

## **Investigating the Effect of Risk Disclosure Quality on Investors' Reaction in the Egyptian Capital Market**

**Extracted paper from a Ph.D. thesis entitled:** “Examining the Association between Multidimensional Risk Disclosure Quality, Cost of Capital, and Market Reaction”

**Under supervision of**

**Prof. Tariq Hassanein Ismail**  
**Dr. Nesma Ahmed El-Shayeb**  
Faculty of Commerce  
Cairo University

**By**

**Yousra Rageh Obiedallah**  
Ph.D. Student, Cairo University  
Assistant lecturer, Sohag University  
[yousra.ebaid@commerce.sohag.edu.eg](mailto:yousra.ebaid@commerce.sohag.edu.eg)

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**Yousra Rageh Obiedallah**

Ph.D. Student, Cairo University

Assistant lecturer, Sohag University

[yousra.ebaid@commerce.sohag.edu.eg](mailto:yousra.ebaid@commerce.sohag.edu.eg)

**Abstract:** This paper aims to examine the association between the change in the firm's risk disclosure level and investors' reaction in the Egyptian capital market. An event study was conducted over two years (2018 and 2019) to capture how investors respond to the Egyptian firm's reported risk information. The findings revealed that the Egyptian firms' risk disclosure did not provide new information to the capital market. Hence, investors did not change their expectations regarding the firm's future cash flows and their trading reaction in the capital market.

**Keywords:** Risk disclosure quality, Negative stock return volatility.

**مستخلص:** يهدف هذا البحث إلى دراسة مدى وجود علاقة ارتباط بين التغيير في مستوى الإفصاح عن مخاطر الشركة ورد فعل المستثمرين في سوق رأس المال المصري. تم إجراء دراسة تطبيقية باستخدام دراسة الحدث على مدار عامين (2018 و 2019) للتعرف على كيفية استجابة المستثمرين لمعلومات المخاطر التي أفصحت عنها الشركات المصرية المسجلة في سوق الأوراق المالية. وخلصت النتائج إلى أن الإفصاح عن مخاطر الشركات المصرية لم يوفر معلومات جديدة لسوق رأس المال، ومن ثم لم يغير المستثمرون توقعاتهم فيما يتعلق بالتدفقات النقدية المستقبلية للشركة وردود أفعالهم وحجم التداول في سوق رأس المال في مصر.

## 1. Introduction

The Institute of Chartered Accountant in England and Wales (ICAEW, 2011) has pointed out that “*investors need information about risk so that they can perform their own risk assessments accurately*”. Moreover, risk disclosure would help managers to provide more information on how they assess and manage the firm's specified risks, hence, strengthen stewardship and obtain the required capital at the lowest possible cost.

Prior studies mostly concerned with examining the main regulatory and non-regulatory determinants of risk disclosure practices in different countries (e.g., Linsley and Shrides, 2006; Elshandidy and Shrides, 2016). Nevertheless, some prior research in the developed countries has highlighted the effect of risk disclosure quality on the investors' reaction in the capital market compared to no prior research in Egypt that examined this effect (e.g., Kravet & Muslu, 2013; Miihkinen, 2013; Campbell et al., 2014).

Therefore, this paper attempts to investigate whether risk disclosure quality in the firms' annual narrative reports influences the investors' reaction in the Egyptian capital market.

## 2. Literature Review and Development of Hypotheses

Kravet and Muslu (2013) is a pioneer study that examined whether changes in risk disclosure in the 10-K filings affect the investors' and financial analysts' reactions. The authors found that change in the firm's risk disclosure quality is positively related to changes in negative stock return volatility, trading volume, and volatility of analysts' predictions around the publishing of the 10-K filings. This implies that investors modify their estimates about the firm's future cash flows taking into their consideration the reported risk information in the firm's annual reports.

Likewise, Miihkinen (2013) examined the impact of risk disclosure quality on the investor's interest and firm riskiness. The author found that firms with high-risk disclosure quality have low bid-ask spreads and more trading on their shares compared to firms with poor-risk disclosure.

Similarly, Campbell et al. (2014) investigated the information content of risk factor section in 10-K filings. Campbell's et al. results revealed that risk disclosure quality is negatively related to post-disclosure bid-ask spreads and abnormal returns around the publishing of the 10-K filing.

However, Bao and Datta's (2014) results contradict Kravet and Muslu's (2013) results and claim that not all risk information categories are informative to investors and affect their activities in the market. The authors pinpointed that around 22 out of 30 risk types lack informative content and have no significant influence on the post-disclosure risk perceptions. More precisely, the authors stated that financial risks could increase investors' risk perceptions, whilst other non-financial risks might decrease their risk perception.

More recently, Elshandidy and Shrivies (2016) investigate the usefulness of risk disclosure tone on the capital market reaction with considering the environmental incentives. The authors found that investors perceived risk and estimate future cash flows based on the risk disclosure tone (good or bad news). According to the previous discussion, the following null hypothesis is formulated:

*The level of risk disclosure quality in the firm's annual reports is not associated with the investors' reaction.*

### **3. Research Design**

An event study was conducted to examine whether a change in risk disclosure level is associated with the investors' reaction after the annual reports' announcement over two years 2018 and 2019. The researcher follows Kravet and Muslu's (2013) by holding the testing period long enough (60 trading days) after the publication of the Egyptian firms' annual reports to let investors and financial analysts understand and interpret the reported risk information and avoid the impact of confounding activities, such as the quarterly risk disclosure.

#### **3.1. Sample Selection and Data Collection**

This study relied on a selected sample of the non-financial firms listed on the EGX 100. The researcher excludes all financial firms due to their different risk disclosure regulations. After omitting firms that their annual reports ended on months other than December 31, the final sample consists of 59 firms. All financial data was extracted from DataStream database, while the risk disclosure data was collected from the annual reports of the Egyptian firms.

### 3.2. The Research Model

Kravet and Muslu (2013) stated that if the reported risk information affects the investors' activities, thereby, the volatility of negative stock returns should be more than the volatility of positive stock returns after the publication of the annual reports. Accordingly, the following regression model is formulated as:

$$\Delta (\sigma (\text{Neg. Return}) / \sigma (\text{Pos. Return}))_{it} = \alpha_0 + \beta_1 \Delta \text{RDQ}_{it} + \beta_2 \Delta \text{Grw}_{it} + \beta_3 \Delta \text{Volatility}_{it} + \beta_4 \Delta \text{ROA}_{it} + \beta_5 \Delta \text{EQ}_{it} + \beta_6 \Delta \text{Liq}_{it} + \beta_7 \Delta \text{Size}_{it} + \beta_8 \Delta \text{MTBV}_{it} + \beta_9 \Delta \sigma (\text{MR})_{it} + \epsilon_{it}$$

Where:

$\Delta (\sigma (\text{Neg. Return}) / \sigma (\text{Pos. Return}))_{it}$  = The change in the ratio of  $\sigma (\text{Neg. Return})_{it} / \sigma (\text{Pos. Return})_{it}$  between the 60 trading-days before and the 60 trading-days after the firms' annual reports' publishment for fiscal year (t) (Kravet & Muslu, 2013).

$\sigma (\text{Neg. Return})_{it}$  and  $\sigma (\text{Pos. Return})_{it}$  = The standard deviation of daily stock returns during trading days with negative (positive) returns. The calculation excludes the three-days period [-1,0,1] surrounding the firms' annual reports' publishment.

$\Delta \text{RDQ}_{it}$  = The change in the risk disclosure, measured through a manual content analysis for the Egyptian firms' annual reports over the period from 2017 to 2019.

This study used the multidimensional approach to measure the quality of the Egyptian firms' risk disclosures. These dimensions are quantity, coverage, depth (qualitative-quantitative), and outlook (Beattie et al., 2004; Beretta & Bozzolan, 2004). The '*quantity*' is measured as the natural logarithm of total number of risk disclosure sentences. The '*coverage*' is measured by the inverse of the Herfindahl index value (Miihkinen, 2012). The '*depth*' is measured as the natural logarithm of the total number of risk disclosure sentences that include qualitative or quantitative information about the firm's future cash flows. While the '*outlook*' is measured as the natural logarithm of the total number of risk disclosure sentences include information reveals policies taken or plans designed to mitigate the consequences of a particular risk. To calculate the composite risk disclosure quality score, the researcher used a principal components analysis for the five dimensions of quality.

$\Delta Grw_{it}$  = The change of firm's growth, measured by changes in sales (Lopes & De Alencar, 2010).

$\Delta Volatility_{it}$  = The change of firm's riskiness, measured by the standard deviation of the daily stock returns over the year (Sengupta, 1998).

$\Delta ROA_{it}$  = The change of firm's return on assets, measured by earnings before interest, taxes, depreciation, and amortization divided by total assets (Heflin et al. 2016).

$\Delta EQ_{it}$  = The change of the firm's earnings quality, measured by the principal component score with the highest eigenvalue calculated from two measures for earnings quality (firm's current accruals quality and standard deviation of its earnings over the period from 2017 to 2019). Then, to adjust higher scores to represent higher earnings quality, the absolute values of the principal component scores are multiplied by (-1) (Miihkinen, 2013).

$\Delta Liq_{it}$  = The change of the firm's liquidity, measured by the daily trading volume divided by total number of outstanding shares (Miihkinen, 2013).

$\Delta Size_{it}$  = The change of the firm's size, measured by the Log of firm market capitalization (Miihkinen, 2013).

$\Delta MTBV_{it}$  = The change of the firm's market-to-book value, measured by market value of equity divided by book value of equity (Lopes & De Alencar, 2010).

$\Delta MR_{it}$  = The change in standard deviation of market-level stock return between the 60 trading-days before and the 60 trading-days after the annual reports' publishing (Kravet and Muslu, 2013). The change of all independent variables is measured by subtracting the amount at fiscal year-end (t-1) from the year (t).

$\epsilon_{it}$  = Random error

#### 4. Empirical Results

The descriptive statistics results revealed that the change of risk disclosure level is negatively and not significantly correlated with the change in the firm's negative stock return volatility. Further, the correlation among all independent variables showed a non-multicollinearity correlation with a low mean VIF value of (1.84).

The following table illustrates the regression analysis findings of testing the association between the firm's risk disclosure quality and its negative stock return volatility.

## Results of the Association between Firm's Risk Disclosure Quality and its Negative Stock Return Volatility

Variables	$\Delta (\sigma (\text{Neg. Return}) / \sigma (\text{Pos. Return}))$	
	Coef.	p-value
Intercept	0.107	<b>0.056**</b>
$\Delta$ RDQ	<b>-0.19</b>	<b>0.223</b>
$\Delta$ Grw	0.006	0.76
$\Delta$ MTBV	-0.001	0.991
$\Delta$ ROA	0.001	<b>0.000***</b>
$\Delta$ Size	-1.039	0.535
$\Delta$ Volatility	0	0
$\Delta$ Liquidity	0.01	0.492
$\Delta$ Composite-EQ	-0.001	<b>0.426</b>
$\Delta \sigma$ (Market Return)	0.363	<b>0.000***</b>
Year and Industry effects	Included	
Adjusted R-Squared	<b>42.6%</b>	
F-Value	<b>10.19***</b>	
No. of Obs.	115	

\*\*\*Significant level at 1% and \*\*Significant level at 5%

The results revealed that the full regression model explains about 42.6% of the negative stock return variations. The coefficient of combined risk disclosure change is negative (-0.19) and insignificant (0.223). Hence, this result supports the acceptance of the null hypothesis of the level of risk disclosure quality in the firm's annual reports is not associated with the investors' reaction.

This result suggests that changes in risk disclosures did not boost the volatility of negative stock returns after the publishing of the firms' annual reports. Thus, this result supports the convergence argument regarding the investors' expectations for the firms' future cash flows after the publishing of annual reports.

## 5. Conclusions

The findings revealed that changes in the annual narrative risk disclosure could not make the firm's negative stock return more volatile. This result might be due to the stable risk disclosure policies followed by the Egyptian firms, which increase the investors' confidence regarding their expectations. This, in turn, causes a reduction in their reaction.

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