



Implementing maqasid sharia: Impact on stability of Indonesian Islamic banks

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Abstract

Purpose – This study analyzes the relationship between maqasid sharia and the stability of Islamic banks in Indonesia.

Methodology – This study uses annual balanced panel data of eight Islamic banks in Indonesia from 2010-2020 and utilizes a random effects model (REM) approach with the generalized least squares (GLS) method. The dependent variable is the Z-score as a proxy for bank stability, and the independent variables are bank size, the maqasid index (MI), capital adequacy ratio (CAR), gross domestic product (GDP), inflation, and interest rate.

Findings – This research reveals that the stability of Islamic banking in Indonesia decreased over the study period, whereas maqasid performance increased. Furthermore, this study shows that the maqasid index and GDP negatively influence the Z-score, while bank size and CAR have a positive influence. We found no influence of inflation or the interest rate on the Z-score. The negative impact of the Maqasid index denotes poor management and financing quality, which is linked to the slanted achievement of the three Maqasid objectives (education, justice, and maslahah) during the study period.

Implications – Policymakers, industry, and academics can use the research findings as recommendations to strengthen the stability of Islamic banks and their role in promoting welfare.

Originality – This study employs the maqasid index as a proxy for Islamic bank performance to analyze its influence on bank stability.

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Introduction

Islamic banks differ from conventional banks in theory and practice. Mohammed et al. (2008) postulated that mainstream financial ratios are unidimensional, while Islamic banks tend to be multidimensional, so performance assessment needs more than just financial ratios. Furthermore, according to Antonio et al. (2012), Islamic banking performance measurement should not only focus on financial measures but also incorporate three main aspects: economic, environmental, and social. In addition, maqasid principles are essential in monetary policy and the sharia finance industry to optimize consumer protection and the role of Islamic banks as a catalyst for growth in the real sector and create prosperity (Soemitra et al., 2021). Accordingly, economists and

researchers have developed various benchmarks to evaluate Islamic bank performance, including the *maqasid* index (MI) model, also known as performance measures based on the *maqasid al-shariah* framework (PMMS) by [Mohammed et al. \(2008\)](#). MI represents the three main objectives of *maqasid sharia*: Education, justice, and welfare. [Mohammed and Thaib \(2015\)](#) studied the effectiveness of the PMMS model and found that it is more effective than conventional banking performance measures (CBPM) in assessing the performance of Islamic banks. This result has been confirmed by recent studies ([Adzhani & Rini, 2017](#); [Al Ghifari et al., 2013](#); [Analia & Anto, 2019](#); [Antonio et al., 2012](#)).

Bank stability is crucial because banks play vital roles in economic activities and monetary policy ([Satibi et al., 2018](#); [Sudarsono et al., 2021](#)). Meanwhile, Islamic banks in Indonesia face specific challenges owing to their characteristics, low *sharia* financial literacy, and small market share. Many studies have examined the stability of the Islamic banking sector and its catalysts, including *sharia* factors such as the constitutional religiosity index ([Ashraf et al., 2016](#)) and the *islamicity* index ([Bakhouche et al., 2022](#)). These variables represent the extent to which *sharia* principles are embedded in the constitutions and environment of a country and their influence on bank stability, as the variables do not capture the direct relationship between Islamic bank characteristics and its soundness. Hence, we employ the MI variable to develop new insights into how the application of *maqasid sharia* in bank business activities can affect its stability. We used annual balanced panel data from eight Islamic banks in Indonesia from 2010-2020 and utilized the random effects model (REM) approach with the Generalized Least Squares (GLS) method. The dependent variable is the Z-score as a proxy for bank stability, and the independent variables consist of bank size, the *Maqasid* Index (MI), CAR, PDB, inflation, and interest rate. Finally, policymakers, industry, and academics can use the research findings as recommendations to strengthen the stability of Islamic banks and their role in promoting welfare.

Our research introduces a novel approach by investigating the impact of the *maqasid sharia* application, measured through the *maqasid* index (MI), on the stability of Indonesian Islamic banks. Unlike previous studies that focus primarily on financial ratios, our study integrates the broader dimensions of economic, environmental, and social impacts aligned with *sharia* principles. By employing a robust panel data analysis covering eight Islamic banks from 2010 to 2020, using the random effects model (REM) with the Generalized Least Squares (GLS) method, we aim to provide comprehensive insights into how adherence to *maqasid sharia* can enhance bank stability. This approach contributes significantly to the literature by offering a holistic evaluation framework that extends beyond traditional financial metrics, thus offering actionable recommendations for policymakers, industry stakeholders, and academics seeking to strengthen the resilience of Islamic banking institutions in Indonesia.

Literature Review

Bank Stability

Bank stability refers to a bank's capacity to endure adverse economic conditions and financial shocks and fulfill its obligations to stakeholders ([Miah & Uddin, 2017](#)). After the 2008 global crisis, researchers and bank observers realized the importance of evaluating the performance and stability of the banking sector, beginning with the CAMELS model ([Danlami et al., 2022](#)). In addition to the CAMELS, the Z-score has emerged as a prevalent model for assessing bank stability, particularly in its ability to predict insolvency risk ([Beck et al., 2013](#)). The Z-score model provides a straightforward metric that helps regulators and analysts gauge a bank's financial health and resilience, making it a valuable tool alongside more comprehensive frameworks, such as CAMELS. Its utility lies in its simplicity and efficiency in quantifying the likelihood of financial distress using key financial ratios ([Joudar et al., 2023](#); [Zins & Weill, 2017](#)).

Maqasid Index

The *Maqasid* index is a benchmark for the performance of Islamic banks formulated by [Mohammed et al. \(2008\)](#) and is based on the idea of the two main objectives of *sharia* proposed by Ibn Ashur:

promoting welfare (jalb al-masalih) and avoiding vices (dar' al-mafasid). Later, Abu Zaharah classified them into three areas: educating individuals (tahdhib al-fard), establishing justice (iqamah al-'adl), and promoting welfare (jalb al-maslahah). [Mohammed et al. \(2008\)](#) used Sekaran's method to convert the three main objectives into performance measurements consisting of dimensions, elements, and ratios (see [Table 1](#)). Muhammad et al. (2008) constructed a framework and determined the weight of each component through interviews and questionnaires involving sharia experts from the Middle East and Malaysia. The Maqasid index represents the degree of maqasid principles (sharia compliance) incorporated in an Islamic bank's core business operations and performance from the maqasid sharia perspective.

Table 1. Maqasid index performance indicator

Objective	Dimension	Element	Ratio
O1. Educating the Individuals	D1. Advancement Of Knowledge	E1. Education grant	R1. Education grant or Scholarship/Total expenses
	D2. Instilling new skills and improvements	E2. Research	R2. Research expenses/Total expenses
	D3. Creating awareness of Islamic banking	E3. Training	R3. Training expenses/Total expenses
		E4. Publicity	R4. Publicity expenses/Total expenses
O2. Establishing justice	D4. Fair dealings	E5. Fair returns	R5. Profit Equalization Reserves (PER)/ Net or Investment income
	D5. Affordable products and services	E6. Affordable price	R6. Mudarabah and musharakah modes/Total investment modes
	D6. Elimination of injustices	E7. Interest free	R7. Interest free income/Total product income
O3. Promoting welfare	D7. Profitability	E8. Profit ratios	R8. Net income/Total assets
	D8. Redistribution of income & wealth	E9. Personal income	R9. Zakah paid/Net asset
	D9. Investment in vital real sector	E10. Investment ratios in real sector	R10. Investment in real economic sector/Total investment

Source: [Mohammed and Md Taib \(2015\)](#)

Table 2. Average weights for maqasid index indicators

Objective	Average Weight (Out of 100%)	Element	Average Weight (Out of 100%)
O1. Educating the Individuals	30	E1. Education grant	24
		E2. Research	27
		E3. Training	26
		E4. Publicity	23
O2. Establishing justice	41	E5. Fair returns	30
		E6. Affordable price	32
		E7. Interest free	38
O3. Promoting welfare	29	E8. Profit ratios	33
		E9. Personal income	30
		E10. Investment ratios in real sector	37

Source: [Mohammed and Md Taib, \(2015\)](#)

Previous Empirical Studies

The Z-score model stands out for its effectiveness in identifying financial shocks within large commercial banks, offering advantages over the CAMELS framework by requiring less extensive data input. This model's simplicity and reliance on key financial ratios make it a practical tool for early warning systems, allowing for the swift identification of potential vulnerabilities in bank

operations. Its ability to provide timely insights into financial health and risk exposure underscores its utility in regulatory oversight and strategic decision making within the banking sector. Thus, the Z-score model remains a valuable tool for enhancing financial stability and resilience across diverse banking institutions.

We employed the *maqasid* index (MI) as the key independent variable. MI performance represents bank efforts to instill *maqasid sharia* into its operations and achieve greater purpose in three aspects: education, justice, and welfare. Moreover, *maqasid sharia* will establish bank decisions and business activities, and consequently establish its performance and financial stability. We examined relevant studies that employed *sharia* variables. [Ashraf et al. \(2016\)](#) examined the relationship between the constitutional religiosity index (Religiosity Index) and bank stability in 136 Islamic banks in 30 countries, including Indonesia. They find that religiosity does not influence stability, albeit with a positive coefficient. [Bakhouché et al. \(2022\)](#) reported a similar outcome and stated that the dominance of conventional banking in dual-banking countries reduced the benefits of the Islamicity Index on Islamic bank stability. Therefore, we expected that good performance of the *maqasid sharia* principles would strengthen bank stability. We also anticipated a negative impact of the *Maqasid* index due to the given average weight and ratios for profit-loss sharing (PLS) contracts in the justice (O2) and welfare (O3) equations (see [Table 2](#)). Relevant studies have found that higher PLS contracts generate non-performing financing (NPF) and reduce bank stability ([Alqahtani & Mayes, 2018](#); [Danlami et al., 2022](#); [Widarjono et al., 2020](#)). Hence, as the first to employ the *maqasid* index in an econometric model for bank stability, we utilized a two-tailed test to investigate its influence on bank stability.

H₁: There is a relationship between the *maqasid* index (MI) and the stability of Islamic banks

Based on prior research, the relationship between bank size, proxied by total assets, and stability in Islamic banking is nuanced and context dependent. Studies by [Ibrahim and Rizvi \(2017\)](#), [Miah and Uddin \(2017\)](#), and [Widarjono \(2020\)](#) indicate a positive impact of bank size on stability up to a certain threshold, beyond which this relationship may vary. Conversely, during periods of crisis, [Chakroun and Gallali \(2015\)](#), [Joudar et al. \(2023\)](#), [Rizvi et al. \(2020\)](#), and [Trad et al. \(2017\)](#) find a negative correlation between bank size and stability among larger banks. Our study employs a two-tailed test to comprehensively examine the bank size variable, aiming to elucidate the conditions under which larger asset bases contribute positively or negatively to the stability of Islamic banks. This approach not only contributes to a deeper understanding of the dynamics influencing Islamic banking stability but also provides valuable insights for regulatory policies aimed at optimizing the operational resilience and risk management practices of Islamic financial institutions.

H₂: There is a relationship between size and the stability of Islamic banks

According to [Widarjono \(2020\)](#), the capital adequacy ratio (CAR) plays a crucial role in enhancing the stability of Islamic banks, a finding supported by various studies ([Alqahtani & Mayes, 2018](#); [Danlami et al., 2022](#); [Widarjono et al., 2020](#)). CAR serves as a critical indicator of a bank's ability to absorb potential losses and maintain solvency, particularly in the context of Islamic finance principles that emphasize risk-sharing and asset backing. These studies underscore the importance of maintaining adequate capital levels to mitigate risk and ensure financial stability in Islamic banking operations. The positive relationship between CAR and bank stability highlights the significance of regulatory frameworks that mandate sufficient capital buffers, which not only safeguard depositors' interests but also contribute to the overall resilience and sustainability of Islamic financial institutions.

H₃: There is a positive relationship between CAR and the stability of Islamic banks

[Pambuko et al. \(2020\)](#) demonstrate through their studies that the industrial production index (IPI) exerts a positive influence on the stability of Islamic banks, highlighting the importance of robust industrial output in bolstering financial sector resilience. Similarly, [Ibrahim and Rizvi \(2017\)](#) find a positive correlation between real GDP growth and bank stability, suggesting that

overall economic productivity enhances the stability of financial institutions. These findings underscore the critical role of national economic performance indicators in shaping the stability of Islamic banks, as improvements in industrial production and GDP growth contribute to banks' increased economic activity, lower credit risk, and enhanced profitability. Thus, fostering better national productivity through strategic economic policies can potentially mitigate systemic risks and promote sustainable growth in the Islamic banking sector, thereby benefiting both financial institutions and the broader economy.

H₄: There is a positive relationship between GDP and the stability of Islamic banks

High inflation poses significant financing risks due to its detrimental effects on purchasing power and overall economic stability, as highlighted by [Kasri and Azzahra \(2020\)](#), [Khattak et al. \(2021\)](#), and [Widarjono \(2020\)](#). These studies emphasize that inflation erodes the value of money, leading to reduced consumer spending, increased production costs, and potential economic downturns. In Islamic banks, high inflation can exacerbate financing risks by diminishing real returns on investments and increasing uncertainty in asset valuation. Conversely, low-inflation environments tend to provide more stable economic conditions, fostering greater confidence in investment and lending activities in the Islamic banking sector. Therefore, understanding the impact of inflation on financing risks is crucial for formulating effective monetary policies and risk-management strategies that can mitigate the adverse effects on Islamic banks' stability and overall financial health.

H₅: There is a negative relationship between inflation and the stability of Islamic banks

In their study using the banking stability index (BSI) to assess the dual-banking systems in Indonesia from 2008 to 2013, [Pambuko et al. \(2018\)](#) found a significant negative impact of interest rates on the stability of Islamic banks. This finding underscores the sensitivity of Islamic banks to interest rate fluctuations, as they operate under the sharia principles that prohibit charging or receiving interest (riba). High interest rates can lead to increased financing costs for Islamic banks, thus affecting their profitability and overall stability. Understanding these dynamics is crucial for policymakers and regulators aiming to maintain stability within the Islamic banking sector, as it highlights the need for tailored monetary policies and financial instruments that align with sharia principles and support the sustainable growth and stability of Islamic financial institutions.

H₆: There is a negative relationship between interest rate (IR) and stability of Islamic banks.

Research Methods

This research employs balanced panel data from 2010-2020 sourced from banks' annual reports (AR) for bank internal variables and the Central Bureau of Statistics (Biro Pusat Statistik, BPS) for macroeconomic variables. The objects of observation are Islamic commercial banks (Bank Umum Syariah, BUS) in Indonesia, namely, Bank Syariah Mandiri (BSM), Bank Muamalat Indonesia (BMI), Bank Mega Syariah (BMS), Bank Rakyat Indonesia Syariah (BRIS), Bank Bukopin Syariah (BBS), Bank Panin Dubai Syariah (BPDS), Bank Central Asia Syariah (BCAS), and Bank Negara Indonesia Syariah (BNIS).

The dependent variable is Z-score as a proxy for the stability of Islamic banks. Thus, a higher score indicates that the bank is more stable and vice versa. The formula is as follows:

$$Z - score_{i,t} = \frac{[ROA_i + CAR_i]_t}{[SD(ROA)_i]} \quad (1)$$

Equation (1) combines accounting measures of profitability, leverage, and volatility ([Beck et al., 2013](#)), consisting of return on assets (ROA), capital asset ratio (CAR), and SD (ROA) as the standard deviation value of ROA, *i* refers to each bank, and *t* is the year of research. For the independent variables, we employed bank size (Size), CAR, maqasid index (MI), real GDP of the 2010 series, inflation, and interest rate (IR) proxied by the BI-7 day reverse repo rate (BI7DRR) from the central bank of Indonesia (see [Table 3](#)).

Referring to [Mohammed et al. \(2008\)](#), we used the simple additive weighting (SAW) concept from [Hwang and Yoon \(1981\)](#) and employed the average weights presented in [Table 2](#). However, we did not include the dimension of fair dealings/D4 ([Table 1](#)) because of data availability, as in previous studies ([Analia & Anto, 2019](#); [Antonio et al., 2012](#)). We calculated each objective performance following the function of equation (2) to (4) and the total modified index of each bank using Equation (5).

$$PI(O1) = W_1^{*1} (E1 \times R1 + E2 \times R2 + E3 \times R3 + E4 \times R4) \quad (2)$$

$$PI(O2) = W_2^{*2} (E6 \times R6 + E7 \times R7) \quad (3)$$

$$PI(O3) = W_3^{*3} (E8 \times R8 + E9 \times R9 + E10 \times R10) \quad (4)$$

$$Maqasid\ Index = PI(O1) + PI(O2) + PI(O3) \quad (5)$$

PI(O1,2,3) is the performance index for education (O1), justice (O2), and welfare (O3). W_1^{*1} is the weight of the first objective, W_2^{*2} is the weight of the second objective, and W_3^{*3} is the weight assigned to the third objective. E (1-10) is the weight of each element and R (1-10) is the ratio. Finally, we computed the total modified index (PI) as follows:

Table 3. Summary of the variables

Type of Variable	Name	Description	Hypothesis	Source
Dependent	Stability	Z-score= (ROA+CAR)/SD(ROA) (%)		AR
Independent	Internal:			
	MI	Maqasid index (%)	+/-	AR
	Size	Natural logarithm of total assets (%)	+/-	AR
	CAR	Capital adequacy ratio (%)	+	AR
	External:			
	GDP	Natural logarithm of real GDP (%)	+	BPS
	Inflation	Annual Inflation rates (%)	-	BPS
	IR	BI-7 day reverse repo rate (%)	-	BPS

Source: Data processing

The three approaches used in panel data estimation are the common effect model (CEM), fixed effect model (FEM), and random effect model (REM). A few tests were required to identify the most suitable model. Consequently, we ran the Chow test (CEM-FEM), Lagrange multiplier test (REM-CEM), and Hausman test (FEM-REM). When conducting the regression, we used EViews 10. The theoretical model for the stability of Islamic banks is as follows:

$$Stability_{i,t} = f(Size_{i,t}, CAR_{i,t}, MI_{i,t}, GDP_{i,t}, Inflation_{i,t}, IR_{i,t}) \quad (6)$$

The model in equation (6) can be written as the following regression equation:

$$Z - score_{i,t} = \beta_0 + \beta_1 Size_{i,t} + \beta_2 CAR_{i,t} + \beta_3 MI_{i,t} + \beta_4 GDP_{i,t} + \beta_5 Inflation_{i,t} + \beta_6 IR_{i,t} + e_{i,t} \quad (7)$$

In addition, we utilized descriptive statistics to provide a comprehensive overview of the performance and stability of Islamic banking in Indonesia during the study period.

Results and Discussion

[Table 4](#) presents descriptive statistics of all control variables used in this study. Islamic banks in Indonesia had a wide range of stability, with an average Z-score of 60.57%, contrary to their maqasid performances tended to be equal with an average index of 28.38%. Meanwhile, Islamic banks in Indonesia carried various sizes of total assets, with the highest amount reaching IDR 126,907.94 billion in 2020. The CAR was above the threshold set by Bank Indonesia with an average of 20.62%. The average real GDP during 2010-2020 was IDR 9,002,432 billion, and the average inflation rate was 4.56% with a standard deviation of 1.54, which indicates that inflation tends to be stable in Indonesia. At last, the interest rate was around 5.99% during the study period.

Table 4. Descriptive statistics

Variable	Average	SD	Min.	Max.
Z-score (%)	60.57	84.49	0.20	516.15
MI (%)	28.38	5.01	16.62	40.38
Size (IDR Billion)	25,392.14	27,782.78	458,71	126,907.94
CAR (%)	20.62	11.23	10.6	76.4
GDP (IDR Billion)	9.002.432	1.408.461,9	6.864.133,1	10.949.155,4
Inflation (%)	4.56	1.54	2.04	6.97
IR (%)	5.99	1.03	4.25	7.54

Source: Data processing

Figure 1 shows a decrease in the stability of Islamic banking in Indonesia. However, year-on-year Z-score growth showed a positive trend, as portrayed by the gray line. In contrast, the MI showed stagnancy, while the annual index growth decreased linearly over time.

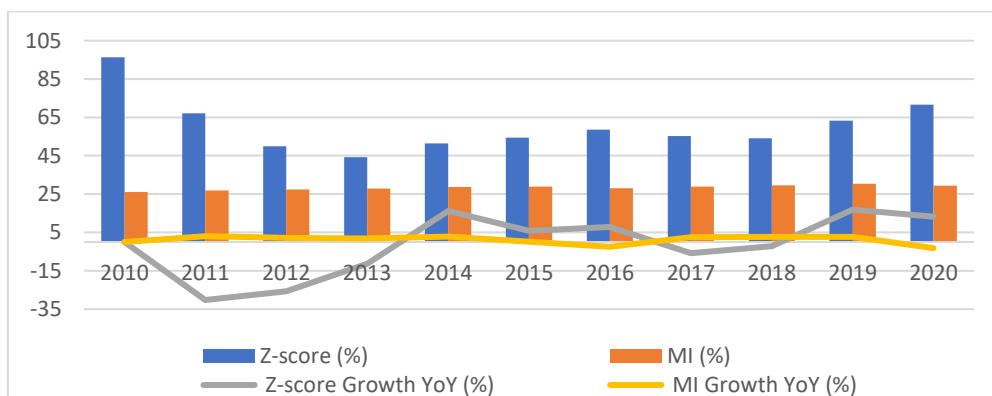


Figure 1. The growth of Z-score and maqasid index in Indonesia
Source: Authors' own work

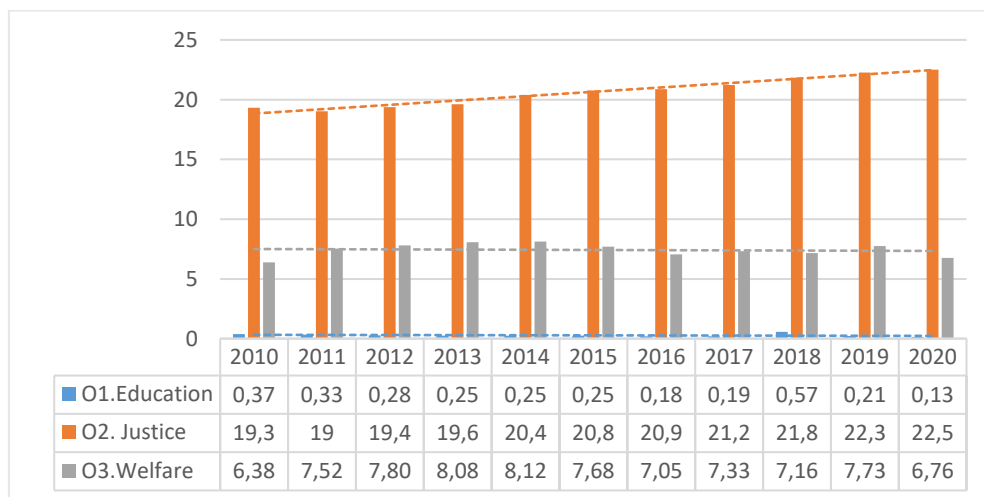


Figure 2. The growth of three objectives by the Islamic banking in Indonesia
Source: Authors' own work

Figure 2 presents the achievements of the three Islamic banking objectives in Indonesia. Education (O1) had the smallest performance index, below 1% (out of 100), followed by a growth of-63.75% since 2010. The small percentage of O1 performance was due to unreliable data reporting by education grants-scholarships (E1) and research expenses (E2). The welfare objective (O3) showed stagnancy by only 5.88% growth over a decade, whereas the justice objective (O2) outperformed it by reaching 22% in 2020 and has grown by 16.5% since 2010.

To determine the performance of each bank, we ranked the average *maqasid* and Z-scores of the Islamic banks from 2010 to 2020. As shown in Table 5, the highest *maqasid* performances were BPDS, BBS, and BMI, while the lowest were BNIS and BMS. Meanwhile, BCAS, BNIS, and BRIS were the most stable banks when BPDS and BMS experienced instability due to their low Z-scores. Based on these results, the BPDS case attracted our attention. BPDS's high performance of BPDS is in contrast to its low stability level. Furthermore, we investigated the matter by estimating a panel data regression.

Table 5. The rank of Islamic banks based on *maqasid* index and Z-score

Bank	MI	MI Rank	Z-score	Z-score Rank
BPDS	34.96	1	7.48	8
BBS	31.44	2	29.52	4
BMI	30.81	3	29.28	5
BCAS	29.55	4	257.62	1
BRIS	27.69	5	49.81	3
BSM	27.61	6	21.28	6
BNIS	24.87	7	70.61	2
BMS	20.13	8	18.95	7

Source: Data processing.

Table 6 presents the main estimation results. We found that the proper approach for this estimation was the Random Effect Model based on the results of the Chow test, Breusch–Pagan test (Lagrange-Multiplier test), and Hausman test. R-squared (0.587478) showed that the independent variables simultaneously explained half of the Z-score variation in our model. Moreover, the model used in this study is also a fit, as shown by the significance of the F-statistic.

Table 6. The estimation output

	Coefficient	t-Statistic	Prob.
C	762.0879	1.955527	0.0540
MI	-1.875974	-1.684165*	0.0960
Size	30.56742	3.673903***	0.0004
CAR	3.417945	8.472515***	0.0000
GDP	-102.9001	-3.009799***	0.0035
Inflation	-4.588963	-1.279212	0.2045
IR	4.364330	0.928097	0.3561
Weighted statistics			
R-squared			0.587478
Adjusted R-squared			0.556921
Prob (F-statistic)			0.000000***
Unweighted statistics			
R-squared			0.175135
Sum squared resid			512393.7
CROSSID	Effect	CROSSID	Effect
1 (BSM)	-70.64566	5 (BPDS)	-34.73346
2 (BMS)	-30.35480	6 (BCAS)	179.7813
3 (BRIS)	-20.64862	7 (BNIS)	-5.233237
4 (BBS)	21.64157	8 (BMI)	-39.80711
		Chi-square stat.	Prob.
Uji Chow		183.121440	0.0000
Uji Bruesch-Pagan		-	0.0000
Uji Hausman		0.000000	1.0000

Note: ***, **, * indicate significance at the 1%, 5%, and 10% levels, respectively.

Source: Data processing.

According to the partial test (t-test), we discovered that MI negatively affects the Z-score, which suggests that an increase in the maqasid index will reduce the Z-score and vice versa. Bank size and CAR positively affect Z-scores, which implies that if Islamic banks increased their assets and the capital buffer, they would be more stable, and vice versa. For macroeconomic variables, we found that only GDP had a significant correlation with the Z-score. The negative coefficient rejects our hypothesis about the relationship between GDP and the Z-score. The result indicates that an increase in real GDP will reduce the Z-score, and vice versa.

In addition, the random effects model provides a cross-section effect or a random effect value. The cross-sectional effect represents the Z-score of a specific bank when the independent variables are equal to zero. In other words, it shows the capability of a bank's management to maintain financial stability. We found that only BCAS (179.78%) and BBS (21.64%) had positive Z-scores, whereas other Islamic banks had negative scores.

Discussion

The negative correlation observed between the Maqasid index and bank stability in our study contrasts with the findings of [Ashraf et al. \(2016\)](#) and [Bakhouché et al. \(2022\)](#), who report positive coefficients for the religiosity and Islamicity indices. Unlike these variables, the Maqasid index model specifically evaluates the implementation of the maqasid sharia principles within the operational framework of banks, focusing on objectives such as education, justice, and welfare. This unique approach provides a more direct assessment of how adherence to maqasid principles impacts bank stability, highlighting potential avenues for further research on the nuanced relationship between sharia compliance and financial performance in Islamic banking.

The PLS contracts hold substantial weight in the Maqasid index equation (see [Table 2](#)). A high percentage of PLS contracts potentially increases financing risk and NPF due to asymmetric information, moral hazard, and adverse selection ([Chakroun & Gallali, 2015](#); [Widarjono et al., 2020](#); [Widarjono & Rudatin, 2021](#)). [Trad et al. \(2017\)](#) find that Islamic banks with high liquidity tend to be more stable. In Indonesia, Islamic banking has had a remarkable performance of Justice Objective/O2 for over a decade. [Seho et al. \(2020\)](#) also reported that Indonesia had a 40.7% proportion of PLS contracts in 2017, which was higher than Malaysia (7.1%), Bahrain (8.4%), the UAE (5.3%), and Saudi Arabia (0.5%). Moreover, a small market share with high competition also contributes to low-quality financing ([Khattak et al., 2021](#); [Pambuko et al., 2018](#)).

Based on the discussion above, [Nugroho et al. \(2019\)](#) examined the effect of market segmentation on the asset quality of Bank Syariah Mandiri (BSM) in Indonesia, which divided the market into two groups: retail segmentation consisting of microfinance, business/small, and consumer (consumptive financing), and wholesale segmentation consisting of commercial and corporate. They find that the retail segment has a more substantial impact than the wholesale segment in decreasing NPF. By concentrating on retail segmentation and implementing strict monitoring of microfinance, Islamic banks might effectively deal with impaired financing and encourage financial inclusion to attain justice (O2) and welfare (O3) objectives. However, Islamic banks in Indonesia should tackle geographical issues and low sharia financial literacy by only 9.14% by 2022 ([Otoritas Jasa Keuangan, 2022](#)). Hence, Islamic banks need effective allocation of funds to achieve educational objectives (O1). Furthermore, collaboration with fintech will elevate the efficiency and prudence of Islamic banks, develop innovative product offers, and promote Islamic financial literacy. We can see many forms of partnerships in Indonesia, such as a super lender for p2p financing, credit scoring services, and wealth tech. Our results indicate the importance of equally achieving the three objectives of the Maqasid index (education, justice, and welfare), which may positively influence bank stability and the financial sector.

Our findings on bank size conform to economies of scale theory and previous studies ([Alqahtani & Mayes, 2018](#); [Miah & Uddin, 2017](#); [Widarjono, 2020](#)). Furthermore, according to [Ibrahim and Rizvi \(2017\)](#), we conclude that Islamic banks in this study are a large category, with total assets surpassing IDR 5 trillion (USD 324 million) in recent years. Large banks can expand their businesses and improve their stability. However, to prevent the "too big to fail" hypothesis, [Ibrahim and Rizvi \(2017\)](#) suggest that regulators should impose more activity restriction

requirements, such as assessing and monitoring banks when they enter particular sectors (real estate, securities, and insurance), including the bank's ownership of a financial company.

A high CAR indicates prudence and solvency. This increases the trust of stakeholders (customers, shareholders, and regulators). According to Indonesia Financial Services Authority Regulation Number 34/POJK.03/2016 regarding the Capital Adequacy Requirement of Commercial Banks (amending POJK No. 11/POJK.03/2016), the bank's capital is adjusted to the risk profile of each bank with additional policies, such as the Capital Conservation Buffer, Countercyclical Buffer, and Capital Surcharge. Therefore, the average CAR of Islamic banks in Indonesia reached 20.62% because they must anticipate the specific risks that arise because of their unique characteristics (Alqahtani & Mayes, 2018; Danlami et al., 2022; Miah & Uddin, 2017; Widarjono et al., 2020).

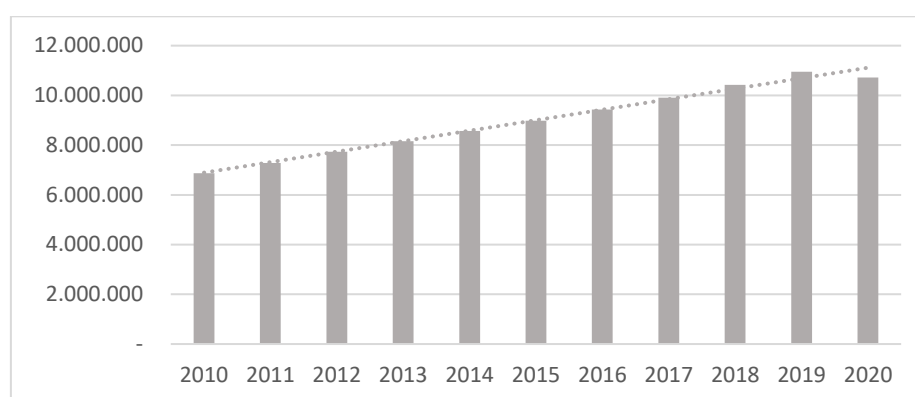


Figure 3. Real gross domestic product of Indonesia (IDR Billion)

Source: Authors' own work

According to Figure 3, the real GDP in Indonesia increased linearly over time, whereas the stability of Islamic banks decreased. This confirms our findings on the negative impact of GDP. In 2021, the Financial Services Authority reported that the market share of Islamic banking in Indonesia had only reached 6.74% (Otoritas Jasa Keuangan, 2021), implying the dominance of conventional banking. High competition tends to increase risk-taking behavior and potentially cause impaired financing in Islamic banks, lower asset values, and bank stability (Ashraf et al., 2016; Danlami et al., 2022; Joudar et al., 2023). This is also shown by higher non-performing financing compared to conventional banking, which grew by 341.85% from 2008 to 2015 (Nugroho et al., 2019). Competition also leads banks to offer higher deposit rates and lower lending rates, whereas cost banks have high operational costs and low profitability (Khattak et al., 2021).

Meanwhile, the lack of correlation between inflation and the stability of Islamic banks is in line with previous studies (Abidillah et al., 2022; Bakhouché et al., 2022; Joudar et al., 2023; Zins & Weill, 2017). This may be due to the preserved inflation rates during the study period (below 5%). We found no influence on the interest rate toward the Z-score, yet Pambuko et al. (2018) found that the interest rate significantly affects stability with a negative coefficient. Similarly, Seho et al. (2020) find that Islamic banks with high reliance on fixed-income contracts, such as murabahah (sale-based) and ijarah (lease-based), are negatively affected by interest rates. Banks with an ideal portion of PLS contracts tend to be immune to interest rate risk. In this case, Islamic banks in Indonesia had a relatively high proportion of PLS contracts that built immunity toward interest rate risk.

Conclusion

This study investigates the impact of the application of maqasid sharia on the stability of Islamic banks in Indonesia using annual balanced panel data from eight banks spanning 2010 to 2020. Employing the random effects model (REM) with Generalized Least Squares (GLS), we used the Z-score as a proxy for bank stability, alongside independent variables including the Maqasid index (MI), bank size (Size), CAR, PDB, inflation, and interest rate (IR). Our findings indicate a decline

in the stability of Islamic banks over the study period despite an increase in maqasid performance. Banks such as the BPDS, BBS, and BMI exhibited the highest MI scores, whereas BNIS and BMS showed the lowest scores. Notably, BCAS, BNIS, and BRIS demonstrated greater stability than BPDS and BMS, which experienced instability reflected in their low Z-scores. The study suggests that while maqasid sharia implementation did not enhance bank stability, it negatively impacted Z-scores, highlighting the management and financing quality issues associated with achieving maqasid objectives, particularly education (O1), which achieved only 1%.

These findings have significant implications for Islamic banking in Indonesia. This study underscores the need for Islamic banks to reassess their approaches to maqasid implementation to improve stability. Specifically, enhancing performance in education and maslahah objectives and improving the quality of profit- and loss-sharing (PLS) contracts through increased monitoring and financing in the retail segment are recommended. Additionally, the positive influence of bank size and CAR on bank stability suggests that the "too-big-to-fail" hypothesis does not apply in this context, whereas CAR positively impacts stability through prudence and solvency. Policymakers are advised to consider enhancing activity restrictions and capital stringency requirements to reinforce the positive impact of bank size and CAR on stability.

One limitation of this study is the restricted number of Islamic banks in Indonesia operational since 2010, which limits the scope of the observations and may impact the generalizability of the results. Future research should include Islamic banks across multiple countries to broaden the dataset and enhance research outcomes. Moreover, further investigation into the relationship between maqasid performance and impaired financing is necessary to fully comprehend its implications for Islamic bank stability and to inform effective regulatory and strategic measures.

Author contributions

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