

THE XBRL TECHNOLOGY AND MARKET EFFICIENCY IN BANKING COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE (IDX)

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Abstract

The problem in this research is the need for fast and accurate information in the format of the presentation of financial statements resulting in the distribution of information, and data management can be problematic. Therefore, a format for financial reporting systems, namely Extensible Business Reporting Language (XBRL), was formed. The purpose of this study was to determine the effect of XBRL technology, stock prices, Return on Assets (ROA), and institutional ownership on market efficiency (information asymmetry and stock trading volume). The population and sample of this study are banking companies listed on the Indonesia Stock Exchange from 2015-2016. The sampling method using a purposive sampling method and obtained a sample of 42 companies. Data collection techniques are carried out by taking data from the Indonesia Stock Exchange website (www.idx.co.id) and the site <http://finance.yahoo.com>. Data were analyzed with multiple regression tests after being declared normal with the normality test and though using SPSS 20. The results of this study simultaneously stated that XBRL technology, stock prices, ROA, and institutional ownership together have an influence on information asymmetry and stock trading volume. From the results of the study, it can be concluded that XBRL technology, stock prices, ROA, and institutional ownership cause a decrease in the level of information asymmetry and trading volume. This result also states that the company is in excellent condition when the value of information asymmetry decreases, but it is not good when the trading volume of its shares also decreases.

Keywords: XBRL Technology; Stock Prices; Market Efficiency; Information Asymmetry; Stock Trading Volume.

1. INTRODUCTION

The more time is developing, the more rapid the development of technology. The development of technology provides a change in the way of society and business processes of a company because technology is one of the environmental factors in the company, including how the use of technology in the company's financial statements. The development of technology, especially information technology, is marked by the increasing number of internet users in Indonesia. Financial Statements, according to SFAS No.1 of 2017, Is a structured presentation of the financial position and financial performance of an entity. The purpose of financial statements is to provide information about the financial position, financial performance, and cash flow of the entity that is useful for most users of the report in making economic decisions. In presenting financial statements, companies are often faced with two main problems, namely in the distribution of information and data management processes. In terms of information distribution, the diverse user needs, especially those related to the format of financial statement presentation, require companies to present financial reports in more than one format, while in the data management process, data integration and system compatibility are common problems. This is what drives the need for an accounting information system with a uniform financial reporting format and can be accepted by various countries.

For the uniformity of the financial statements, a financial reporting format based on Extensible Business Reporting Language (XBRL) was made. The application of XBRL is able to provide solutions to several problems of the financial reporting system, such as data validation manually, as well as the conversion and extracting large amounts of data. Using a financial reporting system based on XBRL can change the way businesses about providing information to users of financial information make data analysis easier so that accounting information reaching users of financial statements can be more relevant and benefit their users to make more informed decisions (Wizni, 2017). XBRL technology is computer language technology that provides a standard for computers to exchange and process financial data with no human intervention. Proponents of XBRL argue that this automation enables faster use of time, lower costs, and a more accurate process of reporting financial data in submitting financial reports to the Stock Exchange or BEI (Indonesia) or SEC (America) (United States) (SEC) (Hodge, Kennedy, and SEC) Maines 2004; SEC, 2009). The SEC believes that XBRL will improve the efficiency of archiving arrangements and the use of data in archiving (SEC 2009), which will ultimately streamline the dissemination of financial information reported in filing the SEC to the capital market (Gray and Miller 2009) in Cong, Hao, and Zou. 2014. In other words, XBRL aims to

reduce the various risks of accepting financial data/information, increase efficiency, be able to meet the interests of shareholders and the capital market, and increase timeliness to access and use the information contained in archiving quickly and accurately. (Cong et al., 2014).

Two indicators used to look at market efficiency are shown in individual events: namely information asymmetry and trading volume. Information asymmetry measured by the impact of prices or bid-ask spreads captures the compensation needed by market makers to cover adverse selection risks. In a theoretical model, disclosure of general information is considered to have been observed by all market participants. Therefore, the disclosure reduces the incentives of market participants to collect personal information in this paradigm. Information asymmetry is expected to decrease after public information disclosure. Decreasing information asymmetry, in turn, decreases adverse selection costs and thus increases trading volume (Cong et al., 2014).

2. LITERATURE REVIEW

Information Asymmetry

Information asymmetry is a condition in which managers (agents) have more information on the company's prospects compared to the shareholders (principal). Agency theory emphasizes the importance of company owners (principals), leaving company management to professionals (agents) who better understand and understand how to run a business. This condition causes an imbalance of information (information asymmetry) between managers (agents) and shareholders (principal) (Rahmah and Sembiring 2014).

When information asymmetry is high, shareholders do not have sufficient, intensive resources, or access to relevant information to monitor managers' actions, which provides an opportunity for earnings management practices. The existence of this information asymmetry will encourage managers to present information that is not true, especially if the information is related to manager performance measurement (Halim et al., 2005).

Bid Ask Spread Theory

According to Halim (2000) in Ratnasari and Astuti (2014), the bid-ask spread is the highest price difference that a trader is willing to buy for a stock with the lowest selling price that a trader is willing to sell for the stock. In a stock transaction, the bid shows the price proposed by the party who will buy the shares, while ask shows the price offered by the party who will sell the stock. A transaction has not occurred if there is a difference between the bid and ask (Darmadji and Fakhruddin, 2001). Bid-ask spread is a factor considered by investors to decide whether to hold or sell shares.

Stock Trading Volume

Trading volume is an instrument that can be used to see capital market reactions to information through the parameters of the volume of shares traded on the market (Sutrisno: 2000). According to Jogiyanto (2008), the volume of stock trading is the number of shares traded daily. The trading volume of shares is the number of shares traded in a certain period. Stock trading volume is the sum of every transaction that occurs on the stock exchange at a specific time of a particular stock. Trading volume is also one of the factors that influence stock movements. According to Ambarwati (2008), trading volume is defined as the number of shares traded on a particular day. The large trading volume shows an active stock, which means that investors are favoring it. Disclosure theory states that trading volumes increase in a short window after public disclosure (Cong et al. 2014).

Market Efficiency

In general, market efficiency is defined by Beaver (1989) in Jogiyanto (2008) as the relationship between the prices of securities and information. Jogiyanto (2008) states the shape of the market can be reviewed in terms of the availability of information only or can be seen not only from the availability of information but also from the sophistication of market participants in decision making based on an analysis of available information. Efficient markets that are viewed from an information standpoint are only called informationally efficient markets, whereas efficient markets that are viewed from market players in making decisions based on available information are called efficient decisional markets.

Blankespoor et al. (2011), things that affect market efficiency are information asymmetry and stock trading volume. An increase in information asymmetry by using bid-ask spreads and decreasing stock trading volume, which might indicate a reduction in market efficiency. In contrast to the opinion of Gray and Miller 2009; Hodge et al. (2004) in Cong et al. (2014) that affect market efficiency is the effectiveness of information dissemination.

Extensible Business Reporting Language (XBRL)

Extensible Business Reporting Language (XBRL) is an XML language created specifically for business purposes. Charles Hoffman introduced XBRL in 1998 in Prime (2011). The basic idea of XBRL development is to overcome interoperability constraints between platforms and speed in the distribution and duplication of financial information for the purposes of analysis and evaluation (Hoffman, 2006) in Perdana (2011). According to the Indonesia Stock

Exchange (2014), Extensible Business Reporting Language (XBRL) is an electronic communication language that is universally used for the transmission and exchange of business information, which perfects the process of preparation, analysis, and accuracy for various parties who provide and use business information. XBRL can be interpreted as a markup language that is used to help business activities so that it can efficiently bridge the differences that occur between systems (Hoffman and Watson 2010) in Perdana (2011). The use of XBRL in financial reporting makes it easy to compile large amounts of data, reduce calculations that can pose a great risk of errors, improve the quality and accuracy of the information, and submit reports more timely.

The XBRL language, which is licensed in open source, has a structure similar to the XML language. Nevertheless, XBRL has a better function compared to XML. XBRL is able to accommodate the semantic needs of financial reporting that involve multiple relationships between one element and other elements in financial statements (multiple relationships). XBRL also has extensibility features that are far better compared to XML (Farewell, 2010) in Prime (2011).

According to Faboyede, et al. (2016) in "Extensible Business Reporting Language (XBRL): A Tool for Accounting Education": XBRL is a platform in an independent language that can support financial and non-financial data using four primary documents namely; (1) XBRL specifications, providing basic definition techniques in the XBRL framework; (2) Taxonomy XBRL, such as a dictionary containing the definition of tagging data, and the linkages between item tags; (3) XBRL document instance, basically is part of the XBRL taxonomy and specifications in the context of financial statements (4) Style sheet, which converts examples of machine-readable documents to human-readable forms. Faboyede, et al. also suggests some of the effects of XBRL, like the table below:

	The impact XBRL
Quality	Increased Comparability / Transparency; Increased accuracy; Better analysis.
Development	Increased Market Efficiency; Advanced Standardization
Efficiency	Saving time; Reducing Efforts / Costs; Communication Improvement
Flexibility	System Flexibility; Conceptual flexibility

Return on Assets

Understanding Return on assets (ROA), according to Kieso et al. (2002) is the ratio used to measure the overall profitability of assets. Positive ROA (greater) shows that of the total assets used to operate, the company can provide profits for the company. Conversely, a negative ROA (smaller) shows that of the total assets used, the company is not able to provide profit so that it gets a loss (Haosana, 2012).

Institutional Ownership

Institutional ownership is the shares of companies owned by institutions or institutions (insurance companies, banks, investment companies, and ownership of other institutions). Institutional ownership can control management through an effective monitoring process to reduce information asymmetry. The percentage of individual shares owned by an institution can affect the process of preparing financial statements that do not rule out the possibility of actualization according to the interests of management (Meilani, 2009 in Kusuma, 2014).

3. RESEARCH METHOD

The research variable is something that varies in the form of symbols that have been studied and then drawn conclusions. Variables are divided into two, namely:

- a. Dependent Variable: Information Asymmetry, Stock Trading Volume.
- b. Independent Variables: XBRL Technology, Stock Price, Return On Assets, and Institutional Ownership.

Information Asymmetry

Information asymmetry can be measured using Quoted Spread (QS), by looking at the difference between the price given at the time of buying a stock and the price at the time of selling the ask stock again. The percentage bid-ask spread quoted for stock i at time t is calculated as follows:

$$\text{Quote Spread} = \frac{\text{Ask}_{i,t} - \text{Bid}_{i,t}}{M_{i,t}}$$

Shares Trading Volume (VOL)

Trading volume is an instrument that can be used to see capital market reactions to information through the volume parameters of shares traded on the market. Stock trading volume can be measured as follows:

$$\text{Vol} = \frac{\text{Shares of firm } i \text{ traded at time } t}{\text{Shares of firm } i \text{ outstanding at time } t}$$

XBRL technology

The application of XBRL technology in this study is a test with Dummy, which assesses the number 1 for both conventional and sharia banking companies that use financial statements with the XBRL format in the 2015-2016 period and the number 0 that has not used financial statements with the XBRL format.

Stock price

The share price referred in this study is the closing price of the closing price obtained from the share price at the end of the year as of December 31 from 2015 to 2016.

Return on Assets

Based on Bank Indonesia Circular Number 3/30 / DPNP dated December 14, 2001, the calculation of ROA is as follows:

$$\text{ROA} = \frac{\text{Earning Before Tax}}{\text{Average of Total Assets}}$$

Institutional Ownership

Institutional ownership is ownership of shares by financial institutions such as insurance companies, banks, pension funds, investment banking, and other institutions, institutional ownership is seen from the large percentage of share ownership by institutions of all shares.

$$\text{INST} = \frac{\text{the number of shares held by institutional investors}}{\text{the number of shares outstanding}} \times 100$$

4. RESULT AND DISCUSSION

1. The Effect of XBRL, Stock Prices, ROA, and Institutional Ownership on Information Asymmetry

The regression equation used to test the effect of the independent variable is XBRL technology, stock price, ROA, and institutional ownership on the dependent variable, namely information asymmetry. In the table, the results obtained a significant value of 0.046. This value is smaller than 0.05, so the first hypothesis can be accepted. Thus, it can be concluded that in this study, all independent variables together influence the dependent variable.

This XBRL technology requires full disclosure so that more investors get adequate information. Hence, it will reduce the information asymmetry between management and investors/shareholders and benefit the market. However, investors/shareholders do not pay much attention to XBRL technology because it has not been fully realized to improve information asymmetry.

The results of this study are in line with Cong et al. (2014), which states that the adoption of XBRL synchronously increases asymmetry by selecting a sample of 9,992 industrial companies in the SEC. Also, research conducted by Blankespoor et al. (2011) shows that the impact of the adoption of XBRL resulted in a significant increase in information asymmetry with a sample of 313 industrial companies in the SEC.

The coefficient of determination (R²) is 0.225 or 22.5%. This value indicates that the ability of the XBRL variable, stock price, ROA, and institutional ownership can explain the information asymmetry variable of 22.5%. In comparison, the remaining 77.5% is explained by other variables besides the variables used in this study, including turnover ratio, earnings volatility (Tzu-Yi et al., 2016), loss indicator, leverage (Kim et al. (2012).

2. The influence of XBRL, stock prices, ROA, and institutional ownership on stock trading volume

The regression equation used to examine the effect of the independent variable XBRL, stock price, ROA, and institutional ownership on the dependent variable is the volume of stock trading. In the table, the results obtained a significance value of 0,000. This value is smaller than 0.05, so the second hypothesis can be accepted. Thus, it can be concluded that in this study, all independent variables together influence the dependent variable.

XBRL technology should describe the information quickly obtained by market participants, to see the market's reaction to information through the trading volume parameters of shares traded on the market. Stocks with large trading volumes indicate that these shares can be promising for investors, so the desire to own these shares will be even higher. This will trigger an increase in stock demand, which will ultimately increase the volume of stock trading. However, this research shows a decrease in stock trading volume, seen from the results of the regression coefficients

of each variable, namely XBRL, ROA, and institutional ownership, that has a negative coefficient value, unless the stock price has a positive coefficient.

This study is in line with Blankespoor et al. (2011) that the existence of XBRL technology can reduce the volume of stock trading with samples in industrial companies in the United States with a sample of 313 companies. In contrast to the study of Cong et al. (2014), which is positive with the OLS regression test on industrial companies in the US, which shows that an increase in XBRL will increase the volume of stock trading. In Indonesia, XBRL has decreased because its implementation is not yet mandatory. The application of XBRL will be impeded by Law No.8 of 1997 concerning company documents. "In one clause, the submission of an income statement and statement of financial position must be in physical form and signed by the board of directors" (Wiyanto, 2015). Whereas in the US, XBRL has been mandatory to all companies registered with the SEC since 2008. (Cong, et al 2014). In table 4.15, the coefficient of determination (R²) is 0.596 or 59.6%. This value indicates that the ability of the XBRL variable, stock price, ROA, and institutional ownership can explain the variable stock trading volume by 59.6%. In comparison, the remaining 40.4% is explained by other variables besides the variables used in this study, such as information content and timing of the filing, information intermediaries (Blankespoor et al. 2011).

5. CONCLUSION

This study produces several conclusions, namely: XBRL technology, stock prices, ROA, and institutional ownership together affect the information asymmetry and stock trading volume. Seen from the significant results of the simultaneous test of the two dependent variables, namely information asymmetry, and trade volume, shows positive results. Both asymmetry and stock trading volume are explained by XBRL technology, share price, ROA, institutional ownership by 22.5%, and 59.6%, respectively.

The suggestion for this research is to use other variables such as turnover ratio, earnings volatility, loss indicator, leverage, information content, and timing of the filing, information intermediaries. The researcher can then use industries other than banking to see the existence of XBRL technology.

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