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Comparability of Financial Reports and Negative Skewness of firm -Specific Monthly Returns: Evidence from Iranian firms

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ABSTRACT

The purpose of this study is to investigate the relationship between comparability of financial reports and negative coefficient of skewness of firm-specific monthly returns. In this study, to measure the financial statements comparability, De Franco et al. [10] model is employed. Sample includes the 425 firm-year observations from firms listed in the Tehran Stock Exchange during the years 2013 to 2017 and research hypothesis was tested using multivariate regression model based on panel data. The results indicate that financial statements comparability mitigates the negative skewness of stock return. Our findings are robust to alternative measure of stock price crash risk, individual analysis of the research hypothesis for each year and endogeneity concern. This study is almost the first study which has been conducted in emerging capital markets, so the findings of the study not only extend the extant theoretical literature concerning the stock price crash risk in developing countries including emerging capital market of Iran, but also help investors, capital market regulators and accounting standard setters to make informed decisions.

1 Introduction

One of the qualitative characteristics of financial information includes comparability which enhances the quality of the information, thereby assisting users to make rational decisions [13] and investigate the similarities and differences perceived among various financial information items. Therefore, financial statement comparability is of paramount importance to investors and creditors in that their investment decisions are heavily contingent on the forthcoming opportunities so that decision-making on the part of users turns out to be an onerous and even almost impossible task in the absence of the comparable accounting information [4]. On the other hand, stock price crash in recent years, especially after the 2008 financial crisis has attracted a lot of attention [12]. On the basis of the concept of stock price crash, certain firms tend to withhold bad news on the grounds of various reasons including tax, compensation, and aggressive accounting methods. However, there exists a threshold level below which managers accumulate and withhold bad news. When bad news is accumulated to the point that exceeds the level, it comes out all abruptly, thereby persuading investors to alter their attitudes towards firm value and its stock price, and hence stock price crash risk [20]. A growing body of literature on comparability supports the notion that financial statement comparability not only mitigates acquisition and processing costs of information, but also improves financial information quality

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[8, 10, 11]. De Franco et al. [10] put forward the view that financial statement comparability facilitates the exchange of information among comparable firms, and thus allows investors to make rigorous judgment about the economic similarities and differences among the firms. Building on the existing theoretical framework, comparable accounting information prevents managers from concealing bad news since the availability of the information about comparable firms not only allows managers to get a better understanding of the firm performance, but also gain access to the negative and undisclosed information of the firm via comparing its performance with that of its counterparts. As such, bad news hoarding is unlikely to provide managers with relevant benefits. Therefore, the managers of these firms are less motivated to hide bad news, which attenuates the corporate stock price crash risk [4]. Accordingly, firms with more comparable financial statements are expected to be less exposed to stock price crash risk. Financial statement comparability has received a great attention to the academicians and several studies have been carried out both in developed and developing countries. However, a very few attention is done in the emerging countries in general and Iran in particular. The capital market in Iran is very new and somewhat inefficient. Furthermore, presence of the government in the ownership structure of Iranian firms, ownership concentration, and other external and political factors such as trade and economic sanctions against Iran that distinguish it from other countries, makes this country a good sample for research [26, 30]. As such, the focus of the study is to acquire an understanding of whether the financial statement comparability affects the stock price crash risk amongst Iranian public listed firms. This study also aims to provide additional evidence that supports or rejects prior research findings in developed countries and to determine whether the findings can be generalized in Iranian market. For this reason, we selected a sample of 425 firm-year observations from firms listed on the Tehran Stock Exchange. The availability of data restricted our research horizon only on a five-year period from 2013 to 2017. We find that financial statement comparability is negatively related to negative skewness of stock return. Our paper contributes to the existing accounting and finance literature written on the topic, in the following ways:

First, the results of the study can advance theorizing about corporate financial statement comparability in the emerging capital markets in the developing countries like Iran. Second, the evidence points to the extent to which financial statement comparability can influence corporate stock price crash risk. These findings contribute to the debate regarding the role of financial statement comparability in reducing the stock price crash risk, and provide valuable insights for managers, investors, capital market regulators and accounting standard-setters. In closing, the findings can raise novel ideas for further study in the domain of stock price crash and corporate financial reporting.

2 Literature Review and Hypothesis Development

The common conceptual framework proposed by IFRS and FASB [13] define comparability as the qualitative characteristic of the information which allows users to recognize the similarities and differences across firms. To enhance the comparability of the information, similar issues should be similar, whereas different ones should be different [2]. The importance of comparability lies in the requirements for financial statement standards under FASB Concept Statement No. 8. The theoretical concepts of the Iranian financial reporting assert that the usability of the relevant and reliable information is confined if it is not comparable and intelligible [27]. Financial statement comparability offers various advantages like increased quality of the available information, and hence the rise of analyst coverage and forecast accuracy [10], enhanced liquidity and trading volume [2], declined benefits of classified information [5] and decreased stock price crash risk [4]. Stock price crash is character-

ized as a phenomenon in which stock price is suddenly and negatively moderated [20]. Interest in stock price crash has been recently increased since 2008 financial crisis. The stock price changes are generally binned into the labels of up and down. Given the centrality of stock return to investors, stock price crash risk, which brings about a severe drop in return, has caught researchers' attention more than stock price rise [12]. Hutton et al. [20] are inclined to believe that lack of transparency in financial reporting entices managers to hoard bad news to retain their spot in their organizations. The managers are disinclined to disclose actual losses until they hold their positions in the firms. As long as they resign, a vast volume of undisclosed losses is released, hence stock price crash. Generally speaking, stock price crash reveals the following characteristics:

A) Stock price crash is believed to be a large and unusual change in stock price which happens regardless of the occurrence of any important economic event, B) these large changes are negative, and C) stock price risk tends to penetrate marketplace. This is to say, stock price crash is not limited to a certain stock, but encompasses all stocks available in the market [7]. As mentioned above, financial statement comparability provides investors with informative data about the conditions of comparable firms to enable them to get better understanding of the financial statements [2]. Having accessed the financial information of the comparable firms not only allows investors to acquire a better perception of the firm performance, but helps them explore the negative information obscured by managers via comparing firm performance with that of other comparable firms. Accordingly, it is argued that managers of highly comparable firms are less motivated to engage in bad news hoarding, which, in turn, results in abrupt release of bad news, thereby reducing stock price crash risk. On these grounds, Bon Kim et al [4] also provide ample support for the assertion that financial statement comparability is negatively associated with corporate stock price risk. As stated before, very little attention is paid to the empirical investigation of the effects of financial statement comparability on stock price risk. Nevertheless, several studies that separately examine the variables of this study are presented as follow. Hajiha and Chenari [19] examine the relationship between corporate social responsibility and stock price crash risk, and concluded that increased social responsibility may result in a drop in negative skewness of the stock return and stock price crash risk. Foroughi and Ghasemzadeh [15] studied the impact of financial statement comparability on stock price synchronicity in a sample of 86 firms listed on the Tehran Stock Exchange from 2007 to 2014. They revealed that financial statement comparability exerts a negative and significant effect on stock price synchronicity. Foroughi and Ghasemzadeh [16] document that financial statement comparability enhances future earnings response coefficients. Kia and Safari Gerayli [22] examine the effect of financial statements on real-and accrual-based earnings management. The study concludes that the comparability of accounting information reduces accrual-based earnings management, while increases real earnings management. Kim et al. [23] investigate the impact of managerial overconfidence on stock price crash risk. They concluded that firms with overconfident managers tolerate higher crash risk. Sohn [29] sampled 32211 firm-year observations from the firms listed on the U.S Stock Exchange during the years 1983-2012 and examined the linkage between financial statement comparability and accrual-based earnings management and real earnings management. Their results indicated that accounting information comparability mitigates accrual-based earnings management, yet increases real earnings management. Choi et al. [9] examine the influence of financial statement comparability on future earnings response coefficient for a number of 32366 firm-year observations from 1992 to 2012. Their findings indicated that firms with highly comparable financial statements show higher future earnings response coefficient. Francis et al. [14] documented that the financial statements of those firms audited by similar audit

firm are more highly comparable. Kim et al. [24] sampled 12978 firm-year observations of the firms listed on the New York Stock Exchange during 1995-2009 and then examined the association between social responsibility and corporate stock price crash risk. They argued that social responsibility reduces stock price crash risk. Callen and Fang [6] examine the effect of institutional ownership on stock price crash risk in the firms listed on the New York Stock Exchange over the period 1981-2008. They found out that institutional ownership is significantly correlated with stock price crash risk. Kim et al. [24] examine the connection between financial statement comparability and corporate credit risk in the U.S capital market. They find that financial statement comparability attenuates corporate credit risk and cost of capital. In the light of this theoretical and empirical literature, it is possible to formulate the following hypothesis:

H_1: Financial statement comparability is negatively associated with the negative skewness of stock return.

3 Research Methodology

We select all publicly- listed firms in Tehran Stock Exchange (TSE) over the entire duration of the estimation time period (2013–2017) as initial samples. Of these initial samples, firms with long periods without transactions and firms that are either missing financial variables or that have insufficient data are eliminated. Financial institutions, banking, finance and investment firms are also eliminated, since their accounting and reporting environments differ from those in other industries. This gives a final sample of 425 firm-year observations from the fiscal years 2013 to 2017. Table 1 discusses the breakdown of sample procedure (panel A) as well as the number of sample per industry (panel B).

Table 1: Sample selection process

Panel A: Sample selection procedure

Explanation	Observations
Initial sample from 2013 to 2017	1,525
Less: Firm-years with long periods without transactions	(310)
Less: Firm-years with insufficient or Missing data	(515)
Less: Financial institutions	(275)
Final sample	425

Panel B: Industry distribution

Industry	**Observations**	**Percent**
Automotive	50	11.77%
Mining and metal products	45	10.59%
Non-metallic minerals	45	10.59%
Cement and plaster	45	10.59%
Metals	45	10.59%
Rubber and plastic	35	8.23%
Machine tools	40	9.41%
Oil, gas and petrochemicals	40	9.41%
Food	40	9.41%
Pharmaceuticals and healthcare	40	9.41%
Total	425	100%

To test the research hypothesis, the following multivariate regression model is used:

$$NCSKEW_{i,t} = \beta_0 + \beta_1 COM_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 LEV_{i,t} + \beta_4 GWTH_{i,t} + \beta_5 ROE_{i,t} + IND\ FE + YEAR\ FE + \varepsilon_{i,t} \quad (1)$$

Where:

The dependent variable: Following the prior literature [6,15, 20], we calculate the negative coefficient of skewness of firm-specific monthly returns (NCSKEW), as follows:

$$NCSKEW_{it} = -[n(n-1)^{\frac{3}{2}} \sum W_{i,\theta}{}^{3}] / [(n-1)(n-2)(\sum W_{i,\theta}{}^{2})^{\frac{3}{2}}] \quad (2)$$

Where:

$W_{i,\theta}$: firm-specific monthly return of firm i in month θ , and n: the number of monthly returns observed over the fiscal year. In this model, the higher the negative skewness is, the higher the firm-specific stock price crash risk is. The firm-specific monthly return which is indicated as $W_{i,\theta}$ equals the natural log of one plus the residual of the equation 2:

$$W_{i,\theta} = \ln(1+\varepsilon_{i,\theta}) \quad (3)$$

Where:

$\varepsilon_{i,\theta}$: the residual return of the stock of firm i in month θ, which is calculated through the residual in equation 3:

$$r_{i,\theta} = \alpha + \beta_{1i} r_{m,\theta-2} + \beta_{2i} r_{m,\theta-1} + \beta_{3i} r_{m,\theta} + \beta_{4i} r_{m,\theta+1} + \beta_{5i} r_{m,\theta+2} + \varepsilon_{i,\theta} \quad (4)$$

where:

$r_{i,\theta}$: the stock return of firm i in month θ, and $r_{m,t}$: the market return in month θ. To calculate the monthly return of market, the beginning index is subtracted from the ending index, and then the result is divided by the beginning index.

The independent variable: Following [28, 15] we use the financial statement comparability measure of De Franco et al. [10]. Comparability is defined as the closeness between two firms' accounting systems in mapping economic events into financial statements. To measure the accounting function of an individual firm *i*, in each year, De Franco et al. [10] run the following time-series regression using firm *i*'s 12 previous quarters of earnings (a proxy for financial statements) and stock returns (a proxy for economic events):

$$Earning_{i,t} = \alpha_i + \beta_i Return_{i,t} + \varepsilon_{i,t} \quad (5)$$

Where:

Earning: quarterly net income divided by the market value of equity at the end of the previous quarter, and *Return* is quarterly stock return of the firm. The estimated coefficients of the equation (5) show the firm-specific accounting function which converts economic events (return) into accounting report (earnings). That is $\widehat{\alpha_i}$ and $\widehat{\beta_i}$ point to the accounting function of firm *i*, and $\widehat{\alpha_j}$ and $\widehat{\beta_j}$ denote the accounting function of firm *j*. The extent to which two accounting functions are similar accounts for the comparability of the two firms. Therefore, the difference between accounting function and operations of the firms *i* and *j* in each year is separately estimated via separately calculating the earnings of firm *i* using its accounting function, and applying the accounting function of firm *j* together with the return of firm *i* based on the following equations:

$$E(Earning)_{iit} = \widehat{\alpha_i} + \widehat{\beta_i} Return_{i,t} \quad (6)$$

$$E(Earning)_{ijt} = \widehat{\alpha_j} + \widehat{\beta_j} Return_{i,t} \quad (7)$$

Where:

$E(Earning)_{iit}$: predicted earnings of firm *i*, given the accounting function and return of firm *i* in quarter *t*. $E(Earning)_{ijt}$: Predicted earnings of firm *i* in quarter *t* using the accounting function of firm *j*. According to the obtained values, the average difference in the values of the predicted earn-

ings indicates the difference between the accounting functions of the two firms. Therefore, its negative one (-1) shows the similarity and comparability of the two firms in the form of equation (8):

$$CompAcc_{ijt} = \frac{-1}{12} \sum_{t-11}^{t} \left| E(Earning)_{iit} - E(Earning)_{ijt} \right| \quad (8)$$

Where: $CompAcc_{ijt}$ denotes the financial statement comparability of the firms *i* and *j* in year *t*. Similarly, $CompAcc_{ijt}$ is calculated for each year, and for each pair of firms *i* and *j* in an industry. Then, the median of the calculated values of the firm *i* in year *t* is defined as a proxy of firm-specific comparability ($COM_{i,t}$). Following the previous research, we use firm size, leverage, growth opportunities and return on equity (ROE) as control variables that could affect stock price crash risk. Larger firms are less likely to withhold bad news, which prevents the abrupt release of negative information into the market, thereby reducing corporate stock price crash risk [4]. Therefore, firm size, which is calculated as the logarithm of firm's total sales, is considered as a control variable. Callen and Fang [6] and Kim et al. [4] argue that leveraged firms are more prone to sue, which in turn, enhances the likelihood of stock price crash risk. Accordingly, financial leverage (LEV) is also considered as a control variable that measured as the ratio of total debt to total assets. Firms with high growth opportunities show more volatile stock return, and thus may sustain great losses, thereby increasing the likelihood of stock price crash risk. Therefore, market -to-book value ratio of equity is considered as the measure of growth opportunities (GWTH) and another control variable. More profiTable firms are expected to experience lower stock price crash risk [25]. Hence, return on equity (ROE) is considered as a measure of profitability and another control variable, which is calculated as dividing net income by market value of equity. In the regression model we also control for industry and year effects. Table 2 summarizes the definition of variables used in this paper.

Table 2: Variable definitions

Variables	**Definition**
Dependent Variable	
NCSKEW	The negative skewness of firm-specific monthly returns over the fiscal year.
Independent variable	
COM	Financial statement comparability, measured following De Franco *et al.* [10]
Control Variables	
SIZE	Firm size measured as the logarithm of firm's total sales.
LEV	Leverage measured as the total debts divided by total assets.
GWTH	Firm growth opportunities , defined as the market value of equity divided by book value of equity
ROE	Profitability calculated as dividing net income by market value of the corporate equity.
IND	Industry dummy to control for industry fixed effect.
Year	Dummy variables to control for fiscal year effect.

Since the panel data are superior to time-series and cross-sectional models with respect to the number of observations, low probability of multicollinearity among variables, bias reduction in estimation and heterogeneity of variance [17], the multivariate regression model based on panel data was employed to test the research hypothesis.

4 Empirical Results

4.1 Descriptive Statistics

Table 3 presents the descriptive statistics of the research variables for the sampled firms during the years 2013-2017.

Table 3: Descriptive Statistics for all Variables

Variables	N	Mean	Median	Minimum	Maximum	Std. Deviation
NCSKEW	425	-0.585	-0.741	-3.505	3.721	1.922
COM	425	-0.046	-0.041	-0.703	-0.003	0.114
SIZE	425	12.108	11.991	9.865	14.563	0.766
LEV	425	0.613	0.611	0.091	1.564	0.227
GWTH	425	2.801	2.173	-27.385	121.511	3.864

As evident in Table 3, the means of NCSKEW is -0.585, which is greater than the values reported in Kim et al. [4]. This suggests that sample firms in our study are more prone to stock price crash risk. Also, the mean of LEV indicates that approximately 61% of the firms' assets are financed by external financing. It is noteworthy that the mean of the variable of GWTH (2.801) confirms that the market value of the equity of the sampled firms is greater than its book value. Moreover, the net income of the firms accounts for about 9% of the market value of their equity.

4.2 Regression Results

In panel data, F-Limer test is used to determine whether the collected data are panel or pooled data. As indicated in Table 4, the significance level of the F-limer for both models is less than 0.05. Therefore, panel data were used to estimate the research model. Then, Hausman test is to be used to determine whether the data are of fixed-effect or random effect types. As indicated in Table 4, the model is suggested to be estimated based on fixed-effect method. Moreover, the results of likelihood ratio test, which is conducted to examine the heteroscedasticity among error terms, suggest a heteroscedasticity among them. To eliminate this problem, Generalized Least Square method was employed to estimate the research models.

Table 4: Effects of Financial Statement Comparability on *NCSKEW*

Variable	Expected Sign	Coefficient	t-Statistic
C	?	0.483**	3.281
COM	-	-0.061*	-2.305
SIZE	-	-0.086**	-3.314
LEV	+	0.061	1.165
GWTH	+	0.078	1.211
ROE	-	-0.081*	-2.135
Industry FE		Yes	
Year FE		Yes	
F-stat.	12.692**	Durbin-Watson stat	1.988
R^2	0.616	Adjusted R^2	0.583
F-limer test	5.018**	*Hausman test*	13.349*
Notes: ** and * denote significance at the 0.01 and 0.05 levels, respectively			

Also, to ensure the lack of multicollinearity among the explanatory variables, the multicollinearity test was undertaken using variance inflation factor (VIF). The results pointed to the lack of multicollinearity among the mentioned variables since the values of the test were lower than 10. Finally, as indicat-

ed in Table 4, Durbin-Watson test was used to establish if there is a serial autocorrelation among the error terms of the model. The results of testing our hypothesis using are represented in Table 4.
Considering F-statistics and its level of significance, one can conclude that regression model is significant at the 0.05 level. In addition, the results of *Durbin-Watson* statistics also confirm the lack of autocorrelation among the error terms of regression model. As shown in the Table, the estimated coefficient and t-statistics of the *COM* are negative and significant at the 0.05 level, revealing a negative and significant association between the financial statement comparability and negative skewness of firm-specific monthly returns. Therefore, our hypothesis is accepted at the 0.05 level.

4.3 Sensitivity Analysis

Other tests were also run to investigate the robustness of the obtained results. The first test reexamined the association between financial statement comparability and corporate stock price crash risk using down-to-up volatility (*DUVOL*) as an alternative measure of stock price crash risk. For each firm *i* over a fiscal-year period, firm-specific monthly returns are separated into two groups: 'down' months when the returns are below the annual mean, and 'up' months when the returns are above the annual mean. The standard deviation of firm-specific monthly returns is calculated separately for each of these two groups. *DUVOL* is the natural logarithm of the ratio of the standard deviation in the 'down' months to the standard deviation in the 'up' months:

$$DUVOL_{i,t} = \log\left(\frac{Down_{i,t}}{Up_{i,t}}\right) \quad (9)$$

Where:
$Down_{i,t}$: the standard deviation of the observations lower than the mean, and $Up_{i,t}$: the standard deviation of the observations upper than the mean for firm *i* in year *t*.
The results of this test are shown in Table 5. The results indicate that financial statement comparability is negatively associated with stock price crash risk calculated by the DUVOL, which is consistent with the main results of the research presented in Table 5. Therefore, it can be concluded that our findings are not sensitive to the alternatives measure of stock price crash risk, and are robust.

Table 5: Effects of comparability on *DUVOL*

Variable	Expected Sign	Coefficient	t-Statistic
C	?	0.366**	2.984
COM	-	-0.042*	-2.311
SIZE	-	-0.051*	-2.463
LEV	+	0.021*	1.981
GWTH	+	0.016	1.503
ROE	-	-0.019*	-1.977
Industry FE		Yes	
Year FE		Yes	
F-stat.	13.215**	Durbin-Watson stat	1.961
R^2	0.657	Adjusted R^2	0.626
Notes: ** and * denote significance at the 0.01 and 0.05 levels, respectively			

The second test sought to explore whether financial statement comparability was associated with stock price crash risk in each individual year of the research period. Table 6 represents the significance of the financial statement comparability in each model separately for each year. As noted in the

Table, the coefficients for *COM* are negative across all years. As such, one can conclude that the results are still robust even with a reduction in the sample and a separate study of the research hypothesis in each of the years study.

Table 6: The results of regression analysis in each research year

Years	NCSKEW	DUVOL
2013	-0.031 (-1.057)	-0.034 (-1.399)
2014	-0.036 (-1.252)	-0.041* (-1.989)
2015	-0.044* (-2.197)	-0.068** (-2.631)
2016	-0.048* (-2.551)	-0.071** (-2.669)
2017	-0.057** (-3.285)	-0.076** (-3.399)
Notes: t-statistics are reported in parenthesis; **, and * denote significance at the 0.01 and 0.05 levels, respectively.		

Table 7: The results of the fitted model with respect to firms' size

	(1)	(2)
Variable	NCSKEW	DUVOL
C	0.497** (3.334)	0.383** (3.121)
COM	-0.065* (-2.491)	-0.061** (-3.145)
SIZE	-0.084** (-3.242)	-0.019** (-2.675)
COM*SIZE	-0.173* (-2.272)	-0.136** (-2.626)
LEV	0.051 (0.996)	0.012 (0.538)
GWTH	0.084 (1.425)	0.015 (0.508)
ROE	-0.079* (-2.071)	-0.024* (-2.278)
Industry FE	Yes	Yes
Year FE	Yes	Yes
Adjusted R^2	0.591	0.634
F-stat.	12.836**	13.411**
DW statistic.	1.972	1.983
Notes: t-statistics are reported in parenthesis; **, and * denote significance at the 0.01 and 0.05 levels, respectively.		

To further explore the issue, the main results of the research were painstakingly examined regarding the size of the firms. To this end, the firms were classified into large firms (with a size larger than the median of the whole sample) and small firms (with a size smaller than the median of the whole sample), so that the large firms took the value of 1, whereas the small firms were valued 0. Then, moderating effect of firm size on the relation between financial statement comparability and stock price crash risk was examined and the results were presented in Table 7. As can be seen, the estimated coef-

ficient and t-statistics of the *COM*SIZE* are negative and significant at the 5% level in both models. That is to say that the negative relation between financial statement comparability and stock price crash risk is more pronounced in larger firms.

4.4 Endogeneity Issue

Endogeneity is a frequent problem related to accounting research; it occurs because of simultaneous outcomes, explanatory variables and omitted variables [31]. To control this problem, we use the two-step system GMM approach adopted by Blundell and Bond [3]. This should also alleviate any concerns with unobserved heterogeneity and omitted variable bias. We use Roodman's [28] 'xtabond2' module in Stata to execute the two-step system GMM. Table 8 reports diagnostic results for serial correlation tests and the Hansen test of over identifying restrictions. Given that errors in levels are serially uncorrelated, we expect significant first-order serial correlation, but insignificant second-order correlation in the first-differenced residuals. Test results reported Table 8 confirm the desirable statistically significant AR(1) and statistically insignificant AR(2). Moreover, the statistically insignificant Hansen test of over identifying restrictions indicates that the instruments are valid in the two-step system GMM estimation.

Table 8: Two-step system GMM

Variable	Expected Sign	Coefficient	t-Statistic
C	?	0.308**	2.903
COM	-	-0.084*	-2.411
SIZE	-	-0.062*	-2.308
LEV	+	0.024	1.029
GWTH	+	0.081	1.944
ROE	-	-0.092**	-2.705
AR(1) (p-value)		0.000	
AR(2) (p-value)		0.195	
Hansen (p-value)		0.233	
Industry FE		Yes	
Year FE		Yes	
Notes: ** and * denote significance at the 0.01 and 0.05 levels, respectively.			

Overall, the two-step system GMM estimate provides strong evidence that financial statements comparability is negatively associated with the negative skewness of stock return, and the diagnostic tests, including the first-order and second-order serial correlation tests and the Hansen test of over identifying restrictions, are supportive of this finding.

5 Conclusions

The present study was an attempt to investigate the association between financial statement comparability and corporate stock price crash risk. This study is important in this regard, which is one of the first domestic researches to address this issue and hence can contribute to the extension of accounting literature in developing countries such as Iran. The results of testing the research hypothesis reveal that financial statement comparability mitigates the negative coefficient of skewness of firm-specific monthly returns. On these grounds, one can come up with this conclusion that comparable accounting

information enables investors to have access to the comparable information of the similar firms and evaluate it to get a better understanding of the firm performance and elicit parts of the information the managers have tried to withhold and retain undisclosed. Therefore, the managers of the firms with high comparable information are more disinclined to engage in bad news hoarding, which, in turn, reduces the likelihood of the abrupt release of the accumulated bad news to the market, and hence mitigates stock price crash risk. The results of the present study are consistent with the findings of Bon Kim *et al.*, [4], who believe a negative association between financial statement comparability and corporate stock price crash risk. Regarding the findings, investors are recommended to devote particular attention to financial statement comparability while analyzing financial statements and consider them as an important factor contributing to the fall in corporate stock price crash risk. Additionally, accounting standard-setters are suggested to set strict accounting standards to require firms to disclose comparable accounting information and financial statements, and hence curbing the managerial opportunistic behaviors in concealing bad news and thus attenuating corporate stock price crash risk. In any scientific research, there are a couple of uncontrollable situations which tend to influence the results of the study. Although, following the prior literature, various control variables affecting the corporate stock price crash risk is considered while estimating the research model, one of the most important limitations of the current study, like other empirical research in the field, is the likelihood of omitted variables which exert impact on the generalization of the results. In the following, certain topics are recommended for further study:

1- This study used the possibility to compare the information of economic entities with each other to measure the variable of comparability. As such, it is suggested that further studies try to shed further insights into the possibility of comparing the information of a firm with that of other periods within a particular period.

2- Investigating into the capital market reaction to financial statement comparability.

References

[1] Ahmadi, M. R., Dorseh, S., *The Effect of Abnormal Real Operations and Accrual Based Earnings Management on Future Stock Price Crashes Article*, Journal of Empirical Researches in Accounting, 2016, **6**(1), P.153-184, (in Persian). Doi: 10.22051/jera.2016.2541.

[2] Barth, M. E., R. Landsman, W., H. Lang, M., &D. Williams, C., *Effects on comparability and capital market benefits of voluntary adoption of IFRS by US Firms: Insights from voluntary adoption of IFRS by non-US Firms*, Working Paper.Stanford University, University of North Carolina at Chapel Hill, and University of Michigan, 2013.

[3] Blundell, R., and S. Bond., *Initial conditions and moment restrictions in dynamic panel data models*, Journal of Econometrics, 1998, **87**, P.115–143. Doi:10.1016/S0304-4076(98)00009-8.

[4] Bon Kim, J., Li, L., Yi Lu, L. and Yu, Y., *Financial statement comparability and expected crash risk*, Journal of Accounting and Economics, 2016, **61**, P. 294-312. Doi: 10.1016/j.jacceco.2015.12.003.

[5] Brochet, F., D. Jagolinzer, A., Riedl, E., *Mandatory IFRS adoption and financial statement comparability. Contemporary Accounting Research (forthcoming)*, Harvard Business School Accounting& Management, 2012.

[6] Callen, J. L., and Fang, X., *Institutional Investor stability and Crash Risk: Monitoring or Expropriation?* Journal of Banking & Finance, 2013, **37**(8), P.3047–3063.

[7] Chen, J., Hong, H., & Stein, J. C., *Forecasting crashes: Trading volume, past returns, and conditional skewness in stock prices*, Journal of Financial Economics, 2001, **61**, P.345–381. Doi:10.1016/S0304-405X(01)00066-6.

[8] Chen,C., Collins, D.W., Kravet,T.D. and Mergenthaler, R.J., *Financial statement comparability and the efficiency of acquisition decisions*, Working paper University of Iowa, 2014. Doi:10.1111/1911-3846.12380.

[9] Choi, J.H., Choi, S. A., Myers, L., Ziebart, D., *Financial Statement Comparability and the Informativeness of Stock Prices About Future Earnings*, 2015.

[10] De Franco, G., S. Kothari, and R. Verdi., *The Benefits of Financial Statement Comparability*, Journal of Accounting Research, 2011, **49**, P.895–931. Doi:10.1111/j.1475-679X.2011.00415x.

[11] DeFond M., Hu X., Hung M., Li S., *The impact of mandatory IFRS adoption on foreign mutual fund ownership: The role of comparability*, Journal of Accounting and Economics, 2011, **51**, P.240-258. Doi: 10.1016/j.jacceco.2011.02.001.

[12] Dianati Dilami,Z., Moradzadeh Fard, M., Mahmoudi, S., *Examine the effect of Institutional Investors on Reduce Stock Price Crash Risk*, Journal of Investment Knowledge, 2012, **2**(1), P.1-18 , (in Persian).

[13] FASB (Financial Accounting Standards Board), *Statement of Financial Accounting Concepts No. 8. Conceptual Framework for Financial Reporting, Chapter 1, the Objective of General Purpose Financial Reporting, and Chapter 3*, Qualitative Characteristics of Useful Financial Information, 2010, Norwalk, CT: FASB.

[14] Francis, J., Pinnuck, L., Watanabe, O., *Auditor Style and Financial Statement Comparability*, Journal of The Accounting Review,2014, **89**(2), P.605-633. Doi:10.2308/accr-50642.

[15] Foroghi, D., & Ghasemzad, P., *The Effect of Financial Statement Comparability on Future Earnings Response Coefficients*, The Iranian Accounting and Auditing Review, 2016, **22**(4), P. 479-500, (in Persian). Doi:10.22059/acctgrev.2016.56248.

[16] Foroghi, D., & Ghasemzad, P., *The Effect of Financial Statements Comparability on Stock Price Synchronicity*, Journal of Financial Accounting Research, 2016, **8**(1), P. 39-54, (in Persian).

[17] Gujarati, D.N., *Basic Econometrics*. 5th edition. 2009, New York: Mc Graw-Hill.

[18] Gun Lee, M., Kang, M., Young Lee, H., Park, J. C., *Related-party transactions and financial statement comparability: evidence from South Korea*, Asia-Pacific Journal of Accounting & Economics Published online, 2014, **23** (2), P. 224-252. Doi:10.1080/16081625.2014.957706.

[19] Hajiha, Z., Chenari Bouket, H., *Skewness of Stock Returns and corporate social responsibility*, Iranian Journal of Value and Behavioral Accountings Achievements, 2016, **1**(1), P. 77-98, (in Persian).

[20] Hutton, A.P., Marcus, A.J. and Tehranian, H., *Opaque Financial Reports, R2, and Crash Risk*, Journal of Financial Economics, 2009, **94**, P. 67-86. Doi: 10.1016/j.jfineco.2008.10.003.

[21] Kang, M., Kim, J.W , .Lee, H-Y., Lee ,M-G., *Financial statement comparability and audit Efficiency : evidence from South Korea*, Journal of Applied Economics, 2015, **48**(4), P.358-373. Doi:10.1080/00036846.2014.972543.

[22] Kia, A., and Safari Gerayli, M., *Financial Statements Comparability, Accrual-based Earnings Management, Real Earnings Management; An empirical test of Tehran Stock Exchange*, Accounting Empirical Research of Financial, 2017, **4**(2), P.115-137. (InPersian).

[23] Kim, J. B., Wang, Z., & Zhang, L., *CEO overconfidence and stock price crash risk*, Contemporary Accounting Research, 2016, Doi:10.1111/19113846.12217.

[24] Kim, S., Kraft, P., Ryan, G. S., *Financial statement comparability and credit risk*, Journal of Review of Accounting Studies, 2013, **18**(3), P.783-823. Doi:10.1007/s11142-013-9233-z.

[25] Kim, Y., Li, H., & Li, S., *Social responsibility and stock price crash risk*, Journal of Banking and Finance, 2014, **43**, P.1–13. Doi: 10.1016/j.jbankfin.2014.02.013.

[26] Izadikhah, M., and Khoshroo, A., *Energy management in crop production using a novel fuzzy data envelopment analysis model*, RAIRO-Oper. Res., 2018, 52 (2), P. 595–617, Doi: https://doi.org/10.1051/ro/2017082

[27] Mehrvarz, F., & Marfou, M., *The Relationship between Financial Statements Comparability with Stock Price in Formativeness about Future Earnings*, Empirical Studies in Financial Accounting, 2016, **49**(13), P.83-110, (in Persian). Doi:10.22054/qjma.2016.4195.

[28] Roodman, D., *How to do xtabond2: an introduction to difference and system GMM in stata*, Stata Journal, 2009, **9**, P.86–136.

[29] Sohn, B. C., *The effect of accounting comparability on the* accrual-based and real earnings management, Journal of Accounting and Public Policy, 2016, **35**(5), P.513-539. Doi: 10.1016/j.jaccpubpol.2016.06.003.

[30] Tavana, M., Izadikhah, M., Di Caprio, D., Farzipoor Saen, R., *A new dynamic range directional measure for two-stage data envelopment analysis models with negative data*, Computers & Industrial Engineering, 2018, 115, P. 427-448, Doi: 10.1016/j.cie.2017.11.024.

[31] Larcker, D.F., and Rusticus, T.O., On the use of instrumental variables in accounting research, Journal of Accounting and Economics, 2010, **49**(3), P.186-205. Doi: 10.1016/j.jacceco.2009.11.004