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The relationship between stock liquidity risk and financial information quality criteria in Tehran Stock Exchange

Mahmoud Mousavi Shiri [1*] , Masomeh Roshandel [2]

1. Department of Economics, Management and Accounting, Payame Noor University, Iran
2. Department of accounting, Islamic Azad University of Mashad, Mashad, Iran

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Abstract

The current study aims to investigate the relationship between stock liquidity risk and financial information quality criteria (i.e. the timely dividends announcement, accruals quality and the percentage of profitability prediction error) of companies listed on the Tehran Stock Exchange. For this purpose, 148 cases of data from listed companies, collected from 2007 to 2012, were employed in order to test the hypotheses during 2007-2012. The results of the study reveal that there is a significant relationship between liquidity risk (the dependent variable) with quality of accruals, percentage of profitability prediction error and timely dividends announcement (independent variables). High levels of accruals quality and timely dividends announcement, cause reduction in stock's liquidity risk, and high percentages of profitability prediction error increase the stocks' liquidity risk.

Keywords

accruals quality, liquidity risk, percentage of profitability prediction, quality of information, timely dividends announcement.

* **Corresponding Author, Email:** mousavi1973@yahoo.com

Introduction

The role of liquidity in assets pricing process is important because investors would consider this issue if they intend to sell their assets, regardless of the existence of a reasonable market for them. Empirical evidence shows that liquidity factors can play an important role in making the decision (e.g., Jeffrey 2011; Liang and Wei 2012; Lin *et al*., 2013). However, based on several studies conducted on the subject of the study, there is no acceptable approach among the scholars (Zhang *et al*., 2009). Market liquidity represents the ability of rapidly trading the high volumes of shares without the current price and low cost transaction being affected (Pastor and Stambaugh, 2003).At times of reduced market liquidity, companies have different degrees of efficiency and this efficiency considering the degree of risk aversion and market volatility is moderated between investors and market makers (Acharya and Pedersen, 2005; Brunnermeier and Pedersen, 2009; Chordia *et al*., 2000; Pastor and Stambaugh, 2003). A causal mechanism through which liquidity may discipline management is identified in Admati and Pfleiderer (2006) and Palmiter (2002). If management's compensation is tied to current stock prices, then increased liquidity increases the cost of opportunism for managers by facilitating informed selling or dumping. Therefore, liquidity allows small shareholders to become major shareholders, rights and benefits of management will improve, and informed investors will be encouraged towards investment. Thus, a positive relationship between liquidity and the performance of the company and the value of the company would not be far-fetched (Fang *et al*., 2009).The purpose of this study is to find evidence concerning the relationship between information quality and liquidity risk. Jeffrey (2011) states that the stocks' liquidity risk is defined as the sensitivity of stock returns to unexpected changes in stock market liquidity, and the criteria used for the quality of financial information include accruals quality, the percentage of profitability prediction and timely dividends announcement (dividends announcement is timely if released before July, the 22nd, 2007).

Related literature

Lambert *et al*. (2007) suggest that higher information quality, that is, more precise signals, lowers market risk and thus the cost of capital in the traditional Capital Asset Pricing Model (CAPM) framework. CAPM assumes perfect liquidity, which means that there are always market participants willing to take the opposite position of any trade at the current price. Consequently, a firm's share price is simply a function of expectations about the firm's cash flow. With imperfect liquidity, the demand and supply of shares by some market participants could affect prices if others are not willing to trade at the current prices. While market risk exists in both perfectly and imperfectly liquid markets, liquidity risk is an additional and important systematic risk that investors face when markets are not perfectly liquid (Pastor and Stambaugh, 2003; Acharya and Pedersen, 2005; Sadka, 2006). Acharya and Pederson (2005) studied the assets pricing process by liquidity risk. They used capital asset pricing model and defined liquidity risk as an independent variable. The model presents a unified framework for understanding different channels through the liquidity risk that may affect asset prices. Experimental results clarify the roles contributing to liquidity in the expected return on capital assets and it's pricing. Sadka (2006) showed that liquidity risk that is measured by the covariance yields with unexpected changes in aggregate liquidity is a decisive factor in determining the market price of securities. His research results indicate the importance of systematic risk in stock liquidity performance securities. Johnson (2009) investigated the relationship between turnover volume, liquidity risk and liquidity payment. His findings revealed that the volume and liquidity have been non-relevant but trading volume is positively related to the liquidity variance or liquidity risk. Johnson (2009) points out that empirical evidence from the United States Government bonds and financial markets confirms this new prediction. Lee (2011) examined world price of liquidity risk in 50 countries in a period from 1988 to 2007. He indicated that the United States is an influence market for global liquidity risk. In addition, he

stated that the pricing process of liquidity risk in different countries according to the geographical, economic and political environment is different. His findings showed that Systemic aspects of liquidity offer Reasons for international diversity in an investing portfolio and that liquidity risk is an item that specifies expected return of capital assets. Jeffrey (2011) conducted a study to check how data quality affected the cost of capital through liquidity risk. His interpretation of the liquidity risk was sensitivity of stock returns to unexpected changes in market liquidity. His research results indicate that high quality of the data is associated with low liquidity risk. He also stated that negative relationship between financial reporting quality and liquidity risk in the case of large shocks is stronger in the market liquidity. Lin *et al*., (2011) reviewed the pricing of liquidity risk in corporate bonds for the period beginning January 1994 to March 2009. They found a positive relationship between the expected return on bonds and the beta of corporation liquidity, despite the level of liquidity and some of the security features. The results showed that liquidity risk is a determining factor in expected return on corporate bonds. Liang and Wei (2012) examined the relationship between liquidity risk and stock returns in 21 developed countries in which foreign investors may freely convert their currencies. They stated that by controlling market factor, value and size, global liquidity risk is an important factor among all investing portfolios in developed countries. Lin and Wu (2013) extended the market timing literature to show that seasoned equity offerings (SEO) timing can be characterized by the dynamics of liquidity risk. That is, firms tend to issue SEOs when liquidity risk declines to the point where investors have least concern of the risk. In the absence of liquidity risk, market risk rises right before SEOs and gradually falls afterwards. However, once they incorporate liquidity risk factor into the model for expected returns, issuing firms' market risk behaves like that of matched non-issuers, suggesting an omitted risk factor problem in SEO studies that does not take into account the effect of liquidity risk on stock returns. Their results imply that, instead of timing alpha (i.e., exploiting overpricing, as behavioral finance has suggested), issuing firms time liquidity beta to minimize

their cost of equity capital. Brandon and Wang (2013) studied the effect of liquidity risk on return prediction and performance of the fund during the years 2006 – 1994. The fund data used in this article were provided by the Lipper TASS database. They stated that without the impact of liquidity risk, mutual funds' portfolios that have benefited from the experience and skill of their forecasts managers have a good performance.

Hypotheses

According to the objective of the study, the following hypotheses were postulated:

- **H_1:** There is a significant relationship between the quality of accruals and stock liquidity risk.
- **H_2:** There is a significant relationship between the percentage of profitability prediction and stock liquidity risk.
- **H_3:** There is a significant relationship between timely dividends announcement and stock liquidity risk.

Research Method

Research method refers to a collection of rules, instruments, as well as reliable and systematic ways to analyze facts, discover unknown items and find solutions for problems. Scientific research is divided into three categories based on the purpose including: fundamental research, practical research, and research and development. The present research is a practical one in terms of purpose that is to develop practical knowledge in a certain field.

Measuring Research Variables

Stock liquidity risk: Pastor and Stambaugh (2003) stated that it can be measured by estimating the co variation of a firm’s stock returns to unexpected changes in aggregate liquidity (i.e., they develop a ‘‘liquidity beta’’). They then construct an empirical asset pricing model that includes liquidity risk by extending the Fama and French (1993) three-factor model to include a market liquidity factor:

$$r_{i,t} = \alpha_i + \beta_{i,t}^{M} MKT_t + \beta_{i,t}^{S} SMB_t + \beta_{i,t}^{H} HML_t + \beta_{i,t}^{L} LIQ_t + \varepsilon_{i,t} \quad (1)$$

where $r_{i,t}$ is the monthly return in excess of the risk-free rate for stock i in month t, MKT, SMB, and HML are the Fama and French(1993) risk factors, and LIQ is the market liquidity factor in month t. LIQ is the market liquidity factor that captures unexpected changes in market liquidity. A higher liquidity beta means a higher co variation between a stock's return and unexpected changes in market liquidity, that is, it indicates higher liquidity risk.

MKT: is the excess expected returns of market portfolio to the risk-free rate of return per month (the market factor). Tehran Stock Exchange index of yields and prices (TEDPIX) as the average market return was used. The interest rate bonds (monthly) with a government guaranteed as risk-free rate of return was used in the calculations.

SMB: is the difference between monthly portfolios returns for small size company and monthly portfolios returns for large size, in cases that the ratio of book value to market value is controlled. In fact, the concept of this variable is the sensitivity of the expected return on a share to the difference performances of small and large companies (Jeffrey, 2011).

HML: is difference between monthly portfolios returns for high ratio of book value to market value and returns of shares for low ratio of book value to market value, in cases that the size factor is controlled. Indeed This variable accounted for the sensitivity of expected returns for a share in different performances in valuable companies (high B/M) and growing companies (low B/M).

In the classification based on variable-sized companies' breakdown of the portfolio was moderate. In the classification based on B/M also the breakdown of the portfolio was percentiles 30 and 70. The companies that form the basis of the observed variable were put below the 30 percentile of the portfolio, in low portfolios, and between 30 and 70 in the average portfolios and over 70 in high portfolios. To calculate the size factor and the value factor, based on the method Fama and French's (1993) method independent classification tables based on size factor and B/M are as follow:

Table 1. Independent classification tables based on size factor and B/M

	HIGH B/M	MIDDLE B/M	LOW B/M
SMALL	Small value	Small Middle	Small Growth
BIG	Big Value	Big Middle	Big Growth

According to the tables, SMB and HML are calculated as:

$$SMB = \frac{Total return\ of\ small portfolio}{3} - \frac{Total return of\ big\ portfolio}{3}$$

$$HML = \frac{Total return of\ valuale portfolio}{3} - \frac{Total\ return\ of\ grothing\ portfolio}{3}$$

$\beta_{it}^{M}, \beta_{it}^{S}, \beta_{it}^{H}$: Sensitivity of factors in relation to market factor, size and the ratio of book value to market value.

β_{it}^{L}: Sensitivity of stock returns to unexpected changes in market liquidity which reflects Liquidity Risk Factor.

LIQ: Monthly market liquidity is obtained by aggregating the individual stock liquidity in each month. LIQ represents innovations (i.e., unexpected changes) in monthly market liquidity. The liquidity risk premium is an estimate of the cost of capital effects arising from exposure to LIQ.

The monthly liquidity (*y*) for an individual stock

Monthly liquidity for stock "i" in month "t" result from the least squares estimates $\gamma_{i,t}$, in the following regression model:

$$r_{i,d,t+1}^{e} = \theta_{i,t} + \phi_{i,t} r_{i,d,t} + \gamma_{i,t} sign(r_{i,d,t}^{e}) \times v_{i,d,t} + \varepsilon_{i,d+1,t}$$
$$m = 1,....., D \qquad (2)$$

where:

$r_{i,d,t}$: Return of stock "i" on day "d" of month "t".

$r_{i,d,t+1}^{e}$: Excess daily return of stock "i" to the market return on day "d" of month "t".

$v_{i,m,t}$: Trading volume (measured in million Rials) for stock "i" on day "d" of month "t".

y_t (Monthly Market Liquidity): the monthly weighted average liquidity of companies in each year, calculated as follows:

$$\gamma_t = \frac{1}{N_t} \sum_{i=1}^{N} \gamma_{i,t} \qquad (3)$$

To obtain unexpected changes in market liquidity, the following regression model was used:

$$\Delta\gamma_t = a + b\Delta\gamma_{t-1} + c(\frac{m_t}{m_1})\gamma_{t-1} + u_t \quad (4)$$

where:

$$\Delta\gamma_t = (\frac{m_t}{m_1})\frac{1}{N_t}\sum_{i=1}^{N_t}(\gamma_{i,t} - \gamma_{i,t-1}) \quad (5)$$

In these models, $\frac{m_t}{m_1}$ is used to weight $\gamma_{i,t}$ and m_t is the total monetary value of transactions in month t-1 for shares that are included in calculation of the annual average t, and m_1 also refers to total monetary value of transactions computed in the first average month.

Finally, U_t in the above-mentioned model represents unexpected changes in market liquidity that weighted up through being divided by 100 and liquidity factor is thus obtained:

$$LIQ_t = \frac{1}{100}u_t \quad (6)$$

Independent variables (measures of data quality):

Accruals Quality: To measure the accruals quality based on Dechow & Dichev (2002), hysteresis model is calculated as:

$$TCA_{i,t} = \alpha_0 + \alpha_1 CFO_{i,t} + \alpha_2 CFO_{i,t-1} + \alpha_3 CFO_{i,t+1} + \alpha_4 \Delta REV_{i,t} + \alpha_5 \Delta REC_{i,t} + \alpha_6 \Delta PPE_{i,t} + \varepsilon_{i,t} \quad (7)$$

$TCA_{i,t}$= Total accruals in year "t" for control firm "i".

CFO = Cash follows from operations.

$\Delta REV_{i,t}$= Income changes during the period of year t-1 to t, for control firm i.

$\Delta REC_{i,t}$= Changes in receivable accounts and notes during the period of year t-1 to t, for control firm i.

$\Delta PPE_{i,t}$= Changes in the gross value of property, machinery and equipment during the period of year t-1 to t, for control firm i.

The percentage of profitability prediction error on the accrual process based on the above-mentioned model called Residues

Volatility (standard deviation), is the result of the regression during the study period. Logically since $\varepsilon_{i,t}$ represents the accruals estimated error to cash flow, higher variability between cash flow and profit shows lower quality accruals, because considering the accruals in profits reduced earning quality.

Profitability prediction error: to calculate the profitability prediction error, we deducted the real benefit from the first profit prediction and then result divided to the first profit prediction.

Timely dividends announcement: statutory deadline for reporting earnings (forming the general meeting) for companies whose financial year ends in March is July 22 of the following year. Dividends announcement is timely if released before July, the 22nd, 2007. For this purpose, the number of days before the legal deadline to report formal earnings is used for the calculation of the variable (the above-mentioned dates are the legal dates for Iranian companies).

Control variables

Market characteristics: Some of the characteristics of the market are expected to affect a company's stock liquidity risk in this research, including stock liquidity, volume of shares traded, and can be past returns and firm size, and are presented in the model as a control variable affecting stock liquidity risks.

Company's characteristics: The company has some characteristics expected to be affecting its stock liquidity risk, in this research, including market value to book value of equity and achieved sales growth, which as a control variable affecting stock liquidity risks, are present in the model.

Research hypotheses testing Models

Model to test the first hypothesis:

$$\beta_{i,t}^{L} = \alpha_0 + \alpha_1 AQ_{i,t-1} + \alpha_2 LIQ_{i,t-1} + \alpha_3 TA_{i,t-1} + \alpha_4 Retum_{i,t-1} + \alpha_5 Retum_{i,t-2} + \alpha_6 Size_{i,t-1} + \alpha_7 M/B_{i,t-1} + \alpha_8 SalesGrows_{i,t-1} + \varepsilon_{i,t}$$

Model to test the second hypothesis:

$$\beta_{i,t}^{L} = \alpha_0 + \alpha_1 EP_{i,t-1} + \alpha_2 LIQ_{i,t-1} + \alpha_3 TA_{i,t-1} + \alpha_4 Retum_{i,t-1} + \alpha_5 Retum_{i,t-2} + \alpha_6 Size_{i,t-1} + \alpha_7 M/B_{i,t-1} + \alpha_8 SalesGrows_{i,t-1} + \varepsilon_{i,t}$$

Model to test the third hypothesis:

$$\beta_{i,t}^{L} = \alpha_0 + \alpha_1 ON_{i,t-1} + \alpha_2 LIQ_{i,t-1} + \alpha_3 TA_{i,t-1} + \alpha_4 Retum_{i,t-1} + \alpha_5 Retum_{i,t-2} + \alpha_6 Size_{i,t-1} + \alpha_7 M/B_{i,t-1} + \alpha_8 SalesGrows_{i,t-1} + \varepsilon_{i,t}$$

where:

$\beta_{i,t}^{L}$: A measure of stock Liquidity risk of company i in year t.

AQ (A measure of information quality): Accruals quality firm i in year t.

LIQ: Liquidity stock i in year t.

Sales Grows: Sales growth of company i in year t over the previous year.

M/B: Market value to book value of stock i in year t.

Size: Size of company i in year t.

Return: Stock returns of company i in year t.

EP: Profit prediction error of company i in year t.

ON: Timely dividends announcement of company i in year t.

The Results

Descriptive statistics of the variables

The following table shows the descriptive statistics such as mean, standard deviation, skewness and stretching and coefficient of variation for the data. According to the table, the highest coefficient of variation was related to accruals quality and the lowest changes were related to the firm sizes.

According to Coefficient of Variation, the most variables have normal distribution, but the size of companies is more normally distributed than the other variables.

Table 2.Variables and descriptive statistics

Variables	Coefficient of Variation	Kurtosis	Skewness	S.d	Mean
Ret-2	3.260	25.186	4.056	0.765	0.235
Ret-1	3.036	26.549	4.022	0.739	0.243
TA	2.243	42.586	5.647	56.860	25.346
Size	0.090	0.726	0.552	1.162	12.865
MB	1.128	11.186	-0.133	1.071	0.949
Sg	19.842	882.040	29.651	10.289	0.519
LIQ	30.066	231.320	-6.383	0.315	-0.010
AQ	574.570	6.002	0.910	0.083	0.000
EP	13.763	76.512	6.469	2.485	0.181
ON	0.820	-1.114	0.463	23.314	28.430

The results for the first hypothesis:

First, Chow test is used by the software Eveiws for detection of using ordinary least squares (OLS) or panel regression. If the Chow test were not significant, the OLS regression based on the year-firms would be used.

Chow test results:

Based on Chow Test, the model did not have different latitudes in the effect of time. Therefore it does not require to using panel data methods in the form of asymmetric regression model and the linear cross-sectional regression model was used.

Table 3. Chow Test

Null Hypothesis: No breaks at specified breakpoints			
F-statistic	1.520	Prob. F	0.316

Table 4. Regression Statistics of the relationship between the quality of accruals and stock liquidity risk

Item	Regression Statistics
The correlation coefficient	0.171
The coefficient of determination	0.029
Adjusted coefficient of determination	0.021

The results of fitting this model show that about 21% of the variability is explained by the model.

Table 5. ANOVA table of regression model

	P_value	F_value	Mean square	Degrees of freedom	Sum of squares
Model	0.001	3.686	0.915	7	6.403
Error			0.248	860	213.445
Total				867	219.848

The ANOVA table and F-test indicate that the probability of the model is statistically significant.

Table 6. Parameter Estimation

Variable	T_value	Standard deviation	Estimate	P_value
(Constant)	0.351	0.189	0.066	0.726
AQ	-2.664	0.205	-0.547	0.008
TA	-0.972	0.00	0.00	0.331
Rit-1	-1.725	0.023	-0.04	0.085
Rit-2	-0.436	0.022	-0.01	0.663
size1	0.176	0.015	0.003	0.861
MB	-3.465	0.016	-0.057	0.001
Sig.	-1.244	0.002	-0.002	0.214

The final model fitted to the first hypothesis is as follows:

$$\beta_{i,t}^{L} = 0.066 - 0.547AQ_{i,t-1} - o.057\, M/B_{i,t-1} + \varepsilon_{i,t}$$

Based on the probability values of the model and compared with a significance level of α=0.05 and also according to regression coefficient associated with accrual quality(AQ) in the regression equation, the null hypothesis can be rejected at the 5% level and it could be claimed with 95% confidence that:

- There is a relationship between the quality of accruals and stock liquidity risk.

Results of residuals in the testing model of the first hypothesis show that based on the Kolmogorov-Smirnov test (K-S, d=1.196, P=0.115), normality of residuals cannot be rejected. Fixed variance is proved by the diagram against the residual estimation stationary and Durbin–Watson Statistics (D-V=1.572) also expresses the lack of residual correlation.

The results for the second hypothesis:

First, Chow test is used by software Eveiws for detection of using cross-sectional or panel regression. If the Chow test were not significant, the OLS regression based on the year-companies would be used.

Chow test results:

Based on Chow test, the model does not have different latitudes in the effect of time. Therefore it is not required to use panel data methods in form of asymmetric regression model and the linear cross-sectional regression model is used.

Table 7. Chow Test

Null Hypothesis: No breaks at specified breakpoints.			
F-statistic	1.249	Prob. F	0.273

Table 8. Regression Statistics of the relationship between the percentage of profitability prediction and stock liquidity risk

Factor	Regression Statistics
The correlation coefficient	0.195
The coefficient of determination	0.038
Adjusted coefficient of determination	0.03

The results of fitting this model show that about 31% of the variability can be explained by the model.

Table 9. The results of ANOVA Test

	P_value	F_value	Mean square	Degrees of freedom	Sum of squares
Model	0.000	4.841	1.191	7	8.335
Error			0.246	860	211.513
Total				867	219.848

The ANOVA Table and F-test indicate that the probability of the model is statistically significant.

Table 10. Parameter Estimation

Variable	T_value	Standard deviation	Estimate	P_value
(Constant)	0.937	0.189	0.177	0.349
EP	3.875	0.007	0.028	0.000
TA	-0.702	0.000	0.000	0.483
Rit-1	-1.53	0.023	-0.035	0.126
Rit-2	-0.4	0.022	-0.009	0.689
size1	-0.503	0.015	-0.007	0.615
MB	-3	0.017	-0.05	0.003
Sg	-1.356	0.002	-0.002	0.175

The final model fitted to the second hypothesis is as follows:

$$\beta_{i,t}^{L} = 0.177 + 0.028EP_{i,t-1} - o.050\, M/B_{i,t-1} + \varepsilon_{i,t}$$

Based on the probability values of the model and compared with a significance level of α=0.05 and also according to regression coefficient associated with profit prediction error (EP) in the regression equation, the null hypothesis can be rejected at the 5% level and it could be claimed with 95% confidence that:

- There is a relationship between the percentage of profitability prediction and stock liquidity risk.

Results of Residuals in the testing model of the second hypothesis show that, based on the Kolmogorov-Smirnov test (K-s d=1.137, P=0.150), normality of residuals cannot be rejected. Fixed variance is proved by the diagram against the residual estimation stationary and Durbin– Watson Statistics (D-V=1.540) also expresses the lack of residual correlation.

The results for the third hypothesis:

First, Chow test is used by software Eveiws for detection of using cross-sectional or panel regression. If the Chow test were not significant, the OLS regression based on the year-companies would be used.

Chow test results

Based on Chow test, the model does not have different latitudes in the effect of time. Therefore it is not required to use panel data methods in form of asymmetric regression model and the linear cross-sectional regression model is used.

Table 11. Chow Breakpoint Test

Null Hypothesis: No breaks at specified breakpoints.			
F-statistic	1.154	Prob. F	0.262

Table 12. Regression statistics of relation between the timely dividends announcement and stock liquidity risk

The correlation coefficient	0.164
The coefficient of determination	0.27
Adjusted coefficient of determination	0.19

The results of fitting this model show that about 19% of the variability can be explained by the model.

Table 13. The results of ANOVA test

	P-value	F-value	Mean square	Degrees of freedom	Sum of squares
Model	0.001	3.383	0.842	7	5.892
Error			0.249	860	213.955
Total				867	219.848

The ANOVA table and F-test indicate that the probability of the model is statistically significant.

Table 14.Parameter estimation.

	T-value	Standard deviation	Estimate	P-value
(Constant)	0.766	0.191	0.146	0.444
ON	-2.242	0.001	-0.002	0.025
TA	-1.153	0.000	0.000	0.249
Rit-1	-1.686	0.023	-0.039	0.092
Rit-2	-0.289	0.022	-0.006	0.773
size1	0.006	0.015	0.000	0.996
MB	-3.588	0.016	-0.059	0.000
Sg	-1.197	0.002	-0.002	0.232

The final model fitted to the third hypothesis is as follows:

$$\beta_{i,t}^{L} = 0.144 - 0.002ON_{i,t-1} - o.059\, M/B_{i,t-1} + \varepsilon_{i,t}$$

Based on the probability values of the model and compared with a significance level of α=0.05 and also according to regression coefficient associated with Timely dividends announcement (ON)in the regression equation, the null hypothesis can be rejected at the 5% level and it could be claimed with 95% confidence that:

- There is a relation between timely dividends announcement and stock liquidity risk.

The results of residuals in the testing model of the third hypothesis show that The Kolmogorov-Smirnov test (K-s d=1255, P=0.086), normality of residuals cannot be rejected. Fixed variance is proved by the diagram against the residual estimation stationary and Durbin – Watson Statistics (D-V=1.565) also expresses the lack of residual correlation.

Conclusions and discussion

Financial reporting should provide information to help present and potential investors, creditors and other stakeholders in assessing the amounts, timing and uncertainty of prospective cash receipts from dividends or interest and the proceeds from the sale, redemption or maturity of securities or loan (SFAC No 1, Para 37). Therefore, this question is set forth for discussion of what type of information should be given to help user to make decisions and what factors are appropriate for decision making models.

In this study, the authors conduct an exploratory analysis to determine how information quality relates to liquidity risk and to market risk in different periods of unexpected changes in market liquidity. This analysis, while not guided by any clear ex-ante prediction of how the relationships would differ in different periods, is motivated by the fact that extreme market liquidity events, particularly extreme negative events, significantly affect investors' welfare. For example, Pastor and Stambaugh (2003) highlight that exposure to liquidity risk doomed Long-Term Capital Management during a period of widespread deterioration in market liquidity precipitated by the Russian debt crisis. Other scholars have also noted that portfolio managers are concerned about freezes in liquidity (or "liquidity black holes") in the equity markets due to the disappearance of investors or market makers (Moorthy, 2003; Morris and Shin, 2003). Furthermore, the prior literature has documented that liquidity risk tends to be more pronounced during extreme negative market conditions (Brunnermeier and Pedersen, 2009; Hameed *et al*., 2010). Building on the literature, Lang and Maffett (2010) examined the relationship between transparency and liquidity risk during crisis periods. The present research examined the relationship between information quality and liquidity. A possible explanation for the results relies on the notion that large negative/ (positive) liquidity shocks are, on average, associated with a significant "flight" of investors from/ (to) the equity markets (Pastor and Stambaugh, 2003). During such shocks, information quality could have a greater influence on investors'

decisions if investors consider stocks with poor information quality to be risky, they prefer to exit from these stocks when market liquidity declines and are only willing to invest in them when market liquidity improves. This explanation is based on the idea that information quality affects liquidity risk because, conditional on changes in market liquidity, it has different influences on the demand for individual stocks. In this study, the relationship between information quality and liquidity risk of companies' stock listed on the Tehran Stock Exchange was examined. The results indicate that there is a statistically significant relationship between the quality of accruals and stock liquidity risk. Thus based on the fitted model, one could say that high levels of accruals quality decrease stock liquidity risks and the relation between percentage of profitability prediction error and stock liquidity risk is statistically significant. In other words, high percentages of profitability prediction error increase stock liquidity risks. Also, the relationship between timely dividends announcement and stock liquidity risk is statistically significant. So, it can be said that high levels of timely profit reports reduced stock liquidity risks.

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