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THE EFFECT OF XBRL ADOPTION, DISCLOSURE QUALITY, FIRM SIZE, AND STOCK TRADING VOLUME ON INFORMATION ASYMMETRY

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ABSTRACT

This study investigates the impact of XBRL adoption, disclosure quality, firm size, and stock trading volume on information asymmetry. The research employs purposive sampling on 24 companies listed in the LQ45 index on the IDX from 2017 to 2020. Using quantitative methods and multiple linear regression models, the study finds that XBRL adoption and disclosure quality significantly affect information asymmetry, while firm size and stock trading volume do not. These findings highlight the critical role of technological adoption and transparency in reducing informational disparities in capital markets

Keywords: *Information Asymmetry, XBRL, Disclosure Quality, Firm Size, Stock Trading Volume*

1. INTRODUCTION

Information asymmetry is a fundamental concept in economics, but it is challenging because private information is generally not observable (1). Information asymmetry occurs when the information from one party to another is different so that one party gets more and better information than other interested parties (2). The company report should contain information that explains the company's situation without being covered up. This is because the report has a significant role. Information asymmetry causes the capital market to be inefficient.

Information asymmetry in the market between management and market participants impacts the uncertainty of the information provided and the emergence of potential information manipulation (3). Shareholders will not have sufficient information sources to access relevant information to monitor management actions. When information asymmetry increases, this provides an opportunity for managers to present incorrect information (4).

Disclosure of good-quality information is useful in assisting the market in reducing the level of information asymmetry that occurs between company managers and investors. Good and increasing disclosure quality can help to reduce information asymmetry (5). The quality of information disclosure is poor, reflecting that information has the potential to be manipulated by management and the reduced benefits of information, resulting in increased information asymmetry (3).

XBRL (eXtensible Business Reporting Language) was created to assist in presenting financial reports in an electronic format that has been standardized in general, which will not change the information and only change how the information is reported (6). Applying XBRL can solve problems with financial reporting, especially in disclosing more transparent company information. According to (7). XBRL is one of the standard methods for preparing, publishing, and exchanging information on business and finance, increasing transparency and accessibility.

Information asymmetry tends to occur in smaller companies because companies still cannot distribute information better than larger ones. This can happen because a larger company size will make disseminating information easier and get more attention from investors. Smaller company

sizes tend to be riskier because they have more severe information asymmetry problems, so investment interest is reduced (8). Therefore, larger companies will trade their shares more actively in the capital market than smaller ones. Companies with a larger size will tend to be more initiative in disclosing transparent information to be able to meet the expectations of investors in the capital market (9).

Market participants who still lack information tend not to carry out stock trading activities and will start these activities when the information asymmetry has been resolved, which will result in a decrease in stock trading volume until the information asymmetry is resolved (10). The increasing volume of stock trading shows that the company has reduced the information asymmetry between it and investors.

2. LITERATUR REVIEW

2.1 XBRL Adoption on Information Asymmetry

XBRL provides companies with convenience when presenting financial reports using a reporting format. It can also improve the use of information, facilitate comparability and consistency, and offer technological capabilities for near-continuous financial reporting over the Web (11). XBRL can increase efficiency, reliability, and accuracy in conducting financial reporting (12).

Information users will see the company's financial statements as more transparent and provide higher-quality financial information for companies that adopt XBRL (13). Transparent information is very important in the market because investors can make more informed investment decisions. The adoption of XBRL can assist companies in presenting more transparent information to reduce information asymmetry between companies and external parties.

Research by (12) A significant negative relationship exists between XBRL adoption and information asymmetry in the Korean capital market. Research by (14) states that the initial implementation of XBRL in China can significantly strengthen the quality of company information, thereby reducing information asymmetry in the Chinese capital market. However, it differs from the research results of (15), which state that information asymmetry increases after adopting XBRL and has a positive relationship with the relative spread. Based on this description, the hypotheses formulated are:

H_1: XBRL adoption has a negative effect on information asymmetry.

2.2 Disclosure Quality on Information Asymmetry

Disclosure of high-quality information will reflect quality company information. High-quality disclosures will make the capital market more attractive to investors who lack company information (16). Investors will prefer quality information because they believe that the information provided reflects the performance of companies that can manage capital well. Well-disclosed information will provide the entire company with information without anything being covered up.

Companies with quality disclosures will assist report users in obtaining the right sources of information as a basis for decision-making (17). In addition, the disclosure of high-quality information will minimize the potential for fraud, such as information manipulation. Investors' decisions are not appropriate because there is information asymmetry, where not all company information is obtained by investors. So, high-quality disclosure will help convey transparent information to reduce information asymmetry.

Research (16) shows that the quality of disclosure that is expanded and enhanced will reduce information asymmetry. Other studies from (18) and (19) there was a significant negative relationship between disclosure quality and information asymmetry. However, in another study (20). The results stated that there was no effect on the quality of disclosure with information asymmetry and research (21) stated that there was a positive influence between the disclosure quality and information asymmetry. Based on this description, the hypotheses formulated are:

H_2: Disclosure quality has a negative effect on information asymmetry.

2.3 Firm Size on Information Asymmetry

Large companies tend to be more attracted by investors than small companies. Large companies tend to be more careful in conveying information to investors because they are responsible for maintaining relationships with investors. Large operations mean significant capital is needed to run

its operations; therefore, the company is responsible for disclosing quality information (17). Large companies have broader interests than smaller companies, so the information provided should be better than that of smaller companies. Companies with large sizes do not have a strong incentive to practice information manipulation because companies are seen as more critical by investors, so they are under pressure to present credible financial statements (22).

Companies can provide transparent and relevant information to reduce information asymmetry. However, smaller companies tend to think of ways to attract investors and obtain large capital for operational activities. Then, smaller companies have the potential to commit fraud, such as manipulating information by providing good information. This will trigger the occurrence of information asymmetry, in which the delivery of information is not overall and increases information uncertainty.

The research (23) stated that a significant negative relationship exists between firm measurement and information asymmetry. However, it is different from (17) Research shows that firm size has a significant positive effect on information asymmetry, with an increase in information asymmetry in larger company sizes. Based on this description, the hypotheses formulated are:
H_3: Firm size has a negative effect on information asymmetry.

2.4 Trading Volume Activity on Information Asymmetry

Quality information will attract investors to invest in the company because it is believed that the company can manage funds well and get a high capital return. This can increase investor interest in investing and increase stock trading volume. So, investors tend to want quality and transparent information to support decision-making with all the information without anything being covered up. High trading volume will reflect a liquid company, and investors will be very interested in this, so companies must provide relevant information with reduced information asymmetry.

When quantity and price increase, investors perceive the business well, and information asymmetry decreases (15). If information asymmetry decreases, buying and selling intentions tend to increase, so trading volume increases (12). Stocks with high trading activity will have more liquidity, investors who have less information will be more interested, and increase in the possibility that important information can be reflected in stock prices (12).

The research of (15) stated that trading activity has a negative relationship with information asymmetry. The research of (24) states that there is an insignificant positive effect on stock trading volume with information asymmetry. Based on this description, the hypotheses formulated are:
H_4: Trading volume activity has a negative effect on information asymmetry.

3. RESEARCH METHODOLOGY

The sample of this research is 24 companies that have been listed in LQ45 on the IDX from 2017 – 2020. The sample collection in the research was a purposive sampling technique. Data analysis was done using quantitative methods with multiple linear regression analysis, sources of research data using secondary data obtained from the IDX website and each company's website. The independent variables of this research are XBRL adoption, disclosure quality, firm size, and stock trading volume. The dependent variable of this research is information asymmetry.

This study examines the effect of companies adopting XBRL, disclosure quality, firm size, and stock trading volume on information asymmetry. The research framework is shown in Figure 1.

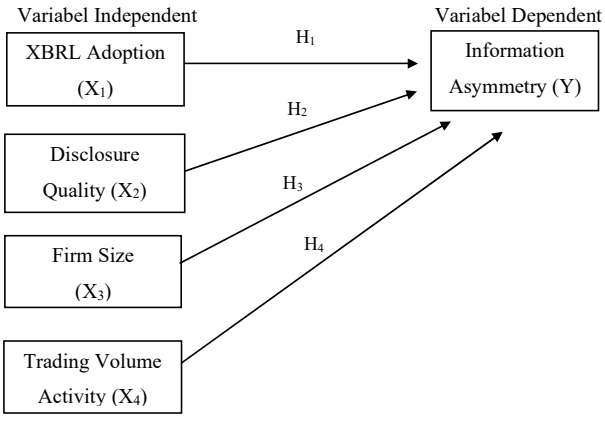

Figure 1 Research Framework

Multiple linear regression model equations are as follows (1)

$$Spread = \beta_0 + \beta_1 XBRL_{it} + \beta_2 Disc_{it} + \beta_3 Size_{it} + \beta_4 TVA_{it} + \varepsilon_{it} \quad (1)$$

Where:
β_0 = intercept or constanta
$\beta_1 - \beta_4$ = regression coefficient
$Spread_{it}$ = Bid-Ask Spread
$XBRL_{it}$ = XBRL Adoption
$Disc_{it}$ = Disclosure Quality
$Size_{it}$ = Firm Size
TVA_{it} = Trading Volume Activity
ε_{it} = Error

Information asymmetry cannot be observed directly, so the measurement is carried out using the bid-ask spread (12). The measurement using the bid-ask spread is the difference between the total selling price (ask price) and the buying price (bid price) for shares in the capital market. In market activity, getting better information or decreasing information asymmetry will affect market interest in showing rising stock prices. The bid-ask spread is measured based on equation (2)

$$Spread = \frac{Ask\ Price - Bid\ Price}{\left(\frac{Ask\ Price + Bid\ Price}{2}\right)} \times 100\% \quad (2)$$

Where:
Spread = Information asymmetry
Ask Price = The highest ask price
Bid Price = The lowest bid price

XBRL adoption was measured using the Internet Financial Reporting (IFR) index (25). Through the IFR index, we can find out more specifically about XBRL in providing increased quality of information so that a good index will reduce information asymmetry (26). IFR index is measured based on equation (3)

$$IFR = (IFR\text{-}AR) + (IFR\text{-}OI) \quad (3)$$

Where:
IFR = Internet Financial Reporting
IFR-AR = Total score from Annual Report
IFR-OI = Total score from Other Information

Disclosure quality was measured using the disclosure index (27). The index compares the items disclosed by companies by comparing the corresponding times in Bapepam No. SE-02/PM/2002. Disclosure index is measured based on equation (4)

$$DISC_t = \frac{\Sigma Qit}{N} \quad (4)$$

Where:
$DISC_t$ = Total company disclosure
ΣQit = Total item disclosure made by the company
N = Total of all items that should be done

Firm size was measured using total assets (15). The total of assets owned by the company will show the size of the company. The value of total assets is a very large number, so assisting in the measurement will be facilitated by using natural logarithms so that the data has a range that will not be too far away. Firm size is measured based on equation (5)

$$Size = \ln Total\ Assets \quad (5)$$

Stock trading volume was measured using trading volume activity (15). The movement of selling and buying shares depends on the demand and supply of investors in the capital market. Stock movements will follow an active market with stock trading in the capital market. Trading volume activity is measured based on equation (6)

$$TVA = \frac{\Sigma\ shares\ i\ traded\ at\ time\ t}{\Sigma\ shares\ i\ outstanding\ at\ time\ t} \quad (6)$$

Where:
TVA = Trading Volume Activity
i = Company name
t = Period

4. RESULT

From table 1, the descriptive statistical analysis results, column N explains that there are 96 samples. The variable of XBRL adoption indicates that the minimum value is 3, the maximum value is 7, the mean value is 5, and the standard deviation is 0.85840. The variable of disclosure quality indicates that the minimum value is 0.56, the maximum value is 0.82, the mean value is 0.7135, and the standard deviation is 0.06704. The firm size variable indicates that the minimum value is 29.31, the maximum value is 34.95, the mean value is 32.0177, and the standard deviation is 1.49695. The variable of stock trading volume indicates that the minimum value is 0.04, the maximum value is 5.83, the mean value is 0.5605, and the standard deviation is 0.76857. The variable of information asymmetry indicates that the minimum value is

0.03, the maximum value is 3.96, the mean value is 0.4023, and the standard deviation is 0.43953.

Table 1 Descriptive Statistic

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
XBRL	96	3.00	7.00	5.0000	.85840
DISC	96	.56	.82	.7135	.06704
SIZE	96	29.31	34.95	32.0177	1.49695
TVA	96	.04	5.83	.5606	.76857
SPREAD	96	.03	3.96	.4023	.43953
Valid N (listwise)	96				

The result of the F test in table 2 shows that the significance value is 0.046, which is less than 0.05. This means that in this regression model, all independent variables affect the dependent variable.

Table 2 F test result

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.453	4	1.363	2.534	.046[b]
	Residual	48.959	91	.538		
	Total	54.412	95			

a. Dependent Variable: SPREAD
b. Predictors: (Constant), XBRL, DISC, SIZE, TVA

Table 3 Multiple Regression Result

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.719	1.818		-.396	.693
	XBRL	-1.008	.437	-.239	-2.309	.023
	DISC	2.430	.968	.312	2.511	.014
	SIZE	.062	.061	.123	1.018	.312
	TVA	.033	.080	.042	.418	.677

a. Dependent Variable: SPREAD

From the results of the multiple linear regression analysis that has been carried out in Table 3, the values in the Unstandardized Coefficients column B obtain the following equation (7)

$$Y = -0.719 - 1.008X_1 + 2.430X_2 + 0.062X_3 \quad (7)$$

Hypothesis 1 Test Result

Based on the results of multiple linear regression analysis, the significant value of the XBRL variable is 0.023, which is smaller than 0.05, meaning that the adoption of XBRL has a significant effect on information asymmetry. The t calculation is -2.309, which is smaller than the t-table's -1.98638, meaning that the adoption of XBRL has a negative effect on information asymmetry. So, it can be concluded that hypothesis one is accepted, meaning that the adoption of XBRL has a significant negative effect on information asymmetry.

Hypothesis 2 Test Result

Based on the results of multiple linear regression analysis, the significant value of the DISC variable is 0.014, which is smaller than 0.05, meaning that the disclosure quality significantly affects information asymmetry. The t calculation is 2.511, which is greater than the t-table's 1.98638, meaning that the disclosure quality has a positive effect on information asymmetry. So, it can be concluded that hypothesis one is rejected because the disclosure quality has a significant positive effect on information asymmetry.

Hypothesis 3 Test Result

Based on the multiple linear regression analysis, the significant value of the SIZE variable is 0.312, which is greater than 0.05. The t calculation is 1.018, which is greater than the t-table's -1.98638 and smaller than the t-table's 1.98638. These results mean that firm size has no effect on information asymmetry. So, it can be concluded that hypothesis one is rejected because firm size has no significant effect on information asymmetry.

Hypothesis 4 Test Result

Based on the multiple linear regression analysis, the significant value of the TVA variable is 0.677, which is greater than 0.05. The t calculation is 0.418, more significant than the t-table, -1.98638, and smaller than the t-table, 1.98638. These results mean that stock trading volume does not affect information asymmetry. So, it can be concluded that hypothesis one is rejected because the stock trading volume has no significant effect on information asymmetry.

5. DISCUSSION

The findings of this study provide valuable insights into the role of XBRL adoption and disclosure practices in mitigating information asymmetry. The significant negative effect of

XBRL adoption on asymmetry aligns with prior research and highlights the value of structured, machine-readable financial data in enhancing market transparency. This result underlines the necessity for firms to adopt digital reporting standards, especially in markets with diverse stakeholders.

However, the unexpected positive relationship between disclosure quality and information asymmetry invites further scrutiny. This result might stem from inconsistencies in how disclosure quality is implemented or perceived across different firms. For instance, overly complex or voluminous disclosures could obscure critical information, leading to increased asymmetry. This highlights the importance of the quantity, quality, and clarity of disclosed information. Future studies could explore how investors' understanding of disclosures mediates this relationship.

The lack of significant effects from firm size and trading volume further complicates the narrative. It suggests that while larger firms and higher trading volumes are often associated with better information dissemination, these factors alone may not suffice to reduce asymmetry. Contextual factors such as industry type, regulatory environment, and the sophistication of market participants could play moderating roles. For example, firms in highly regulated industries might exhibit lower asymmetry irrespective of size or trading volume. These findings call for a more nuanced exploration of how firm-specific and market-wide variables interact to influence asymmetry.

Furthermore, the study's results emphasize the dynamic interplay between technological adoption and regulatory frameworks. While XBRL enhances data accessibility, its full potential can only be realized with complementary practices such as standardized disclosure requirements and active oversight by regulatory bodies. Educating investors and market participants about the utility of XBRL could also bridge gaps in its practical application.

6. CONCLUSION

This study reinforces the pivotal role of XBRL adoption in mitigating information asymmetry by improving the accessibility and reliability of financial data. XBRL adoption emerges as a key technological advancement that can significantly reduce asymmetry, supporting market efficiency and informed decision-making. Firms that adopt XBRL not only align themselves with global reporting standards but also enhance their appeal to investors by providing structured, transparent data.

The unexpected positive correlation between disclosure quality and information asymmetry underscores the complexity of financial reporting practices. This finding suggests the need for clearer guidelines and standards to ensure that disclosures effectively communicate critical information without overburdening stakeholders with unnecessary complexity. It also highlights the importance of training and educating both preparers and users of financial statements to interpret disclosures accurately.

The insignificance of firm size and trading volume indicates that these variables might interact with other factors that were not captured in this study. For instance, differences in industry practices, regulatory environments, and firm-specific characteristics might play a role. Future research could delve deeper into these interactions, using longitudinal studies or cross-industry comparisons to uncover broader patterns.

Policymakers and regulators are encouraged to support the widespread adoption of XBRL and develop frameworks that promote high-quality, effective disclosures. This includes providing incentives for firms to adopt digital reporting tools and fostering an ecosystem where market participants are educated on how to leverage these tools for better decision-making.

The findings of this study contribute to the ongoing discourse on financial transparency and information asymmetry, highlighting both the progress made and the challenges that remain. By addressing these challenges through collaborative efforts among firms, regulators, and market participants, the potential for genuinely transparent and efficient capital markets can be realized.

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