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# Islamic Bank Merger and Economic Crisis: Event Study Analysis

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## Abstract

*This event study examines the stock price reaction to the merger announcement of three major Islamic banks in Indonesia, namely BNIS, BRIS, and BSM to become Indonesia Islamic Bank (ticker code BRIS). This study analyzes whether there is an abnormal return around the merger announcement on 14 days window period. Using a daily stock price of BRIS, market index, and trading volume we calculated abnormal return and risk using market model Sharpe's single index model. Analysis of the 14 days window period found that there is an insignificant abnormal return before and after the Islamic banking merger and Indonesia Stock Exchange has been categorized as weak-form efficiency. The results of statistical tests reveal that stock returns and trading volume react positively after the merger announcement and are significant at 5% alpha.*

**Keywords:** Abnormal Return, Event Study, Merger, Single Index Model.

## 1. Introduction

The COVID-19 pandemic has expected more than a year and has had an impact on economic activity globally. Over the past year, the economic growth of developed countries even experienced a deep decline, and not a few of them fell to the brink of recession. The deepest economic downturn occurred in the second quarter of 2020. The increase in the COVID-19 brings negative effects on the stock market in general and brings a lot of uncertainties to the economy in Canada (Xu, 2020), and Chinese (Corbet et al., 2020), and India (Goswani et al., 2021). The pandemic has had a tremendous shock effect in several industry sectors. The impact of the outbreak has multi-layered effects on the environment (Shakil et al., 2020), food safety management (Han et al., 2021), logistics and retail (Kumar et al., 2020), financial market (Corbet et al., 2021; Nurhayati et al., 2021a; Nurhayati et al., 2021b; Sun et al., 2021; Fernandez-Perez et al., 2021), social and politic (Fernandez-Perez et al., 2021) and human resource (Saluy et al., 2021).

Indonesia also recorded economic contraction that has continued to experience a decline along with the COVID-19 outbreak (Nurhayati et al., 2021a). In this crisis, trading transactions will be hampered, liquidity will be disrupted, will cause negative returns and losses (Nurhayati et al., 2021a; Nurhayati et al., 2021b; Nurhayati et al., 2020). This was also felt by the banking sector both conventional and Islamic banking. Islamic banking was significantly affected by the decrease in companies' performance due to the COVID-19 outbreak. Banks have to restructure their best strategies facing several possible risks to financial performance due to the COVID-19 pandemic and focus on how the resilience of banks to return to their original position after being affected by the COVID-19 outbreak (Azimkulovich & Misdiyono, 2021).

To reduce the impact of the COVID-19 pandemic, the Indonesian government has officially approved the merger of three Islamic banks namely Bank Syariah Mandiri Tbk (BSM), Bank Negara Indonesia Syariah Tbk (BNIS), and Bank BRI Syariah Tbk (BRIS) by issuing a permit for the merger of Sharia banks Number: SR-3/PB.1/2021. The merger process involved three Islamic banking companies. The three banks are chosen by the government because so far even during the COVID-19 pandemic, the banks have a good performance. The merger of three Islamic banks in Indonesia is one of the efforts to improve banking performance during the COVID-19 pandemic. This merger is in line with the 2019-2024 Indonesian Islamic Financial Economics master plan which proclaimed the development of sharia financial services, development of the halal industry, halal product industry, and encouraging sharia social financial services activities (Endri et al. 2020a). Until 2020, in Indonesia, there are 12 Islamic banks, 20 sharia business units, and 10 sharia people's credit banks. Since February 2021, there will be a merger of three government-owned Islamic banks.

The main objective of Islamic banks mergers is to increase the competitiveness of Islamic banks at the national and international levels. The merged Islamic bank can also be the axis of developing the Islamic economy in Indonesia and can use as business strategy development, open up options for sharia funding, strengthen and accelerate the growth of Islamic banking in financial pressures after the pandemic (Boukhatem & Ben Moussa, 2018; Daly & Frikha, 2016). The merger of Islamic banks has a real impact on increasing the capacity of Islamic banks that hindered by limited capital so that the problem of capital in Islamic banks can be resolved properly, can carry out a wider expansion, and increase the movement of mutual support between Islamic and conventional bank (Suryadi et al., 2021). In addition, the merger of Islamic banks will also make

the inclusion of Islamic banking more focused (Fasih, 2012), so that it will also increase the level of public literacy about Islamic finance because many people still do not understand the difference between Islamic banks and conventional banks.

Islamic bank merger can improve the quality of Islamic financial services at more affordable prices, better level of management efficiency, deposit security guarantees, profitability, ease of transaction, liquidity, and transparency (Salman & Nawaz, 2018) as the reasons for choosing an Islamic bank (Setiawan et al., 2018). Another study proves that banking service quality like compliance, tangibility, reliability, and Islamic debt policy has a significant relationship to customers satisfaction (Tamaruddin et al., 2020; Ltifi et al. 2016; Khamis & AbRashid, 2018; Echchabi & Olaniyi, 2012; Kontot et al., 2016; Amin et al., 2017; Mohamed Naim et al., 2019; Awan & Bukhari, 2011).

As an event study, the purpose of this research is to measure the relationship between an event and the rate of return of security analyzing whether there is an abnormal return obtained by stockholders to test the information content of an event or announcement whether the public responds positively to the merger of the three state-owned banks. If an event or announcement contains information, it is expected that the market will react when the announcement is received by the market (Mackinlay, 1997; Skiera et al., 2017). The market reaction is indicated by a change in the price of the security concerned. This reaction is usually measured using the concept of abnormal returns (Nurhayati et al., 2021c). Central to an event study is the measurement of an abnormal stock return (Mackinlay, 1997). Abnormal returns indicate that an announcement that contains information will provide a different return than usual to the market, on the contrary, one that does not contain information does not provide an abnormal return to the market. Event studies can also be used to test the efficient market hypothesis. Abnormal returns will be calculated 7 days before and after the merger as a proxy for the market response to the merger. In addition, event studies can also be used to measure the impact of an economic event (Islamic banking merger) on firm value (Mackinlay, 1997) that is proxied by stock performance (return), risk, and liquidity (volume). The previous study that analyze the abnormal return of presidential election events was statistically insignificant but the event affects the increase in trading volume (Chandra, 2015). Analysis of the event study of the announcement of the merger of Islamic banks in Indonesia by analyzing the market reaction on 14 days of observation as well as being able to explain the efficient market form of the Indonesian stock exchange.

## 2. Literature Review

Islamic banking first appeared in Egypt without using Islamic frills, because of concerns that the regime in power at that time would see it as a fundamentalist movement (Chong & Liu, 2009). The leader of this pioneering business, Ahmad El Najjar, took the form of a savings bank based on profit-sharing in the city of Mit Ghamr in 1963. This experiment lasted until 1967, and by that time 9 banks with a similar concept had already been established in Egypt. These banks, which neither collect nor receive interest, mostly invest in trade and industrial enterprises directly in the form of partnerships and share the profits with savers.

The Islamic Development Bank (IDB) was then established in 1974 sponsored by countries that are members of the Organization of the Islamic Conference, although primarily the bank is an intergovernmental bank that aims to provide funds for development projects in its member countries. IDB provides fee-based financial services and profit sharing for these countries and explicitly states itself based on Islamic sharia. In other parts

of the country in the 1970s, several Islamic-based banks emerged and experienced significant growth (Daly & Frikha, 2016; Gani & Bahari, 2021). In the Middle East, among others, there were the Dubai Islamic Bank (1975), Faisal Islamic Bank of Sudan (1977), Faisal Islamic Bank of Egypt (1977), and Bahrain Islamic Bank (1979). The Philippines Amanah Bank was founded in 1973 by presidential decree, and in Malaysia, in 1983 the Muslim Pilgrims Savings Corporation was founded which aims to help those who want to save for the pilgrimage.

In Indonesia, The development of Islamic banking began in 1991 since the establishment of Bank Muamalat Indonesia (BMI) as the only commercial bank that carries out business activities based on the principle of profit-sharing. The existence of Islamic banks in Indonesia has formally started since the enactment of Law No. 7 of 1992 concerning banking, although the term has not been explicitly stated regarding banks operating according to Sharia principles. The government then issued law number 10 of 1998 concerning amendments to law number 7 of 1992 concerning banking which regulates in detail the legal basis and types of business implemented in sharia banking. The issuance of the Sharia Banking Law has a positive impact on aspects of sharia compliance, the investment climate and business certainty, as well as consumer protection, satisfaction the stability of the banking sector as a whole can be felt (Khamis & AbRashid, 2018; Awan & Bukhari, 2011)

### 2.1. Definition of Islamic Banking

As a financial intermediary institution, the basic mechanism of Islamic banks is to accept deposits from the owner of capital (depositor) on the liability side and then offer financing to investors on the asset side, with a financing pattern or scheme by Islamic law (Endri et al., 2020b). On the liability side, there are two main categories, namely interest-free current, and saving accounts and investment accounts based on the profit and loss sharing (PLS) principle between the bank and the depositor. While on the asset side, it includes all forms of financing patterns that are free of usury and according to sharia standards, such as financing based on the profit-sharing principle (mudharabah), financing based on the equity participation principle (musyarakah), the principle of buying and selling goods at a profit (Murabaha), financing based on the principle of the pure lease without choice (ijarah) or with the option to transfer ownership of goods leased (ijarah wa iqtina) (Law of 10, 2008).

Islamic bank means a bank whose operating procedures are based on the Islamic method of converting, which refers to the provisions of the Qur'an and al-Hadith (Wasiaturrahma et al., 2020). Islamic banking provides interest-free services to its customers, whose activities leave the problem of usury (Chong & Liu, 2009). Interest payments and withdrawals (riba/usury) are prohibited in all forms of transactions (Goh & Sun, 2014). That's the reason why is Islamic banks commonly referred to as interest-free banks. Usury is an addition to the principal amount of the loan by the loan period and the amount of the loan. Although there is still a debate whether usury is related to interest or not, now there is a consensus from scholars that usury is related to all forms of interest. Based on its function, Islamic banks are said to be a place to deposit money safely (safekeeping function), provide payment instruments to buy goods and services, and were established to promote and develop the application of Islamic principles and their traditions into transactions finance, and banking as well as other related businesses (Wasiaturrahma et al., 2020).

Sharia principles are the provision of credit based on an agreement between the bank and another party being financed to return the money after a certain period in exchange for a profit or profit-sharing. That financing approved does not involve riba (interest/usury), gharar (uncertainty), maisir (gambling), and

non-halal (prohibited) activities (Salman & Nawaz, 2018; Endri, 2018b). Sharia principles are the rules of agreements based on Islamic law between banks and other parties to save funds, finance business activities, or other activities that are declared by sharia. Some things that must be considered in implementing the Islamic banking system include a) It's not allowed to pay loans with a value different from the predetermined loan value. b) The lender must share the profits and losses of the business results with the institution that borrows funds. c) Islam does not allow "making money from money". Money is only a medium of exchange and not a commodity because it has no intrinsic value. d) Gharar elements (uncertainty, speculation) are not allowed. Both parties must know well the results they will get from a transaction. e) Investments can only be given to businesses that are not forbidden in Islam (Suryadi et al., 2021).

## 2.2. Event Study Theory

An event study as mentioned by Kritzman (1994) is a research method to observe the impact of an event on stock prices in the capital market. Assuming that financial markets are efficient, the financial value of new information is rapidly assimilated into stock prices. The value of an unanticipated event can be determined based on subsequent stock price changes. The observations are usually made by looking at the behavior of stock returns around the observed events, such as political events (Montebianco, 2021), disease outbreaks such as COVID-19 (Bash, 2020; Nurhayati et al., 2021a; Bi et al., 2019), global crisis (Rahman et al., 2018), banking merger (Antoniadis et al., 2014).

The theory presented on this page is the efficient market hypothesis (EMH). An efficient market was defined as a market with a great number of rational, profit-maximizers actively competing, with each trying to predict future market values of individual securities, and where current important information is almost freely available to all participants (Fama, 1970). Efficiency means investors have no opportunity of obtaining abnormal returns from capital market transactions. The investor will get a high return by investing in high risk (T̄iṭan, 2015). Based on EMH, the market can be grouped into weak form, semi-strong form, and strong form efficiency (Fama, 1970). The weak form of EMH states that stock prices only reflect past information on shares traded which includes stock prices and trading volume. The efficiency of the semi-strong form assumes that the stock price not only reflects past information but also reflects current information on the shares traded. Investors are not able to obtain abnormal returns only by analyzing published data/information, both past and present data. Strong form efficiency states that stock prices reflect not only past information, current information, but also insider information or unpublished information on the stocks traded (Fama & French, 2004). Stock prices reflect all relevant published and unpublished information that is usually only known by a few parties, such as company management, the board of directors, and creditors. Inefficient market conditions, public and private information that enter the market is immediately received by all market participants, making it difficult for market participants to access the market.

## 2.3. Merger and Acquisition

Mergers and Acquisitions are one of the company's strategies to advance and develop by increasing the company's assets, achieving higher growth, cost efficiency, higher productivity, performance management practices (eg reward, leadership, education, personal development, targets, key performance indicators) and increasing market access (Abidin et al., 2021; Endri et al., 2020c; Triantafyllopoulos & Mpourletidis, 2014; Bernad et al., 2010; Carletti et al., 2007). In

general, the purpose of mergers and acquisitions is to increase the company's profitability (Gugler et al., 2003) and improve operating performance (Mamun et al., 2021). As a country with a Muslim majority population, it has great potential in the Islamic banking business. However, based on the facts, the condition of Islamic banking in Indonesia is still far behind conventional banks particularly in terms of capital. Therefore, the merger policy of the 3 major Islamic banks (BRIS, BNIS, and BSM) aims to form a larger and more efficient bank which was carried out during the COVID-19 pandemic as a solution to the crisis faced.

Mergers can also affect the welfare of stockholders through the abnormal returns being reflected in the stock price. The increase in stock price will impact stock return. To see whether the market reacts to the merger announcement, it can be seen from the change in the stock price of the company that carried out the merger. Several previous studies have tried to prove the existence of a market reaction due to the announcement of a merger change on the company's price change. Research results in Pettit (197) states that the market reacts very dramatically to merger announcements regardless of whether there is an increase or decrease. Based on observations, there is a significant abnormal return value in 20 days around the announcement day. The effect of mergers and acquisitions on the stock price behavior of banking sector in Pakistan by using event study analysis from 2002 to 2012 indicate that most of the firms experienced negative while some firms have shown positive abnormal and cumulative abnormal returns following the activity. Overall, the results indicate that the market responded negatively towards the phenomenon of mergers and acquisitions in the banking sector of Pakistan (Rahman et al., 2018).

This study analyzes whether there is an abnormal return around the merger announcement 7 days before the merger and 7 days after as a proxy for the market response to the merger differences in returns due to the merger. The mean difference test was used to find out whether there is a different abnormal return between and after the merger announcement. In addition, to find out more about the impact of the merger with return and volume of transaction, a t-test analysis using the ANOVA program will be calculated to find out whether the difference in operating performance on 5 months or 98 days before and after the announcement at the levels of significance of 5%. The hypothesis is built as follows:

Ho1: There is no difference in abnormal returns in 14 days window before and after the merger

Ha1: There is a difference in abnormal returns in 14 days window before and after the merger

Ho2: There is no difference in financial performance in 5 months before and after the merger

Ha2: There are differences in financial performance in 5 months before and after the merger

## 3. Methodology

Event study describes a financial analysis technique that observes the impact of a particular event on a company's stock price (Mackinlay, 1997). The data used in this study are secondary data that is quantitatively obtained from the yahoo finance website that include the stock prices of BRIS (Indonesia Islamic Bank) and market index (JKSE) from September 2020 to June 2021. The event study period is 14 days, divided into a pre-event period consisting of 7 days before the announcement and a post-event period consisting of 7 days after the announcement. The success of the merger carried out can be assessed by looking at the operational performance of the companies conducting the merger. The analysis of the comparison of the average return, risk, and trading volume is an additional analysis that will be tested using the paired sample t-

test model to see changes in performance before and after the announcement of the merger.

The general strategy used in the event study is to predict the amount of abnormal return around the announcement day. The statistical approach commonly used by researchers to measure the abnormal return around merger announcement date. The initial step is to determine the value of  $\alpha$  and  $\beta$  of the security, then calculate the abnormal return or excess returns obtained by shareholders on the day around the announcement due to certain events such as merger announcements. The single index model is used to calculate the  $\alpha$  and  $\beta$  to get an abnormal

return, fundamental and market risk value. The next step is to interpret the results and present the conclusions of the results of the analysis. Explanation of the results of the analysis and conclusions are very important to determine whether the researcher's hypothesis can be accepted, which means that the research provides results that are by the theory and common sense, or vice versa. In the literature, no one clearly states how long the estimation period is, how long is the event window and how long is the post-event window. The absence of clear boundaries makes the study use different periods in calculating the abnormal return as described in figure 1.

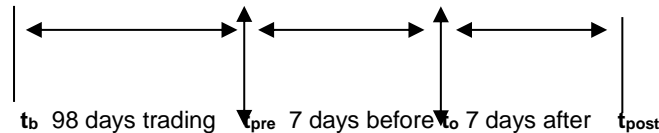


Figure 1: Event study period

where :

$t_b$  = initial period used to estimate stock returns

$t_{pre}$  = initial period used to calculate abnormal returns

$t_0$  = the day of the event where the merger was announced

$t_{post}$  = the last period of abnormal return calculation.

The formula used to calculate BRIS and market returns as in Nurhayati and Endri (2020), can be written as

$$R_{it} = \frac{P_{it} - P_{it-1}}{P_{it-1}}$$

$$R_{mt} = \frac{JCI_{mt} - JCI_{mt-1}}{JCI_{mt-1}}$$

Where :

$P_{it}$  = individual stock price  $t$

$P_{it-1}$  = individual stock price  $t-1$

$JCI_{mt}$  = jakarta composite index  $t$

$JCI_{mt-1}$  = jakarta composite index  $t-1$

The actual individual and market return that has been calculated is used as the basis for formulating  $\alpha$  and  $\beta$  to measure expected returns and abnormal returns. The expected return is calculated after the values of  $\alpha$  and  $\beta$  are obtained and substituted in the following market model methodology can be formulated as :

$$E(R_{it}) = \alpha + \beta \cdot E(R_{mt})$$

Standard mean-adjusted returns are used to calculate abnormal returns. Abnormal return is the difference between the estimated market return and the actual return.

$$AR_t = R_{it} - E(R_{it})$$

Furthermore, abnormal returns are calculated 7 days before and 7 days after the announcement of the merger. The equation used is as follows:

$$AR_{af} = \sum_{t=0}^7 AR_t \quad AR_{bf} = \sum_{t=-7}^0 AR_t$$

Where :

$AR_{bf}$  = abnormal return before the merger announcement

$AR_t$  = abnormal return period  $t$

$AR_{af}$  = abnormal return after merger announcement

By using the t-test, it can be seen whether there is a significant difference between abnormal returns before and after the announcement. The mean difference test was carried out by comparing the statistical t value (t count) with the critical t value (t table). If the value of t count is in the area of acceptance of

$H_0$ , it means that there is no difference between the average stock return and the predicted return, meaning that the abnormal stock return is not different from zero. If this happens at the time of the announcement, it means that the announcement of the merger is not immediately followed by a stock return reaction (up or down). Conversely, if it is in the rejection area of  $H_0$ , it means that there is a significant difference from 0 and if this occurs at the time of the announcement, then the announcement of the merger is immediately followed by stock reactions at the time of the announcement.

## 4. Results and Discussion

The analysis will be carried out in several parts, namely: a). Analysis of the actual return, abnormal return on the day around the merger announcement as a reaction to the merger announcement. The results of testing the research equation model are based on the hypothesis that has been compiled. b). Different tests of the abnormal return before and after the merger. c). Different tests of the actual return and their effect on volume 5 months before and after the merger

### 4.1. Abnormal Return

To analyze short-term abnormal returns near the announcement, we employ a standard event methodology. The abnormal return value in the 14 days window can be calculated by determining the alpha ( $\alpha$ ) and beta ( $\beta$ ) coefficients using the Sharpe single index model equation. Table 1 reports abnormal returns near the announcement. Based on the calculation, it is known that  $\beta$  at 7 days before the merger announcement was 1.619295 and the alpha was -0.03442. While the beta value after the merger announcement was 8.8841631 and the intercept ( $\alpha$ ) was -0.02217. The  $\beta$  and  $\alpha$  will be used in the calculation to get the expected return and get the abnormal return value by subtracting the total return from the expected return. Stock return before the announcement of the merger was dominated by negative returns. Only on days -2 and -5 before the announcement, return is positive, while on other days it is negative. After the merger announcement, there are 4 days where the return is positive and 3 days is negative. The lowest abnormal return before the announcement of the merger occurred on day 3 of -0.026936146 and the lowest stock return after the announcement occurred on day 3 with a value of -0.004615692. The highest average stock return before the announcement was reached on the 5th day with a value of 0.046892224 and the highest average return after the announcement was achieved on the 5th day, which was

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0.032295153.

	Day	Return		Beta ( $\beta$ )	Intercept ( $\alpha$ )	$\beta \cdot RM$	ER= $\alpha + \beta(RM)$	AR=TR-ER
		BRIS (Y)	RM (X)					
Before	1	-0.068702	-0.01957	1.619.295	-0.03442	-0.0317	-0.066120	-0.002581
	2	-0.0676156	-0.021243	1.619.295	-0.03442	-0.0344	-0.068824	0.00120
	3	-0.0695364	-0.005048	1.619.295	-0.03442	-0.00818	-0.042600	-0.026936
	4	-0.0679012	-0.018918	1.619.295	-0.03442	-0.03063	-0.065058	-0.002842
	5	0	-0.007699	1.619.295	-0.03442	-0.01247	-0.046892	0.046892
	6	-0.0689655	-0.016645	1.619.295	-0.03442	-0.02695	-0.061378	-0.007587
	7	-0.0465753	-0.002468	1.619.295	-0.03442	-0.004	-0.038421	-0.008153
After	1	-0.0678571	-0.003906	8.841.631	-0.02217	-0.03454	-0.056704	-0.011152
	2	0.0536398	0.0056106	8.841.631	-0.02217	0.049607	0.027438	0.026201
	3	-0.0254545	0.0048488	8.841.631	-0.02217	0.042872	0.020702	-0.046156
	4	0,011194	0.0072880	8.841.631	-0.02217	0.064439	0.042269	-0.031075
	5	0.0922509	0.0092884	8.841.631	-0.02217	0.082125	0.059955	0.032295
	6	-0.0439189	-0.004380	8.841.631	-0.02217	-0.03873	-0.060902	0.016983
	7	0.0141342	0.0026465	8.841.631	-0.02217	0.0234	0.001230	0.012903

Table 2: t-Test: Two-Sample Assuming Equal Variances

As shown in table 2, the average abnormal return at 7 days after the merger better than the average abnormal return at 7 days before the merger, indicating that the market responded positively to the Islamic bank merger, although the t-test value of the difference of abnormal return values was not significant. The variance before the merger of 0.000510782 and after the merger of 0.00090083 indicates a relatively low deviation, which

means that the average returns on securities are the same as each other. Based on this situation, the Indonesian Stock Exchange can be categorized as an inefficient stock market in a weak form. This conclusion is also supported by the results of testing the average difference between returns before and after the announcement which produces an insignificant p-value.

	Before	After
Mean	-2.97381E-18	8.4258E-18
Variance	0.000510782	0.00090083
t Stat	-8.02752E-16	
P(T<=t) two-tail	1	
t Critical two-tail	2.17881283	

Table 2: t-Test: Two-Sample Assuming Equal Variances

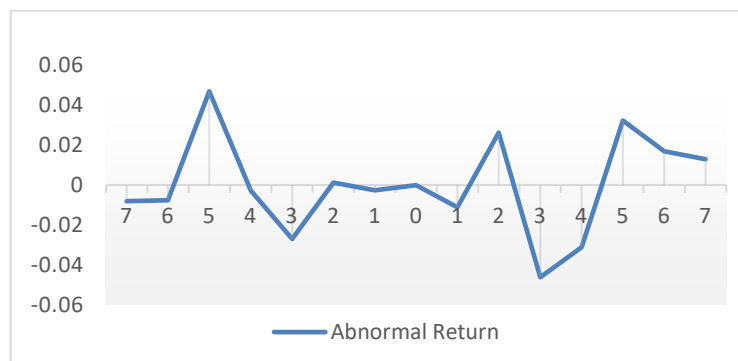


Figure 2: Abnormal Return around 14 Days Before and After Merger Announcement

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After analyzing the abnormal returns of BRIS, we conclude that the stock market returns reaction is insignificant to the merger announcement. This result is obtained using mean-adjusted returns and the market model methods for 14 days event windows (Andrianto & Mirza, 2016).

## 4.2. Return, Risk, and Trading Volume

To find out more about banking performance in the months

	Return Saham		Volume Perdagangan	
	Before	After	Before	After
Mean	-0.001789	0.012832	79808806.1	229962156
Variance	0.001486	0.00432	1.37E+16	3.37E+16
t Stat	1.899657566		6.8573625	
P(T<=t)	0.05896155		8,92882E-11	
t Critical	1.972267533		1.972141222	

Table 3: *t-Test: Two-Sample Assuming Equal Variances for Return and Volume*

Table 3 different test results using t-Test: two-sample assuming equal variances shows that the probability value of the stock price before, during, and after the announcement also has a significance value of less than 0.05. This shows that the market reacted well before the merger announcement and is significant in 0.05 alpha. Calculation of the total risk in the 5 months before and after the merger or during the 98 days of observation produces the risk value as shown in table 4. The calculation of both systematic and unsystematic risk is carried

before the merger and how it differs from performance after the merger, the next discussion is to compare the performance indicators of BRIS in that period using stock returns and risk and the trading volume for 5 months before the merger, starting in September. 2020 to January 2021 and after the merger, namely from February to June 2021. The results of the different test results for average stock returns and trading volume in the period before and after the merger are presented in table 3 below.

out to determine the risk-return balance model based on the Sharpe single index model. The results of risk calculations are consistent with the relationship of risk-return, high-risk high return, and low-risk low return. The increase in stock returns after the announcement of the merger in 5 months of observation or about 98 days was accompanied by an increase in risk with the difference in total risk before and after the announcement of the merger of 0.00355397 or 0.35%.

Risk	Before	After
Systematic Risk	1E-07	0.00026227
Unsystematic Risk	9.9971E-06	0.00330179
Total Risk	1.0097E-05	0,00356406
Difference	0.00355397	

Table 4: *Systematic, Unsystematic, and Total Risk*

The merger is an important strategy for Islamic banking in Indonesia. The merger of the 3 largest Islamic banks in Indonesia has been reinvigorated during the COVID-19 pandemic and is expected to be a solution to the financial crisis conditions faced due to the unprecedented COVID-19 pandemic breakout for bigger and more efficient Islamic bank formation. This finding is in line with the previous research about the effect of the announcement of Greek banking mergers and acquisitions (M&A) taken in the event of a financial crisis and found a negative potential return before and after M&A and cumulative abnormal returns are not statistically significant for any of the periods (Antoniadis et al., 2014). As testing of Efficient Market Hypothesis, these research results are consistent with previous results conducted by Andrianto & Mirza, (2016) who conducts research on EMH testing in the Indonesia Stock Exchange and can prove that Indonesia Stock Exchange can be categorized as a weak form of efficient market hypothesis (EMH).

## 5. Conclusion

This study examines abnormal returns in the merger announcement of 3 major Islamic banks in Indonesia. The calculation of abnormal return on 7 days after and before the merger shows the market responded positively to the Islamic bank merger event as proved by a positive change in return 7 days after the merger, although the t-test value showed the

difference in abnormal return values was not significant. Based on the actual average abnormal return indicates that there was a leak of information received by investors on the 5th day before the announcement of the merger. The resulting form this study showed that during 14 days event window, The Indonesia Stock Exchange can be categorized as week form efficiency.

These findings must be considered under the pandemic COVID-19 outbreak faced by banks not only in Indonesia but also around the world. Increasing stock return and trading volume after merger announcement in line with the purpose of bank merger namely to form a larger bank that has strong capital so that they can compete on a national and global scale. These research results are consistent with the efficient markets hypothesis (EMH) as an overview of efficient market behavior in an emerging country such as Indonesia

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