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Stability, Liquidity, Efficiency, and Profitability After Spin-off Implementation: Evidence from the Indonesian Islamic Banking Industry

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Abstract

The business-unit Islamic bank was forced to separate from its parent company according to Banking Act No. 21 of 2008 that issued by the Indonesian Central Bank. However, the Development and Strengthening of the Financial Sector Act No.4 of 2023 have allowed them not to convert themselves into full-fledged Islamic banks with certain conditions. Thus, doing spin-offs will be appealing if it is beneficial for them. However, the benefit of converting a business-unit Islamic bank spin-off into a full-fledged Islamic bank has yet to be entirely evident. This study aims to determine how spin-off affects the stability and financial performance, covering the profitability, efficiency, and liquidity of spin-off business-unit Islamic banks in Indonesia. Using difference-in-difference (DID) analysis, this study examined four spin-off full-fledged Islamic banks as the treatment group and twenty business-unit Islamic banks as the control group from 2005 to 2019. The parameter used are return on equity (ROE), cost-to-income ratio (CIR), financing-to-deposit ratio (FDR), quick ratio (QR), and Z-score. The result indicates that profitability and efficiency are decreasing, while the liquidy kept increasing after the spin-off undertaking. However, the stability has not been found to have evidence of significant differences after spin-off implementation.

Keywords: Islamic Bank; Spin-off; Liquidity; Stability; Difference-in-Difference

A. INTRODUCTION

Indonesian regulation defines banks as financial institutions that collect money to be deposited and distribute it to society through loans to improve their standard of living (The Banking Act No. 10 of 1998). However, there were a few differences when we discussed the Islamic bank. Veithzal & Veithzal (2008) explained that the difference is that Islamic banks conduct business following Sharia law or Islamic principles as an intermediary financial institution. According to Indonesia Financial Service Authority (OJK), it must be reasonably balanced, beneficial, and universal under Islamic principles. In addition, to include obscurity/doubt, speculation/gambling, interest, and illegitimate items are forbidden. According to Yumanita & Ascarya (2005), the Islamic principle includes specific provisions, such as the incorporation of a Sharia Supervisory Board, the use of only halal business activities, and profit-loss share with customers based on an Islamic contract. According to the Islamic Banking Act No.21 of 2008, an Islamic bank is categorized into two types. First, a full-fledged Islamic bank is a bank that stands on its own and is not supported by its initial parent company. While the business-unit Islamic bank is the bank, the parent company still supports it as its Sharia subsidiary. (Al Arif, 2015) defined Islamic banking spin-offs in Indonesia as resulting from the separation of organizational units distinct from the parent company, as evidenced by the different guiding principles employed by each. From 2009 to 2010, full-fledged Islamic banks increased significantly from five to eleven (Detik Finance, 2018). Until 2019, nine full-fledged Islamic banks were created through conversion or were already present as full-fledged Islamic banks, and only five banks were created through the spin-off of their established parent company. Therefore, there were fourteen full-fledged Islamic banks and twenty business-unit Islamic in Indonesia before four full-fledged Islamic banks were merged into one of Indonesia's most prominent ones (OJK, 2019).

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In response to the growing number of full-fledged Islamic banks, Indonesian Central Bank has issued Islamic Banking Act No.21 of 2008 that requires business-unit Islamic banks to be converted into full-fledged ones if their asset value reaches 50 percent of the total asset value of their parent company, or no later than 15 years after the regulation becomes effective. However, the new regulation of Development and Strengthening of the Financial Sector Act No.4 of 2023 has resolved the time concern that required all business-unit to convert themselves into full-fledged Islamic banks in 2023. Thus, it is not required for these business-unit banks to convert themselves if they have not reached 50 percent of their parent's company total assets. However, they must comprehend whether this conversion or spin-off benefits their performance and stability. Thus, we studied the previous study of spin-offs before empirically investigating the Islamic bank spin-off case.

We look at spin-off cases in all industries due to the uncommon spin-off in Islamic banking outside Indonesia. (Woo et al., 1992) studied the spin-off case in the United States of America that found that the profitability of 37 distinct industries decreased after the spin-off. The industry encompasses utilities, transportation, apparel, computing, food, mining, real estate, and other industries. (Koster, 2004) found a similar finding when he investigated spin-off cases using a survey of dispersed entrepreneurs in the United States. He found that after the spin-off, the profitability decreased due to the costs that gave more burden as it needed to cover itself. While in the university case, the spin-off using an entrepreneurial orientation resulting insufficient evidence of a direct impact on profitability (Walter et al., 2006). The profitability issue in university spin-offs could be addressed by increasing the operational efficiency within the university administration (Epure et al., 2016; Parmentola & Ferretti, 2018). However, in the Islamic bank spin-off case in Indonesia, (Trinugroho et al., 2021) found that the profitability of a spin-offed full-fledged Islamic bank is lower than that of a business-unit Islamic bank. With these previous studies, we developed the first hypothesis as the profitability of the business-unit Islamic bank decreased after the spin-off was implemented.

A little prior study covers the spin-off study related to efficiency. While in the general case, (Belkhaoui et al., 2020) have studied the Islamic bank in GCC countries. They found that a financing strategy could be necessary for the bank's efficiency in Islamic banks. Profit margin financing positively influences a bank's cost efficiency, increasing the bank's profitability. (Zarrouk et al., 2016), Those who studied Islamic banks in the Middle East and North Africa found a positive relationship between profitability and efficiency. They implied that managing more capital also affects Islamic bank profitability. However, when comparing Islamic and conventional banks, the conventional bank still leads the efficiency better than the Islamic bank (Satibi et al., 2018). Like the profitability case, (Trinugroho et al., 2021) found that spin-offed full-fledged Islamic banks have lower efficiency than a business-unit Islamic bank. With this prior research, we developed the second hypothesis as the efficiency of the business-unit Islamic bank decreased after the spin-off was implemented.

(Margaretha & Aditya, 2016; Hutapea & Kasri, 2010) have examined the relationship between liquidity and profitability in Indonesian conventional and Islamic banks. Their finding is similar to those (of Arif & Anees, 2012), which investigated Pakistani banks and explained that liquidity negatively affects profitability. While studies in a few Asian and European nations suggest that Islamic banks have a higher liquidity risk than dual-system banks (Mohammad et al., 2020). Despite the risk in these countries, the Report of Indonesia Banking Statistics 2019 published by Indonesia Financial Services Authority indicates that Islamic banks have been more liquid than conventional banks over the past five years. (Ali & Puah, 2019) also explained that the profitability of an Islamic bank in Pakistan tends to decrease if it has higher liquid assets. According to the first hypothesis, profitability would decline so liquidity would have the opposite effect. In light of this, we developed the third hypothesis as the liquidity of the business-unit Islamic bank increased after the spin-off was implemented.

The bank's stability is essential for the bank to continue to exist. (Antzoulatos et al., 2015) Analyzed the sustainability of banks and found that profitability positively correlates with bank sustainability. (Ali & Puah, 2019) also analyzed stability and explained that profitability positively relates to Pakistan's banking stability. Pakistani research demonstrates that Islamic banks are more stable than conventional banks (Rashid et al., 2017;

Barra & Zotti, 2020), who studied the relationship between financial institution stability and market share, found that as market share increases, stability decreases. However, (Abbas & Arizah, 2019) found that low marketability caused slow market share growth, which reduced profitability. As previously indicated, the first hypothesis is that after the spin-off implementation, profitability decreased. Considering the relationship described, stability has a positive relationship with profitability. In light of this, the fourth hypothesis is formulated as the stability of the business-unit Islamic bank decreased after the spin-off was implemented.

Despite the various research about Islamic banks that have been studied before, the previous research has studied the spin-off case is still limited. This previous study covers various Islamic bank aspects, such as profitability (Trinugroho et al., 2021), efficiency (Trinugroho et al., 2021), third-party funds growth (Al Arif, 2015), market share growth (Al Arif, 2017), and financing growth (Trinugroho et al., 2021). However, there is still room for exploring the liquidity and stability of the spin-off business-unit Islamic bank. Therefore, this study intends to understand the impact of spin-off implementation from a more broad point of view. So, to complete these prior studies, we introduce Z-score for analyzing banking stability after a business-unit Islamic bank spin-off instead of only analyzing banking performance. We also improved the previous study by using all twenty remaining business-unit Islamic banks as the control group and four full-fledged Islamic banks as the treated group instead of using two banks as the sample of the treated group and two banks as the sample of control banks. We also used more extended time observation from 2005 until 2019. Thus, this study examines the effect of a business-unit Islamic bank spin-off on its profitability, efficiency, liquidity, and stability.

B. RESEARCH METHOD

This research studied the impact of Islamic bank spin-off using secondary data from the Indonesia Financial Service Authority website, www.ojk.co.id. With data availability consideration, we studied both full-fledged Islamic banks and business unit Islamic banks from 2005 to 2019—fourteen full-fledged and twenty business unit Islamic banks. However, due to different separation schemes and different times of spin-off implementation, we only studied four full-fledged Islamic banks that completed the separation from their parent company using spin-off schemes between 2008 and 2010. This specific time accommodates the different-in-different methods that must be implemented before and after periods. Thus, the data from 2008 to 2010 will be omitted from the regression to assume that each bank has the same period before and after a spin-off that does not overlap. The other twenty business unit Islamic banks are used as the control group.

We used financial ratios to measure profitability, efficiency, liquidity, and stability. Following (Iqbal et al., 2022), we used return on equity (ROE) to estimate profitability. The ROE was calculated by dividing net profit after tax by total equity. This ratio describes how well the bank managed the equity to generate profit. While for efficiency, we used the cost-to-income ratio (CIR) following (Satibi et al., 2018; Trinugroho et al., 2021). This measurement is obtained by dividing operating expenses by operating income. The smaller value of CIR explains the more efficiently a bank works. We measured liquidity using the financing-to-deposit ratio (FDR) and quick ratio (QR) following (Iqbal et al., 2022). The FDR is estimated by dividing total financing with third-party funds. At the same time, QR is calculated by subtracting inventory from current assets and dividing it by current liabilities. The higher the FDR value and the lower the QR, the more liquidate the bank. Lastly, we used Z-score to measure the bank's stability following (Satibi et al., 2018). The Z-score is used to see the insolvency level of a bank (Roy, 1952). According to Laeven & Levine (2009), a bank will be classified as more stable if its Z-score is higher. According to research by Sudrajad & Hübner (2019), the Z-score is associated with the likelihood of a bank's loss exceeding its equity capital. This Z score calculation incorporates profitability, leverage, and volatility of returns. The Z score could be calculated by adding return on asset (ROA) with the equity-to-asset ratio and then dividing it by the standard deviation of ROA.

Table 1. Treated and Control Group Sample

Treated Group	
Bank	Spin-off implementation
BRI Syariah	November 2008
Bank Bukopin Syariah	December 2009
Bank Jabar Banten Syariah	January 2010
BNI Syariah	June 2010
Control Group	
Bank Danamon Indonesia	BPD Jawa Timur
Bank Permata	BPD Sumatera Utara
Bank Maybank Indonesia	BPD Jambi
Bank CIMB Niaga	BPD Sumatera Barat
Bank OCBC NISP	BPD Riau dan Kepulauan Riau
Bank Sinarmas	BPD Sumatera Selatan dan Bangka Belitung
Bank Tabungan Negara (Persero)	BPD Kalimantan Selatan
BPD DKI	BPD Kalimantan Barat
BPD Daerah Istimewa Yogyakarta	BPD Kalimantan Timur
BPD Jawa Tengah	BPD Sulawesi Selatan dan Sulawesi Barat

Source: research data, 2023

This study's control variable is capital, LnTA, GDP growth, and foreign exchange rate. Capital is the ratio of total bank equity to total bank assets. LnTA is the natural logarithm of the total assets of the bank. GDP growth is the real quarterly GDP growth rate. The foreign exchange rate (ER) is the local currency unit per US Dollar. This variable is selected based on the other banking-related literature control variable (Berger et al., 2017; Soedarmono et al., 2011; Sudrajad & Hübner, 2019).

This study applied difference-in-difference analysis to determine whether the spin-off occurrence affects the spin-off bank's performance and stability. This method is employed when the data come from natural experimentation; an exogenous event usually involves a shift in government policy (Wooldridge, 2009). This method contrasts the differences in outcome between a group that enlisted in a program (treated group) and a group that is not (control group) (Gertler et al., 2016). This method could resolve the endogeneity issue because both groups are exposed to the same environment, except that the control group is not receiving the spin-off treatment. Thus, the different outcomes will be considered from the spin-off treatment.

According to (Albouy, 2004), the treatment group is divided into T=1 if the object is treated with the spin-off treatment and T=0 if it did not. Additionally, the period is divided into t=1 for the period after spin-off treatment and t=0 for the period before spin-off treatment. It can therefore be divided into four groups: pre-treatment control, post-treatment control, pre-treatment treated, and post-treatment treated. The overall calculation for difference-in-difference is displayed in Table 2.

$$Y_i = \alpha + \beta T + \gamma t_i + \delta(T_i \cdot t_i) + \varphi X_i + \varepsilon_i$$

(Albouy, 2004) describes equation (1) as the general difference-in-difference outcome modeling, where the coefficients denoted by the Greek letters α, β, γ, and δ are all unknown parameters. The ε_i is a random variable determined by examining the unobserved "error" term, including all Yi determinants the model omitted. The Yi is the dependent variable: ROE, CIR, FDR, QR, and Z-score. This α described as the constant value. The β explained the effect specific to the treated group (for average unchanging differences between the treated and control groups), while the γ described the time trend common to control and treatment groups. The δ and φ explained the treatment's actual effect and the control variable's parameter, respectively. The control variable represents using xi, which covers the capital, LnTA, exchange rate, and GDP growth.

Table 2. Difference-in-difference calculation

	Before	**After**	**After - Before**
Control	α	$\alpha + \gamma$	γ
Treated	$\alpha + \beta$	$\alpha + \beta + \gamma + \delta$	$\gamma + \delta$

	Before	After	After - Before
Control - Treated	β	$\beta + \gamma$	δ

Source: research data, 2023

C. RESULTS AND ANALYSIS

After we processed the data using STATA 12, we obtained descriptive statistics and variable correlation coefficients. The statistical report for all variables used in the model is presented in Table 3. The lowest possible value of ROE is zero because even though banks report negative values, theoretically, returns should be positive; thus, harmful data for ROE are eradicated. As can be seen, business-unit Islamic banks has a higher mean ROE than full-fledged Islamic banks. Moreover, business-unit Islamic banks were revealed to have a lower mean CIR. This indicates that business-unit Islamic banks have a more significant profit margin than full-fledged ones. Both Islamic banks are quite liquid since, based on FDR's mean, the full-fledged Islamic banks are less than business-unit Islamic banks, while based on the mean of QR, business-unit Islamic banks are less than full-fledged banks. Lastly, the mean Z score indicates that full-fledged Islamic banks are more stable than business-unit ones.

Table 3. Descriptive Statistic

Variables	Islamic Commercial Bank				Islamic Bank Business Unit			
	Mean	Std. Dev	Min	Max	Mean	Std. Dev	Min	Max
ROE	0.149	0.3723	0	2.252	0.758	0.745	0	3.233
BOPO	0.892	0.134	0.539	1.474	0.657	0.280	0	1.841
FDR	0.929	0.183	0.196	1.848	1.160	0.333	0.366	2.175
QR	48.365	45.765	1.341	232.929	66.012	75.835	0.352	298.398
Z score	8.003	5.460	-0.732	21.931	4.849	5.643	-13.256	23.072
Capital	0.106	0.041	-0.002	0.279	0.115	0.142	-0.473	0.682
LnTA	15.843	1.034	12.473	17.727	14.257	1.496	8.063	17.459
ER	11,994	2,047	8,584	14,790	11,994	2,047	8,584	14,790
GDPG	1.299	0.137	0.870	1.61	1.299	0.137	0.870	1.61

Source: research data, 2023

Table 4 describes the coefficient correlation of this study's variables. Evaluating the correlation between variables is essential to ensure that the data does not contain a high correlation that would render this model unreliable. According to (Kennedy, 2003), the correlation between variables below 0.70 can be tolerated. (Gurajati, 2004) also explained that a correlation value greater than 0.80 suggests a severe multicollinearity problem for variables. Therefore, this analysis indicates that the correlations among the variables are still tolerable, and no multicollinearity issues are present.

Table 4. Correlation Coefficient

	ROE	CIR	FDR	QR	Z score	Capital	LnTA	ER	GDPG
ROE	1								
CIR	-0.173	1							
FDR	0.326	-0.323	1						
QR	0.332	-0.133	0.168	1					
Z score	-0.503	-0.044	-0.201	-0.151	1				
Capital	-0.559	-0.235	0.000	-0.095	0.604	1			
BS	-0.538	0.062	-0.357	-0.195	0.272	0.277	1		
ER	-0.612	-0.098	-0.177	-0.301	0.416	0.559	0.504	1	
GDPG	0.319	-0.008	0.044	0.196	-0.175	-0.228	-0.275	-0.565	1

Source: research data, 2023

The parameter for difference-in-difference on the third row of Table 5 represents the effect of spin-off treatment. The significant negative result shows that the ROE is decreasing due to the spin-off treatment. While for CIR, the result is positively significant as the spin-off's impact indicates that the spin-off treatment increased the full-fledged Islamic bank's CIR. Decreasing ROE value means that after the spin-off implementation, the profitability of the full-fledged Islamic bank is decreasing. The same goes for CIR; as it increases, the proportion

of the operational expense is higher than the operating income. It indicates that the full-fledged Islamic bank efficiency is decreasing due to the spin-off policy. These results supported the accepted first and second hypotheses, aligning withTrinugroho et al. (2021) findings.

Table 5. Profitability and Efficiency DID Result

Variables	ROE		CIR	
	1	2	1	2
Treated	0.062	-0.142	-0.036	-0.029
	(0.157)	(0.211)	(0.082)	(0.080)
Spin-off	0.222***	-0.664***	-0.295***	-0.279***
	(0.083)	(0.094)	(0.043)	(0.036)
DID	-0.678***	-0.483**	0.288***	0.298***
	(0.161)	(0.221)	(0.083)	(0.084)
Capital	-1.894***		-0.474***	
	(0.182)		(0.094)	
BS	-0.062***		0.010	
	(0.018)		(0.010)	
ER	-0.000***		0.000**	
	(0.000)		(0.000)	
GDPG	-0.045		-0.043	
	(0.171)		(0.089)	
Obs.	595	595	595	595
R-squared	0.6079	0.234	0.2526	0.2151

Source: research data, 2023

Column number 1 is the regression model that uses the control variable, while column number 2 is the model that only uses the treatment variable. The parentheses described the standard error. P value significance level is measured at 1%, 5%, and 10%, marked with (***), (**), and (*), respectively.

Table 6 reveals that the difference-in-difference method for liquidity aspects is only negatively significant after spin-off when using FDR. FDR and Quick Ratio decrease after the spin-off treatment; however, Quick Ratio shows no significant evidence. These measurements indicate that the full-fledged Islamic bank's liquidity or the ability to pay its obligations has increased. Negative FDR indicates that banks are more liquid after the spin-off implementation, supporting the acceptance of the third hypothesis. This result also implied that the risk related to liquidity decreased after the spin-off implementation. The liquidity result follows the same reasoning as (Ali & Puah's, 2019) findings that increased liquidity hurts profitability. While for the Z-score that measures the bank's stability did not differ significantly before and after the spin-off implementation. Thus, there is insufficient evidence to prove if spin-off affected the sample bank's stability.

Table 6. Liquidity and Stability DID Result

Variables	FDR		QR		Z score	
	1	2	1	2	1	2
Treated	-0.0007	-0.0415	-13.4961	-8.7943	3.1482**	2.9701*
	(0.1001)	(0.1000)	(22.8441)	(22.8145)	(1.4709)	(1.7752)
Spin-off	0.0512	-0.1120**	-24.2049**	-43.9616***	2.2755***	5.4913***
	(0.0529)	(0.0444)	(12.0756)	(10.1267)	(0.7775)	(0.7879)
DID	-0.1733*	-0.2017*	-11.1624	-7.9912	1.2947	-0.0036
	(0.1023)	(0.1046)	(23.3465)	(23.8617)	(1.5033)	(1.8566)
Capital	0.3762***		62.5682**		24.0752***	
	(0.1157)		(26.4091)		(1.7005)	
BS	-0.0493***		3.4955		-0.6003***	
	(0.0117)		(2.6589)		(0.1712)	
ER	-0.00003***		-0.0117***		0.0005***	
	(0.00001)		(0.0022)		(0.0001)	
GDPG	-0.2514**		14.6519		1.0264	
	(0.1089)		(24.8455)		(1.5998)	
Obs.	595	595	595	595	595	595
R-squared	0.1852	0.1186	0.1212	0.0508	0.4546	0.1398

Column number 1 is the regression model that uses the control variable, while column number 2 is the model that only uses the treatment variable. The parentheses described the standard error. P value significance level is measured at 1%, 5%, and 10%, marked with (***), (**), and (*), respectively.

D. CONCLUSION

We investigate the effect of spin-off implementation on business-unit Islamic banks related to performance, such as profitability, efficiency, liquidity, and stability. Using difference-in-difference (DID) analysis, we found that profitability and efficiency have decreased significantly after spin-off implementation. Aside from this, the liquidity measurements indicate that after the spin-off implementation, the full-fledged Islamic bank's liquidity is rising. In terms of stability, however, the DID results imply that full-fledged Islamic banks do not differ significantly after implementing the spin-off. In other words, the beneficial impact of the spin-off is that it reduces liquidity risk. However, on the other side, spin-off also has a disadvantage as there is a decline in profitability and efficiency. These outcomes may impact the business-unit Islamic banks that have yet to decide whether to separate off their bank.

In order to address the declining profitability and efficiency as well as the rising liquidity, we recommend that spin-off Islamic banks use their assets to generate more profit. They should increase operational revenues. One of the options available is to innovate their products to increase demand from potential customers. Another suggestion is to reduce operational expenses to improve operational efficiency and financing quality. Lastly, since more assets will allow the bank to generate a more significant profit, the bank could acquire more assets through a merger. During the suggestion for further studies, future research could examine the Islamic banks that have implemented the strategy to increase their profit, for example, through mergers, as in the case of Bank Syariah Indonesia. Besides that, future research could also investigate and compare the other approach of company separation, not only spin-offs but also the banks that go through conversion.

REFERENCES

Journal Article

Abbas, A., & Arizah, A. (2019). Marketability, profitability, and profit-loss sharing: evidence from sharia banking in Indonesia. *Asian Journal of Accounting Research*, *4*(2), 315–326. https://doi.org/10.1108/AJAR-08-2019-0065

Al Arif, M. N. R. (2015). The effect of spin-off policy on financing growth in the Indonesian Islamic banking industry. *Al-Ulum*, *15*(1), 173–184. http://journal.iaingorontalo.ac.id/index.php/au

Al Arif, M. N. R. (2017). Spin-off and market share in the Indonesian Islamic banking industry: A difference in difference analysis. *Management and Marketing*, *12*(4), 540–551. https://doi.org/10.1515/mmcks-2017-0032

Ali, M., & Puah, C. H. (2019). The internal determinants of bank profitability and stability: An insight from the banking sector of Pakistan. *Management Research Review*, *42*(1), 49–67. https://doi.org/10.1108/MRR-04-2017-0103

Antzoulatos, A. A., Syrmos, T., & Tsoumas, C. (2015). Sustainable banks were Prudent and Profitable. *SSRN*. http://ssrn.com/abstract=2661418http://ssrn.com/abstract=2661418

Arif, A., & Anees, A. N. (2012). Liquidity risk and performance of banking system. *Journal of Financial Regulation and Compliance*, *20*(2), 182–195. https://doi.org/10.1108/13581981211218342

Barra, C., & Zotti, R. (2020). Market power and stability of financial institutions: evidence from the Italian banking sector. *Journal of Financial Regulation and Compliance*, *28*(2), 235–265. https://doi.org/10.1108/JFRC-05-2019-0055

Belkhaoui, S., Alsagr, N., & van Hemmen, S. F. (2020). Financing modes, risk, efficiency, and profitability in Islamic banks: Modeling for the GCC countries. *Cogent Economics and Finance*, *8*(1). https://doi.org/10.1080/23322039.2020.1750258

Epure, M., Prior, D., & Serarols, C. (2016). Assessing Technology-Based Spin-offs from University Support Units. *Regional Studies*, *50*(3), 411–428. https://doi.org/10.1080/00343404.2014.921669

Hutapea, E. G., & Kasri, R. A. (2010). Bank margin determination: a comparison between Islamic and conventional banks in Indonesia. *International Journal of Islamic and Middle Eastern Finance and Management*, *3*(1), 65–82. https://doi.org/10.1108/17538391011033870

Iqbal, M., Kusuma, H., & Sunaryati, S. (2022). Vulnerability of Islamic banking in ASEAN. *Islamic Economic Studies*, *29*(2), 159–168. https://doi.org/10.1108/ies-10-2021-0040

Koster, S. (2004). Spin-off firms and individual start-ups. Are they different? *European Regional Science Association:* http://hdl.handle.net/10419/117103

Laeven, L., & Levine, R. (2009). Bank governance, regulation and risk-taking. *Journal of Financial Economics*, *93*(2), 259–275. https://doi.org/10.1016/j.jfineco.2008.09.003

Margaretha, F., & Aditya, K. (2016). Pengaruh Resiko Likuiditas terhadap Profitabilitas Bank Konvensional di Indonesia. *Journal of Accounting and Investment*, *14*(2), 96–105.

Mohammad, S., Asutay, M., Dixon, R., & Platonova, E. (2020). Liquidity risk exposure and its determinants in the banking sector: A comparative analysis between Islamic, conventional and hybrid banks. *Journal of International Financial Markets, Institutions, and Money*, *66*. https://doi.org/10.1016/j.intfin.2020.101196

Parmentola, A., & Ferretti, M. (2018). Stages and trigger factors in developing academic spin-offs: An explorative study in southern Italy. *European Journal of Innovation Management*, *21*(3), 478–500. https://doi.org/10.1108/EJIM-11-2017-0159

Rashid, A., Yousaf, S., & Khaleequzzaman, M. (2017). Does Islamic banking strengthen financial stability? Empirical evidence from Pakistan. *International Journal of Islamic and Middle Eastern Finance and Management*, *10*(2), 130–148. https://doi.org/10.1108/IMEFM-11-2015-0137

Roy, A. D. (1952). Safety First and the Holding of Assets. *Econometrica*, *20*(3), 431–449.

Satibi, E., Utami, W., & Nugroho, L. (2018). A Comparison of Sharia Banks and Conventional Banks in Terms of Efficiency, Asset Quality and Stability in Indonesia for 2008-2016. *International Journal of Commerce and Finance*, *4*, 134–149.

Soedarmono, W., Machrouh, F., & Tarazi, A. (2011). Bank market power, economic growth, and financial stability: Evidence from Asian banks. *Journal of Asian Economics*, *22*(6), 460–470. https://doi.org/10.1016/j.asieco.2011.08.003

Sudrajad, O. Y., & Hübner, G. (2019). Empirical evidence on bank market power, business models, stability, and performance in emerging economies. *Eurasian Business Review*, *9*(2), 213–245. https://doi.org/10.1007/s40821-018-0112-1

Trinugroho, I., Santoso, W., Irawanto, R., & Pamungkas, P. (2021). Is spin-off policy an effective way to improve the performance of Islamic banks? Evidence from Indonesia. *Research in International Business and Finance*, *56*. https://doi.org/10.1016/j.ribaf.2020.101352

Walter, A., Auer, M., & Ritter, T. (2006). The impact of network capabilities and entrepreneurial orientation on university spin-off performance. *Journal of Business Venturing*, *21*(4), 541–567. https://doi.org/10.1016/j.jbusvent.2005.02.005

Woo, C. Y., Willard, G. E., & Daellenbach, U. S. (1992). Spin-off performance: A case of overstated expectations? *Strategic Management Journal*, *13*(6), 433–447.

Zarrouk, H., Ben Jedidia, K., & Moualhi, M. (2016). Do the same forces drive Islamic bank profitability as conventional banks? *International Journal of Islamic and Middle Eastern Finance and Management*, *9*(1), 46–66. https://doi.org/10.1108/IMEFM-12-2014-0120

Book

Albouy, D. (2004). *Program Evaluation and the Difference in Difference Estimator*. University of California, Berkeley.

Berger, A. N., Klapper, L. F., & Turk-Ariss, R. (2017). Bank competition and financial stability. In *Handbook of Competition in Banking and Finance*. Edward Elgar Publishing.

Gertler, P. J., Martinez, S., Premand, P., Rawlings, L. B., & Vermeersch, C. M. J. (2016). *Impact Evaluation in Practice Second Edition* (2nd ed.). Inter-American Development Bank and World Bank.

Gurajati, D. N. (2004). *Basic Econometric* (4th ed.). McGraw Hill.

Kennedy, P. (2003). *A Guide to Econometrics* (5th ed.). MIT Press.

Veithzal, R. H., & Veithzal, A. P. (2008). *Islamic financial management: teori, konsep dan aplikasi panduan praktis untuk lembaga keuangan, nasabah, praktisi, dan mahasiswa*. Rajawali.

Wooldridge, J. (2009). *Introductory Econometrics: A Modern Approach* (4th ed.). Cengage Learning.

Yumanita, D., & Ascarya. (2005). *Bank Syariah: Gambaran Umum*. Pusat Pendidikan dan Studi Kebanksentralan (PPSK) Bank Indonesia.

Internet Source

n. d. (1998). *Undang-Undang Nomor 10 Tahun 1998 Tentang Perbankan*. Dewan Perwakilan Rakyat.

Retrieved from https://jdih.kemenkeu.go.id/fulltext/1998/10tahun~1998uu.htm

n. d. (2008). *Undang-Undang Nomor 21 Tahun 2008 Tentang Perbankan Syariah*. Dewan Perwakilan Rakyat.

Retrieved from https://www.ojk.go.id/waspada-investasi/id/regulasi/Pages/Undang-Undang-Nomor-21-Tahun-2008-Tentang-Perbankan-Syariah.aspx

n.d. (2018). *BI Wajibkan Unit Usaha Syariah Dipisah dari Bank Induk*. Detik Finance.

Retrieved from https://finance.detik.com/moneter/d-1102428/bi-wajibkan-unit-usaha-syariah-dipisah-dari-bank-induk

n. d. (2019). *Statistik Perbankan Indonesia*. Otoritas Jasa Keuangan.

Retrieved from https://ojk.go.id/id/kanal/perbankan/data-dan-statistik/statistik-perbankan-indonesia/Pages/Statistik-Perbankan-Indonesia---Desember-2019.aspx

n. d. (2023). *Undang-Undang Nomor 4 Tahun 2023 Tentang Pengembangan dan Penguatan Sektor Keuangan*. Dewan Perwakilan Rakyat. Retrieved from https://jdih.kemenkeu.go.id/download/58fac07c-7165-4c55-882d-965687f8090b/UU4TAHUN2023.pdf