



Investigation of Effects of Corporate Reporting Quality, Timeliness and Quantity for Disclosure and Reliability of Financial Reports on Stock Price Delay

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ABSTRACT

This paper aims to investigate the effect of firm reporting quality, timeliness and quantity for disclosure and reliability of financial reports on the reaction of stock price delay. Statistical population includes 111 active firms in Tehran stock exchange during 2010-2014 using Cochrane method with the confidence level of 95%. Totally, they were 555 firms-years. In this paper, linear and nonlinear regression tests have been used to investigate the research hypotheses, analyze the data and examine the hypotheses using Eviews software. Results indicated that the score of disclosure quality, timeliness and reliability affected the stock price delay; also, the mentioned effects were confirmed in the firms with high risk of lack of funds.

1. Introduction

One of the bases for evaluating the status and performance of one firm and making decisions on the investments is to have clear and reliable information as the product of a comprehensive and suitable reporting system. In every economic event, the investors need reliable information for making decisions. Timely disclosure of financial reports is considered as a key element to reduce the asymmetry of information and improve the performance of capital market.

Auditing provides the added value for the reported financial statements because the results indicated the relevance and reliability of financial statement content. In financial reporting literature, delays in presenting the financial statements and audit reports have been closely related and in most cases, timeliness of financial statements along with the timeliness of audit reports are to be discussed. Finally, failure to provide timely audit reports is more likely to lead in the delay in information release. In a market with logical investors and complete information, information will be quickly and completely

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reflected in the stock price. However, lots of researches such as the studies done by Merton [12], Hov and Moscovets [6], Lambert et al. [11], and Kalen et al. [10] have investigated the discussions on information defects involving information asymmetry and incomplete ones. Incomplete information may prevent from timely detection of stock price and decrease the impact speed of information on the stock price.

According to Varshia [18] and Kalen et al. [10], when the stock price and time delay have no reactions with the related information, the stock price delay phenomenon will be created. Low information quality results in some ambiguities concerning the effective parameters in the stock valuation. In this paper, the released information quality is measured by the means of two criteria including financial reports timeliness and reliability. As it has been stated, this research attempts to answer one question: Do the reporting quality, disclosure timeliness and financial reports reliability affect the stock price delay or not?

2. Research Background and Theories

When there are some ambiguities and uncertainties on the parameters of one stock valuation, its expected output will be higher. With respect to uncertainties, the investors spend more future cash flow related to the stocks and use the evaluations of other investors in order to adjust their primary evaluation; it leads to reflect new information with stock price delay. Research theories provide useful information and financial statements which are important for the users with regard to the financial performance and status assessments to make economic decisions and investments. Therefore, the audited financial statements are only accessible reliable information source. Accuracy and timeliness are two vital indices for the suitability and usefulness of firm reports. The auditor regarded as a detector of main distortions is able to improve the information quality and as a result, reduce the investment risk while making external optimum decisions. Felix [1] in a study on the spread of high reporting quality through corporate network suggested that high reporting quality requires the confirmation of a high status firm like a holding company. If the auditing operation is not of appropriate quality and cannot specify the reliability of released information, lots of investors will lose their capitals at the microeconomic level and few people will obtain high profits.

Results of some studies on investigating the determination of audit report timeliness in both public and private sections demonstrated that the size of audit can improve the timeliness of audit reports. Song [17] studying the effects of accounting disclosure policies on the stock price proposed that the stock of low synchronicity companies with total market may have low stock collapse risk if the corporates are of premier accounting disclosure policies. These results displayed that the cost of information collection on a specific corporate is more likely to be decreased for the investors if the corporates act in a clear manner. Kalen et al. [10] believed that low quality of accruals led to high future expected output. In order to estimate the stock price, investors use the financial statements as a part of information collection for predicting future cash flows. It means that financial statements have information contents. However, financial statements are released periodically and non-accounting information may be provided for the capital market at the specific time intervals among financial statements release. Whennon-accounting information may enter the capital market; the investors adjust their previous predictions concerning cash flows and then, estimate new stock prices.

Thus, the stock updating process is based on two information sets including new information which recently entered the capital market and base information which entered the market before the new one based upon the latest released financial statements. Financial statements information may be of informational contents because one base which has been predicted for the cash flow has to be updated using new information. Based on complete capital market paradigms, the updating process of predicted cash flow and stock price adjustment are more likely to take place quickly since it is assumed that in the mentioned market, there is no information.

Information asymmetry may create a variety of ideas and interpretations concerning ambiguous and low quality financial statements; on the other hand, it is more likely to postpone the price adjustments in response to new information. In the mentioned circumstances, due to the risk resulted from low information quality, investors will expect more outputs. When there are ambiguities with regard to accounting and non-accounting information, investors utilize the desired information with caution to estimate the predicted cash flows and adjust the stock price. The existence of ambiguities in accounting and non-accounting information increases the risk of using them in the process of stock price adjustments and results in the investors' expectations to achieve more future stock returns. Therefore, it is expected that the risk elements of accounting and non-accounting delays are positively correlated with future stock return.

2.1. External Background

Hoglund and Sundvik [5] studied the financial reporting quality and accounting tasks outsourcing in private corporates and indicated that the accounting tasks outsourcing including the preparation of legal financial statements and other outsourcing relations led to the increased financial reporting quality. Though, the outsourcing of such tasks as the salary payment did not result in higher quality. Robua realized that the audited financial statements meaningfully affected the stock output with respect to financial performance and status of desired corporate on the basis of accounting information and there was a significant difference between the average values of stock return determined by the financial performance and status of corporate based upon the accounting information.

Jankensgard [7] in a study on the relationship between the problems of representative, ownership, supervision and volunteer disclosure investigated two questions: whether do the corporates with the dispersed ownership have volunteer disclosure levels different from other corporates or not? And does the volunteer disclosure lead to the increased major ownership? San and Yoo indicated that the structure of the Board and senior management of corporate significantly influenced the speed of stock price response to the corporate information and the independence of Board and senior management had a negative impact on the mentioned response. Gordon and Wu [3] reported that the stock price will respond and be adjusted with more delay to the available information due to high information asymmetry between managers and stockholders.

Higher information disclosure quality of corporates leads to the decreased information asymmetry and the increased information reflection speed in the stock price. Kalen et al. [10] suggested that the increase of accounting information quality led to the decrease of stock price delay; in addition, the decrease of stock price delay resulted in the decrease of future output. Jeffrey et al. [9] supposed that because of poor accounting information quality, the process of price concepts would be longer in relation to the value information which might have been achieved recently and the stock price adjustment would be postponed; in other words, poor accounting quality is related to higher capital costs.

2.2. Internal Background

Ghare Li and Mohammadi [2] in a study on the financial reporting quality found out that macroeconomic variables had no effects on the financial reporting quality and among the macroeconomic variables, there was an indirect and moderate correlation between the GDP and financial reporting quality. Specific corporate features influenced the financial reporting quality and among these features except the working capital, there existed a significant correlation between financial leverage and corporate size as well as financial reporting quality. Javanmard et al. [8] in an investigation entitled the Effect of Corporate Information Reports on Daily behaviour of Tehran Stock Exchange stated that the stock exchange significantly reacted to the information and the behaviour of market was non-efficient to these events.

Nikomaram et al. [13] explained the effective factors in information reflection delay in the prices and characteristics of Iran Stock exchange and Capital Market and then, gave some administrative suggestions to increase the adjustment speed of general information regarding the stock price and consequently, the efficiency of Stock Exchange. Hasas Yegane et al. [4] demonstrated that the quality of accruals was directly related to the stock price delay and conversely related to the stock response delay. In this paper, no significant relationship was observed between the profit sustainability and stock response delay. Aflatoniproposed that in the corporates with high reporting quality and timely financial information disclosure, the stock price response speed to the released information was more than the others and as the risk of accounting and non-accounting components of stock price delay was more in a specific corporate, the risk premium of next year was more. It means that the stockholders demand more outputs for investing in the corporates with high stock price delay. Pourzamani et al. [14] reported that in Iran Capital Market, there was no meaningful relationship between the variations of financial reporting quality and speed of price adjustments and due to the improved financial reporting quality, the speed of stock price adjustments showed no significant variations.

3. Research Hypotheses

According to the research theories and research goals, the following hypotheses are to be presented:

H₁: The score of disclosure quality affects the stock price delay.

H₂: The score of timeliness affects the stock price delay.

H₃: The score of reliability affects the stock price delay.

H₄: The score of disclosure quality affects the stock price delay of corporates with high financial disability risk.

H₅: The score of timeliness affects the stock price delay of corporates with high financial disability risk.

H₆: The score of reliability affects the stock price delay of corporates with high financial disability risk.

4. Research Methodology

Current research is an applied one using the ex-post approach. Also, the used data in the hypothesis tests are the panel data. The needed data were gathered through the library method and reference to financial statements of selected corporates as well as explanatory reports using Novin and Tadbirpardaz software.

4.1. Statistical Population and Sample Selection

In this research, statistical population involves all the corporates accepted by Tehran Stock Exchange during 2010-2014. To determine the sample volume, Cochran formula with $N=520$ has been utilized:

$$\frac{Nz^2pq}{(N-1)d^2+z^2pq} \quad (1)$$

N: Number of statistical population

d: Potential accuracy

z: Confidence coefficient of 95% at 5% error level=1.96

p: Success ratio =0.5

q: Failure ratio =0.5

According to the above-mentioned equation, 111 corporates were selected as a systematic sample and for each variable, 555 data-years were computed to test the statistical hypotheses.

4.2. Research Variables and Model

Here, the regression model has been presented with the separation of hypotheses. And the model of H_1 is as follows:

$$Delay_{it} = a + b_1DQ_{it} + b_2DQ_{it}^2 + b_3Size_{it} + b_4Growth_{it} + b_5Profit_{it} + \varepsilon_{it} \quad (2)$$

$Delay_{it}$: Stock price delay measurement criterion of corporate i in the period t

DQ_{it} : Score of disclosure quality (reporting quality) of corporate i in the period t

$Size_{it}$: Size of of corporate i in the period t

$Growth_{it}$:Growth opportunity of corporate i in the period t

$Profit_{it}$:Profitability of corporate i in the period t

ε_{it} : The rest of model

Regression model of H_2 is as follows:

$$Delay_{it} = a + b_1Timelines_{it} + b_2Timelines_{it}^2 + b_3Size_{it} + b_4Growth_{it} + b_5Profit_{it} + \varepsilon_{it} \quad (3)$$

$Timeliness_{it}$: Score of timeliness of corporate i in the period t

Regression model of H_3 is as follows:

$$Delay_{it} = a + b_1 Reliability_{it} + b_2 Reliability_{it}^2 + b_3 Size_{it} + b_4 Growth_{it} + b_5 Profit_{it} + \varepsilon_{it} \quad (4)$$

$Reliability_{it}$: Score of reliability of corporate i in the period t

Regression model of H_4 is as follows:

$$Delay_{it} = a + b_1 DQ * P_{it} + b_2 DQ * P_{it}^2 + b_3 Size_{it} + b_4 Growth_{it} + b_5 Profit_{it} + \varepsilon_{it} \quad (5)$$

$DQ * P_{it}$: Disclosure quality (reporting quality) of corporate i in the period t in relation to the financial disability risk

Regression model of H_5 is as follows:

$$Delay_{it} = a + b_1 Timeliness * P_{it} + b_2 Timeliness * P_{it}^2 + b_3 Size_{it} + b_4 Growth_{it} + b_5 Profit_{it} + \varepsilon_{it} \quad (6)$$

$Timeliness * P_{it}$: Score of timeliness of corporate i in the period t in relation to the financial disability risk

Regression model of H_6 is as follows:

$$Delay_{it} = a + b_1 Reliability * P_{it} + b_2 Reliability * P_{it}^2 + b_3 Size_{it} + b_4 Growth_{it} + b_5 Profit_{it} + \varepsilon_{it} \quad (7)$$

$Reliability * P_{it}$: Score of reliability of corporate in the period t in relation to the financial disability risk

4-2-1- Independent Variables

1- Score of disclosure quality: Annual scores of disclosure quality of corporates have been computed and published by Tehran Stock Exchange for 3, 6, 9 and 12 periods since 2010. These scores reflect the stock evaluations regarding the awareness rate of disclosure. They are calculated on the basis of the weight average of such criteria as timeliness, and reliability of released information. To estimate total rate of corporate disclosure, such criteria as timeliness and reliability with two third and one third weights are applied.

2- Scores of timeliness and reliability: They are estimated according to the information transfer time, income prediction of each share, non-audited mid-periodic financial statements, portfolio statement, comments of auditor on the income predictions of each 1 and 6 month share, mid-periodic 6-month financial statements, audited and non-audited financial statements at the end of financial period and the schedule of profit payment of stockholders in the predetermined periods by the information disclosure instructions with regard to the information transfer delay.

4-2-2- Dependent Variables

1- Stock price delay: it is computed by the means of Hov and Moskowitz [6]. In the mentioned method, the equation (8) is estimated for monthly data for each corporate and determination of coefficient is achieved:

$$r_{it} = \alpha_i + \beta_i R_{m,t} + \sum_{n=1}^4 \delta_{i,n} R_{m,t-n} + \varepsilon_{it} \quad (8)$$

r_{it} : Monthly return of shares for the sample corporates

It is computed as follows:

$$R_{it} = \frac{P_{it} + D_{it} - P_{i0}}{P_{i0}} \times 100 \quad (9)$$

P_{it} : Stock price i at the end of month t

P_{i0} : Stock price i at the beginning of month t

D_{it} : Stock profit paid by corporate i in the month t

$R_{m,t}$: Monthly market return which is estimated by the equation (10):

$$R_{mt} = \frac{I_{mt} - I_{m0}}{I_{m0}} \quad (10)$$

I_{mt} : Total stock index at the end of month t

I_{m0} : Total stock index at the beginning of month t which is in the equation (10) with the interruptions 1- 4. Then, the equation (11) with all the coefficients of $\delta_{i,n}$ bounded to be zero is calculated for every corporate:

$$r_{it} = \alpha_i + \beta_i R_{m,t} + \varepsilon_{it} \quad (11)$$

$\delta_{i,n}$: Standard deviation of market returns that is computed by below equation:

$$\delta = S.D = \sqrt{\frac{\sum (X_i - \mu)^2}{N}} \quad (12)$$

X_i : Monthly market return in the period

μ : Average monthly market return in the period

N : Number of months

Finally, the stock price response speed to market information can be measured by the regression coefficients of above equations. Determination of coefficients resulted from the equation (11) are called the bound determination of coefficient showing the stock price delay of released information which should be estimated for each corporate:

$$Delay = 1 - (R_{restricted}^2 / R_{unrestricted}^2) \quad (13)$$

If the stock price slowly responds to the market information, the stock price delay will be larger (closer to one) since a primary section of stock return is defined by the delayed market return. If the stock responds to the market news quickly, the stock price delay will be smaller (closer to zero) since a partial section of stock return is defined by the delayed market returns and a large section of it will be defined by the current market return.

4-2-3- Control Variables

- 1- Size of corporate: Two features of total assets and total sales can be used and their logarithms should be taken by the equation (12) (Shahalizade, [16]):

$$Size_{it} = \log_{10}(TA_{it}) \quad (14)$$

TA_{it} : Book value of total assets of corporate i at the end of year t

- 2- Growth opportunity: The market value is related to the book value.

- 2- Net profit to assets ratio: It is given by the equation (13):

$$Prof_{it} = OI_{it}/BVE_{it} \quad (15)$$

4.2.1. Adjustment Variable

- 1- Financial disability risk: In current research, financial disability risk is computed by the equation (16).

$$\begin{aligned}
 P = & 3.20784 \left(\frac{\text{profit before tax}}{\text{total assets}} \right) + 1.80384 \left(\frac{\text{retained profit}}{\text{total assets}} \right) \\
 & + 1.61363 \left(\frac{\text{working capital}}{\text{total assets}} \right) + 50094 \left(\frac{\text{share equity}}{\text{total debts}} \right) \\
 & + 16903 \left(\frac{\text{profit before tax}}{\text{sale}} \right) - 39709 \left(\frac{\text{current asset}}{\text{current debt}} \right) - 12505 \left(\frac{\text{net profit}}{\text{sale}} \right) \\
 & + 0.33849 \left(\frac{\text{debts}}{\text{total assets}} \right) + 1.4236(\text{net log sale})
 \end{aligned} \quad (16)$$

To determine the corporates with high financial disability risk, the above criterion is calculated for all the corporates and afterwards, it is divided by 2; the corporates with the values more than the mean have high financial disability risk and those with values lower than the mean are of low financial disability risk.

5. Research findings

5.1. Descriptive Statistics

Descriptive indices of research variables have been summarized in Table 1.

Table 1: Descriptive indices of research variables

	Stock price delay	Disclosure quality	Corporate size	Growth chance	Profitability
Average	0/377356	71/92477	13/81723	7/175648	1/211852
Mean	0/294823	75/00000	13/64552	3/904000	0/076244
Most	0/975317	100/0000	19/00938	64/51600	71/73471
Least	0/034636	-1/000000	10/22687	0/408000	-10/30990
Standard deviation	0/263849	18/95738	1/418935	8/914454	5/456868

Skewedness	0/658987	-0/783441	0/815630	2/757774	7/856355
Elongation	3/148666	3/340767	4/372897	11/95748	79/22578
Jack-bra	0/391547	0/584057	0/295788	0/103255	0/251784
Probability	0/612459	0/421559	0/712549	0/901246	0/751146
Sum	205/6590	39199/00	7530/391	3910/728	660/4595
Sum of standard deviation	37/87137	195503/9	1095/276	43230/31	16198/91
Observations	550	550	550	550	550
Sections	110	110	110	110	110

Table 2: Descriptive indices of research variables

	Timeliness	Reliability	Disclosure quality	Timeliness with financial disability risk	Reliability with financial disability risk
Average	80/59089	55/20835	1517/631	19932235	1275/408
Mean	84/65116	63/01510	695/3889	586756/0	599/6112
Most	100/0000	99/71814	31385/37	2/01E+09	48022/36
Least	-15/76744	0/000000	-678/7606	169/0000	-393/0506
Standard deviation	17/19091	32/28320	3591/657	1/30E+08	3551/988
Skewedness	-1/417193	-0/510144	5/790111	10/25313	7/277940
Elongation	6/043234	1/954469	40/33340	127/7786	72/56830
Jack-bra	0/396625	0/865470	0/321540	0/431255	0/295477
Probability	0/612458	0/162547	0/685145	0/532474	0/712458
Sum	43922/03	30088/55	1513782/	175/6900	695097/5
Sum of standard deviation	160766/8	566959/5	2/27E+12	175/1731	6/86E+09
Observations	550	550	550	550	550
Sections	110	110	110	110	110

In Tables 1 and 2, given that probability level of Jack-bra statistic is more than 5%, H_0 cannot be rejected so that the data of desired variables are normal.

5.2. Reliability Test of Variables

Reliability test of variables (unit root) has been presented in Table 3.

Table 3: Reliability test of profitability

Method	Test statistic	Probability	Number of sections	Number of observations
H_0 : Existence of unit root (common unit root)				
Levin, Lin and Chu	-41/251	0/000	110	550
H_0 : Existence of unit root (common unit root)				
W test	-65/525	0/000	110	550

ADF-Fisher (two chi square)	47/116	0/000	110	550
PP-Fisher (two chi square)	68/132	0/000	110	550

In Table 3, H_0 is rejected based on the unit root with respect to the common unit root process and Levin, Lin and Chu method as well as Im and Shin test, and ADF and PP methods with 110 cross-sections and 550 cumulative observations at 5% level. Results indicated lack of unit root.

5.3. Hausman and F-Limer Tests

Results of Hausman and F-Limer tests of research hypotheses have been presented in Table 4.

Table 4: Hausman and F-Limer tests of research hypotheses

Research hypotheses		Freedom degree	Significance level	Result
H_1	F statistic	56/334243	(109 ,403)	Panel data
	Chi square	721/477190	109	
H_2	F statistic	56/049582	(109 ,403)	Panel data
	Chi square	65/403488	109	
H_3	F statistic	64/033424	(109 ,403)	Panel data
	Chi square	72/383942	109	
H_4	F statistic	96/284	(109 ,403)	Panel data
	Chi square	72/646817	109	
H_5	F statistic	84/047880	(109 ,403)	Panel data
	Chi square	61/190435	109	
H_6	F statistic	79/09103079	(109 ,403)	Panel data
	Chi square	86/321554	109	
Research hypotheses	Chi square	Freedom degree	Significance level	Result
H_1	34/976732	5	0.000	Fixed effects
H_2	33/453980	5	0.0009	Fixed effects
H_3	29/744826	5	0.000	Fixed effects
H_4	51/602942	5	0.0006	Fixed effects
H_5	36/372729	5	0.000	Fixed effects
H_6	43/028512	5	0.000	Fixed effects

6. Hypothesis Analysis

6.1. Analysis of H_1

Results of research H_1 are demonstrated in Table 5.

Table 5: Estimation of coefficients for H_1

Variable	coefficients	Standard deviation	t-statistic	probability
Width from source	0/406128	0/545260	0/744834	0/4568
Disclosure quality	0/062697	0/004045	15/50168	0/0000

Second powered disclosure quality	4/53E-05	3/11E-06	14/55918	0/0000
Corporate size	0/013252	0/039738	0/333491	0/7389
Growth chance	-0/028333	0/002307	-12/28213	0/0000
Profitability	-0/008054	0/000597	-13/49359	0/0000
Coefficient of determination	.698		Durbin-Watson	2.313
Adjusted coefficient of determination	.615		probability level	0.000

In Table 5, the probability of statistic F is lower than 5%. As a result, the model is statistically accepted and the determination of coefficient and the adjusted one indicate high explanatory power of model. Among the reported amounts, Durbin-Watson statistic can confirm the lack of correlation in the desired model; though due to a short period of time, it is not necessary to study this statistic. According to the probability amount in the model, it is clear that the score of disclosure quality affects the stock price delay positively and the amount of information may be presented by the corporate in the form of financial statements or notes to contribute in making decisions.

It leads to the fact that investors apply the daily general information about the market return index in their decisions. They take different measures till the information might be reflected in the stock price slowly. Larger values of delay criterion resulted from more stock return dispersion are computed by delayed market returns. Thus, H_1 is accepted.

Disclosure quality affects the stock price delay with a very low coefficient and a non-linear relationship between the dependent and independent variables is confirmed.

6.2. Analysis of H_2

Results of H_2 analysis have been displayed in Table 6.

Table 6: Estimation of coefficients for H_2

Variable	coefficients	Standard deviation	t-statistic	probability
Width from source	0/227934	0/545316	0/417985	0/6762
Timeliness	-0/017822	0/001224	-14/56010	0/0000
Second powered Timeliness	-0/000590	0/000115	-5/134277	0/0000
Corporate size	0/018719	0/040107	0/466723	0/6409
Growth chance	-0/000445	0/002285	-0/194573	0/8458
Profitability	-0/074884	0/005970	-12/54433	0/0000
Coefficient of determination	.84		Durbin-Watson	2.13
Adjusted coefficient of determination	.83		probability level	0.000

In Table 6, the probability of statistic F is lower than 5%. As a consequence, the model is statistically accepted and the determination of coefficient and the adjusted one indicate high explanatory power of model. Among the reported amounts, Durbin-Watson statistic can confirm the lack of correlation in the desired model; though due to a short period of time, it is not necessary to study this statistic. According to the probability amount in the model, it is clear that the score of timeliness affects the stock price delay negatively and the amount of information may be presented by the corporate in the form of financial statements or notes to contribute in making decisions.

It leads to the fact that investors apply the daily general information about the market return index to make their decisions. They take different measures till the information might be reflected in the stock price slowly. Larger values of delay criterion resulted from more stock return dispersion are computed by delayed market returns. Thus, H_2 is accepted.

Timeliness affects the stock price delay with a very low coefficient and a non-linear relationship between the dependent and independent variables is confirmed.

6.3. Analysis of H_3

Results of H_3 analysis have been displayed in Table 7.

Table 7: Estimation of coefficients for H_3

Variable	coefficients	Standard deviation	t-statistic	probability
Width from source	0/251608	0/539278	0/466565	0/6410
Reliability	-0/000406	9/22E-05	4/401061	0/0001
Second powered reliability	-6/31E-05	9/44E-06	6/685988	0/0000
Corporate size	0/005274	0/039310	0/134153	0/8933
Growth chance	0/000265	0/002330	0/113516	0/9097
Profitability	-0/007481	0/000596	-12/54695	0/0000
Coefficient of determination		.62	Durbin-Watson	2.31
Adjusted coefficient of determination		.61	probability level	0.000

In Table 7, the probability of statistic F is lower than 5%. As a consequence, the model is statistically accepted and the determination of coefficient and the adjusted one indicate high explanatory power of model. Among the reported amounts, Durbin-Watson statistic can confirm the lack of correlation in the desired model; though due to a short period of time, it is not necessary to study this statistic. According to the probability amount in the model, it is clear that the score of reliability affects the stock price delay negatively and the amount of information may be presented by the corporate in the form of financial statements or notes to contribute in making decisions.

It leads to the fact that investors apply the daily general information about the market return index to make their decisions. They take different measures till the information might be reflected in the stock price slowly. Larger values of delay criterion resulted from more stock return dispersion are computed by delayed market returns. Thus, H_3 is accepted.

Reliability affects the stock price delay with a very low coefficient and a non-linear relationship between the dependent and independent variables is confirmed.

6.4. Analysis of H_4

Results of H_4 analysis have been displayed in Table 8.

Table 8: Estimation of coefficients for H_4

Variable	coefficients	Standard deviation	t-statistic	probability
Width from source	0/248350	0/541230	0/458863	0/6466
Disclosure quality	2/72E-05	2/72E-06	10/00202	0/0000
Second powered disclosure quality	9/66E-10	7/97E-11	12/12600	0/0000
Corporate size	0/082837	0/039452	2/099662	0/0334
Growth chance	-0/000724	0/000229	-3/165273	0/0001
Profitability	-0/005630	0/008031	-0/701011	0/4837
Coefficient of determination		.92	Durbin-Watson	2.03
Adjusted coefficient of determination		.38	probability level	0.000

In Table 8, the probability of statistic F is lower than 5%. As a consequence, the model is statistically accepted and the determination of coefficient and the adjusted one indicate high explanatory power of model. Among the reported amounts, Durbin-Watson statistic can confirm the lack of correlation in the desired model; though due to a short period of time, it is not necessary to study this statistic. According to the probability amount in the model, it is clear that the score of disclosure quality affects the stock price delay positively and the amount of information may be presented by the corporate in the form of financial statements or notes to contribute in making decisions.

It leads to the fact that investors apply the daily general information about the market return index to make their decisions. They take different measures till the information might be reflected in the stock price slowly. Larger values of delay criterion resulted from more stock return dispersion are computed by delayed market returns. Thus, H_4 is accepted.

Disclosure quality affects the stock price delay with a very low coefficient and a non-linear relationship between the dependent and independent variables is confirmed.

6.5. Analysis of H_5

Results of H_5 analysis have been displayed in Table 9.

Table 9: Estimation of coefficients for H_5

Variable	coefficients	Standard deviation	t-statistic	probability
Width from source	0/314893	0/542411	0/580543	0/5619
Timeliness with financial disability risk	5/90E-09	4/88E-10	12/10814	0/0000
Second powered timeliness with financial disability risk	1/49E-18	1/93E-19	7/715524	0/0000

cial disability risk				
Corporate size	0/005019	0/003956	1/268716	0/0991
Growth chance	-0/000663	0/000229	-2/898410	0/0021
Profitability	0/001331	0/010847	0/122678	0/9024
Coefficient of determination		.92	Durbin-Watson	2.03
Adjusted coefficient of determination		.38	probability level	0.000

In Table 9, the probability of statistic F is lower than 5%. As a consequence, the model is statistically accepted and the determination of coefficient and the adjusted one indicate high explanatory power of model. Among the reported amounts, Durbin-Watson statistic can confirm the lack of correlation in the desired model; though due to a short period of time, it is not necessary to study this statistic. According to the probability amount in the model, it is clear that the score of timeliness in relation to the financial disability risk affects the stock price delay positively and the amount of information may be presented by the corporate in the form of financial statements or notes to contribute in making decisions.

It leads to the fact that investors apply the daily general information about the market return index to make their decisions. They take different measures till the information might be reflected in the stock price slowly. Larger values of delay criterion resulted from more stock return dispersion are computed by delayed market returns. Thus, H_5 is accepted.

Timeliness in relation to the financial disability risk affects the stock price delay with a very low coefficient and a non-linear relationship between the dependent and independent variables is confirmed.

6.6. Analysis of H_6

Results of H_6 analysis have been displayed in Table 10.

Table 10: Estimation of coefficients for H_6

Variable	coefficients	Standard deviation	t-statistic	probability
Width from source	0/318713	0/053935	5/909189	0/0000
Reliability with financial disability risk	1/93E-05	1/59E-06	12/10233	0/0000
Second powered reliability with financial disability risk	5/49E-10	3/22E-11	17/04508	0/0000
Corporate size	0/003629	0/039359	0/092195	0/9266
Growth chance	-0/000463	0/000229	-2/021931	0/0412
Profitability	-0/004110	0/009231	-0/445230	0/6564
Coefficient of determination		.70	Durbin-Watson	1.9
Adjusted coefficient of determination		.69	probability level	0.000

In Table 10, the probability of statistic F is lower than 5%. As a consequence, the model is statistically accepted and the determination of coefficient and the adjusted one indicate high explanatory power of model. Among the reported amounts, Durbin-Watson statistic can confirm the lack of correlation in the desired model; though due to a short period of time, it is not necessary to study this statis-

tic. According to the probability amount in the model, it is clear that the score of reliability in relation to the financial disability risk affects the stock price delay positively and the amount of information may be presented by the corporate in the form of financial statements or notes to contribute in making decisions.

It leads to the fact that investors apply the daily general information about the market return index to make their decisions. They take different measures till the information might be reflected in the stock price slowly. Larger values of delay criterion resulted from more stock return dispersion are computed by delayed market returns. Thus, H_6 is accepted.

Reliability in relation to the financial disability risk affects the stock price delay with a very low coefficient and a non-linear relationship between the dependent and independent variables is confirmed.

7. Discussion and Conclusion

This study has sought to find the effects of reporting quality, disclosure timeliness and reliability of financial reports on the stock price delay. According to the results of linear and non-linear regression models, it can be concluded that the scores of disclosure quality, timeliness, and reliability affect the stock price delay. Also, it has been noted that these effects have been confirmed in the corporate with high financial disability risk. Research results are in conformity with the research theories and background so that Gordon [3] indicated that due to high asymmetry of information between the management and stockholders, the stock price will respond to available information with more delay and thus, their adjustment will be postponed; on the other hand, higher information disclosure quality may lead to the reduction of information asymmetry and the enhancement of information reflection speed in the stock prices. Setayesh et al. [15] have suggested that when the quality of released information is high, the capital cost of a common stock is low and the corporates with high reporting quality, timeliness and reliability have low cost of financing concerning the capital market as compared to the other corporates and can easily provide their required capital from the stock exchange; these results are confirmed by the reported ones. According to the research results, all those active in capital market, decision makers, financial analysts and potential investors in stock exchange are suggested to pay attention to the vital element of disclosure quality with respect to various and heterogeneous levels of risk taking in order to analyse the investment plans in stock exchange and assets, evaluate the stock price delay of corporates, estimate the amounts of risk and schedule the investments since taking this important element into consideration results in selecting an optimum investment portfolio with the minimum risk and maximum output. Regarding that the stock price is of considerable importance for the users of financial statements, it is recommended that such variables as timeliness are considered to investigate the stock price delay with respect to the research results. Finally, the active investors in the market can be relatively successful in making the investment decisions with respect to the score of reliability. Given that the primary goal of stock price reporting is to provide useful information for the people who are highly interested in financial statements and based on the research results, the score of disclosure quality will change the stock price delay; therefore, the legislative bodies and government are proposed to analyse the financial information accurately in terms of stockholders investment through making appropriate decisions and applying suitable strategies for increasing the disclosure

quality of corporates. Regarding the research results and the corporates necessity to enjoy every investment opportunity for achieving profits nowadays, the corporates with low stock price delay are able to enhance their own value; thus, the analysis institutes are recommended to rate the corporates in terms of stock price delay in order to increase the market transparency and enable the investors of capital market to make better decisions. The managers and investors are suggested to consider the impact of reliability score on the stock price delay in addition to the other criteria in the corporates with high financial disability risk; in other words, this index should be particularly paid attention in the investment evaluations. Thus, providing necessary trainings through stock exchange for the stockholders, investors and stock experts as well as stock enthusiasts is proposed to increase the general preparation and familiarity to the financial disability risk of corporates. Researchers who seek to investigate the accounting issues in this respect can study and assess the effects of reporting quality, disclosure timeliness, and financial statement reliability on the stock price adjustment speed and the capital cost as well as unconventional stock efficiency fluctuations to pave the way for the users.

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