IJEM
International Journal of Economics and Management
Journal homepage: http://www.ijem.upm.edu.my

Board Remuneration and Risk-Taking in Islamic Banks

GALUH ARISTIKA FILASTI[a], DJOKO SUHARDJANTO[a],
AKHMAD AKBAR SUSAMTO[b,c] AND TASTAFTIYAN RISFANDY[a,d*]

[a]*Faculty of Economics and Business, Universitas Sebelas Maret, Indonesia*
[b]*Faculty of Economics and Business, Universitas Gadjah Mada, Indonesia*
[c]*Center of Reform on Economics (CORE), Indonesia*
[d]*Center for Fintech and Banking, Universitas Sebelas Maret, Indonesia*

ABSTRACT

This paper investigates the impact of board remuneration on risk-taking in Islamic banks. The analysis of this issue is crucial because compared to their conventional peers, Islamic banks possess unique characteristics such as different risk profiles and a *Shariah* board's existence as another layer of governance. Using a sample of 13 Islamic banks in Indonesia from 2011 to 2018, our result suggests that Islamic banks' risk-taking is negatively associated with remuneration of three board types in Islamic banks: board of commissioners, board of directors, and *Shariah* supervisory board. This empirical evidence suggests that high board remuneration is positively associated with Islamic banks' stability. The plausible reasons between this result are because *Shariah* board presents as the second layer of governance in Islamic banks to enhance the monitoring activity and because Indonesian Islamic banks are currently in the banking market with a good regulatory regime.

JEL Classification: G21, G34, Z12
Keywords: Remuneration; compensation; *Shariah* supervisory board; risk taking; Islamic banks

Article history:
Received: 1 June 2020
Accepted: 28 March 2021

* Corresponding author: Email: tastaftiyan.risfandy@staff.uns.ac.id

INTRODUCTION

Executive remuneration is considered to be one of the causes of the financial crisis in the US and global financial institutions because high remuneration encourages executives to take higher risks (Słomka-Gołębiowska and Urbanek, 2016). It has been argued that the design of remuneration schemes in the banking sector was flawed in most cases and inconsistent with shareholder interests and long-term sustainability. Prior to the crisis, banks could provide bonuses in cash as awards for achievements at the end of the year. The high amount of cash bonuses for achieving the targets has been set regardless of future risks. As a result, the policy of providing remuneration throughout the banking sector has been increasingly criticized because it creates too much risk (Shah et al., 2017). Moreover, according to managerial power theory, executives may conduct opportunistic behavior by recurring rent through their compensation (Bebchuk and Fried, 2003). Excessive risk-taking has been reported as one of the main factors that can exacerbate the country's financial stability (Słomka-Gołębiowska and Urbanek, 2016).

This article is written to primarily answer a question: Do executive remuneration increases Islamic banks' risk-taking? This issue is extremely important in the context of Islamic banking because Islamic banks possess significant growth in the last decades. The Islamic financial services industry's total worth reached USD 2.19 trillion in 2018 primarily because of the improvement in Islamic banking sectors (Islamic Financial Service Board, 2019). Islamic banking has also been categorized as systemic in a dozen countries that have adopted a dual banking system because their market share has reached more than 15% (Islamic Financial Service Board, 2018). Executive remuneration, therefore, becomes the main focus of either academia or practitioners because their remuneration amount should be in line with the Islamic banks' performance target. Moreover, the wrong design of remuneration could also harm Islamic bank stability as suggested by prior studies in conventional banks context (Słomka-Gołębiowska and Urbanek, 2016).

The contribution of this article is twofold. First, to the best of our knowledge, the issue of executive remuneration in Islamic banks has not yet been empirically explored. Most of the empirical studies explore remuneration in conventional banks' context (Bai and Elyasiani, 2013; Jiang et al., 2019; Tian and Yang, 2014). The investigation focusing on Islamic banks is important because Islamic banks have a different risk profile than their conventional counterparts. Profit and loss sharing applied in Islamic banks could trigger other risks (Hashem and Abdeljawad, 2018). For instance, displaced commercial risk, or a risk that a depositor will move to other banks because the Islamic banks could not provide a steady rate of return, could happen in Islamic banks. Islamic banks have also faced other risks because of their complexity and limitations in terms of funding, investment, and risk management activities (Abedifar et al., 2013). Unlike the conventional banks that have flexibility in funding such as exploiting money markets, Islamic banks are unable to do that because these practices are not allowed by the *Shariah*.

Second, prior literature highlighting the nexus between remuneration and risk-taking is mixed. Unda and Ranasinghe (2019) find a positive association between high-paid board and stability in the credit union firms, suggesting that higher board remuneration could lower banks' risk-taking. Vallascas and Hagendorff (2013) show in their paper that increases in CEO cash bonuses lower bank default risk. However, this risk-reducing effect is missing when banks operate under weak regulatory regimes or when banks are financially distressed. In contrast, DeYoung et al. (2010) find strong evidence that banks' CEO responded to contractual risk-taking incentives by taking more risk. In a similar vein, Uhde (2016) provide empirical evidence of a risk-increasing impact of excess variable pay for both executive cash- and equity-based compensation. However, interestingly, Cheng et al. (2015) argue that the correlation between pay and risk-taking is not because misaligned pay leads to risk-taking but rather because principal-agent theory predicts that riskier firms have to pay total compensation than less risky firms. Fahlenbrach and Stulz (2011) empirically show that banks with higher compensation and bonuses for their CEOs did not perform worse during the crisis, implying that higher CEO compensation is not related to stability. Therefore, this paper will contribute to the debate by providing evidence in the context of Islamic banks.

In this paper, we use a sample setting in Indonesia because Islamic banks' development in Indonesia is quite surprising. Indonesia is the largest Muslim country in the world and has great potential for the growth of Islamic banking. The development of Islamic banking in Indonesia began in 1991, marked by the establishment of Bank Muamalat Indonesia (BMI). According to Meslier et al. (2017), Islamic banking's rapid development began since the 2007-2008 global financial crisis. Islamic banking assets worldwide grew at an

annual rate of 17.6% between 2009-2012 and are expected to grow by nearly 20% per year until 2018. As for comparisons, Islamic banking assets in Indonesia assets grew at an annual rate of 18.81% between 2012 – 2018 (www.ojk.go.id). Therefore, this research contributes to the literature in Islamic banks, especially in Indonesia, because prior empirical articles in the Indonesian setting usually related to bank profitability (Octavio and Soesetio, 2019; Risfandy, 2018; Trinugroho et al., 2017). Some others indeed have focused on bank stability or risk-taking (Narayan et al., 2019), but none of them focus on executive remuneration as one of the main predictors for stability.

The rest of this paper is as follows. Section two presents the review of related literature. Section three highlights the methodology. Section four presents the empirical findings. Section five concludes the paper.

LITERATURE REVIEW

Islamic banking in Indonesia

Islamic banking received attention after a series of economic crises, such as the global economic crisis in 1998 and 2009. According to several reports, conventional banks experienced a bigger negative effect than Islamic banks due to the global economic crisis. (Hamad et al., 2014). In the 1998 crisis, Bank Muamalat Indonesia is the only Islamic bank in Indonesia that has also shown that the bank is quite resilient during the crisis. After 1998, many conventional banks have started to open Islamic windows because they could diversify their revenue, especially during economic turmoil. Several Islamic windows have been successfully converted into full-fledged Islamic banks, such as Bank Mandiri Syariah and Bank BNI Syariah, while some others still enjoy their position as Islamic windows, such as Bank BTN Syariah. Currently, there are 14 full-fledged Islamic banks in Indonesia.

Islamic banks' governance in Indonesia

Governance issues have become an important topic in Islamic banking operations. In facing the dynamics of the global economy, the Islamic banking industry needs to increase resilience by improving governance. Effective governance is essential to board remuneration and oversight of the risk management of public financial institutions (Unda and Ranasinghe, 2019). The implementation of governance for providing remuneration aims to encourage prudent risk-taking so that the Islamic banking industry's sustainability can be maintained. For the banking sector in Indonesia, the implementation of remuneration governance for commercial banks is regulated in the Regulation of Indonesia Financial Services Authority (*Otoritas Jasa Keuangan*–OJK) No. 45/POJK.03/2015, while Islamic Commercial Banks and *Shariah* Business Units are regulated in the Regulation No. 59/POJK.3/2017. In the context of agency theory, boards must play an important role in monitoring so that corporate governance is effective and avoids opportunistic managerial behavior (Unda and Ranasinghe, 2019).

Agency theory concerns the contractual relationship between company members. The concept shows the relationship between the principal agency (shareholder) and agent (managing manager); the agent works for the principal's wishes and then delegates decision-making authority (Ntim et al., 2019). The problem caused by the agency relationship is the occurrence of asymmetric information because executives have more financial information than principals. The second problem is that there is a conflict of interest because the agent's goal that is, seeking personal gain is not the same as the principal (Messier et al., 2014). If executive remuneration and incentive contracts are well designed, they can serve as tools to improve performance and minimize agency problems (Ntim et al., 2019).

Islamic banks' operation implies that the underlying Islamic principles produce a unique agency relationship (Safieddine, 2009). In Islamic banking governance, there is a *Shariah* supervisory board that is tasked with providing input or advice to the Board of Directors and supervising banking activities so that they run in accordance with *Shariah* principles (Indonesia Financial Services Authority–59/POJK.03/2017). The *Shariah* board serves as the second layer of control in the independent governance mechanism to prevent the board of directors and other top management from making high-risk investment decisions (Bukair and Abdul Rahman, 2015). Because of *Shariah* restrictions, Islamic banks' risk is predicted less than conventional banks (Bukair and Abdul Rahman, 2015). Managers of Islamic banks are trusted by shareholders to maximize

investment value and have a duty to achieve company performance without ignoring *Shariah* (Safieddine, 2009).

Islamic banks' risk

According to Hashem and Abdeljawad (2018), Islamic banks' risks are classified into two major parts. The first is the same risks faced by conventional banks. This situation is due to the Islamic financial ecosystem having a strong relationship with the conventional financial industry. Islamic banks must face credit risk, market risk, benchmark risk, operational risk, liquidity risk, and legal risk similar to their conventional counterparts.

However, because Islamic banks have to comply with Islamic rules, there are additional risks faced by Islamic banks. This is the second risk uniquely for Islamic banks. Because Islamic banks apply profit and loss sharing mechanism implying that profit or losses will be shared between Islamic banks and clients, Islamic banks have to face three additional (unique) risks: *withdrawal risk, fiducia risk*, dan *displaced commercial risk.* Withdrawal risk is a risk as to the result of the competitive pressures that Islamic banks face from conventional banks. Islamic banks can be exposed to withdrawal risk (risk of withdrawing funds) caused by depositors if the profits they receive are lower than the rate of return provided by their competitors. In fact, this risk disciplines Islamic banks to be more effective since the investment account holders have incentives to monitor the performance of Islamic banks. *Fiducia risk* is a risk because of the violation of investment contracts, whether it is incompatible with *Shariah* provisions or mismanagement of investor funds. *Displaced commercial* risk is the transfer of risk related to deposits to equity holders. This risk can arise when the bank is under pressure to get a profit; however, the bank has to give part of its profit to the depositors due to the low rate of return. In practice, to avoid *withdrawal* and *displaced commercial* risk, Islamic banking tends to deviate from Islamic finance PLS. Islamic banking pays a relatively competitive rate of return to the account of investment holders regardless of the bank's actual performance (Farook et al., 2012; Meslier et al., 2017).

METHODOLOGY

Data and sample

We use a sample of 13 full-fledged Islamic banks in Indonesia from 2011 to 2018: (1) PT. BPD Nusa Tenggara Barat Syariah, (2) PT. BCA Syariah, (3) PT. Bank Aceh Syariah, (4) PT. Bank BNI Syariah, (5) PT. Bank BRI Syariah, (6) PT. Bank Jabar Banten Syariah, (7) PT. Bank Mega Syariah, (8) PT. Bank Muamalat Indonesia, (9) PT. Bank Panin Dubai Syariah, (10) PT. Bank Syariah Bukopin, (11) PT. Bank Syariah Mandiri, (12) PT. Bank Victoria Syariah, (13) PT. Maybank Syariah Indonesia. The Islamic windows are not part of our sample because there are no data of executive remuneration in Islamic windows. This is because the executive (board of directors) in Islamic windows are similar to their parent (conventional banks). To deal with the extreme values, we winsorize our data at 1% and 99% levels. Our final sample consists of 92 observations.

Empirical approach

In order to see the impact of board remuneration on Islamic banks' risk-taking, we built an econometric model as follows.

$$LogZ_{it} = \alpha + \beta\, Remuneration_{it} + \gamma_1\, EFF_{it} + \gamma_2 BM_{it} + \gamma_3 CAR_{it} + \gamma_4 LogTA_{it} + \delta YearFE_t + \varepsilon_{it} \quad (1)$$

where subscripts *i* and *t* refer to bank and time index, respectively. Consistent with the prior literature (Ashraf et al., 2020; Risfandy, Tarazi, et al., 2020; Smaoui et al., 2020; Trinugroho et al., 2017), the dependent variable we use here is the z-score calculated as follows.

$$Z = (ROA_{it} + EQTA_{it})/SDROA \quad (2)$$

ROA is the return on assets, EQTA is equity to assets, SDROA is the standard deviation of ROA. The z-score is a direct measure of bankruptcy, defined as a situation where losses exceed equity. The probability of

bankruptcy is expressed as the probability of ROA less than EQTA. An increase in the ratio of capital to assets will increase the z-score. The higher the z-score, the smaller the bank's bankruptcy risk and it indicates that that Islamic banks are more stable. Islamic banks with a higher z-score have more benefits to cover their debts; therefore the risk of default is lower (Unda and Ranasinghe, 2019). The Z-score indicates that a bank may go bankrupt if the Z-score continues to decline (Tarraf and Majeske, 2013). Thus, the z-score is negatively related to banks' risk-taking behavior (Smaoui et al., 2020). A higher z-score implies higher stability and hence lower risk-taking.

The main independent variable in this study is the remuneration of the board of directors (*Dir_Rem*), board of commissioners (*Comm_Rem*), and *Shariah* supervisory board (*SSB_Rem*). It is defined as total cash remuneration received by the board members in a year. Following prior study such as Unda and Ranasinghe (2019), we use both logarithms of total board remuneration and the average value of remuneration in a board. As explained in the previous section, remuneration could positively, negatively, or even have no impact on risk-taking. Therefore, in this paper, we do not make any predictions about the sign of β.

Following prior studies, we also employ several control variables. The first is size, proxied by the logarithm of total assets (*LogTA*). According to Sufian (2007), larger firms may be more efficient because they exploit the problem of economies of scale and have the ability to diversify risk. We, therefore, predict that larger banks will have better stability (lower risk-taking). The second is the capital adequacy ratio (*CAR*) calculated by dividing equity by total assets. On the one hand, a higher equity ratio could be associated with better stability. On the other hand, banks high-capitalized banks have more incentive to take higher risk. Third, we use efficiency (*EFF*) proxied by the ratio of operating expense to operating income. Bank Indonesia regulations stipulate that a good *EFF* ratio is below 90%. The value of *EFF* that is still within regulatory standards indicates good bank management efficiency, thus avoiding risks where costs are greater than revenues (Dendawijaya, 2009). Fourth, we use bank margin (*BM*) used extensively by prior literature such as Trinugroho et al. (2018) to measure the ability of bank management in managing productive assets. This ratio is the result of the transaction uncertainty faced by banks. Low-interest margins will substantially increase bank risk-taking (Delis and Kouretas, 2011).

RESULT

Descriptive statistics

Table 1 illustrates the descriptive statistics of our sample. All variables have 92 observations except *SSB_Rem*. The data of *Shariah* board remuneration is missing for several banks. The statistics show that directors, on average, receive IDR 2 billion/year (± USD 141,184.40) or approximately IDR 166 million per month. This high amount is not surprising. According to Roberts Walters recruitment firm, Indonesia's average salary is approximately the second or third highest in the Asian region for skilled workers. For instance, in 2018, a finance director in Indonesia received anything within the range of IDR 1.2 billion to IDR 1.6 billion. A marketing director could see an annual income of around IDR 1.3 billion to IDR 2.34 billion (The Jakarta Post, 2018).

Table 1 Descriptive statistics and variables description

Variable	Explanation/measurements	Obs.	Mean	Std. Dev.	Min	Max
LogZ	Logarithm of the z-score	92	1.86	0.59	(1.46)	3.89
Dir_Rem	Directors' total remuneration	92	9,266.65	7,604.78	3.39	36,380.00
Comm_Rem	Commissioners' total remuneration	92	3,337.69	3,726.21	1.11	22,903.00
SSB_Rem	*Shariah* Supervisory Board' total remunerations	78	682.65	390.78	148.00	1920.00
Av. Dir_Rem	Directors' total remuneration divided by total directors	92	2,017.81	1,326.72	0.85	6,063.33
Av. Comm_Rem	Commissioners' total remuneration divided by total commissioners	92	815.32	682.82	0.37	3,817.17
Av. SSB_Rem	*Shariah* Supervisory Board's remunerations divided by number of *Shariah* board member	78	288.59	158.27	72.00	742.50
EFF	Efficiency (total operating cost divided by total operating income)	92	90.02	15.55	53.77	134.63
BM	Bank margin	92	6.35	2.78	2.22	18.28
CAR	Capital-assets-ratio to proxy solvency	92	22.39	12.90	12.01	63.89
LogTA	Logarithm of the total assets	92	16.10	1.21	13.40	18.40

Note: Remuneration variables are in million IDR

In the Indonesian two-tier system, the directors have an important role in managing the company because their role is explicitly separated from commissioners who only have a monitoring role. It is the directors responsible for the firm's daily operations and ensuring that the targets determined by the commissioners could be achieved. Please see related papers regarding the two-tier system's discussion (Risfandy, Radika, et al., 2020; Trinugroho et al., 2020).

Regarding control variables, the statistics we obtain in this study are consistent with the previous studies, especially in the Indonesian context (Risfandy et al., 2019; Trinugroho et al., 2017). The *EFF* variable shows an average value of 90.02, suggesting that Indonesian banks are quite efficient as 90% of their operating income is allocated for operating costs. The average number of margins (*BM*) of Indonesian Islamic banks is 6%. This value is less than margins possessed by Islamic rural banks (Trinugroho et al., 2018) but this is plausible because Islamic banks, in general, have a lower risk than Islamic rural banks. Indonesian Islamic banks have a 22% capital ratio on average, confirming prior studies explaining that Islamic banks, in general, are better capitalized (Beck et al., 2013).

Regression result

The regression result of equation (1) is shown in Table 3. We separate remuneration received by directors, commissioners, and SSB in the estimations because it has a high correlation coefficient and high variance inflation factors (VIF) as shown in Table 2. For instance, Log *Dir_Rem* has a correlation coefficient of 0.8 with Log *Comm_Rem*. Both variables have the VIF score of 13.04 and 12.27, respectively, and this is more than the rule of thumb 10.

Table 2 Correlation matrix and variance inflation factors for the remuneration variables

		(1)	(2)	(3)	(4)	(5)	(6)	VIF
(1)	Log *Dir_Rem*	1						13.04
(2)	Log *Comm_Rem*	0.8321	1					12.27
(3)	Log *SSB_Rem*	0.4724	0.3901	1				10.21
(4)	Log Av. *Dir_Rem*	0.8542	0.9534	0.3453	1			13.85
(5)	Log Av. *Comm_Rem*	0.9105	0.7342	0.418	0.7767	1		8.72
(6)	Log Av. *SSB_Rem*	0.3045	0.2139	0.9003	0.1952	0.3629	1	8.97

Note: Please see Table 1 for the description of variables.

Table 3 Main regressions

	(1)	(2)	(3)	(4)	(5)	(6)
Log *Dir_Rem*	0.0207***					
	(3.00)					
Log *Comm_Rem*		0.0231**				
		(2.51)				
Log *SSB_Rem*			0.0958			
			(1.42)			
Log Av. *Dir_Rem*				0.0196***		
				(2.95)		
Log Av. *Comm_Rem*					0.0218***	
					(2.70)	
Log Av. *SSB_Rem*						0.0986*
						(1.71)
EFF	-0.0129***	-0.0129***	-0.0129***	-0.0129***	-0.0129***	-0.0130***
	(-3.31)	(-3.34)	(-3.22)	(-3.29)	(-3.32)	(-3.24)
BM	-0.00401	-0.00444	-0.000647	-0.00412	-0.00495	0.000568
	(-0.50)	(-0.54)	(-0.06)	(-0.52)	(-0.62)	(0.05)
CAR	0.0246***	0.0248***	0.0240***	0.0247***	0.0249***	0.0239***
	(9.26)	(9.84)	(9.47)	(9.12)	(9.73)	(9.41)
LogTA	-0.0694***	-0.0725***	-0.0885***	-0.0655***	-0.0682***	-0.0807***
	(-3.38)	(-3.60)	(-3.77)	(-3.29)	(-3.46)	(-3.86)
Constant	3.445***	3.495***	3.320***	3.419***	3.463***	3.256***
	(10.08)	(9.80)	(10.56)	(10.08)	(9.90)	(10.20)
Observation	92	92	78	92	92	78
R-Squared	0.8446	0.8457	0.8516	0.8444	0.8453	0.8524

Notes: The dependent variable is *LogZ*. Robust t-statistics are in parentheses. Please see Table 1 for the descriptions of variables. ***, **, and * denotes significance in 1%, 5%, and 10% levels respectively.

Our result shows that remuneration received by the boards, either directors, commissioners, or *Shariah* board, is positively associated with the LogZ. Although *SSB_Rem* is not significant in column (3), but it is significant in column (6). Overall, our result suggests that higher remuneration packages obtained by the boards in a year are associated with lower risk taking and better stability. This result suggests that, in

Indonesian banking, the argument that high remuneration received by the board could lead to excessive risk-taking is not true.

Our empirical evidence implies that when boards' remuneration is high, the risk-taking is low. There could be three possible explanations. First, the Indonesian banking market is quite stable, resilient, and has a strong regulatory regime. It is shown by the rapid growth of Islamic banks and their role in the Indonesian banking market (Narayan et al., 2019). The increase in the year remuneration is possibly only happened in the weak regulatory regimes or when banks are financially distressed, as empirically shown by (Vallascas and Hagendorff, 2013). Our result is also consistent with Unda and Ranasinghe (2019) who find a positive impact of high-paid board and credit union firms' stability.

Second, the negative impact of remuneration is not shown in our regression results, possibly because of the indirect role of size. Islamic banks with high assets indeed will tend to pay higher than those with lower assets. In general, larger banks will have better stability than smaller banks. Therefore, arguably, high-paid board members enjoy being in the banks with higher stability (lower risk-taking) while low-paid boards do not have a choice rather to stay in the banks with higher risk-taking. This argument is also in line with Cheng et al. (2015), contending a principal-agent theory: riskier firms have to pay more total compensation than less risky firms.

Third, remuneration's positive impact could be because Islamic banks have a two-layer governance system (Mollah and Zaman, 2015). While the business activities are monitored by the first layer (*Board of Directors*), the *Shariah*-compliance standards are supervised by the second layer (*Shariah* supervisory board). The combination of two governance layers is empirically proven to increase Islamic banks' performance and stability (Mollah et al., 2016; Mollah and Zaman, 2015).

Robustness checks

In this paper, we employ a series of robustness checks to see the consistency of our result. First, it is arguably important to control for the dummy year because the year trend could influence the boards' remuneration. We therefore introduce year fixed effects in the estimations and present the result in Table 4. After adding a dummy year, our result is still consistent. All six remuneration proxies have a positive and significant impact on the z-score.

Table 4 Robustness: Adding dummy Year

	(1)	(2)	(3)	(4)	(5)	(6)
Log *Dir_Rem*	0.0152*					
	(0.00784)					
Log *Comm_Rem*		0.0151*				
		(0.00802)				
Log *SSB_Rem*			0.118*			
			(0.0646)			
Log Av. *Dir_Rem*				0.0148*		
				(0.00795)		
Log Av. *Comm_Rem*					0.0127*	
					(0.00715)	
Log Av. *SSB_Rem*						0.124**
						(0.0585)
EFF	-0.0141***	-0.0140***	-0.0145***	-0.0141***	-0.0140***	-0.0145***
	(0.00375)	(0.00370)	(0.00389)	(0.00376)	(0.00372)	(0.00388)
BM	0.00267	0.00200	0.00945	0.00267	0.00150	0.0110
	(0.00761)	(0.00785)	(0.0110)	(0.00758)	(0.00776)	(0.0110)
CAR	0.0234***	0.0236***	0.0227***	0.0234***	0.0236***	0.0226***
	(0.00240)	(0.00231)	(0.00224)	(0.00245)	(0.00235)	(0.00224)
LogTA	-0.0948***	-0.0957***	-0.123***	-0.0921***	-0.0920***	-0.114***
	(0.0205)	(0.0200)	(0.0231)	(0.0196)	(0.0194)	(0.0200)
Constant	3.908***	3.936***	3.723***	3.889***	3.908***	3.629***
	(0.337)	(0.353)	(0.299)	(0.332)	(0.344)	(0.304)
DummyYear	Yes	Yes	Yes	Yes	Yes	Yes
Observations	92	92	78	92	92	78
R-squared	0.871	0.871	0.883	0.871	0.871	0.884

Notes: The dependent variable is *LogZ*. Robust t-statistics are in parentheses. Please see Table 1 for the descriptions of variables. ***, **, and * denotes significance in 1%, 5%, and 10% levels respectively.

Second, following the argument of Cheng et al. (2015), the relationship between remuneration and risk-taking could refer to principal-agent theory. It is not the payment of the boards that leads to risk-taking

but riskier firms have to pay higher board remuneration, suggesting a reverse causality problem. To deal with this issue, we lag all of the remuneration variables. The result shown in Table 5 suggests that the impact of board remuneration is not altered after lagging one period.

Table 5 Robustness: Lag value of independent variables

	(1)	(2)	(3)	(4)	(5)	(6)
Lag Log *Dir_Rem*	0.0147					
	(1.64)					
Lag Log *Comm_Rem*		0.0214**				
		(2.52)				
Lag Log *SSB_Rem*			0.135*			
			(1.85)			
Lag Log Av. *Dir_Rem*				0.0175**		
				(2.01)		
Lag Log Av. *Comm_Rem*					0.0180**	
					(2.27)	
Lag Log Av. *SSB_Rem*						0.112*
						(1.73)
EFF	-0.0138***	-0.0137***	-0.0138***	-0.0138***	-0.0137***	-0.0138***
	(-3.35)	(-3.36)	(-3.19)	(-3.35)	(-3.33)	(-3.15)
BM	-0.00751	-0.00557	-0.00651	-0.00670	-0.00686	-0.00666
	(-0.72)	(-0.52)	(-0.49)	(-0.64)	(-0.65)	(-0.50)
CAR	0.0257***	0.0256***	0.0249***	0.0256***	0.0258***	0.0251***
	(7.83)	(8.21)	(8.02)	(7.86)	(8.04)	(7.82)
LogTA	-0.0690***	-0.0751***	-0.108***	-0.0679***	-0.0693***	-0.0893***
	(-2.79)	(-3.16)	(-4.09)	(-2.82)	(-2.96)	(-3.63)
Constant	3.583***	3.632***	3.497***	3.563***	3.590***	3.440***
	(8.89)	(8.87)	(9.42)	(8.86)	(8.92)	(8.79)
Observation	79	79	65	79	79	65
R-Square	0.8423	0.8440	0.8482	0.8432	0.8430	0.8462

Notes: The dependent variable is *LogZ*. Robust t-statistics are in parentheses. Please see Table 1 for the descriptions of variables. ***, **, and * denotes significance in 1%, 5%, and 10% levels respectively.

Third, one may argue that panel data regression is more suitable in our context because our data contains both cross-section and time-series dimensions. We therefore estimate the equation (1) using random effects method. The choice of random effects than fixed effects is because the remuneration variables are rarely changed, and fixed effects would be inappropriate (Arifin et al., 2020). The result in Table 6 suggests that the significance and sign of our remuneration variables do not change. The Hausman test in each estimation also shows that it does not reject the null hypothesis, suggesting the random effects technique is more preferred than the fixed effects. Similar to what we find previously, although *SSB_Rem* is not significant when we use the total amount of remuneration, it turns out to be significant when we use the average value. All in all, using various robustness does not alter our main finding.

Table 6 Robustness: random effects regressions

	(1)	(2)	(3)	(4)	(5)	(6)
Log *Dir_Rem*	0.0207***					
	(3.00)					
Log *Comm_Rem*		0.0231**				
		(2.51)				
Log *SSB_Rem*			0.0958			
			(1.42)			
Log Av. *Dir_Rem*				0.0196***		
				(2.95)		
Log Av. *Comm_Rem*					0.0218***	
					(2.70)	
Log Av. *SSB_Rem*						0.0986*
						(1.71)
EFF	-0.0129***	-0.0129***	-0.0129***	-0.0129***	-0.0129***	-0.0130***
	(-3.31)	(-3.34)	(-3.22)	(-3.29)	(-3.32)	(-3.24)
BM	-0.00401	-0.00444	-0.000647	-0.00412	-0.00495	0.000568
	(-0.50)	(-0.54)	(-0.06)	(-0.52)	(-0.62)	(0.05)
CAR	0.0246***	0.0248***	0.0240***	0.0247***	0.0249***	0.0239***
	(9.26)	(9.84)	(9.47)	(9.12)	(9.73)	(9.41)
LogTA	-0.0694***	-0.0725***	-0.0885***	-0.0655***	-0.0682***	-0.0807***
	(-3.38)	(-3.60)	(-3.77)	(-3.29)	(-3.46)	(-3.86)
Constant	3.445***	3.495***	3.320***	3.419***	3.463***	3.256***
	(10.08)	(9.80)	(10.56)	(10.08)	(9.90)	(10.20)
Observation	92	92	78	92	92	78
Hausman Test (p-value)	0.3843	0.4282	0.4213	0.3822	0.4338	0.4433
Number of Bank ID	13	13	13	13	13	13
R-Squared Overall	0.709	0.712	0.754	0.708	0.711	0.754

Notes: The dependent variable is *LogZ*. Robust t-statistics are in parentheses. Please see Table 1 for the descriptions of variables. ***, **, and * denotes significance in 1%, 5%, and 10% levels respectively.

CONCLUSION

This article investigates the nexus between Islamic banks' board remuneration and risk-taking. Unlike most of the prior empirical papers focusing on executive remuneration, we are interested in examining the impact of remuneration in all board types in Islamic banks: board of commissioners, board of directors, and *Shariah* supervisory board. This research uses the Indonesian setting and the data ranges between 2011-2018. We find in this paper that higher board remuneration is associated with lower risk-taking. The result is similar across different proxies of remuneration and different types of the board. The positive impact of high remuneration in Indonesian Islamic banking markets could be different from prior studies that find a detrimental impact of the board's high remuneration. However, this result is not without reason and several empirical works also support our result. The positive impact could be driven by a strong regulatory regime in the Indonesian Islamic banking market (Narayan et al., 2019; Vallascas and Hagendorff, 2013), the role of the *Shariah* board as a second layer in Islamic banking governance (Mollah et al., 2016; Mollah and Zaman, 2015), and the indirect role of size (larger Islamic banks have higher remuneration payment and have better stability) (Cheng et al., 2015). Moreover, after a series of robustness, our results do not change. For the Indonesian government, our result suggests that the government could maintain the high remuneration payment for the boards but at the same time, the stability of the Islamic banking system should also be well monitored.

ACKNOWLEDGMENTS

We thank Professor Siong Hook Law (Editor-in-Chief) and two anonymous referees for all feedback to improve this manuscript's quality. This paper is a part of Galuh Aristika Filasti's Master Dissertation. This paper is partly funded by a research grant of RKAT PTNBH Universitas Sebelas Maret No. 260/UN27.22/HK.07.00/2021. All errors remain with the authors.

REFERENCES

Abedifar, P., Molyneux, P. and Tarazi, A. (2013) “Risk in Islamic Banking”, *Review of Finance*, *17*(6), pp. 2035–2096.

Arifin, T., Hasan, I. and Kabir, R. (2020), “Transactional and relational approaches to political connections and the cost of debt”, *Journal of Corporate Finance*, p. 101768.

Ashraf, B. N., Zheng, C., Jiang, C. and Qian, N. (2020) “Capital regulation, deposit insurance and bank risk: International evidence from normal and crisis periods”, *Research in International Business and Finance*, *52*, p. 101188.

Bai, G. and Elyasiani, E. (2013) “Bank stability and managerial compensation”, *Journal of Banking and Finance*, *37*(3), pp. 799–813.

Bebchuk, L. A. and Fried, J. M. (2003) “Executive Compensation as an Agency Problem”, edited by Kroszner, R.S. and Putterman, L., *Journal of Economic Perspectives*, Cambridge University Press, Cambridge, *17*(3), pp. 71–92.

Beck, T., Demirgüç-Kunt, A. and Merrouche, O. (2013) “Islamic vs. conventional banking: Business model, efficiency and stability”, *Journal of Banking & Finance*, *37*(2), pp. 433–447.

Bukair, A. A. and Abdul Rahman, A. (2015) “Bank performance and board of directors attributes by Islamic banks”, *International Journal of Islamic and Middle Eastern Finance and Management*, *8*(3), pp. 291–309.

Cheng, I. H., Hong, H. and Scheinkman, J. A. (2015) “Yesterday”s Heroes: Compensation and Risk at Financial Firms”, *Journal of Finance*, *70*, pp 839-879.

Dendawijaya. (2009) “Manajemen Perbankan”, *Edisi Revisi Sembilan*, available at:https://doi.org/10.1007/s00262-007-0394-0.

DeYoung, R., Peng, E. and Yan, M. (2010) “Executive Compensation and Business Policy Choices at US Commercial Banks”, *Working Paper*, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1544490.

Fahlenbrach, R. and Stulz, R. M. (2011) "Bank CEO incentives and the credit crisis", *Journal of Financial Economics*, *99*(1), pp. 11–26.

Farook, S., Hassan, M. K. and Clinch, G. (2012) "Profit distribution management by Islamic banks: An empirical investigation", *The Quarterly Review of Economics and Finance*, *52*(3), pp. 333–347.

Hamad, Z., Bahari, Z. and Sari, M. D. (2014) "What"s up with Islamic Banking in Indonesia ?", *Journal of Islamic Economics Banking and Finance*, available at:https://doi.org/10.12816/0025701.

Hashem, S. Q. and Abdeljawad, I. (2018) "Chapter 2 Islamic Banks" Resilience to Systemic Risks: Myth or Reality-Evidence from Bangladesh", pp. 37–68.

Islamic Financial Service Board. (2018) *Islamic Financial Services Industry Stability Report*, available at: https://www.ifsb.org/.

Islamic Financial Service Board. (2019) *Islamic Financial Services Industry Stability Report 2019*, available at: https://www.theedgemarkets.com/article/malaysias-islamic-banking-industry-will-achieve-40-market-share-2020-says-aibim.

Jiang, W., Liu, Y., Lobo, G. J. and Xu, Y. (2019) "Deferred cash compensation and risk-taking: Evidence from the Chinese banking industry", *Pacific Basin Finance Journal*, *53*(December 2018), pp. 432–448.

Meslier, C., Risfandy, T. and Tarazi, A. (2017) "Dual market competition and deposit rate setting in Islamic and conventional banks", *Economic Modelling*, *63*(July), pp. 318–333.

Messier, W. F., Glover, S. M. and Prawitt, D. F. (2014) "Jasa Audit dan Assurance Pedekatan Sistematis", *Edisi 8, Buku 2*.

Mollah, S., Hassan, M. K., Al Farooque, O. and Mobarek, A. (2016) "The governance, risk-taking, and performance of Islamic banks", *Journal of Financial Services Research*, pp. 1–25.

Mollah, S. and Zaman, M. (2015) "Shari"ah supervision, corporate governance and performance: Conventional vs. Islamic banks", *Journal of Banking and Finance*, *58*, pp. 418-435

Narayan, P. K., Rizvi, S. A. R., Sakti, A. and Syarifuddin, F. (2019) "Role of Islamic banks in Indonesian banking industry: an empirical exploration", *Pacific-Basin Finance Journal*, (October 2018), pp. 1–10.

Ntim, C. G., Lindop, S., Thomas, D. A., Abdou, H. and Opong, K. K. (2019) "Executive pay and performance: the moderating effect of CEO power and governance structure", *International Journal of Human Resource Management*, *30*(6), pp. 921–963.

Octavio, D. Q. and Soesetio, Y. (2019) "Intellectual capital and bank profitability: Evidence from conventional and Islamic bank in Indonesia", *Jurnal Keuangan Dan Perbankan*, *23*(2), pp. 191–205.

Risfandy, T. (2018) "Equity Financing and Islamic Banks " Profitability : Evidence from the Biggest Muslim Country", *Jurnal Keuangan Dan Perbankan*, *22*(3), pp. 496–505.

Risfandy, T., Radika, T. and Wardhana, L. I. (2020) "Women in a Dual Board System and Dividend Policy", *Bulletin of Monetary Economics and Banking*, *24*(Special Issue), pp 129-150.

Risfandy, T., Tarazi, A. and Trinugroho, I. (2020) "Competition in dual markets: Implications for banking system stability", *Global Finance Journal*, p. 100579.

Risfandy, T., Trinarningsih, W., Harmadi, H. and Trinugroho, I. (2019) "Islamic Banks" market power, state-owned banks, and Ramadan: Evidence from Indonesia", *The Singapore Economic Review*, *64*(02), pp. 423–440.

Safieddine, A. (2009) "Islamic financial institutions and corporate governance: New insights for agency theory", *Corporate Governance: An International Review*, *17*(2), pp. 142–158.

Shah, S. Z. A., Akbar, S., Liu, J., Liu, Z. and Cao, S. (2017) "CEO compensation and banks" risk-taking during pre and post financial crisis periods", *Research in International Business and Finance*, *42*, pp. 1489–1503.

Słomka-Gołębiowska, A. and Urbanek, P. (2016) "Corporate boards, large blockholders and executive compensation in banks: Evidence from Poland", *Emerging Markets Review*, *28*, pp. 203–220.

Smaoui, H., Mimouni, K., Miniaoui, H. and Temimi, A. (2020) "Funding liquidity risk and banks" risk-taking: Evidence from Islamic and conventional banks", *Pacific Basin Finance Journal*, *64*, p. 101436.

Sufian, F. (2007) "The efficiency of Islamic banking industry in Malaysia: Foreign vs domestic banks", *Humanomics*, available at:https://doi.org/10.1108/08288660710779399.

Tarraf, H. and Majeske, K. (2013) "Impact of Risk Taking on Bank Financial Performance During 2008 Financial Crisis", *Journal of Finance & Accountancy*, pp. 1-18.

The Jakarta Post. (2018) "The highest paying jobs in Indonesia revealed", 7 January, pp. 1–9.

Tian, G.Y. and Yang, F. (2014) "CEO incentive compensation in U.S. financial institutions", *International Review of Financial Analysis*, *34*, pp. 64–75.

Trinugroho, I., Risfandy, T. and Ariefianto, M. D. (2018) "Competition, diversification, and bank margins: Evidence from Indonesian Islamic rural banks", *Borsa Istanbul Review*, *18*(4), pp. 349–358.

Trinugroho, I., Risfandy, T., Ariefianto, M. D., Prabowo, M. A., Purnomo, H. and Purwaningsih, Y. (2017) "Does religiosity matter for Islamic banks" performance? Evidence from Indonesia", *International Journal of Economics and Management*, *11*(2).

Trinugroho, I., Risfandy, T., Hanafi, M. M. and Sukmana, R. (2020) *Busy Commissioners and Firm Performance: Evidence from Indonesia*, Working paper.

Uhde, A. (2016) "Risk-taking incentives through excess variable compensation: Evidence from European banks", *The Quarterly Review of Economics and Finance*, *60*, pp. 12–28.

Unda, L. A. and Ranasinghe, D. (2019) "To pay or not pay: Board remuneration and insolvency risk in credit unions", *Pacific Basin Finance Journal*, *March 2018*, p. 101128.

Vallascas, F. and Hagendorff, J. (2013) "CEO bonus compensation and bank default risk: Evidence from the U.S. and Europe", *Financial Markets, Institutions and Instruments*, *22*(2), pp. 47–89.