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Concentration Level and Market Power of Islamic Bank Industry: Analysis of Pre and Post Bank Syariah Indonesia Merger

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Abstract

This paper attempted to examine the concentration and the degree of market power in the Indonesian Islamic Bank Industry during the pre and post-Bank Syariah Indonesia mega-merger. However, using the Strategic Tripod concept, this paper explored the response of the competitor pursuant to the merger. This paper used two main secondary data sources, which were 2 quarterly financial reports before the merger and 1 quarterly financial report after the merger of 34 Islamic bank data, and applied the Herfindhal-Hircsmann Index and Concentration Ratio of the top 5 Islamic banks. This paper discovered that the concentration ratio was at a moderate level. Moreover, based on the CR5 calculation result, Islamic banks have an oligopoly market structure. As for the response to the mega-merger, this paper divides 34 islamic banks into 3 clusters which are full-fledged Islamic banks (*Bank Umum Syariah*), Private Owned Islamic Subsidiary (*Unit Usaha Syariah*), Province Owned Islamic Subsidiary (*Unit Usaha Syariah Bank BPD*). Based on the strategic tripod, the strategy of the Islamic full-fledged bank orchestrates resources to win the competition. The privately owned Islamic Subsidiaries are taking advantage of their resource sharing with their parents. Meanwhile, the Province Islamic subsidiary's strategy relies on the regulations determined by the bank shareholders, who, in this case, are the government province.

Keywords: *HHI, CR5, Islamic Bank Industry, Concentration Level, Bank Syariah Indonesia Merger*

I. Introduction

Since early 1990, Indonesia has deployed a dual banking system that allows Islamic Banking (IB) and Conventional Banking (CB) to run their business under one regulator, which is the Central Bank of Indonesia (before 2011) and Indonesia Financial Authority (after 2011). For almost three decades, experts have denoted that Indonesia IB is in a "5% trap," where the market share is locked in below 6%, raising concern within the industry. Although

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Islamic banks' assets are growing, the 5% trap is a result of conventional banks also experiencing growth (bisnis.com, 2020).

This is a concern for the government, which also fully supports the industry. To cater to this problem, in October 2020, the government decided to merge three IBs owned by state-owned banks, which are Bank Syariah Mandiri (BSM), Bank Negara Indonesia Syariah (BNIs), and Bank Rakyat Indonesia Syariah (BRIs) to be one bank namely Bank Syariah Indonesia (BSI). According to the Ministry of Stated Owned Enterprise, Mr. Erick Thohir posits that the BSI decision was made to boost the market share of the industry. Moreover, He also targeted that BSI will be on the top 10 list of biggest Islamic banks in the world (Kontan.co.id, 2021).

Like a coin side, this important decision will positively affect banking efficiency and transform the market structure as well as industry competition on the negative side (Asngari et al., 2018). Before the Merger, there were 34 Islamic banks, which comprised 14 full-fledged Islamic banks (Bank Umum Syariah) and 20 Islamic Bank Subsidiary (Unit Usaha Syariah) (OJK,2020). However, after the merger, the number decreased to 12 BUS and 20 UUS, amounting to 32 IB. As of December 2020, according to OJK (2020), the total assets of the industry were IDR 593 trillion. Yet, Bank Syariah Indonesia itself, as the new entity, contributes 42% of the total assets of the Islamic Bank amounting to IDR 239 trillion. As per BSI CEO Mr. Heri Gunardi, BSI will focus on transforming its service digitally to reach the millennial market in Indonesia. This strategy was also responded to by Bank Aladin Syariah (previously Bank Net Syariah), which also focuses on digital banking with the same segment as the BSI.

It changes the market structure as well as industry competition. The merger completely changed the competition in the IB Industry. Thus, this paper examined the market structure and concentration ratio using the Herfindahl Index and CR5 index pre- and post-merger. Moreover, this paper also examined the strategy of other IBs as a response to the BSI merger. This paper consists of 5 sections. The first section is an introduction that addresses the phenomena of the BSI merger and the problems that arise from the merger. Subsequently, this paper will scrutinize the theoretical aspects based on the Industrial Organization Theory and briefly explain two indexes by Mike Peng's strategy tripod to assess the reaction of the other Islamic banks in the industry. After that, the methodology section will explain the data source, the operational variable of the Herfindahl Index and CR5 index, and the modus operandi to solve the research problem. Section 4, a discussion, identifies the status of the BSI after the merger, the result of market structure and concentration calculation, as well as the factual aspect of the strategy tripod. This paper will be enriched by determining the BSI competitor's market structure and response.

II. Literature Review

2.1. Industrial Organization View of the Banking Industry

Banking is an Industry based on the Industrial Organization (IO) view (Asngari et al., 2018; Azevedo & Gartner, 2020; Cupian & Abduh, 2017). In the context of IO, two theories identify the nature of banking structure and competition: the Structure-Conduct-Performance (SCP) and efficient structure theory. Both have different views on how the banking industry operates.

The Structure-Conduct-Performance (SCP) Hypothesis

According to the Structure-Conduct-Performance (SCP), the firm's performance is derived from industry structure. These three categories are used to see one industry market structure and competition map. The Islamic banking market structure will affect the IBs' behavior in the market and will determine the industry's performance. In the SCP context, according to Van Hoose (2010), the fewer banks in the market, the higher the concentration in the industry. Moreover, banks will charge higher margins on financing disbursed to customers and try their best to pay the interest to depositors as low as possible to maximize the profit. In the SCP context, Van Hoose also concludes that the performance of a bank depends on the market power that the bank has. To explore more the SCP model, the below diagram will give the details:

Figure 1. The SCP Model
Source: (Tan, 2016b, 2016a)

In the SCP hypothesis, the industry concentration level will determine how banks conduct their business. According to Van Hoose (2010, pp. 56), in a more concentrated banking market represented by fewer banks that offer banking services, this bank will benefit by offering a low higher rate of loan and a lower deposit rate. In this case, Van Hoose (2010, pp. 56) argues that consumer welfare will also be reduced. Based on the above diagram, the market structure can be measured by the number of competitors, product heterogeneity, and cost of entry/exit. In the concentrated market, the higher cost of entry as well as exit at the end will also limit the number of competitors. Thus, fewer banks in the market will create product heterogeneity since cost leadership will be more favorable for them in the concentrated market, and they try to broaden the product mix. Moving on to the Banking Conduct, when the bank has market power, they can set the price of the deposit as well as the loan. Moreover, there is no significant product differentiation since those banks create a competitive advantage by setting the price, not making innovative products to take more customers from the rivals. Moreover, tacit collusion might have happened in the banking industry in the concentrated market. Some banks will make informal agreements regarding what market they want to target to create a win-win solution. The structure of the industry and bank conduct will drive the performance of the bank in the end. There are three measurements of it: productive efficiency, allocative efficiency, and profitability. To measure the SCP model, some empirical papers like Cupian & Abduh (2017) and Azevedo & Gartner (2020) use two ratios to measure the market power: the Herfindahl Index and CR5 Ratio.

The Herfindahl-Hirschman Index (HHI) is a measurement of market concentration that can be calculated by adding up the square of each company's market share in the industry. Researchers use it to know the structure of the market. However, regulators often implement it to measure market concentration and evaluate mergers. For example, whenever two banks merge, it is to determine whether the merger will result in monopoly power in violation of antitrust laws (Azevedo & Gartner, 2020; Cupian & Abduh, 2017). The formula of HHI is the sum square of the banks' market share, or in this paper, researchers investigated Islamic Bank. To make it clear, below is the formula of the HHI (Azevedo & Gartner, 2020; Cupian & Abduh, 2017):

$$Herfindahl - Hirschman\ Index = 10.000\ x\ (S_1^2 + S_2^2 + S_3^2 + S_4^2 + \cdots . S_n^2) \text{ .....(1)}$$

Based on the above equation, S is the market share of the bank. The interpretation of the above index is that when the result is close to 0, it means that the market is competitive where the result is 10.000 or (100%). It means that a monopoly is happening in the industry which is analyzed. To clarify the interpretation, below is the explanation from the U.S. Department of Justice and the Federal Trade. Commission regarding the interpretation of the HH Index:

Table 1. Interpretation of HHI Index

Concentration level	Interpretation
H < 100	Highly Competitive Industry
H result is ranging from 101 to 1500	Low Concentration Industry
H result is ranging from 1501 to 2500	Moderate Concentration
H result above 2501	High Concentration

Source: (Horizontal Merger Guidelines, 2010, p. 18)

The second measurement of the SCP model is the CR5 ratio, where, in the financial context, the concentration ratio is used to determine the amount of market concentration. It is constructed by using bank market share in the Islamic Bank Industry. Market share can be demarcated as a Bank proportion of total Islamic Bank Industry assets. The market share can also be classified as a company's market capitalization as a percentage of the industry's total market capitalization or any other dimension that designates the company's magnitude and supremacy compared to its challengers. The concentration ratio (CR) is the total percentage of the market proportion of the largest company in an industry. The n-firm concentration ratio is a common indicator of market configuration and shows the pooled market share of the largest n-firms in the industry. For example, if n = 5, CR-5 defines the total market share of the five largest firms in the industry. Below is the formula of the CR5 (Gavurova et al., 2017; Huang & Lee, 2013; Karkowska & Pawłowska, 2019):

$$CRn = C_1 + C_2 + \cdots + C_n \text{ .... (2)}$$

Referring to the above equation, C_n represents the market proportion of nth bigger firm or Islamic Bank, while n defines the number of firms included in the concentration ratio calculation. Below is the interpretation of the CR according to Azevedo & Gartner (2020):

Table 2. Interpretation of Concentration Ratio

Concentration level	Interpretation
Perfect Competition	When all players in the industry have the same exact market share
Low Concentration	When the result is 0-40% and interpreted as perfect competition or monopolistic a.
Medium Concentration	If the result is 41% to 70%, it is considered an oligopoly, which is dominated by a small number of firms.
High Concentration	If the result is above 71 %, it is considered a monopoly.

Source: (Azevedo & Gartner, 2020)

The result can be interpreted into four classifications after calculating the market share according to the above equation. When all Islamic banks have the same market share, the industry structure can be classified as perfect competition. Moreover, when the CR results in the range of 0%-40%, it can be classified as a monopolistic marker. The result, which ranges from 40-70%, can be classified as an oligopoly, and we can state that the industry monopoly when the CR is above 70% (Azevedo & Gartner, 2020). This ratio has some culprit since it doesn't count the weight distribution of the company.

Merger and Market Structure

Van Hoose (2010, p. 90) reviewed some papers that studied the market power of the US banks before and after consolidation. After the merger, the market power increased significantly. Pursuant to that, the one of US government department U.S. Department of Justice and the Federal Trade. Commission issued a standard which they called Horizontal Merger Guidelines. There is an interesting thing that can be replicated for other regulators. As written on page 18, they used the Herfindahl–Hirschman Index as the measurement of concentration as well as the market structure (Horizontal Merger Guidelines, 2010, p. 18). It is said that:

a. When the difference between the HHI index before and after the merger is below 100 points, the official sees no change in the industry structure, and no further merger analysis is needed.
b. When the merger pushes the HHI index between 100 points and 1500 points, the official said that it is unlikely to have an adverse impact on the industry and that no further analysis is needed.
c. When the HH index after the merger moves up the concentration level from low to moderate concentration, as per table 1 above, there is concern of competitive concern. The official will closely monitor the industry and can call industry participants for investigation.
d. Mergers done in highly concentrated markets pushing the HHI between 100 points and 200 points will have significant competitive problems and should be investigated to prevent monopoly. When a merger happens in highly concentrated markets that increase the HHI by more than 200 points, it is assumed that it will likely increase the market power. In this case, officials should call the entity to ensure they will not exercise the market power.

As discussed in the SCP model, when the HH index changes to a high concentration, the market is close to monopoly. This might impact the welfare of society since banks are unwilling to give more credit to the community. In the case of the US market, Banks push the loan rate up while their disbursement policy becomes stricter. It directly impacts on the property market since its value plunges due to the absence of bank financing. Moreover, Banks took advantage of increased profit efficiency and better risk diversification. This finding is also in line with the finding of Al-Muharrami (2019), who stated that the mergers and acquisitions in the Oman banking industry drive it into a highly concentrated market.

Strategic Tripod

Peng et al. (2009) proposed a concept called the strategic tripod. It is a combination of three mainstream views in strategic management: the industry-based view, the institutional-based view, and the resource-based view. The main argument of Peng et al. (2009) was that a firm's performance depends on the strategy they choose. Moreover, the strategic choice should consider the tripod: market condition, government policy and movement, and the firm's resource constraints. The more volatile the tripod, the more the firms cannot focus on one strategy. Several strategies should be applied to sustain the competitive advantage and keep the performance level high from time to time. Below is the diagram of the strategic tripod:

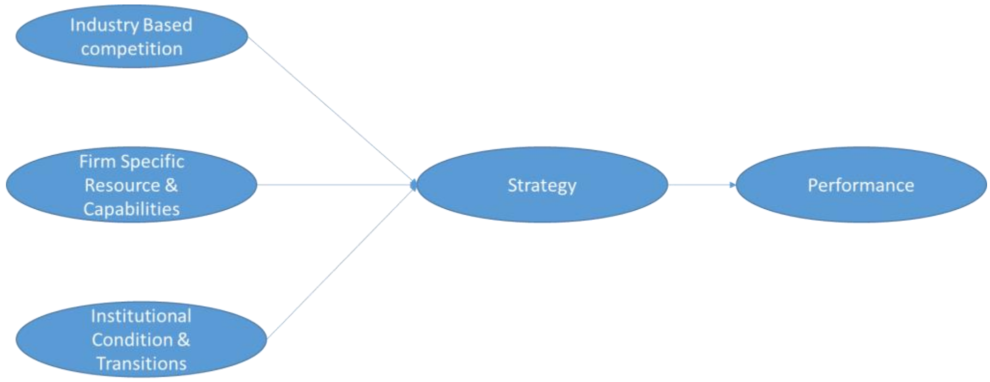

Figure 2. Strategic Tripod
Source: (Peng et al., 2009)

Peng et al. (2009) argued that there is a need to put another view in strategic management besides the market-based and resource-based views, which are the institutional-based views. According to Peng et al. (2009), *"Institutions directly determine what arrows a firm has in its quiver as it struggles to formulate and implement strategy"* (page 63). This phrase is the key to why they added the third view since the regulators who are drivers of the institutional-based view have the role of setting the industry game and will push the firms to fit their strategy as the response. The tripod concept by Peng et al. (2009) has passed four fundamental questions to define whether it can apply to strategic management. The first question is regarding why one firm differs from other firms. In accordance with the resource-based view, firms exhibit heterogeneity based on their individual resources, whereas the industry-based view posits that firm networks vary from one company to another. From the institutional-based view, regulators' existence may differ from firm to firm.

Moving on to the second question on how firms behave, Peng et al. (2009) said that each leg has its own answer, which is interrelated. In the industry-based view, the firm's strategic action focuses on maintaining its position with the five stakeholders who force the firm to behave in the market. Meanwhile, based on the resource-based view, the specific capabilities possessed by the firm will determine their behavior. Yet, in the institutional base view, the industry's formal and informal game rules matter. On the third question of what determines the scope of the firm, Peng et al. (2009) said that both the industry-based and resource-based views concern product-relatedness diversification. In this case, neither view can explain why the related diversification can occur, yet it can promote the conglomeration and change the market structure into a monopoly. In this third question, the institutional base gives a logical explanation since the scope of the market, which, in this case, is related, can be executed because formal and informal rules allow them. The last question is what determines success or failure for the firms. The industry-based view asserts that the level of competition will drive performance, while the proponent of the resource-based view says that firms' specific capabilities can determine performance. Lastly, the institutional-based view affirmed that the ability of the firm to learn the regulation will also define the performance.

The strategic tripod will complement the IO view on banking competition. This concept will be used as the basis to analyze what strategy the other Islamic banks used to counter the mega merger of the state-owned Islamic banks used. The counterstrategy will be analyzed from the market perspective of the industry-based view, the resource perspective of the resource-based view, and the formal and informal regulation perspective of the institutional-based view. Most of the research on strategic tripods, like Gao et al. (2010) and Heredia et al. (2020), focused on internationalization, and this paper will give another angle of the strategic tripod by relating it to the realities in the Islamic banking industry.

2.2. Empirical Research on Market Structure in Islamic Bank

Al-Muharrami's (2019) paper scrutinized the market structure of Oman's banking industry, and it also presents the shape of the market structure whenever the Central Bank of Oman approves the merger. Al-Muharrami (2019) used the Herfindahl–Hirschman Index (HHI) and the biggest k-banks Concentration Ratio (CRk), using 17 years of data from 1997 to 2014. The study finds that Oman's Banking Industry is very concentrated, which raises an issue that if CBO approves a merger in the future, it will make the market more concentrated. The concentration ratio in the deposit market implies a concentrated market, with CR2 and CR3 recording 67 and 85%, respectively, while HHI reached 2,864 points in 1998. However, in 2014, the concentration level had decreased, with CR2 and CR3 recording 52 and 65%, respectively, and HHI standing at 2,112 points.

Cupian & Abduh's paper aims to determine Islamic banks' industry structure and market power in Indonesia from 2006 to 2013. This paper used several sets of measures of competition and market power in the methodology. They use concentration ratios and Herfindahl–Hirschman index to measure how tight the competition is. Moreover, they use the Panzar–Rosse H-statistic and Lerner index to know the degree of power the Islamic bank can exercise in the market. The finding of this study has shown that high concentration levels happened in Indonesia's Islamic banking. Moreover, Indonesia's Islamic banking industry operates with higher market power, leading to a less competitive market. Islamic banks earn their revenues under monopolistic competition over the tested period.

Yuanita's (2019) research is close to this research since she wanted to see the effect of a merger bank on bank performance by implementing the SCP hypothesis. The paper said that the bank merger changed the market structure. According to the SCP hypothesis, market structure affects bank behavior and performance. The result of this study suggests that an increase in market concentration causes a price decrease. It shows that mergers increase economies of scale so that banks can offer lower prices, so a price decrease brings down bank profitability.

III. Methodology

In this research, the primary data source is derived from secondary data published by Otoritas Jasa Keuangan (OJK) to conduct a comparative analysis of concentration levels and market power before and after the mega-merger of Bank Syariah Indonesia. The dataset comprises unaudited quarterly financial reports of Islamic banks for Q3 2020, Q4 2020, and Q1 2021. The selection of these timeframes is anchored in the merger announcement in October 2020 and its execution in February 2021. Specifically, Q3 2020 and Q4 2020 represent conditions before the merger, while Q1 2021 represents the post-merger phase, as substantiated in a press conference by Mr. Erick Thohir, the Minister of State-Owned Enterprises.

The research encompasses a population of 34 Islamic banks, categorized into 14 Full-Fledged Islamic Banks, 7 Private-Owned Islamic Bank Subsidiaries, and 13 Province-Owned

Islamic Bank Subsidiaries. All 34 banks are considered as the sample for comprehensive analysis. To gauge concentration ratio and market power, the study employed the Herfindahl-Hirschman Index (HHI) and Concentration Ratio (CR5) following the methodologies outlined in the literature review. HHI calculations involve determining the market share of the 34 Islamic banks, computed as the total assets of individual banks divided by the total assets of the Islamic banking industry. The resulting market shares are squared, summed, and multiplied by 10,000 to derive the HHI Index, with interpretation elucidated in the literature. For the CR5 ratio, the data for all 34 Islamic banks is sorted based on the proportion of market share, and the top 5 banks for each of the three periods (pre- and post-merger) are identified. The interpretation of concentration and market power is grounded in criteria expounded upon in the literature review.

Shifting to data analysis, the study delves into the second research question concerning competitors' responses to the merger. Response data is sourced from bank websites or reputable news agencies. The analysis adopts the Strategic Tripod theory by Peng et al. (2009) to categorize Islamic banks into three clusters: Full-Fledged Islamic Banks, Private Islamic Subsidiaries, and Province-Owned Islamic Subsidiaries, aligning with OJK's classification. The comprehensive list of banks according to clusters is provided in the appendix. Throughout this analytical process, Microsoft Excel was employed as the principal tool for generating descriptive statistics, calculating indexes, and conducting data analysis.

IV. Results and Analysis

4.1. Result

Descriptive Statistics

The descriptive statistic is calculated using Microsoft Excel. Two indicators that will be on this part are the amount of total asset in IDR and the percentage of the market share.
Based on the data in Appendix 2, below is the result of the descriptive statistics:

Table 3. Descriptive Statistic Result (in Million IDR)

	Q32020		Q42020		Q12021 (After Merger)	
	Total Asset	Market Share	Total Asset	Market Share	Total Asset	Market Share
Number of Data	34	34	34	34	32	32
Mean	16.538.509	2,90%	17.461.090,56	2,94%	18.475.969,03	3,13%
Maximum	119.427.355	21,20%	126.907.940	21,38%	234.427.001	39,65%
Minimum	728.152	728.152	721.397	0,12%	1.221.492	0,21%
Sum	562.309.314	1	593.677.079	100%	591.231.009	100%
Std Deviation	24.490.656	0,044	25.569.580,06	0,043	41.646.443,42	0,07

Source: OJK (2021) and modified with Excel by author

Based on Table 3 above, the number of Islamic banks in Indonesia has decreased due to the Bank Syariah Indonesia Merger. In Q3 2020 and Q4 2020, three banks, Bank Syariah Mandiri, BNI Syariah, and the BRI Syariah, still exist and report their financial position to OJK independently. However, in Q1 2021, since the merger of Bank Syariah Indonesia became effective on February 1, BSI submitted one financial report to OJK based on the summation of three bank financial positions. Moving on to the average asset and the market share, the mean of total assets in these 3 quarters improved by 1 trillion every quarter. Moreover, the average of market shares in the observation period ranges from 2,9% to 3,13%.

Based on the dataset in Appendix 2, the total asset of Islamic banking is IDR 562 trillion in Q32020, IDR 593 trillion in Q42020, and IDR 591 trillion in Q42021. Moreover, in Q32020 and Q42020, *Bank Syariah Mandiri* was the biggest bank in terms of assets, while the *Aladin* Bank was the lowest bank in total assets. However, since the merger took place in February 2021, Bank Syariah Indonesia has the biggest total asset amounting IDR 234 trillion after comingling Bank Syariah Mandiri, BNI Syariah, and *BRI Syariah*. In the same period, Aladin Bank was still the smallest of 34 Islamic banks in the population.

This paper also calculates the standard deviation of the data to determine how the data is distributed in a sample and see how close the data is to the mean or average of the sample. Before the merger, the standard deviation of total assets was around IDR 24.4 trillion in Q32020, which is 25.5 trillion from the mean. Moreover, the standard deviation of market share is around 4.4% (Q32020) and 4.3% (Q42020). Due to the merger, we can see dramatic changes in total assets and market share standard deviation. In Q12021, the new standard deviation is IDR 41.6 trillion from the mean of total assets and 7% from the mean of market share. This result indirectly shows the dynamic changes in the Islamic bank industry and will give a useful snapshot before discussing the HHI and CR5 findings.

The Herfindahl – Hirschmann Index

Using the formula written in equation one and the OJK data, this paper has calculated the HHI. The details of the calculation on three observation data sets are shown in Appendix 2. This section only provides the summary in the form of the graph below:

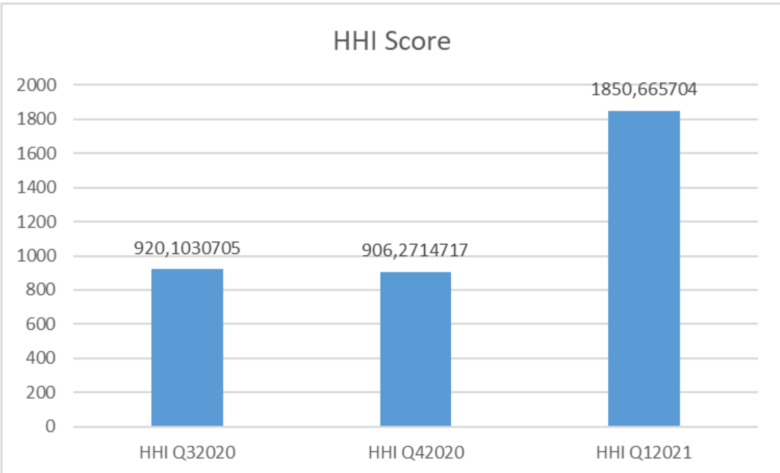

Figure 3. HHI Result of Islamic Bank Industry
Source: OJK (2021) and processed by the author using Microsoft Excel

Based on the above diagram, before the merger in Q3 and Q4 2020, the concentration was 920 and 906 points, respectively. According to Table 1, before the *Bank Syariah Indonesia* mega-merger, the Islamic banking industry was categorized as a low-concentration industry. At this moment, *Bank Syariah Mandiri* was the biggest bank, with a 21.2 % market share in September 2020 and a 21.38% market share in December 2020. However, the concentration level changed dramatically in March 2021 since the HH Index reached 1850 points. In this case, *Bank Syariah Indonesia* has the biggest asset with 239 trillion or 43%

market share of the industry. This condition is the main cause of the increase in standard deviation before and after the merger.

The Change of HHI before and after the merger aligns with the previous research from Yuanita (2019) who analyzed the concentration ratio in the conventional banking industry. Her result showed that the HHI increased after the merger. Moreover, *Bank Syariah Indonesia* (BSI) will benefit from the merger since it will be more efficient in terms of pricing. According to Juanita (2019), the bigger the bank asset, the better pricing will be given to the future debtor since BSI will get its economy of scale. Pursuant to this phenomenon, the suggestion from Al-Harammi (2019) should be considered by the regulators. He said that the supreme bank regulator, which in this case is OJK, should carefully grant merger licenses in the future to prevent the harmful effect of the monopoly. To analyze the market structure, the concentration ratio will be employed in the below section.

The Concentration Ratio 5 Calculation

This research will use the Concentration Ratio 5 (CR5 Ratio) to determine the market structure of the Islamic banking industry. Below is the summary of the CR5 ratio from the observation.

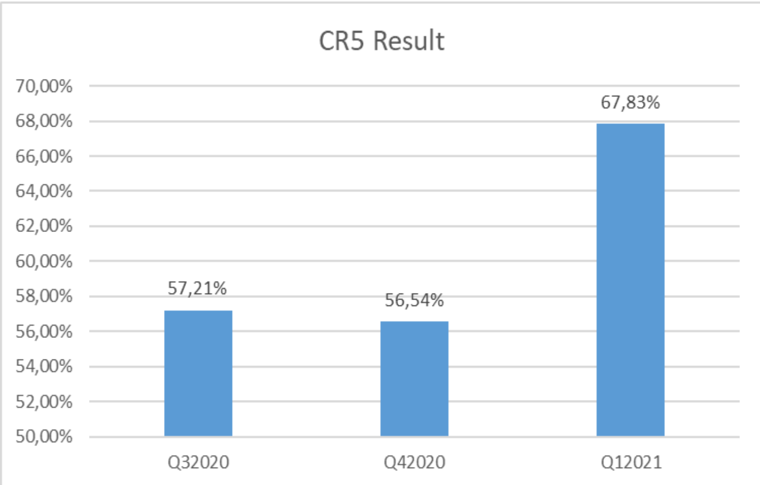

Figure 4. CR5 Result Before and After Merger
Source: OJK (2021) and processed by the author using Microsoft Excel

Based on Table 2, the market structure of Islamic banks before the merger is classified as the oligopoly Industry since the result of CR5 is 57% in Q32020 and 56% in Q42020. Again, due to the *Bank Syariah Indonesia* merger, the CR5 ratio increased by 11,2 % to 67,83%. Regarding the structure of the Islamic Bank Industry, *Cupian & Abduh* (2017), based on the CR5 calculation, said that Islamic Banking is an oligopoly industry. The market structure remains unchanged, although Cupian & Abduh's (2017) research was done using data from 2006 to 2013.

4.2. Discussion

This part discusses the Islamic Banking Snapshot by giving a short history of Islamic banks and subsequently discusses the competitors' response based on Peng et al.'s strategic tripod (2009).

Islamic Banking Snapshot

The Islamic Banks (IBs) in Indonesia have been familiarized 29 years since the establishment of PT. Bank Muamalat Indonesia (Ismal, 2010). Behind this expansion, the history of IBs in Indonesia has been verified in numerous phases. The 1st phase is the starting phase from 1992 to 1998. At that time, President *Soeharto* approved Banking Law No. 7 of 1992 as well as Government Regulation No. 72 of 1992. This phase was the major foundation of the industry's future since the government acknowledged IB and defined it on the decree as a bank that operated under a profit-sharing system instead of interest. The government at that time made the breakthrough via a finance minister who allowed banks in Indonesia to offer "zero percent interest "for its loan disbursement activities (Anshori, 2008; Ascarya & Yumanita, 2005, p. 50). At this period, *Bank Muamalat* was the only Islamic bank in Indonesia and faced the conventional bank giant.

The next phase is called the "recognition phase" in 1998 – 2008 by the Issuance of Law No. 10 – 1998, which acted as an amendment of Law No. 7 1992 (Anshori, 2008). In this context, the government is on familiar terms with the Islamic bank by broadening the definition of a Bank in Indonesia. Before the amendment, the bank definition only focused on the conventional bank, while in the new law, the government redefined the definition by putting the Islamic bank as a new type of banking in Indonesia that focuses on offering service in an Islamic way (Ascarya & Yumanita 2005, p.51). this law is the first legal standing that started the era of the dual banking system in Indonesia. At this time, Bank Muamalat Indonesia survived the 1998 monetary crisis. In 1999, the number of the Islamic bank became 2 with the introduction of *Bank Syariah Mandiri* (BSM). *BSM* was formed by *Bank Mandiri,* who bought *Bank Susila Bakti* and transformed it into the Islamic Bank. Moreover, according to the OJK (n.d.) website, another Islamic Bank also flourished within this period with the establishment of the Islamic subsidiaries of Bank IFI, *Bank Niaga, Bank BTN, Bank Mega, Bank BRI, Bank Bukopin, BPD Jabar and BPD Aceh*.

The third phase is called the "purification phase" by enforcing law No. 21 of 2008 regarding the Islamic Bank (Anshori, 2008). This law was the first law that focused on the Islamic Bank. Many changes have occurred since the introduction of this law. One notable change that benefits the industry is the government's decision to allow conventional banks to have their Islamic bank subsidiary. The issuance of the Sharia Banking Law has encouraged an increase in BUS from as many as 5 BUS to 11 BUS in less than two years (2009-2010).

Seven years after the purification phase in 2015, the Islamic banking industry consisted of 12 full-fledged Islamic banks, 22 Islamic bank subsidiaries owned by Conventional Banks, and 162 Islamic Rural Banks with total assets of IDR 273.494 trillion, with a market share of 4.61%. At that time, the Islamic banking business was concentrated in DKI Jakarta with total gross assets, financing, and Third-Party Funds are Rp. 201.397 trillion, Rp. 85,410 trillion and Rp. 110.509 trillion. It happened since the entire Islamic bank has headquarters in the capital city of Indonesia. In this period, the Islamic finance industry welcomed a new entrant, the Islamic Fintech startup. Some Islamic banks also offer digital banking services to their customer as a response to the new entrant.

2020 might be the fourth phase of the fast development of the Islamic Bank in Indonesia. This was triggered by the government's decision to merge three subsidiaries of state-owned bank BSM, BNI Syariah and BRI Syariah into one company named *Bank Syariah Indonesia by President Jokowi* (OJK, 2021a). The merger took place on February 1, 2021. It changes the Islamic banking market position and share. According to Table 4, *BSM, BNI Syariah, and BRI Syariah* were among Indonesia's top three Islamic banks as of September 2020 and

December 2020. Based on the assets, these banks own 40 percent of the industry market share. Below these banks, *Bank Muamalat Indonesia* was in fourth place with a 90 percent market share, followed by the Islamic Bank Subsidiary of CIMB Niaga, with almost the same market share as *Bank Muamalat*. The top five list of biggest Islamic banks based on the assets changed in March 2021. Referring to Table 5, a huge impact has been made pursuant to the merger.

Table 4. Five Biggest Islamic Banks Before the Merger

No	Bank Name	Q329 Asset	Market Share	Q420 Asset	Market Share
1	Bank Syariah Mandiri	119.427.355,00	21%	126.907.940	21%
2	BRI Syariah	56.096.769,00	10%	57.715.586	10%
3	BNI Syariah	52.391.698,00	9%	55.009.342	9%
4	Bank Muamalat Indonesia	48.785.792,00	9%	51.241.304	9%
5	CIMB Niaga Syariah	44.995.535,00	8%	44.782.821	8%

Source: OJK (2021) and processed by the author using Microsoft Excel

Table 5. Five Biggest Islamic Banks After the Merger

No	Bank Name	Q121	Market Share
1	Bank Syariah Indonesia	234.427.001,00	40%
2	Bank Muamalat Indonesia	51.775.158,00	9%
3	CIMB Niaga Syariah	45.346.693,00	8%
4	Maybank Syariah	35.877.003,00	6%
5	Bank BTN Syariah	33.627.190,00	6%

Source: OJK (2021) and processed by the author using Microsoft Excel

Referring to the CR5 result, there is an 11.2% increase from December 2020 to March 2021. However, referring to Table 5, and there are changes in the top 5 banks for CR5 calculation. Before the merger, the top 5 banks were BSM, BRI Syariah, BNI Syariah, Bank Muamalat Indonesia, and *CIMB Niaga Syariah*. After the merger, *Bank Muamalat* became the second biggest Islamic bank in Indonesia. Moreover, there are new names on the top 5 list. *Maybank Syariah dan BTN Syariah* was previously in the 6th and 7th place and has now jumped to the 4th and 5th place.

Response of Competitor based on Strategic Tripod Framework

As per the strategic tripod mentioned and explained briefly in the literature review, this section will highlight the notable response of other Islamic banking pursuant to the BSI merger. This section will be divided into three subsections. The first section will be the full-fledged Islamic bank (*Bank Umum Syariah*), the second section will discuss the cluster of Private Owned Islamic Subsidiaries (*Unit Usaha Syariah Bank Swasta*), and the third cluster should be the province-owned Islamic subsidiary. The separation is because their operation is typical.

The Islamic Bank has its own uniqueness in terms of an intuitional-based view. Similar to conventional banks, which should only comply with the positive law in Indonesia, Islamic banks should be more cautious in operating their business since they should comply with the Islamic Law (Dar, 2013). In the case of Indonesia, all Islamic banks are bound to the *Dewan Syariah Nasional of Majelis Ulama Indonesia (DSN-MUI).* DSN-MUI has the strategic role of new product innovation in the industry. Sometimes, innovation in Islamic banks will take longer than in conventional banks, especially for a new product that has not been decided on in terms of Sharia by the *Dewan Syariah Nasional*. Based on Peng et al.'s (2009) tripod, Islamic banks have one distinct capability that conventional banking does not have. Dar (2013) asserts that all Islamic banks should have good Sharia capabilities to create new products and control the sharia compliance of the product launched to the market.

Response of Islamic Full-Fledged Bank

According to Appendix 1, before the merger, the number of Islamic Full Fledge was 14, yet the number decreased to 12 since BSI consists of three state-owned Islamic banks: *BSM, BNI Syariah*, and *BRI Syariah*. Among 12 Islamic banks on the list, *Aladin* Bank is the smallest since its assets are only 1.2 trillion. They are the smallest, even though they are the first Islamic banks to declare Islamic digital banking, which targets the millennial segment.

Based on the first tripod, which is the institutional-based view, the full-fledged Islamic bank is in an unfavorable condition to compete with the Islamic Bank Subsidiary. This is referring to the Bank Indonesia regulation No. 11/10/PBI/2009 concerning Islamic Bank Subsidiary. In this case, the decree said the minimum capital required to open an Islamic Bank Subsidiary is IDR 100 billion. This is a small number compared to the minimum capital for a full-fledged Islamic Bank since they should have a minimum of IDR 1 trillion, according to PBI No. 11/3/2009.

In the view of resource-based theory, full-fledged Islamic banks must manage their resources by themselves without the assistance of their conventional parent company. The impact is quite huge since they need financial resources to finance their future capital expenditure, especially in technology. Pursuant to this, some Islamic banks are making strategic alliances to develop their technological capabilities without investing too much, so they need more financial resources. For example, based on an interview with the CEO of *OneShaf* Fintech Platform, *Ramadhoni Chandra*, they are making a strategic alliance to develop digital banking in response to the *BSI* strategy to maximize the digital platform. Aside from that, *Bank Muamalat* Indonesia, in response to the *BSI* market power in April 2021, signed a strategic alliance agreement with *flip* to provide the bank customers with free interbank transfers. This strategy is to make them as powerful as *BSI* who has huge network after the merger (Walfajri, 2021), which can provide free transfer among the customers. *Panin Dubai Syariah* also cooperates with IT companies to develop their digital banking. In April 2021, they signed a Memorandum of Understanding with the IT vendor to build the application, which will be finished in 2022 (Shariafinance, 2021). Aside from cooperation with fintech in orchestrating the resource, *Bank Aceh Syariah* was cooperating with the *Muamalat Institute* to train their funding officer so that they are ready to compete with another Islamic Bank.

Moving on to the industry-based view, *BCA Syariah* responded to the BSI merger by making a strategic alliance with garasi.id online platform for selling used cars (BCA Syariah, n.d.). The cooperation agreement was signed in April 2021. In this case, *BCA Syariah* deploys the focus strategy by servicing the marketplace. In this case, based on the data, in 2020, sales of used cars in garasi.id increase 89%. *BCA Syariah* joins the ecosystem to provide Islamic vehicle financing as an alternative for customers who want to buy a car in halal ways. Besides *BCA Syariah, BTPN Syariah* prefers to focus on another niche market: microfinancing for "*emak-emak*." This business model has been validated since it contributes to improving financing, amounting to 6% in the pandemic (Rahardyan, 2021).

Response of Private-Owned Islamic Subsidiary

Based on Appendix 1, 7 privately owned Islamic bank subsidiaries are included in the HHI and CR5 calculation. *CIMB Niaga Syariah* has the biggest asset, with IDR 45 trillion in March 2021. Moreover, *Maybank Syariah* has the lowest assets in the cluster, with 3,587 trillion assets. Based on the first tripod of Peng et al. (2009), as mentioned in the previous section, the privately owned Islamic bank has benefited from the relaxation of the bank capital to run the Islamic banking business. They need to provide IDR 100 billion as per *Bank Indonesia Decree No. 11/10/PBI/2009*. Moreover, in the last two years, based on OJK decree No. 02/POJK/2016, the private owned Islamic subsidiary has the advantage of using its parent bank channel without opening a branch. This is the competitive advantage given to this cluster by regulations. However, this privilege will not take any longer. OJK released and urged the conventional bank with their Islamic subsidiary to do spin off based on Islamic Banking No. 21 Tahun 2008 law. Most conventional banks have opposed this regulation since, for them, it makes the operation inefficient. After lobbying the OJK, who acts as the regulator, finally, the press release from OJK stated that now the obligation to do the spin-off is canceled since the capital requirement is quite high, and at the same time, this cluster needs more capital to do digital transformation (Sidik, 2021).

In terms of resources, this cluster shares all its technological resources with its parent bank. The *Pemata Syariah* is one example of a bank that used the technological infrastructure of *Permata Bank* Conventional. This sharing infrastructure gives a competitive advantage to compete with full-fledged Islamic banks. In May 2021, *Permata Syariah* launched the first super apps for Islamic banking under *Permata X* (Lingga & Djatmiko, 2021). Moreover, they also take advantage of resource sharing by building an ecosystem for the Islamic Rural Bank (*BPRS*) (Puspaningtiyas, 2021). What *Permata* did is brilliant since they tried to get profit based on the network effect theory when all BPRS joined the ecosystem.

Not only *Permata Bank, OCBC NISP Syariah* also entered the digital ecosystem using their parent company infrastructure and channel. They partnered with one of the peer-to-peer lending companies, *Awantunai*. The conventional unit of OCBC NISP will handle the conventional lending activity, while their Sharia business unit will cover the financing of the Islamic supply chain (Hutauruk, 2021). This strategic alliance will give new niche markets so that they can survive in the competition. *Danamon* also did the same thing as *NISP Syariah* by making a strategic alliance with the biggest peer-to-peer platform *investree* (fintech platform), for conventional and Islamic financing (Investree, 2021). *Maybank Syariah* is the only Islamic bank in the cluster that opened a new physical branch after the BSI merger. They are opening three branches in Aceh, Malang, and Jambi.

In conclusion, this cluster is doing the same strategy: using the parent company's IT infrastructure and collaborating with them in channeling financing to fintech as the response to the BSI Merger.

Response of Province-Owned Islamic Subsidiary

Based on the appendix 1, there are 13 Islamic banks in this cluster. The biggest Islamic bank in this cluster is *Bank DKI Syariah,* with a total asset of IDR 6.3 trillion in March. *BPD Yogya Syariah* is the smallest bank, with an asset size of IDR 1.4 trillion. This cluster is unique since the majority shareholders are the provincial government. On the institutional side of the tripod, this cluster relies on the governor's regulations to speed up its growth. For example, *Bank Riau Kepri Syariah*, through their Governor, *Mr. Syamsuar*, wants to convert their existing conventional bank to a full-fledged Islamic bank. The target of this plan is Q22021.

If this happens, *Bank Riau Kepri* will jump into the top 6 banks since their total conventional and Islamic bank assets are IDR 26 trillion. This paper also makes the simulations if *Bank Riau Kepri* converted to fully Fledged Islamic bank. Based on appendix 3, the HHI index decrease from 1850 points as of March 2021 to 1743 points. This conversion positively impacts the industry since it decreases the concentration index. Moreover, in the light of the resource-based view, they don't have good competence to build the digital ecosystem in Riau Province. Pursuant to that, they make strategic alliances with *Asosiasi Fintek Syariah Indonesia* (*AFSI*) to form digital center so that they can escalate the SMEs in *Riau* to be bankable with the support of Islamic fintech. *Bank SumselBabel* also doing strategic alliance with *PT. Amartha Fintek* to provide both conventional and Islamic financing. This cooperation will help them reach the unbanked person using the network and technology of *Amartha Fintek*.

Besides *Bank Riau Kepri, BPD Syariah Sumbar (Bank Nagari)* also considered converting their conventional bank to a full-fledged Islamic Bank. This is interesting since it will make a more competitive Islamic banking environment. As of March 2021, Bank Nagari's total assets are IDR 25.35 trillion. We also simulate *Bank Nagari* converting their business to a fully Islamic bank. According to Appendix 4, the HHI will increase from 1743 points (after including *Riau Kepri* as a full-fledged Islamic Bank) to 1760 points. Although the HHI has increased, it is still in moderate concentration. In conclusion, the strategy in this cluster is mostly affected by the institutional view leg of Peng et al. (2009) tripod. The province government has the biggest stake in the bank capital. The Islamic bank's likelihood of securing a strong position in the industry is directly proportional to the level of favorability shown by the governor towards it.

V. Conclusions & Recommendation

The merger aims to boost the Islamic banking industry in the future. However, it also has a negative impact. Based on the HHI, the concentration in Islamic banks ranged from 906 to 950 points before the merger. After the merger, the HHI index jumped almost twice to 1850. With this fact, based on the CR5 calculation, there is no difference in terms of market structure before and after a merger. Islamic banks in Indonesia have an oligopoly market structure.

There are many types of responses from other competitors considering Peng et al.'s (2009) strategic tripod. Since this paper divides the bank into three clusters for the purpose of analysis, the strategy is typical. The Islamic banks in search of the economic scale do not have sufficient resources to compete in the industry. Thus, most are making a strategic alliance with Islamic Fintech for full-fledged Islamic banks and resource sharing with parent banks for Islamic subsidiaries. This paper also found unique conclusions, especially for the province-owned Islamic Bank. For this cluster, the institutional-based view is the most influential tripod to be the basis for choosing the strategy to boost performance. Moreover, converting province-owned Islamic Bank to a full-fledged one will make the Islamic banking industry more competitive and possibly raise society's welfare.
This paper also gives practical implication as well as recommendation for regulators to follow what has been done by the US Department of Justice and Fair Trade. The regulator should use the HHI index as the basis of regulating the competitive banking environment. As per table 2 in the literature review, the regulators should investigate the market player when the concentration level increases from low to moderate or even to high concentration. This investigation will be influential to make sure that no firm in this case is Islamic Banking

can exercise their market power to make sure the social benefit is achieved for the goodness of society.

This paper also has several limitations. The first limitation is regarding the data. Since the mega BSI merger just happened in February 2021, the data is limited. Thus, this research only uses the March 2021 financial report as the basis of the HHI and CR5 calculations. For further research, we suggest broadening the data span so that the result can be more robust. Also, when data span is broadened, future research can use more sophisticated methods like regression to give more understanding on the phenomenon. The second limitation is regarding the index used. HHI and CR5 have their own weaknesses thus further research can consider calculating other indexes such as *Panzar-Rosse Model and Lerner Model*.

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Appendix 1

3 Cluster of Islamic Bank in Indonesia According to OJK

List of the Bank Before Merger According to OJK

No	Fullfledged Islamic Bank Cluster	No	Private Owned Islamic Subsidiary Cluster	No	Province Owned Islamic Subsidiary Cluster
1	Bank Syariah Mandiri	1	CIMB Niaga Syariah	1	BPD DKI Syariah
2	BRI Syariah	2	Maybank Syariah	2	BPD Riau Kepri Syariah
3	BNI Syariah	3	BTN Syariah	3	BPD Sumsel Babel Syariah
4	Bank Muamalat Indonesia	4	Bank Permata Syariah	4	BPD Sumut Syariah
5	Bank Aceh	5	Danamon Syariah	5	BPD Jateng Syariah
6	BTPN Syariah	6	Sinarmas Syariah	6	BPD Jatim Syariah
7	Bank Mega Syariah	7	OCBC NISP Syariah	7	BPD Sumbar Syariah
8	Panin Dubai			8	BPD Kaltim Syariah
9	Bank NTB Syariah			9	BPD Kalsel Syariah
10	BCA Syariah			10	BPD Kalbar Syariah
11	BJB Syariah			11	BPD Jambi Syariah
12	Bukopin Syariah			12	BPS SulselBar Syariah
13	Bank Victoria Syariah			13	BPD Yogya Syariah
14	Bank Aladin				

List of the Bank Ater Merger According to OJK

No	Fullfledged Islamic Bank Cluster	No	Private Owned Islamic Subsidiary Cluster	No	Province Owned Islamic Subsidiary Cluster
1	Bank Syariah Indonesia	1	CIMB Niaga Syariah	1	BPD DKI Syariah
2	Bank Muamalat Indonesia	2	Maybank Syariah	2	BPD Riau Kepri Syariah
3	Bank Aceh	3	BTN Syariah	3	BPD Sumsel Babel Syariah
4	BTPN Syariah	4	Bank Permata Syariah	4	BPD Sumut Syariah
5	Bank Mega Syariah	5	Danamon Syariah	5	BPD Jateng Syariah
6	Panin Dubai	6	Sinarmas Syariah	6	BPD Jatim Syariah
7	Bank NTB Syariah	7	OCBC NISP Syariah	7	BPD Sumbar Syariah
8	BCA Syariah			8	BPD Kaltim Syariah
9	BJB Syariah			9	BPD Kalsel Syariah
10	Bukopin Syariah			10	BPD Kalbar Syariah
11	Bank Victoria Syariah			11	BPD Jambi Syariah
12	Bank Aladin			12	BPS SulselBar Syariah
				13	BPD Yogya Syariah

Source: https://www.ojk.go.id/id/kanal/perbankan/data-dan-statistik/laporan-keuangan perbankan/default.aspx

Appendix 2

The Result of HHI Index

1. Q3 2020 HHI Index (in Million IDR)

HHI Index As of September 2020 (Before Merger)

	Bank Name	Q320 Asset	Market Share	Market Share^2
1	Bank Syariah Mandiri	119.427.355,00	21,24%	0,045108364
2	BRI Syariah	56.096.769,00	9,98%	0,009952339
3	BNI Syariah	52.391.698,00	9,32%	0,008681093
4	Bank Muamalat Indonesia	48.785.792,00	8,68%	0,007527247
5	CIMB Niaga Syariah	44.995.535,00	8,00%	0,006403071
6	Maybank Syariah	35.765.237,00	6,36%	0,004045495
7	BTN Syariah	32.710.567,00	5,82%	0,003383963
8	Bank Aceh	26.753.211,00	4,76%	0,002263608
9	Bank Permata Syariah	22.612.344,00	4,02%	0,001617114
10	BTPN Syariah	15.469.361,00	2,75%	0,000756823
11	Bank NTB Syariah	11.248.543,00	2,00%	0,000400168
12	Panin Dubai	10.693.157,00	1,90%	0,000361627
13	Bank Mega Syariah	9.524.748,00	1,69%	0,000286917
14	BCA Syariah	8.583.874,00	1,53%	0,000233032
15	BJB Syariah	8.049.588,00	1,43%	0,000204926
16	Sinarmas Syariah	6.347.422,00	1,13%	0,000127422
17	Danamon Syariah	5.937.172,00	1,06%	0,000111483
18	DKI Syariah	5.806.114,00	1,03%	0,000106616
19	OCBC NISP Syariah	5.434.222,00	0,97%	9,33951E-05
20	Bukopin Syariah	5.106.577,00	0,91%	8,24725E-05
21	BPD Jateng Syariah	4.863.640,00	0,86%	7,48122E-05
22	BPD Riau Kepri Syariah	3.708.189,00	0,66%	4,34884E-05
23	BPD Sumsel Babel Syariah	3.474.866,00	0,62%	3,81879E-05
24	BPD Sumut Syariah	2.368.301,00	0,42%	1,77388E-05
25	BPD Jatim Syariah	2.211.293,00	0,39%	1,54647E-05
26	Bank Victoria Syariah	2.134.607,00	0,38%	1,44107E-05
27	BPD Sumbar Syariah	1.956.794,00	0,35%	1,21099E-05
28	BPD Kalsel Syariah	1.801.613,00	0,32%	1,02653E-05
29	BPD Kaltim Syariah	1.779.879,00	0,32%	1,00191E-05
30	BPD Kalbar Syariah	1.703.378,00	0,30%	9,17638E-06
31	BPS SulselBar Syariah	1.481.568,00	0,26%	6,94213E-06
32	BPD Yogya Syariah	1.268.253,00	0,23%	5,08699E-06
33	BPD Jambi Syariah	1.089.495,00	0,19%	3,75405E-06
34	Bank Aladin	728.152,00	0,13%	1,67685E-06
		562.309.314,00	100,00%	0,092010307
	The Result of HHI Index			
	(a) Sum of Market Share^2	0,09		
	(b) The HHI point	10.000,00		
	(c) The HH Index Result	920,10	= (a) x (b)	

Source: Data is Taken from OJK and Processed by Author

2. Q4 2020 HHI Index (in Million IDR)

HHI Index As of December 2020 (Before Merger)

		Q420 Asset	Market Share	
1	Bank Syariah Mandiri	126.907.940,00	21,38%	0,045695878
2	BRI Syariah	57.715.586,00	9,72%	0,009451172
3	BNI Syariah	55.009.342,00	9,27%	0,008585633
4	Bank Muamalat Indonesia	51.241.304,00	8,63%	0,007449717
5	CIMB Niaga Syariah	44.782.821,00	7,54%	0,005690132
6	Maybank Syariah	35.256.979,00	5,94%	0,003526871
7	BTN Syariah	33.032.487,00	5,56%	0,003095865
8	Bank Aceh	25.480.963,00	4,29%	0,001842176
9	Bank Permata Syariah	24.735.557,00	4,17%	0,001735972
10	BTPN Syariah	16.435.005,00	2,77%	0,000766371
11	Bank Mega Syariah	16.117.927,00	2,71%	0,000737085
12	Panin Dubai	11.302.662,00	1,90%	0,000362461
13	Bank NTB Syariah	10.419.758,00	1,76%	0,000308045
14	BCA Syariah	9.720.254,00	1,64%	0,000268074
15	BJB Syariah	8.884.354,00	1,50%	0,00022395
16	Danamon Syariah	7.440.931,00	1,25%	0,000157092
17	Sinarmas Syariah	6.903.015,00	1,16%	0,0001352
18	DKI Syariah	6.763.844,00	1,14%	0,000129804
19	Bukopin Syariah	5.223.189,00	0,88%	7,74053E-05
20	BPD Jateng Syariah	5.432.705,00	0,92%	8,37398E-05
21	BPD Riau Kepri Syariah	5.078.845,00	0,86%	7,31862E-05
22	OCBC NISP Syariah	4.570.374,00	0,77%	5,92656E-05
23	BPD Sumsel Babel Syariah	3.504.113,00	0,59%	3,48382E-05
24	BPD Sumut Syariah	3.168.959,00	0,53%	2,84926E-05
25	BPD Jatim Syariah	3.069.057,00	0,52%	2,67245E-05
26	BPD Sumbar Syariah	2.318.207,00	0,39%	1,52477E-05
27	Bank Victoria Syariah	2.296.027,00	0,39%	1,49573E-05
28	BPD Kaltim Syariah	2.128.132,00	0,36%	1,28498E-05
29	BPD Kalsel Syariah	2.060.013,00	0,35%	1,20404E-05
30	BPD Kalbar Syariah	1.745.602,00	0,29%	8,6455E-06
31	BPS SulselBar Syariah	1.468.211,00	0,25%	6,11613E-06
32	BPD Jambi Syariah	1.378.927,00	0,23%	5,39488E-06
33	BPD Yogya Syariah	1.362.592,00	0,23%	5,26782E-06
34	Bank Aladin	721.397,00	0,12%	1,47655E-06
		593.677.079,00	100,00%	9,06%
	The Result of HHI Index			
	(a) Sum of Market Share^2	0,09		
	(b) The HHI point	10.000,00		
	(c) The HH Index Result	906,27	= (a) x (b)	

Source: Data is Taken from OJK and Processed by Author

3. Q1 2021 HHI Index (in Million IDR)

HHI Index As of March 2021 (After Merger)

		Q121 Total Asset	Market Share	
1	Bank Syariah Indonesia	234.427.001,00	39,65%	0,157217489
2	Bank Muamalat Indonesia	51.775.158,00	8,76%	0,007668818
3	CIMB Niaga Syariah	45.346.693,00	7,67%	0,005882702
4	Maybank Syariah	35.877.003,00	6,07%	0,003682289
5	Bank BTN Syariah	33.627.190,00	5,69%	0,003234944
6	Bank Aceh	25.089.678,00	4,24%	0,001800843
7	Bank Permata Syariah	25.566.809,00	4,32%	0,001869987
8	Bank Mega Syariah	17.355.334,00	2,94%	0,000861691
9	BTPN Syariah	17.296.676,00	2,93%	0,000855876
10	Panin Dubai	11.662.639,00	1,97%	0,000389116
11	Bank NTB Syariah	11.008.949,00	1,86%	0,000346719
12	BCA Syariah	9.194.594,00	1,56%	0,000241853
13	Bank Jabar Banten Syariah	8.256.373,00	1,40%	0,000195013
14	Danamon Syariah	7.378.444,00	1,25%	0,000155745
15	BPD DKI Syariah	6.339.962,00	1,07%	0,00011499
16	Sinarmas Syariah	6.194.266,00	1,05%	0,000109765
17	Bukopin Syariah	5.137.968,00	0,87%	7,55211E-05
18	BPD Riau Kepri Syariah	5.017.472,00	0,85%	7,20204E-05
19	OCBC NISP Syariah	4.488.658,00	0,76%	5,76393E-05
20	BPD Jateng Syariah	4.459.820,00	0,75%	5,6901E-05
21	BPD Sumsel Babel Syariah	3.767.883,00	0,64%	4,06144E-05
22	BPD Sumut Syariah	3.322.663,00	0,56%	3,15833E-05
23	BPD Jatim Syariah	2.731.602,00	0,46%	2,13462E-05
24	BPD Sumbar Syariah	2.247.949,00	0,38%	1,44563E-05
25	Bank Victoria Syariah	2.117.098,00	0,36%	1,28223E-05
26	BPD Kaltim Syariah	2.039.576,00	0,34%	1,19005E-05
27	BPD Kalsel Syariah	1.892.307,00	0,32%	1,0244E-05
28	BPD Kalbar Syariah	1.792.684,00	0,30%	9,19376E-06
29	BPD Jambi Syariah	1.653.261,00	0,28%	7,81931E-06
30	BPS SulselBar Syariah	1.496.912,00	0,25%	6,4103E-06
31	BPD Yogya Syariah	1.446.895,00	0,24%	5,98907E-06
32	Bank Aladin	1.221.492,00	0,21%	4,26842E-06
		591.231.009,00	100,00%	18,51%
	The Result of HHI Index			
	(a) Sum of Market Share^2	0,19		
	(b) The HHI point	10.000,00		
	(c) The HH Index Result	1.850,67	= (a) x (b)	

Appendix 3

HHI if Bank Riau Kepri Converted to Islamic Bank

HHI Index As of if Bank Riau Kepri Convert to Islamic Bank

		Q121 Total Asset	Market Share	
1	Bank Syariah Indonesia	234.427.001,00	38,29%	0,146625
2	Bank Muamalat Indonesia	51.775.158,00	8,46%	0,007152
3	CIMB Niaga Syariah	45.346.693,00	7,41%	0,005486
4	Maybank Syariah	35.877.003,00	5,86%	0,003434
5	Bank BTN Syariah	33.627.190,00	5,49%	0,003017
6	Bank Riau Kepri	26.000.000,00	4,25%	0,001804
6	Bank Aceh	25.089.678,00	4,10%	0,00168
7	Bank Permata Syariah	25.566.809,00	4,18%	0,001744
8	Bank Mega Syariah	17.355.334,00	2,83%	0,000804
9	BTPN Syariah	17.296.676,00	2,83%	0,000798
10	Panin Dubai	11.662.639,00	1,90%	0,000363
11	Bank NTB Syariah	11.008.949,00	1,80%	0,000323
12	BCA Syariah	9.194.594,00	1,50%	0,000226
13	Bank Jabar Banten Syariah	8.256.373,00	1,35%	0,000182
14	Danamon Syariah	7.378.444,00	1,21%	0,000145
15	BPD DKI Syariah	6.339.962,00	1,04%	0,000107
16	Sinarmas Syariah	6.194.266,00	1,01%	0,000102
17	Bukopin Syariah	5.137.968,00	0,84%	7,04E-05
19	OCBC NISP Syariah	4.488.658,00	0,73%	5,38E-05
20	BPD Jateng Syariah	4.459.820,00	0,73%	5,31E-05
21	BPD Sumsel Babel Syariah	3.767.883,00	0,62%	3,79E-05
22	BPD Sumut Syariah	3.322.663,00	0,54%	2,95E-05
23	BPD Jatim Syariah	2.731.602,00	0,45%	1,99E-05
24	BPD Sumbar Syariah	2.247.949,00	0,37%	1,35E-05
25	Bank Victoria Syariah	2.117.098,00	0,35%	1,2E-05
26	BPD Kaltim Syariah	2.039.576,00	0,33%	1,11E-05
27	BPD Kalsel Syariah	1.892.307,00	0,31%	9,55E-06
28	BPD Kalbar Syariah	1.792.684,00	0,29%	8,57E-06
29	BPD Jambi Syariah	1.653.261,00	0,27%	7,29E-06
30	BPS SulselBar Syariah	1.496.912,00	0,24%	5,98E-06
31	BPD Yogya Syariah	1.446.895,00	0,24%	5,59E-06
32	Bank Aladin	1.221.492,00	0,20%	3,98E-06
		612.213.537,00	100,00%	17,43%
	The Result of HHI Index			
	(a) Sum of Market Share^2	0,17		
	(b) The HHI point	10.000,00		
	(c) The HH Index Result	1.743,35	= (a) x (b)	

Appendix 4

HHI after Bank Riau Kepri and Sumbar Convert to Full-Fledged Islami Bank

HHI Index As of if Bank Riau Kepri & BPD Sumbar Convert to Islamic Bank

		Q121 Total Asset	Market Share	
1	Bank Syariah Indonesia	234.427.001,00	38,29%	0,146625
2	Bank Muamalat Indonesia	51.775.158,00	8,46%	0,007152
3	CIMB Niaga Syariah	45.346.693,00	7,41%	0,005486
4	Maybank Syariah	35.877.003,00	5,86%	0,003434
5	Bank BTN Syariah	33.627.190,00	5,49%	0,003017
6	Bank Riau Kepri	26.000.000,00	4,25%	0,001804
6	Bank Permata Syariah	25.566.809,00	4,18%	0,001744
7	BPD Sumbar Syariah	25.350.000,00	4,14%	0,001715
8	Bank Aceh	25.089.678,00	4,10%	0,00168
8	Bank Mega Syariah	17.355.334,00	2,83%	0,000804
9	BTPN Syariah	17.296.676,00	2,83%	0,000798
10	Panin Dubai	11.662.639,00	1,90%	0,000363
11	Bank NTB Syariah	11.008.949,00	1,80%	0,000323
12	BCA Syariah	9.194.594,00	1,50%	0,000226
13	Bank Jabar Banten Syariah	8.256.373,00	1,35%	0,000182
14	Danamon Syariah	7.378.444,00	1,21%	0,000145
15	BPD DKI Syariah	6.339.962,00	1,04%	0,000107
16	Sinarmas Syariah	6.194.266,00	1,01%	0,000102
17	Bukopin Syariah	5.137.968,00	0,84%	7,04E-05
19	OCBC NISP Syariah	4.488.658,00	0,73%	5,38E-05
20	BPD Jateng Syariah	4.459.820,00	0,73%	5,31E-05
21	BPD Sumsel Babel Syariah	3.767.883,00	0,62%	3,79E-05
22	BPD Sumut Syariah	3.322.663,00	0,54%	2,95E-05
23	BPD Jatim Syariah	2.731.602,00	0,45%	1,99E-05
25	Bank Victoria Syariah	2.117.098,00	0,35%	1,2E-05
26	BPD Kaltim Syariah	2.039.576,00	0,33%	1,11E-05
27	BPD Kalsel Syariah	1.892.307,00	0,31%	9,55E-06
28	BPD Kalbar Syariah	1.792.684,00	0,29%	8,57E-06
29	BPD Jambi Syariah	1.653.261,00	0,27%	7,29E-06
30	BPS SulselBar Syariah	1.496.912,00	0,24%	5,98E-06
31	BPD Yogya Syariah	1.446.895,00	0,24%	5,59E-06
32	Bank Aladin	1.221.492,00	0,20%	3,98E-06
		635.315.588,00	103,77%	17,60%
	The Result of HHI Index			
	(a) Sum of Market Share^2	0,18		
	(b) The HHI point	10.000,00		
	(c) The HH Index Result	1.760,36	= (a) x (b)	