Mergers of Indonesian Islamic Banks: How the Capital Market React?

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ABSTRACT

This study investigates the response of the Indonesian capital market to the announcement of mergers involving BRI Syariah, BNI Syariah, and Bank Syariah Mandiri, resulting in the establishment of a new entity known as Bank Syariah Indonesia. Employing an event study methodology, this study adopted a time frame of 120 days, comprising a window period of 20 days (consisting of 10 days both before and after the event date). The market model approach was employed to ascertain the abnormal return value observed during the event period. In order to test the hypotheses, this research employed the one-sample t-test for datasets with normal distribution characteristics and the Wilcoxon signed-rank test for datasets that did not conform to a normal distribution. The findings of the study indicated a favorable market reaction, characterized by the disparity in Average Abnormal Return (AAR) following the event date, with a significance value (two-tailed) of 0.027, which was below the 0.050 level of significance. Furthermore, from the perspective of Average Trading Volume Activity (ATVA), a positive reaction was also discerned, as evidenced by the contrast in ATVA during the window period, yielding a significance value (two-tailed) of 0.028, also falling below the 0.050 level of significance. These outcomes offer an enhanced comprehension of how the Indonesian capital markets respond to such mergers, thereby serving as a valuable reference for stakeholders when formulating investment decisions and market strategies.

Introduction

The Indonesian government, through the Ministry of SOEs, has merged Bank Syariah Mandiri, BNI Syariah, and BRI Syariah into one new entity, namely Bank Syariah Indonesia (BSI). The three state-owned Islamic banks signed the conditional merger agreement on 12 October 2020, the official announcement of the merger was on 21 October 2020, and the legal merger day was in February 2021.

There are two main reasons for the mergers of three Islamic banks. Politically, the new Indonesian Islamic Bank was formed to facilitate and support all economic activities and the halal industry ecosystem in Indonesia, which has the largest Muslim population in the world. In addition, through these mergers and acquisitions, the BSI is expected to become a major and leading player in the Islamic finance industry. From a business perspective, establishing the BSI is expected to strengthen Indonesia's position in the competitive world of Islamic finance to attract the potential of Islamic finance and investment in the world (Indonesian Islamic Bank, 2021). The announcement of mergers on October 21, 2020, is a sign or signal that there will be changes in the company, both in terms of management and growth prospects.

In general, the announcement of mergers and acquisitions by companies is one of the events considered by investors in making investment decisions (Foster, 1986). This is because investors will consider the event to invest their funds efficiently to get the maximum return and avoid the risk of investment failure (Hartono, 2017). The announcements of company mergers and acquisitions are considered to contain valuable information if the event gets a full and quick reaction in the capital market, which is reflected in abnormal

returns and trading volume activity during this corporate action. As a result, this event will affect the company's stock price in the capital market. If viewed from the perspective of signaling theory, announcements of mergers and acquisitions provide a signal about the condition of the company after mergers and acquisitions. In addition, this event explains how management views the company's growth prospects in the future, which shows management's efforts in realizing investor welfare, so investors react positively to the event (Brigham & Houston, 2018).

Company announcements to conduct mergers and acquisitions receive a positive reaction in the capital market (Feng et al., 2019; Mall & Gupta, 2019; Rahman et al., 2018; Khan & Israel, 2016; Kumar et al., 2011; Liang, 2013; Shah & Arora, 2014). Previous research concludes that there are positive abnormal returns during the event period both before and after the event date. Positive reactions to announcements of mergers and acquisitions were also found (Bloom, 2010; Nursasmito et al., 2015; Jansen, 2015). Their research concludes a positive trading volume activity around the mergers and acquisitions announcement date. On the other hand, the announcements of mergers and acquisitions received negative reactions in the capital market (Amewu, 2014; Sachdeva et al., 2015; Adnan & Hossain, 2016; Monga, 2021; Rai & Yadav, 2021). Their research concluded that there are negative abnormal returns during the window period both before and after the event date.

This study aims to complement previous studies in two ways. Firstly, studies to examine the market reaction to mergers from three Islamic banks in Indonesia have been done by Syamsuddin dan Pratama (2021), who observed the 11-day window period. They conclude that the market does not react to the announcement of such mergers. Determining the shorter observation period may contribute to the results (Hartono, 2010). Therefore, it suggested extending the period of examination. This paper attempts to their suggestion by choosing a window period of 21 days consisting of 10 days before the event, one day after the event, and ten days after the date the event occurred. The window period of 3-250 days is appropriate for observing the daily data (Hartono, 2010). Secondly, the previous studies also use abnormal returns to measure the market reaction. The use of abnormal return only is considered less to capture the overall market reaction. Thus, this paper uses abnormal return and trading value volume, as suggested by Nursasmito (2015), to capture the comprehensive market reaction.

Therefore, this research examined the information content of mergers from Bank Syariah Indonesia registered in the Indonesian capital market with the code BRIS. This information content drives investors' reactions in the capital market. This investor reaction can be seen in whether there is a significant difference between average abnormal return (AAR) and average trading volume activity (ATVA) around the date of the merger event.

Literature Review

This study examines the information content of mergers by Indonesian state-owned Islamic banks. This test is related to one form of market efficiency. It assumes that, in an efficient market, asset prices fully reflect all available information. Thus, any change in the equilibrium price will be caused by the flow of information available to market participants (Simoes et al., 2012). There are at least three types of market efficiency, namely: (1) a weak form market, (2) the form of a semi-strong market, and (3) a strong form market (Fama, 1970 in Liargovas & Repousis, 2011). To determine whether the market reacts or not to an event, we use a research methodology with an event study approach.

An event study methodology is a representative econometric method that can analyze the effects of mergers and acquisitions (Yoo et al., 2013). This methodology can assess the information content of an event indicated by investors' reaction in the capital market. With event studies, information from an announcement can be tested for its content and whether it is relevant and useful for investors to make decisions (Hartono, 2010). The reaction of investors in the capital market with the speed of reaction that reflects the level of market efficiency shows that investors catch signals from information or events that occur

in issuers. This can be explained by signaling theory, which describes the behavior of investors in making decisions.

Signaling theory is useful for describing behavior when investors and management have access to different information, or there is asymmetric information. Management, as the sender, usually makes decisions about the information and how to communicate (signal) the information to the recipient. On the other hand, investors as recipients must be able to interpret the signal, whether it brings good or bad information (Connelly et al., 2011). Signals containing information are usually obtained from various corporate actions carried out by issuers, one of which is mergers and acquisitions (Yasar et al., 2020).

Several previous studies tested investors' reactions to the announcement of mergers and acquisitions with an event study methodology aimed at examining abnormal returns around the announcement date of the event (Ma et al., 2009). Abnormal return is the difference between actual return and expected return (Monga, 2021). According to Hartono (2010), an expected return can be determined by using several approaches, which include (1) an average-adjusted model, (2) market models, and (3) market-adjusted models. For example, Liargovas and Repousis (2011) examined investor reactions to announcements of mergers and acquisitions of Greek bank companies listed on the Athens Stock Exchange during the period 1996 - 2009 and concluded that there was investor reaction in the market. This is indicated by ten days before the announcement of a merger and acquisition; shareholders receive considerable and significant positive cumulative average abnormal returns (CAARs). Also, the results show that significant positive CAARs are gained upon the announcement of horizontal and diversifying bank deals.

In addition to abnormal returns, investor reactions in the capital market can also be proxied by trading volume activity. This is because the trading volume activity is a variation of the event study, which shows how many stock buying and selling transactions were carried out by investors during the period the event occurred (Nursasmito et al., 2015). For example, Jansen (2015), who examined investor reactions to announcements of mergers and acquisitions made by companies listed on the Chicago Stock Exchange during 1980 - 2008, concluded that there was a significant abnormal trading volume on day -5 of 0.24 and this value continued to increase to almost 1.0 in the 1st day before the event date. Meanwhile, abnormal trading volume peaked on day 0 and day +1 after the event date with values of 4.3 and 4.7.

Hypothesis Development

Many previous researchers have researched testing the information content of mergers and acquisitions. The conclusions from these studies vary, meaning there are variations in company performance after mergers and acquisitions.

In the Indian capital market, testing the information content of announcements of mergers and acquisitions was carried out by Kumar et al. (2011) by testing a sample of 33 shares of issuers in the banking industry listed on the Indian capital market for the period 1999 – 2000, concluding that there was a significant positive AR before the date the event occurred. The results of this study are supported by Ghost (2019), which examines the information content of mergers and acquisitions announcements specifically for Bank of Indore (one of the Indian state-owned banks) and concludes that there is CAR before and after the event date, while on the day of the event, there is no CAR. The results of this study are supported by Rani et al. (2013), who examined the information content of mergers and acquisitions during 2003 – 2008 and concluded that the event contains information or, in other words, creates short-term wealth for investors. This is indicated by the presence of a CAAR of 2 percent during the window period (-5, +5). Meanwhile, outside the Indian financial sector and banking industry, Mall and Gupta (2019) conducted a test of the information content of merger and acquisition announcements by testing a sample of 428 issuers listed on the Indian capital market and concluding that there was a positive AR on day 8 before, the day of the event and the 4th day after the date the event occurred.

In the Asian market context, testing the information content of mergers and acquisitions events was conducted by Ma et al. (2009) using a sample of 1,477 M&A deals in the ten emerging Asian markets and

found that the stock markets have expected positive cumulative abnormal returns in three different event windows: a two-day (0, 1) window, a three-day (-1, +1) window, and a five-day (-2, +2) window. The results of this study are supported by Feng et al. (2019) using 132 samples of issuers listed on the Korean capital market and concluded that there was a significant positive AAR three days before the event date, and then the AAR became insignificant after the date the event occurred. Another study on the Hong Kong capital market was conducted by Liang (2013) using a sample of 44 stock samples of issuers listed on the capital market and concluded that the market reacted to the presence of positive AR for two days before the date the event occurred.

H1. The announcement of the merger of Bank Syariah Indonesia has a positive reaction to the average abnormal return around the date of the event.

Meanwhile, by using the trading volume activity proxy and in contexts outside the announcement of mergers and acquisitions, testing the information content using trading volume activity as a proxy was carried out by Nursasmito et al. (2015) using a sample of LQ-45 company shares listed on the Indonesia Stock Exchange and concluded that there was a positive TVA reaction but not significant during the event period. Meanwhile, in the context of mergers and acquisitions, Jansen (2015) examined investor reactions to announcements of mergers and acquisitions made by companies listed on the Chicago Stock Exchange from 1980 - 2008 and concluded that there was a significant abnormal trading volume on day -5 of 0.24 and this value continued to increase to almost 1.0 in the 1st day before the event date. Meanwhile, abnormal trading volume peaked on day 0 and day +1 after the event date with values of 4.3 and 4.7.

Another study was conducted by Jayarman and Sabhenval (2001) on investor reactions to the occurrence of mergers and acquisitions of abnormal option trading volume. Using a sample of 33 companies that carry out mergers and acquisitions, they concluded that there is an abnormal option trading volume on days -10 to -1 of the event date. In other words, before the rumors of mergers and acquisitions occurred, investors had already reacted, marked by an increase in the volume of options trading. Meanwhile, Bloom (2010) has examined investor reactions to mergers and acquisitions in the hotel sector. He found a sample of 19 hotel companies that merged from 2004 to 2007 and found trading volume activity during the window period. Bloom (2010) then mentioned that this finding is interesting and needs further research.

H2. The announcement of the merger of Bank Syariah Indonesia has a positive reaction to the average trading volume activity around the date of the event.

Research Method

To achieve the research objectives, this research uses quantitative methods with an event study approach. Then, this study uses secondary data, which was obtained directly through access to Thomson Reuters, Yahoo Finance, Investing, the Indonesian Central Securities Depository (KSEI), and the Indonesia Stock Exchange. This study uses an estimation period of 120 days and a window period of 21 days consisting of 10 days before the event, 1 day after the event, and 10 days after the date the event occurred. This is following Hartono (2010), who states that the window period ranges from 3 – 250 days for daily stock data and 3 – 121 months for monthly stock data. More details can be seen in Figure 1.
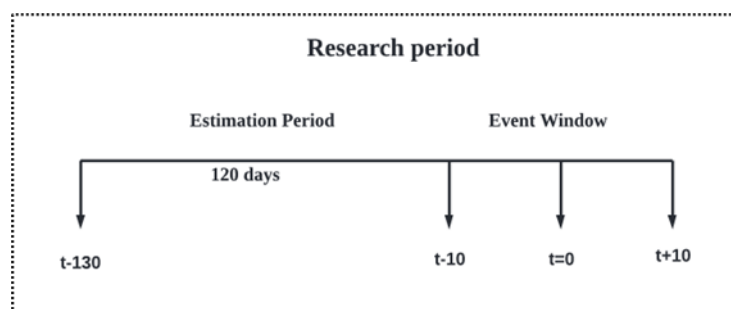

Figure 1. Estimation Period and Event Window

The reaction of investors in the market is proxied by the average abnormal return and the average trading volume activity. The average abnormal return is obtained after going through the following stages.
First, determine the actual return value by using Formula 1.

$$R_{ij} = \frac{P_{ij} - P_{ij-1}}{P_{ij}} \qquad \text{(Formula 1)}$$

Where R_{ij} = Actual return; P_{ij} = The stock price in the event j; and $P_{i\cdot j}$ = The stock price in the event j-1.
Second, determine the expected return value with the market model approach. Because of the market model approach, abnormal returns can be calculated by first finding the expected return by making an OLS (Ordinary Least Square) regression model with Formula 2.

$$R_{ij} = \alpha_i + \beta_i . R_{mj} + \varepsilon_{ij} \qquad \text{(Formula 2)}$$

Meanwhile, market return (R_{mj}) can be calculated using Formula 3.

$$R_{mj} = \frac{JCI_j - JCI_{j-1}}{JCI_{j-1}} \qquad \text{(Formula 3)}$$

Where R_{ij} = the actual return of stock i in the event of j as calculated in the first step, R_{mj} = the market return at the time of j, JCI_j = composite stock price index on the day j, JCI_{j-1} = composite stock price index on the day j-1, ε = error; α = intercept, and β = slope.
Third, determine the abnormal return value during the window period. Abnormal return can be calculated using Formula 4.

$$AR_{ij} = R_{ij} - E(R_{ij}) \qquad \text{(Formula 4)}$$

Where AR_{ij} = abnormal return stock i during a period of j, R_{ij} = actual return stock i during a period of j, and $E(R_{ij})$ = expected return stock i during a period of j.
Fourth, determine the average abnormal return value during the window period. Meanwhile, the average abnormal return can be calculated using Formula 5.

$$AAR = \frac{AR_{ij}}{\sum N} \qquad \text{(Formula 5)}$$

Where AAR = Average abnormal return, AR_{ij} = Abnormal return, and N = Number of data/observations.
Fifth, conduct a hypothesis significance test using SPSS. This average abnormal return value is then analyzed and tested statistically using the SPSS application.

Average Trading Volume Activity is calculated in two stages. First, determine the value of trading volume activity by using Formula 6.

$$TVA = \frac{\sum \text{Share i is trading at time t}}{\sum \text{Share i outstanding at time t}} \qquad \text{(Formula 6)}$$

Second, determine the average trading volume activity value using Formula 7.

$$ATVA = \frac{\sum TVA}{\sum N} \qquad \text{(Formula 7)}$$

Where ATVA = *average trading volume activity*, TVA = *trading volume activity*, and N = Number of data/observations.

To analyze the data and test the proposed hypotheses, this study uses the one-sample t-test parametric statistical analysis technique if the data is normally distributed and the Wilcoxon Signed Rank Test nonparametric statistic if the data is not normally distributed. Statistical tests were carried out to find differences in abnormal returns and trading volume activity around the event date, which reflected the reaction of investors at that time.

Results and Discussion

For ease of analysis, Figure 2 provides a summary of the movement of average abnormal return and average trading volume activity during the window period. It shows that the AAR and ATVA values fluctuated during the window period. The movement of the AAR value from -10 to +10 continues to

fluctuate, especially on the -8, -7, and -6 days, increasing several times, and after that date, the AAR value tends to end at +8, +9, and +10 days the AAR value approaches zero. On the other hand, the movement of the ATVA value also fluctuated but remained above zero. The movement of the ATVA value from -10 to +10 tends to decrease, and in the end, at +9 to +10, the ATVA value approaches 0. AAR and ATVA values with positive or negative notations generally indicate that information on announcements of current mergers and acquisitions contains valuable information for investors in the capital market. On the other hand, negative AAR and ATVA values during the window period generally explain that announcements of mergers and acquisitions do not contain information of value to investors in the capital market.
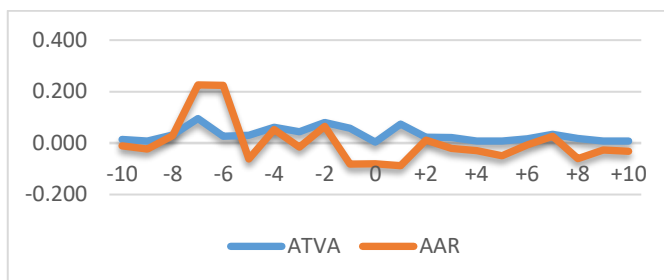

Figure 2. The movement of AAR and AVA values during the window period

Normality Test

Before testing the hypothesis, previous studies ensured that the data were normally distributed by using statistical tests. This statistical test was carried out using the SPSS One-Sample-Kolmogorov Smirnov Test feature, with the results presented in Table 1 and Table 2.

Table 1. AAR Data Normality Test Results

		AAR before the event date	AAR after the event date
N		10	10
Normal Parameters	Mean	0.04020	-0.02800
	Std. Deviation	0.107670	0.033549
Most Extreme Differences	Absolute	0.209	0.141
	Positive	0.209	0.117
	Negative	-0.156	-0.141
Test Statistic		0.209	0.141
Asymp. Sig. (2-tailed)		0.200	0.200

Source: Secondary Data Processed (2022)

Table 2. ATVA Data Normality Test Results

		ATVA before the event date	ATVA after the event date
N		10	10
Normal Parameters	Mean	0.04480	0.02190
	Std. Deviation	0.028405	0.020234
Most Extreme Differences	Absolute	0.186	0.278
	Positive	0.186	0.278
	Negative	-0.098	-0.246
Test Statistic		0.186	0.278
Asymp. Sig. (2-tailed)		0.200	0.027

Source: Secondary Data Processed (2022)

As stipulated in the normality of the data, the research data is normally distributed if the two-tailed significance value (Asymp. sig) exceeds the significant level ($\alpha = 5\%$) (Landau & Everitt, 2004). Based on the results of this test, the significance value of the average abnormal return is 0.200, or in other words, it exceeds 0.050, so the research data used for the average abnormal return is normally distributed. On the other hand,

the significance value of ATVA after the event date is 0.027 or lower than 0.050. Therefore, this study uses parametric statistical analysis to test the average abnormal return research hypothesis and the nonparametric statistical analysis Wilcoxon Signed Rank Test to test the ATVA research hypothesis.

The Announcement of Mergers with AAR

The first hypothesis in this study is that the announcement of the merger of Bank Syariah Indonesia reacts positively to the average abnormal return of shares around the date of the incident.

Table 3. Significance Test Results of Average Abnormal Return

					95% Confidence Interval of the Difference	
	T	Df	Sig. (2-tailed)	Mean Difference	Lower	Upper
AAR before the event date	1.181	9	0.268	0.040200	-0.03682	0.11722
AAR after the event date	-2.639	9	0.027	-0.028000	-0.05200	-0.00400

Source: Secondary Data Processed (2022)

Table 3 shows that there is a positive average abnormal return during the observation period around the event date, especially after the event date. This is indicated by the significance value (Sig. 2 tailed) at the time window after the event, which is lower than the significance value of 0.050. Before the event date, the average abnormal return did not change; in other words, investors did not react to the events. This is probably because investors have not caught the signal of change or growth that occurred after the company took corporate action (Hartono, 2010). On the other hand, after the event date, investors reacted, as indicated by a positive AAR of 0.027, which was lower than the significance value of 0.050.

The significance value with this positive notation indicates a positive reaction from investors in the form of an increase in the company's stock price in the capital market. In other words, investors in the capital market believe that the announcement of the merger of Bank Syariah Indonesia contains good information, and this information gives a positive signal that after the merger is carried out, changes will occur that can increase the company's profitability and growth in the future which will come. The investors' reaction after the event shows that Indonesian investors are rational in making decisions and are not affected by the rumors that arose before Bank Syariah Indonesia delivered the official merger announcement.

The results in this study confirm the results of research conducted by Mall and Gupta (2019) in the Indian market, Rahman et al. (2018) in the Pakistani capital market, Khan and Israel (2016) in the Indian capital market, Adnan and Hossain (2016) in American capital market, Kumar et al., (2011) in the Pakistani capital market, Feng et al. (2019) in the Korean capital market and Liang (2013) in the Hong Kong capital market which state that the market reacts positively around the announcement date of mergers and acquisitions. Although the context is different in examining capital market reactions, the similarities between the results of this study and theirs may be due to (1) determining the exact date of the event and (2) the estimation period and window used are not too short to capture the market reaction.

The Announcement of Mergers with ATVA

The second hypothesis tested is that the announcement of the merger of Bank Syariah Indonesia reacts positively to the ATVA of shares around the event date.

Table 4. Significance Test Results of Average Trading Volume Activity

	ATVA before the event date - ATVA after the event date
Z	-2.192
Asymp. Sig. (2-tailed)	0.028

Source: Secondary Data Processed (2022)

The results of the nonparametric Wilcoxon Signed Ranks Test presented in Table 4 show that during the window period both before and after the event, investors gave a positive reaction as indicated by a

positive difference in ATVA during the window period with a significance value or Sig. (2-tailed) of 0.028, lower than the significance level of 0.050.

This positive investor reaction indicates that the mergers and acquisitions conducted by BRIS, BSM, and BNIS contain valuable information. When investors react during the window period, according to signaling theory, this shows that the information in this event provides a good news signal for investors that there is growth in the company after the merger activity. In addition, the results of this test indicate that investors in Indonesia are likely to be rational by using official information on the announcement of the merger plan to make decisions compared to rumors or issues circulating before October 21, 2020.

The results of testing this hypothesis confirm the results of research conducted by Jansen (2015). The conclusion states that investors react positively to the announcement of mergers and acquisitions, which is reflected in the significant abnormal trading volume on day -5 of 0.24, and this value continued to increase to almost 1.0 on the 1st day before the event date. Meanwhile, abnormal trading volume peaked on day 0 and day +1 after the event date with values of 4.3 and 4.7. In addition, this study also shows that there is a relationship between mergers and acquisitions with daily trading volume (Bloom, 2010). Then confirm the statement of Nursasmito et al. (2015), who state that trading volume activity is a variable that can be used to observe investor reactions in the capital market by using certain calculation parameters for events that occur.

Conclusion

This study examined the market reaction to the merger of Islamic state-owned banks in Indonesia and adopted an event study approach. Before the date of the merger, the investors did not present their reactions. This can be reflected in the value of ARR that did not change. This probably means investors could not receive a growth signal because of mergers and acquisitions. However, after the merger, there was an increase in ARR. Similarly, based on the volume of stock trade indicator, the market also reacts. However, the reactions happened during the window periods, both before and after the event of the merger and acquisition. According to signaling theory, these two indicators represent that the announcements of mergers made by BRIS, BSM, and BNIS contain good information (good news) and a positive signal for the company's growth in the future. Thus, investors react in the capital market.

This paper has limitations. Firstly, this paper tested the AAR and ATVA during the window period, both before and after the events. Despite the results supporting the hypotheses, this test could not determine the dates when the results are significant. Secondly, in determining the expected return in the window period, we use the constant beta that does not represent the actual fluctuation of beta. Therefore, this paper suggested that future research extend the window period using monthly data for 24-60 months and consider the daily beta available on the websites. Moreover, further research should also consider the variable control, such as size and age, that might impact abnormal returns.

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