

THE IMPACT OF TRADING VOLUME ACTIVITY AND EARNINGS QUALITY ON STOCK RETURN VOLATILITY: DOES MEDIA EXPOSURE PLAY A ROLE?

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Abstract

The purpose of this study is to investigate the relationship between the volatility of stock returns, trading volume activity and earnings quality, using media exposure as a moderating factor. This research is based on consumer cyclicals sector companies listed on the Indonesian stock exchange during the 2020-2022 period. Panel data regression is used to measure the relationship between trading volume activity, earnings quality, media exposure, and stock return volatility. Empirical findings from this study support that positive earnings quality can reduce stock return volatility. However, for trading volume activity, the interaction between media and trading volume activity, as well as the interaction between earnings quality and trading volume activity proved to have no effect. This study provides new insights into the role of trading volume activity, earnings quality, and media on stock return volatility. Previous research especially often ignores factors external to the firm such as the influence of media exposure. Therefore, this study explores the role of media interactions on stock return volatility.

Keywords: Trading Volume Activity, Earnings Quality, Media Exposure, Stock Return Volatility

1. Introduction

Investors are often faced with high risk taking due to fluctuating and stochastic stock prices in the stock market. Fluctuations in stock prices will certainly make stock returns also fluctuate, which is called return volatility (Ikizlerli, 2022). Stock return volatility describes the ups and downs of stocks in a certain period. Market participants pay attention to return volatility as a measure of risk (Panda et al., 2021). The occurrence of excessive stock return volatility will threaten the stock market and will obscure the stock price as the fairest representation that can reflect the value of the company (Karolyi and Karolyi, 2001). However, controlled volatility indicates that the information dissemination mechanism is working well in a market (Bravo, 2016). Investor interest in investing will be destabilized due to the increased risk and uncertainty caused by high volatility. By estimating volatility, market participants can control and reduce the market risk of traded assets such as stocks. The calculation or estimation of volatility is considered superior to the calculation of ordinary stock returns because the calculation of volatility is also considered to be able to calculate the risk of a stock.

The good condition of the issuing stock company does not solely guarantee that the volatility of its stock returns will be stable. Aboody et al. (2005) states that companies listed on the United States Securities and Exchange Commission still have high stock return volatility even though the company's financial condition is categorized as good. This is reinforced by conditions in Indonesia, where the condition of the Indonesian stock market from 2020 to 2022 is considered to still have fluctuating stock prices which are

still quite high at 6600 and 7300 so that stock returns in the Indonesian stock market are also considered to be still fluctuating highly. Meanwhile, if examined further, the financial performance of companies listed on the IDX has increased and has begun to rise from the downturn in economic conditions due to the pandemic, one of which is the consumer cyclicals sector. This will certainly raise the question of why companies with good financial conditions have high stock return volatility, which then concludes that there are other factors that can affect stock return volatility including trading volume activity and earnings quality (Aboody et al., 2005).

One of the important factors affecting stock return volatility is trading volume activity because of the instability of returns is caused by trading volume activity (Naik et al., 2018). The results of research conducted by Ikizlerli (2022) and Chuang, Liu, and Susmel (2012) found that there is a significant positive relationship between trading volume activity and stock return volatility. On the other hand, research by Koubaa and Slim (2019) and Ngene and Mungai (2022) found that trading volume activity has a significant negative effect on stock return volatility.

Another factor that is no less important in influencing stock return volatility is earnings quality because earnings quality can be represented as the sum of operating cash flow and accruals (Rajgopal and Venkatachalam, 2011) so that it will provide signals to investors related to the condition of the company which will affect stock return volatility. The results of research conducted by Aboody, Hughes, and Liu (2005) found that earnings quality has a positive effect on stock return volatility. On the other hand, research conducted by Mitra (2016) and Rajgopal and Venkatachalam (2011) discovered that the volatility of stock returns is negatively impacted by earnings quality. Mixed findings emerge from studies on the impact of earnings quality and trading volume activities on the volatility of stock returns. According to (Baron and Kenny, 1986) if the dependent and independent variables have a weak or inconsistent relationship, then there may be moderator variables that affect the relationship.

Therefore, the author adds media exposure as a moderating variable in testing the relationship between the effect of trading volume activity and earnings quality on stock return volatility. Media exposure is the perception and interpretation of the company's image that continues to be communicated so that it becomes the basis for a total assessment of the company's stakeholder attributes (Serrat, 2011). One of the company's exterior attributes that might influence how the public perceives its commitment is its media exposure. Public perception of a company can be positively impacted by media disclosure. The role of media exposure in shaping expectations for risk and return is being studied. Investors frequently believe that reputable businesses—that is, businesses with excellent reputation ratings—are the source of strong investment prospects (Shefrin and Belotti, 2001). Market participants are mostly concerned about media exposure, they conclude that companies with a relatively good reputation through the role of the media are better able to maintain superior profit results over time (Roberts and Dowling 2002). Helm (2007) points out that, particularly for developing countries like Indonesia, reputation plays a significant role in market-based risk. A company that wants to be recognized by the public is a company that is able to have space to meet the needs of the community and is able to communicate to its investors effectively. Therefore, it would be interesting to add media exposure as a moderating variable in testing the relationship between the effect of trading volume activity and earnings quality on stock return volatility.

2. Theoretical Background

2.1 Signaling Theory

Initially, signaling theory was proposed by Spence (1973) who explains that the sender, who is the owner of the information, sends a signal or signal in the form of information that shows how a company is doing well for the receiver. According to Brigham & Houston (2011) The management's assessment of the company's potential growth, which influences investor responses, is explained by signaling theory. When making investment decisions, businesspeople and investors can take use of information that describes management's attempts to carry out the owner's intentions. Information from the firm will be sent to investors; this information will first be processed and examined to see if it is a good or negative indication (Jogiyanto, 2017).

This signal can be information that claims that the company is superior to other businesses with the intention of increasing the value of the business through financial reporting (Scott, 1997). Signal theory can also be reflected from trading volume activity because trading volume activity can reflect the market value of shares so that it can provide signals to investors about the shares circulating in the community which will affect stock return volatility (Ngene and Mungai, 2022). In addition, signal theory can also be reflected from earnings quality because these variables can reflect the company's future financial prospects as a signal of the company's condition which will affect stock return volatility (Mitra, 2016).

2.2 Trading Volume Activity dan Stock Return Volatility

Signal theory describes the relationship in providing information by companies to investor responses that can affect investment decisions (Rajgopal and Venkatachalam, 2011). It takes time for all market participants to determine whether the information is a positive or negative signal after it is published. According to the market reaction, investors' beliefs will change as a result of published information. One of the market reactions is reflected in trading volume activity. Trading volume activity is defined as the number of shares traded daily, monthly, or annually within a certain period of time (Boonvorachote and Lakmas, 2016). High trading volume activity indicates that the stock is actively traded (Ngene and Mungai, 2022b). High trading volume in large-cap companies can actually reduce return volatility. This is because high liquidity makes stock prices more stable and less likely to fluctuate due to large transactions. In addition, big cap stocks are generally marketed by many institutional investors, so information is quickly reflected in prices and reduces government. With an efficient market and a strong investor base, stock returns tend to be more stable despite high volumes.

Research conducted by Koubaa and Slim (2019) found that an increase in trading volume activity will reduce return volatility in companies with large market cap. This research is in line with research conducted by Ngene and Mungai (2022) which found a negative effect of trading volume activity on stock return volatility.

H1: Trading volume activity has a negative effect on stock return volatility

2.3 Earnings Quality on Stock Return Volatility

Signaling theory is based on information asymmetry between individuals and organizations, investors and management, where certain parties act to provide signals about certain situations to reduce asymmetry caused by social selection problems under conditions of imperfect information (Connelly et al., 2011). This means that signaling is carried out by management to reduce asymmetric information, where one of the signals

is in the form of corporate earnings disclosure. Investors usually use various analytical ratios to determine the company's past, present, and future capabilities using this earnings information. Earnings quality has various definitions in the literature, and there is no consensus on it (Khajavi and Nazemi, 2011). Earnings are said to be of low or poor quality when accounting procedures produce unsustainable earnings. According to (Gissel et al., 2005), earnings quality is the capacity of profits to fairly represent the company's earnings in order to aid in the prediction of future earnings by accounting for earnings stability and persistence. Earnings information is used by analysts using various analytical ratios to determine the company's previous, current and future capabilities. Earnings information disclosed by the company will affect investors' investment decisions (Aboody et al., 2005). High earnings quality indicates that the company's financial performance is good, and earnings can accurately reflect the continuation of future earnings because the resulting earnings are higher or equal to the planned earnings. Companies with high earnings quality are considered more transparent in disclosing financial and operational information to investors. This information transparency will decrease stock return volatility.

Research conducted by Mitra (2016) found that high earnings quality will cause low stock return volatility because companies are considered to be able to disclose information about earnings quality where earnings quality can reflect good future cash flows. This research is in line with Rajgopal and Venkatachalam (2011) who found that earnings quality has a negative effect on stock return volatility.

H2a: Positive earnings quality has a negative effect on stock return volatility

H2b: Negative earnings quality has a positive effect on stock return volatility

2.4 Media exposure, trading volume activity and stock return volatility

Signaling theory explains the relationship in providing information by companies to investor responses that can affect investment decisions (Spence, 1973). Information that contains positive values can predict that the market will react positively. However, if the information contains negative values, it can be predicted that the market will react negatively. It takes time for all market participants to determine whether the information is a positive or negative signal after it is published. One information used is media exposure (Gu and Kurov, 2020). Media exposure is the perception and interpretation of the company's image that continues to be communicated so that it becomes the basis for a total assessment of the company's stakeholder attributes (Serrat, 2011). The existence of media exposure is an external attribute of the company that can affect the public's view of the company's commitment. Disclosure by the media can improve the company's reputation or image in the public eye. The role of media exposure in shaping expectations for risk and return is being studied. It's a common misconception among investors that reputable companies—that is, those with high reputation ratings—provide attractive investment prospects (Shefrin and Belotti, 2001). Market participants are largely concerned about media exposure, concluding that firms with a relatively good reputation through the role of the media are better able to maintain superior returns over time (Roberts and Dowling 2002). Helm (2007) claims that, particularly for developing markets like Indonesia, reputation plays a significant role in market-based risk. Companies that want to be recognized by the public are companies that are able to have space to meet the needs of the community and are able to communicate to their investors effectively. Most market actors pay attention to corporate reputation, and conclude that entities with a relatively good reputation through the media show a greater ability to

uphold superior earnings performance (Roberts and Dowling, 2002). Companies that have a good reputation in the media are also considered more reliable and solid (Bravo, 2016). Corporate reputation can reduce market risk (Fernández-Gámez et al., 2016). This is in accordance with research conducted by (Gu and Kurov, 2020), which states that companies with a good reputation and published in the media can signal to investors that management has disclosed financial reports honestly so that this will be able to reduce financial risk and control prices in the market. As a result, this media exposure will reduce stock return volatility, indicating that media exposure will be able to reduce the negative effect of trading volume activity on stock return volatility.

H3: Media exposure strengthen the negative effect of trading volume activity on stock return volatility

2.5 Media exposure, earnings quality, and stock return volatility

Signaling theory explains the relationship in the provision of information by companies to investor responses that can affect investment decisions (Spence, 1973). The market will react positively if the information contains positive value. Conversely, if the information has a negative value, it is predicted that the market will react negatively. It takes time for all market participants to determine whether the information is a positive or negative signal after it is published. One information used is media exposure (Bravo, 2016). Media exposure is the perception and interpretation of the company's image that continues to be communicated so that it becomes the basis for a total assessment of the company's stakeholder attributes (Serrat, 2011). The existence of media exposure is an external attribute of the company that can affect the public's view of the company's commitment. Public perception of the firm can be positively impacted by media disclosure. The role of media exposure in shaping expectations for risk and return is being studied. Investors frequently believe that reputable firms, or those with high reputation ratings, are the source of attractive investment prospects (Shefrin and Belotti, 2001). Market participants are largely concerned about media exposure, concluding that firms with a relatively good reputation through the role of the media are better able to maintain superior returns over time (Roberts and Dowling 2002). According to Helm (2007), reputation plays a significant role in market-based risk, particularly in developing nations like Indonesia. Companies that want to be recognized by the public are companies that are able to have space to meet the needs of the community and are able to communicate to their investors effectively. Most market participants pay attention to corporate reputation, and conclude that entities with a relatively good reputation through the media show a greater ability to uphold superior earnings performance (Roberts and Dowling, 2002). Companies that have a good reputation in the media are also considered more reliable and solid (Bravo, 2016). Corporate reputation can reduce market risk (Fernández-Gámez et al., 2016). This is in accordance with research conducted by Gu and Kurov (2020), which states that companies with a good reputation and published in the media can signal to investors that management has disclosed financial reports honestly so that this will be able to reduce financial risk and control prices in the market. As a result, this media exposure will reduce the volatility of stock returns. Thus, media exposure will be able to strengthen the negative effect of positive earnings quality and weaken the positive effect of negative earnings quality on stock return volatility.

H4a: Media exposure strengthens the negative effect of positive earnings quality on stock returns volatility

H4b: Media exposure weakens the positive effect of negative earnings quality on stock returns volatility

3. Methods

The data source used in this study was secondary data. The data used were 129 data samples of consumer cyclicals companies listed on the Indonesia Stock Exchange (IDX) for the period 2020 – 2022. The research year was chosen because it was a pandemic year where return fluctuations were occurring at their peak. The analysis technique was panel data regression with moderation. In order to test the effect on return volatility, the authors estimated the following equation to test the hypothesis:

1) Model 1 (Positive Earnings):

$$SRV_{it} = a + b1TVA_{it} + b2EQ_{it} + b3MED + b4TVA * MED_{it} + b5EQ * MED_{it} + b6ROA_{it} + b7SIZE_{it} + b8DAR_{it} + e$$

2) Model 2 (Negative Earnings):

$$SRV_{it} = a + b1TVA_{it} + b2EQ_{it} + b3MED + b4TVA * MED_{it} + b5EQ * MED_{it} + b6ROA_{it} + b7SIZE_{it} + b8DAR_{it} + e$$

Table 1. Measurement Variable

Variable	Variable Measurement	Scale	References
Dependent Variable Return Volatility	$\sqrt{\frac{1}{n-1} \sum_{t=1}^n (\text{Return} - \text{Mean})^2}$	Ratio	Naufa et al. (2019)
Independent Variable Trading Volume Activity Earnings Quality	$TVA = \frac{\text{shares trades}}{\text{shares outstanding}}$ $EQ = \frac{\text{Operating Cash Flow}}{\text{Net Income}}$	Ratio	Elfira et al. (2021) Penman and Zhang (1999)
Moderating Variable Media Exposure	The sum of positive, negative and neutral news. Positive news is scored 1, negative news is scored -1 and neutral news is scored 0	Nominal	Gu and Kurov (2020)
Control Variable Size Leverage Return On Asset	$\text{Size} = \ln \text{Total Aset.}$ $\text{Leverage} = \frac{\text{Total Debt}}{\text{Total Asset}}$ $ROA = \frac{\text{Net Income}}{\text{Total Asset}} \times 100$	Ratio	Badruzaman, (2020); Cosset et al. (2016); Vo (2015)

4. Results and Discussion

4.1 Statistic Descriptive

Table 2. Statistic Descriptive Analysis

	SRV	VA	EQ	MED	SIZE	ROA (%)	DAR
Mean	0.434977	0.049002	-0.060857	0.016529	28.59343	6.733678	0.406087
Maximum	1.945452	0.693447	13.75150	4.000000	34.03571	25.44475	1.001674
Minimum	0.056112	0.000004	-30.32633	-3.000000	24.84368	-8.36474	0.001453
Std. Dev.	0.357892	0.118460	5.922269	1.612366	1.753355	7.350806	0.208780

Source: E-views processed results

Based on Table 2, the following conclusions can be drawn. The average value of return volatility, trading volume activity, earnings quality and media shows an average of 0.434977; 0.049002; -0.060857; 0.016529. Furthermore, the average value of SIZE is 28.59343 which is indicated by the mean value of SIZE. The average asset growth used in this study is the natural logarithm of the company's total assets. Then the mean leverage value proxied by the debt to total asset ratio shows a value less than 1, which is 0.406087.

A debt to asset ratio value of less than 1 indicates that assets are greater than liabilities. In other words, the company's assets are funded by equity, not debt. In this study, the average company is still able to generate profits using existing total assets. This is indicated by the positive mean ROA value of 6,733%.

Table 3. Variance Inflation Factor

Variable	VIF	1/VIF
EQ	1.078	0.928
TVA	1.060	0.943
MEDIA	1.351	0.740
EQ_MED	1.140	0.877
TVA_MED	1.317	0.759
ROA	1.102	0.907
DAR	1.037	0.965
SIZE	1.066	0.938

Source: E-views processed results

There was also a multicollinearity test performed to estimate VIF and tolerance. There was no multicollinearity among independent variables, as can be seen in Table 3. The VIF values all lower than 10 and the tolerances values (1/VIF) all greater than 0.1 indicated without multicollinearity (Bager et al., 2017).

Second, to examine the influence of the primary variables, panel data were used. We began the testing by choosing the model via chow test, Hausman test, LM Lagrange test. Testing Results suggests the random effect model is a more appropriate model to examine the trading volume activity, earnings quality, media as well as to test them as moderating variables on the stock return volatility. We will also partition the earnings quality with negative and positive earnings to eliminate bias. The results of the regression are presented in Table 4 below.

Table 4. Hypothesis Test

Variables	Positive Earnings	Negative Earnings
TVA	1.13	-0.86
EQ	-4.21***	2.57**
MEDIA	-0.32	0.95
TVA*MEDIA	-0.77	-0.97
EQ*MEDIA	0.47	1.71*
ROA	-0.86	0.57
SIZE	3.68***	-3.26***
DAR	-0.25	-2.76***
Prob. F Statistic	0.0000	0,0388

Notes: ***, **, * signs indicate the significance of the variables at 1%, 5%, and 10%

Source: E-views processed results

Table 4 shows the regression results that the variable trading volume activity (TVA) does not significantly impact stock return volatility for the two cases of profit i.e positive profit companies (coefficient = 1.13) and negative profit companies (coefficient = -0.86). This implies that trading volume activity fails to provide a significant enough signal for investors to change their stock return volatility strategies. Therefore, H1 is not supported. Furthermore, Gu and Kurov (2020) argue rational investors will also attend to other information besides the company's trading volume. TVA is also thought to be motivated by speculative trading which does not reflect the fundamental position of the company

(Chiang et al, 2017). Within the premise of signal theory, while companies provide information to the market, investors need time to analyze whether the information is favorable or unfavorable (Rajgopal and Venkatachalam, 2011). This insignificant result is also due to the trading volume activity being influenced by the market cap size. If the market cap is large, volatility tends to be low and trading volume activity is high, whereas if the market cap is small, volatility tends to be high and trading volume activity tends to be high. On the contrary, the Earnings Quality (EQ) variable impacts stock return volatility significantly. Within firms where profits are positive, EQ has a statistically significant negative coefficient of -4.21^{***} , while in companies with negative profits, the coefficient is significantly positive of 2.57^{**} . This indicates that high earnings quality can reduce return volatility when the company is in good condition (positive profits), but increase volatility when the company makes a loss. This means that investors are more responsive to earnings information in unstable conditions. These results support hypothesis H2a dan H2b and are in line with Srivastava's (2014) research, which states that high earnings quality increases information transparency and investor sensitivity to changes in company conditions.

Furthermore, testing the interaction between TVA and MEDIA (TVA*MEDIA) shows no significant effect on return volatility, either in companies with positive (coefficient = -0.77) or negative (coefficient = -0.97) profits. This shows that the media is unable to strengthen the influence of trading volume activity on stock return volatility. Thus, hypothesis H3 is not supported. This is in line with the view of Gu and Kurov (2020) who stated that investors do not always trust the content of media reports because they may contain opinions, biases, or unverified information. The interaction between EQ and MEDIA (EQ*MEDIA) is only limitedly significant in companies with negative earnings (coefficient = 1.71), but is not significant in positive earnings (coefficient = 0.47). This suggests that the media may only have a weak and inconsistent moderating role in strengthening the influence of earnings quality on stock return volatility. Therefore, hypothesis H4a and H4b is also not supported. The media is considered to have only a temporary impact, and in the long term investors still consider the company's fundamental analysis more (Gu and Kurov, 2020).

5. Conclusion

We focus on examining the connections of the media exposure and two variables that modulate the effect of trading volume activity as well as earnings quality on stock return volatility. For testing purposes, the authors fetched sample data from businesses in the consumer cyclical sector listed on the Indonesia Stock Exchange from 2020 to 2022. It was found that earnings quality that records positive earnings has a negative effect on stock return volatility which indicates the greater the earnings quality, the lesser the volatility. Yet, in firms with negative earnings, the volatility increases. This indicates that amidst poorly performing financials, investors become more reactive to earnings information. Moreover, the impact of trading volume activity and media on earnings quality and stock return volatility has been shown to not depend on the trading volume activity variable.

Additionally, our study offers a number of implications, particularly for regulators, corporate managers, and investors. Investors should exercise greater caution when choosing company stocks, taking into account increased volatility when the quality of earnings declines from positive earnings. Because it lessens information asymmetry and aids investors in understanding the factors influencing stock return volatility, improving the caliber and transparency of financial reporting is crucial for corporate managers,

particularly those working with small businesses. To increase transparency and information quality, capital market regulators are anticipated to think about tightening rules and financial reporting requirements for small businesses. Further research is also expected to examine additional moderating variables, such as market efficiency characteristics, business ownership structure, or macroeconomic factors which may affect the relationship between earnings quality, trading volatility, and stock return volatility.

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