√

Table 7
The results of testing the second hypothesis for the years of 2004-2005

	2004 Before/After		2004 Before/After		2004 Before/After		2005 Before/After		2005 Before/After		2005 Before/After	
Period	Before/After		Before/After		Before/After		Before/After		Before/After		Before/After	
Quarter	1st	1st	2nd	2nd	3rd	3rd	1st	1st	2nd	2nd	3rd	3rd
Mean	3.26	3.22	3.67	3.69	3.41	3.76	3.26	3.22	3.74	3.53	3.56	3.23
Rank	5	6	3	2	4	1	4	6	1	3	2	5
Result	√	√	√	√	√	√	√	√	√	√	√	√

Table 8
The results of testing the second hypothesis for the years of 2006

	2006 Before/After		2006 Before/After		2006 Before/After	
Period	Before/After		Before/After		Before/After	
Quarter	1st	1st	2nd	2nd	3rd	3rd
Mean	3.47	3.56	3.36	3.58	4.09	3.23
Rank	4	3	5	2	1	6
Result	×	×	×	×	×	√

According to the results of Table 5 to Table 7, we can conclude that the null hypothesis has been accepted since the results of Freedman test is not statistically significance either in 5% level or even 10 % level. The results of Table 8 indicate that exceptionally we must reject the null hypothesis however this year could be considered exceptional and set aside from the other results. Therefore, we can conclude that quarterly financial results had no impact on systematic risks associated with stocks over the period of 2000-2006.

3.3. Testing the third hypothesis: The relationship between size of firms and systematic risk

The last hypothesis of the survey investigates whether there is any relationship between size of firms and systematic risk.

$\begin{cases} H_0 : & \text{There is no meanful relationship between systematic risk and size of selected firms.} \\ H_1 : & \text{There is a meanful relationship between systematic risk and size of selected firms.} \end{cases}$

In order to test this hypothesis we use Pearson correlation test between two components of firms' sizes and systematic risk, which yields 0.374(Sig.=0.0001). This means there is a positive and meaningful relationship between two components. In other words, as the size of firms increase we may expect higher expectations on systematic risk.

4. Conclusion

In this paper, we have presented an empirical investigation to study the impact of quarterly financial reports on performance of 72 selected firms listed on Tehran Stock Exchange. The study used Freedman test to compare the effects of quarterly results before and after announcements. The results indicated that the quarterly reports had no meaningful impact on the stocks' performances on the market. The results are consistent with similar studies accomplished on Tehran Stock Exchange (Tehrani et al., 2013).

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