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Impact of The Islamic Banks' Performances on Economic Growth of Bangladesh: Panel Data Analysis

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ABSTRACT
The research investigates the impact of Islamic banks' performance on Bangladesh's economic growth by analyzing panel data from selected banks between 2010 and 2019. A quantitative approach was used, focusing on financial ratio analysis (FRA) due to the secondary nature of the data. The study employed various methods such as Covariance Analysis, Unit Root tests, ARDL tests, and Granger Causality Analysis to evaluate the data from five Islamic banks selected as samples. The findings show a positive and significant impact on economic growth during this period, with a notable increase in profitability within the banking sector over the last decade. The research indicates that financial performance indicators play a crucial role in influencing economic growth. Therefore, policymakers should pay attention to the factors that affect financial performance and prioritize strategies that support rapid economic growth through effective risk management. This study offers valuable insights into the financial performance of Islamic banks, highlighting the significance of profitability in their roles within the broader economic system.

KEYWORDS
Islamic Banks, Bangladesh, Economic Growth, Panel Data, Financial Ratio Analysis

Introduction

Integrating Islamic knowledge into the study's conceptual foundations anchors technical analysis in a value-centered epistemology. In Islam, knowledge ('ilm) is

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inherently purposive, linking cognitive inquiry with moral responsibility and social welfare. This integration reframes finance and management decisions as trust-based stewardship (amanah), emphasizes justice and the avoidance of harm (mafsadah), and encourages risk-sharing over exploitative arrangements. Practically, it informs research design—choice of variables, operationalization of ethics-related constructs, and interpretation of empirical results—so that efficiency and equity are assessed together. It also contextualizes findings for Muslim-majority settings, enhancing policy relevance and stakeholder legitimacy. Historical and contemporary scholarship argues for harmonizing religious and modern sciences in theory and practice to overcome fragmentation and restore coherence in education and public life (Jarin, Mumu, Talukder, & Azad, 2021). Positioning the present work within this tradition, we treat Islamic principles not as add-ons but as guiding criteria that shape problem selection, evidence evaluation, and implications for inclusive, sustainable development.

Over the past few decades, Islamic banking has gained traction among consumers, policymakers, and researchers alike. In any economy, the banking sector plays a crucial role in enhancing financial performance and promoting efficient resource use (Ahmed, 2010; Rabaa & Younes, 2016). Banks that consistently achieve profitability maintain healthy capital levels and can easily secure funding. A well-functioning banking system significantly affects resource allocation, economic development, and financial stability. Improved financial performance also drives investment growth, benefiting both investors and the broader economy (Bourke, 1989; Rabaa & Younes, 2016).

Islamic banks provide financial products and services that adhere to Islamic principles, offering Muslims and their enterprises a means of accessing formal financial systems. This transition from informal to formal structures enhances financial inclusion and expands access to financial services. As Rajan (2006) pointed out, this could potentially lead to more effective methods for alleviating poverty. Islamic banking has seen a substantial rise in recent years due to its distinctive feature of being interest-free. In conventional banking, depositors are guaranteed interest returns, whereas in Islamic banking, depositors share in the bank's profits, depending on its performance (Hassan & Bashir, 2003; Yüksel & Canöz, 2017).

While evidence suggests a strong link between financial development and economic growth, Islamic banking presents an interesting case for its potential contributions to economic progress. It allows individuals who avoid interest-based instruments to engage with the financial system, particularly in predominantly Muslim countries. The diversification of financial services through Islamic finance may strengthen the financial sector and contribute to economic growth. A broader and more resilient financial system, including Islamic banking, can support economic stability and foster growth. In economies with both conventional and Islamic banking systems, the latter can provide additional support, especially when traditional financial services fail to adequately drive growth (Sekmen, 2021).

The growth of Islamic banking is primarily driven by religious factors, with the prohibition of interest in Islam being a key motivation. In addition to religious concerns, social factors have played a role, as interest is often viewed as contributing to income inequality. A banking system that operates without interest is seen as a solution to address this issue (Yüksel & Canöz, 2017). Islamic banking is perceived to offer several advantages over traditional banking. By encouraging Muslim individuals to deposit funds, it improves market liquidity. Additionally, by creating employment opportunities, Islamic banks help reduce unemployment rates. Lending to businesses further boosts production, thereby contributing to national economic growth (Furqani & Mulyany, 2009; Yüksel & Canöz, 2017).

This study investigates the influence of Islamic banks' performance on economic growth in the context of Bangladesh. The paper is organized as follows: the introduction is presented in the first section. The second section reviews significant research in Islamic banking and finance, tracing its development from theoretical foundations to its present dynamic form. The third section summarizes the contributions of Islamic finance to economic growth, drawing on empirical studies. The fourth section presents the findings of the study, followed by a discussion in the fifth section. The final section offers conclusions and suggestions for further research.

Literature Review

Islamic banks become a matter of concern that has attracted the interest of many researchers (Yüksel & Canöz, 2017). Numerous empirical investigations have been conducted, and in these investigations, researchers have used various statistical methodologies to evaluate the performance of the banking sector, such as Johansen Cointegration Analysis, Granger Causality Analysis, ARDL, Regression, Survey, Pedroni Cointegration Test, Stochastic Frontier Approach, Descriptive Statistics, VAR Granger Causality Analysis, Westerlund Panel Cointegration Test, Mediation of Profitability, Qualitative Research Paradigm, Structural Equation Model. The empirical factors that influence bank performance around the world have also been the subject of various studies, as well as in terms of a set of countries or a particular country. This section summarizes the literature on the financial, macroeconomic, and industry-specific factors that affect banks' financial performance. The gaps pertinent to this study have been found after a review of the literature. Additionally, the shortcomings of the available empirical investigations have been emphasized.

Table 01: Review of the literature

Authors	**Field**	**Method**	**Results/ Findings**
Furqani and Mulyayn (2009)	Malaysia	Johansen Cointegration Analysis	They analyzed that Islamic banking and economic expansion are connected.
Abduh and Chowdhury (2012)	Bangladesh	Granger Causality Analysis	The researchers found that the Islamic finance structure and economic growth have a substantial and favorable association.
Abduh and Omar (2012)	Indonesia	Johansen Cointegration Analysis	They stressed the close relation between the development of Islamic finance and economic expansion.
Yazdan and Sadr (2012)	Iran and Indonesia	ARDL	According to analysis, Islamic financing is significantly associated with economic growth.
Johnson (2013)	345 Islamic banks	Regression	The study found that there is no connection between the development of the economy and the Islamic banking system.
Sarwer et. al. (2013)	Pakistan	Survey	They draw the conclusion that Islamic banking is strongly and favorably and favorably related to economic growth.
Tajgardoon et. al. (2013)	12 Asian countries	Granger Causality Analysis	Economic growth and the Islamic banking system have been proven to be significantly correlated in the short term, but this relationship is not true in the long run.
Tabash and Dhankar (2014a)	Qatar	Johansen Cointegration Analysis	Economic growth and Islamic banking were found to be strongly correlated.
Tabash and Dhankar (2014b)	Qatar, Bahrain, UAE	Granger Causality Analysis	It was discovered that Islamic finance and economic growth have a significant association.
Tabash and Dhankar (2014c)	UAE	Johansen Cointegration Analysis	They established an association between economic growth and the Islamic banking structure.
Gheeraert and Weill (2015)	70 countries	Stochastic Frontier Approach	A connectivity between Islamic finance and economic growth was found.
Hachicha and Amar (2015)	Malaysia	Johansen Cointegration Analysis	They determined that Islamic financing has no impact on economic growth.
Abedifar et. al. (2016)	22 Islamic countries	Descriptive Statistics	Economic growth and the market share of Islamic banks were shown to be correlated.
Kassim (2016)	Malaysia	ARDL	It has been determined that the Islamic banking system supports economic activity by funding investment initiatives.
Lebdaoui and Wild (2016)	Southeast Asian countries	Regression	It was shown that, while not being relevant in the near term, there is a significant long-term correlation between Islamic banking and economic growth.

Tunay (2016)	19 Islamic countries	Dumitrescu and Hurlin Causality Test	Islamic banks play very important role for economic growth.
Wahab et. al. (2016)	Malaysia and Pakistan	Engle Granger Cointegration Analysis	In Malaysia, but not in Pakistan, there is a considerable correlation between Islamic financing and economic growth.
Yüksel and Canöz (2017)	Turkey	VAR Granger Causality Analysis	The study found that the growth of the economy and industry was not significantly impacted by loans from Islamic banks.
Boukhatem and Ben Moussa (2018)	13 countries in the MENA region	Pedroni and Westerlund Panel Cointegration Test	The expansion of the banking system encouraged economic growth in the MENA countries that were chosen, and impact positively.
Atici (2018)	Turkey	Granger Causality test	They identified considerable long-term unidirectional connection between Islamic (participation) banking and economic growth
Jawad and Christian (2019)	24 countries	Panel Co-Integration Test and Granger Causality Test	They recognized that Islamic Banking Development (IBD) affect economic growth positively and was a long run relationship between IBD and economic growth.
Afandi and Amin (2019)	Indonesia	Regression	The findings indicate that Islamic bank financing has no bearing on economic growth.
Nasution et al. (2019)	Indonesia	Mediation of Profitability	They discovered that CAR, NPF, FDR, and BOPO have a marginally negative direct impact on ROA. However, ROA has a positive and substantial direct impact on economic growth.
Yusof and Loong (2020)	Malaysia	ARDL	They demonstrated a connection between economic growth and Islamic finance.
M. Anwar et. al. (2020)	Indonesia	ARDL	Short- and long-term economic growth are closely correlated with IIB offices, deposits, and expansion. There is evidence to support the relationship between economic expansion and Islamic banks.
Osmanovica et. al. (2020)	UAE	Qualitative Research Paradigm	Around 8.3% of the GDP in 2018 was contributed by Islamic financial institutions.
Bendriouch et al. (2020)	GCC countries	Structural Equation Model	A strong relationship between Islamic banks and economic expansion, especially in the years after the global financial crisis.
Sekmen (2021)	Turkey	ARDL	They determined the financial sector still only includes a very modest amount of Islamic banking.

Table 1 provides an overview of the substantial research that highlights the connection between the Islamic banking system and economic growth. Furqani and Mulyayn (2009) conducted a study in Malaysia, where they applied the 'Johansen Co-integration Analysis' to investigate this relationship and concluded that Islamic banking plays a pivotal role in promoting economic growth. Other studies, such as those by Abduh and Omar (2012), Tabash and Dhankar (2014a), and Tabash and Dhankar (2014c), also used this methodology and arrived at similar findings. Furthermore, researchers like Abduh and Chowdhury (2012), Tabash and Dhankar (2014b), Atici (2018), and Jawad and Christian (2019) confirmed the positive impact of Islamic banking on economic growth through 'Granger Causality Analysis.' In addition, studies by Kassim (2016), Yazdan and Sadr (2012), Yusof and Loong (2020), and M. Anwar et al. (2020) employed the ARDL test to establish a significant causal relationship between Islamic finance and economic growth. Sarwer et al. (2013), through a survey, also determined that Islamic banking is strongly and positively correlated with economic growth. Further research by Gheeraert and Weill (2015), Abedifar et al. (2016), Tunay (2016), Boukhatem and Ben Moussa (2018), Osmanovica et al. (2020), and Bendriouch et al. (2020) reinforced the correlation between Islamic finance and economic growth. Additionally, Nasution et al. (2019) found that while CAR, NPF, FDR, and BOPO have a slightly negative direct effect on ROA, ROA itself has a positive and significant impact on economic growth.

Despite the body of research supporting a positive link between Islamic banking and economic growth, several studies have concluded that Islamic banking has little to no effect on economic growth. For example, Johnson (2013) analyzed 345 Islamic banks and, using regression analysis found no significant connection between the Islamic banking system and economic growth. Lebdaoui and Wild (2016) reached a similar conclusion using the same methodology. Additionally, Tajgardoon et al. (2013) used a different approach and determined that Islamic banks do not contribute to long-term economic growth. Wahab et al. (2016) found that Islamic banking does not impact economic growth in Pakistan, a finding echoed by Hachicha and Amar (2015) for Malaysia. Yüksel and Canöz (2017) and Afandi and Amin (2019) also emphasized that Islamic bank financing does not influence economic growth. Lastly, Sekmen (2021) applied the ARDL method and found that the Islamic banking sector remains a small part of the financial system, suggesting its limited influence on economic growth.

This study contributes to the understanding of the relationship between economic growth and the financial performances of Islamic banks in Bangladesh, which sets it apart from previous research. This makes the study special since it employs this methodology to look into the connection between the financial performance of Islamic banks and economic expansion. As a result, it's believed that the results were more trustworthy and precise.

Methodology

Samples

Bangladesh has a total of 61 scheduled banks, which are categorized into various types. Out of these, 43 are private commercial banks. These private commercial banks can be further divided into 33 conventional private commercial banks and 10 that operate based on Islamic Shariah principles. Additionally, the banking sector includes 6 state-owned commercial banks and 3 specialized banks. There are also 9 foreign commercial banks that provide a full range of banking services in the country. All of these banks operate under the supervision and control of the central bank, Bangladesh Bank, which oversees the entire banking system. For the purpose of this study, a sample of five Islamic banks was selected using a convenient sampling method. These Islamic banks are the following:

1. First Security Islami Bank Limited (FSIBL).
2. Islami Bank of Bangladesh Limited (IBBL).
3. Al-Arafah Islami Bank Limited (AIBL).
4. Shajalal Islami Bank Limited (SJIBL).
5. Social Islami Bank Limited (SIBL).

A vast majority population of Bangladesh is Muslim. Most of them, prefer Sharia'h based principles in the banking system rather than interest-based principles. This preference rate is increasing over time. The selected Islamic banks or sample banks are private, and provide a lion's share services of the banking sector of Bangladesh.

Variables

GDP is a widely used metric to indicate a country's income level over a specific period. Research on the finance-growth relationship consistently employs GDP as the key variable representing economic growth (Tabash & Dhankar, 2014b). In this research, GDP acts as the dependent variable, representing the overall economic performance. The independent variables encompass key financial and managerial factors, including Profitability, Credit Risk Performance, Managerial Efficiency, and Management Ability, each assessed through different financial ratios. Profitability is evaluated using Return on Assets (ROA), Return on Equity (ROE), and Earnings Per Share (EPS), which reflect how effectively the banks generate returns. Credit Risk Performance is measured by the Equity to Total Assets (ETA) ratio and Capital Adequacy Ratio (CAR), showcasing the banks' ability to manage risks and ensure financial soundness. Managerial Efficiency and Management Ability are gauged through the Income Expense Ratio (IER) and Asset Utilization (AU), respectively, which assess management's efficiency in controlling operational costs and maximizing resource utilization for improved productivity.

The model

The econometric model for the period from 2010 to 2019 was developed using panel data, which enabled a detailed analysis across both time periods and different entities. This approach offered insights into the link between economic growth and key financial metrics. The model primarily examined the impact of Islamic banks' performance on economic growth, with financial ratios used to capture factors such as profitability, credit risk, managerial efficiency, and management capability.

The econometric model is following:

$$GDP_{it} = \alpha_i + \beta_{it}ROA_{it} + \chi_{it}ROE_{it} + \delta_{it}EPS_{it} + \varphi_{it}ETA_{it} + \eta_{it}CAR_{it} + \theta_{it}IER_{it} + \gamma_{it}AU_{it} + \varepsilon_{it} \quad \text{.....(i)}$$

Where,

GDP = Gross Domestic Product

ROA = Return on Assets

ROE = Return on Equity

EPS = Earnings Per Share

ETA = Equity to Total Assets

CAR = Capital Adequacy Ratio

IER = Income Expense Ratio

AU = Asset Utilization

i = Country

t = Time

The empirical equation (i)'s unconditional ARDL-ECM representation is as follows, respectively:

$$\Delta GDP_t = \lambda_o + \lambda_1 GDP_{t-1} + \lambda_2 ROA_{t-1} + \lambda_3 ROE_{t-1} + \lambda_4 EPS_{t-1} + \lambda_5 ETA_{t-1} + \lambda_6 CAR_{t-1} + \lambda_7 IER_{t-1} + \lambda_8 AU_{t-1} + \sum_{i=1}^{p} \varphi_{1i}\Delta GDP_{t-i} + \sum_{i=0}^{q1} \gamma_{1i}\Delta ROA_{1t-i} + \sum_{i=0}^{q2} \gamma_{2i}\Delta ROE_{2t-i} + \sum_{i=0}^{q3} \gamma_{3i}\Delta EPS_{3t-i} + \sum_{i=0}^{q4} \gamma_{4i}\Delta ETA_{4t-i} + \sum_{i=0}^{q5} \gamma_{5i}\Delta CAR_{5t-i} + \sum_{i=0}^{q6} \gamma_{6i}\Delta IER_{6t-i} + \sum_{i=0}^{q7} \gamma_{7i}\Delta AU_{7t-i} + \mu_{1t} \quad \text{.....(xii)}$$

The error correction model for the estimation of the short-run relationships is specified as:

$$\Delta GDP_t = \lambda_o + \sum_{i=1}^{p} \varphi_{1i}\Delta GDP_{t-i} + \sum_{i=0}^{q1} \gamma_{1i}\Delta ROA_{1t-i} + \sum_{i=0}^{q2} \gamma_{2i}\Delta ROE_{2t-i} + \sum_{i=0}^{q3} \gamma_{3i}\Delta EPS_{3t-i} + \sum_{i=0}^{q4} \gamma_{4i}\Delta ETA_{4t-i} + \sum_{i=0}^{q5} \gamma_{5i}\Delta CAR_{5t-i} + \sum_{i=0}^{q6} \gamma_{6i}\Delta IER_{6t-i} + \sum_{i=0}^{q7} \gamma_{7i}\Delta AU_{7t-i} + \eta_1 ECM_{t-1} + \mu_{1t} \quad \text{.....(vi)}$$

where Δ is the difference operator, p is the lags in the dependent variable, and q_i is the lags in explanatory variables.

Research Method

Various studies (Tajgardoon et. al., 2013; Sarwer et. al., 2013; Furqani and Mulyayn, 2009; Yüksel and Canöz, 2017; M. Anwar et. al., 2020; and many others) have explored the impact of Islamic banking on economic growth using a range of analytical methods, such as surveys, regression models, ARDL, VAR, Granger causality, and Johansen cointegration analyses. In this study, a different statistical approach was adopted to examine the influence of selected Islamic banks' performance on economic growth in Bangladesh. The analysis employed techniques like Covariance Analysis, Unit Root Test, ARDL test, and Granger Causality Analysis to assess the relationship between bank performance and economic growth. These methods offered a comprehensive framework to analyze the dynamic connections between the variables, providing a detailed understanding of the role of Islamic banking in the country's economic progress.

Results and Findings

Covariance and Co-relation Total

The covariance and correlation data for First Security Islami Bank Limited (FSIBL) are displayed in Table 2. According to the findings, GDP is positively correlated with ROE, EPS, IER, and AU and negatively correlated with ROA, ETA, and CAR.

Table 02: Covariance and correlation of First Security Islami Bank Limited (FSIBL)

Covariance Correlation	GDP	ROA	ROE	EPS	ETA	CAR	IER	AU
GDP	0.546138							
	1.000000							
ROA	-0.047775	0.024097						
	-0.416452	1.000000						
ROE	0.531769	0.269881	8.068708					
	0.253321	0.612052	1.000000					
EPS	0.229694	0.029132	1.393718	0.438664				
	0.469280	0.283353	0.740810	1.000000				
ETA	-0.648689	0.063973	-2.127944	-0.491396	1.992555			
	-0.621842	0.291950	-0.530705	-0.525606	1.000000			
CAR	-0.057541	-0.172462	-4.157153	-0.589036	1.232629	3.514256		
	-0.041535	-0.592646	-0.780688	-0.474416	0.465812	1.000000		
IER	3.888258	2.909113	62.94281	9.759689	-12.11509	-43.39305	892.3246	
	0.176134	0.627360	0.741793	0.493297	-0.287316	-0.774894	1.000000	
AU	0.174470	0.012725	1.123137	0.223543	-0.612009	-0.745044	10.96948	0.258908
	0.463977	0.161098	0.777067	0.663320	-0.852079	-0.781076	0.721693	1.000000

The results of Islami Bank of Bangladesh Limited's (IBBL) covariance and correlation are displayed in Table 3. The findings imply that AU has a positive correlation with GDP and that ROA, ROE, EPS, ETA, CAR, and IER have negative correlations.

Table 03: Covariance and correlation of Islami Bank of Bangladesh Limited (IBBL)

Covariance Correlation	GDP	ROA	ROE	EPS	ETA	CAR	IER	AU
GDP	0.496754							
	1.000000							
ROA	-0.125887	0.079817						
	-0.632212	1.000000						
ROE	-1.231619	0.878776	11.00254					
	-0.526816	0.937743	1.000000					
EPS	-0.363236	0.235681	3.214539	1.181466				
	-0.474141	0.767478	0.891583	1.000000				
ETA	-0.399958	0.170787	1.131979	0.162158	0.811247			
	-0.630039	0.671167	0.378892	0.165635	1.000000			
CAR	-0.011164	0.067794	-0.248871	-0.466887	0.666959	1.627724		
	-0.012415	0.188084	-0.058808	-0.336675	0.580406	1.000000		
IER	-4.913381	6.842567	56.50251	1.580752	23.57487	35.76133	1673.099	
	-0.170431	0.592121	0.416448	0.035554	0.639900	0.685271	1.000000	
AU	0.013625	0.064283	0.363439	-0.101873	0.294739	0.587208	23.30121	0.409923
	0.030195	0.355381	0.171133	-0.146385	0.511104	0.718870	0.889747	1.000000

The results of Al-Arafah Islami Bank Limited's (AIBL) covariance and correlation are displayed in Table 4. The findings imply a negative correlation between GDP and ROA, ROE, EPS, ETA, AU, and IER, and a positive correlation with GDP and CAR.

Table 04: Covariance and correlation of Al-Arafah Islami Bank Limited (AIBL)

Covariance Correlation	GDP	ROA	ROE	EPS	ETA	CAR	IER	AU
GDP	0.496754							
	1.000000							
ROA	-0.249907	0.315529						
	-0.631230	1.000000						
ROE	-1.941870	2.338952	27.32650					
	-0.527057	0.796544	1.000000					
EPS	-0.200084	0.304399	4.163822	1.157064				
	-0.263914	0.503785	0.740494	1.000000				
ETA	-0.646099	0.736871	1.395919	-0.197884	3.476411			
	-0.491657	0.703568	0.143220	-0.098666	1.000000			
CAR	0.350106	-0.321822	-6.016607	-0.866989	0.632469	3.010896		
	0.286273	-0.330179	-0.663303	-0.464502	0.195491	1.000000		
IER	-3.617968	18.21164	58.35094	-4.428487	77.42353	3.828321	3331.301	
	-0.088938	0.561723	0.193397	-0.071330	0.719450	0.038226	1.000000	
AU	-0.048181	0.022987	0.866962	0.025562	-0.113858	-0.226104	12.37260	0.427666
	-0.104533	0.062577	0.253604	0.036338	-0.093378	-0.199254	0.327795	1.000000

Table 05: Covariance and correlation of Shajalal Islami Bank Limited (SJIBL)

Covariance Correlation	GDP	ROA	ROE	EPS	ETA	CAR	IER	AU
GDP	0.496754							
	1.000000							
ROA	-0.209400	0.448225						
	-0.443770	1.000000						
ROE	-1.969484	5.433186	78.59833					
	-0.315192	0.915376	1.000000					
EPS	-2.744676	8.001858	97.75557	297.3484				
	-0.225833	0.693122	0.639443	1.000000				
ETA	-0.733955	0.713362	3.119228	25.73520	5.221945			
	-0.455704	0.466279	0.153966	0.653098	1.000000			
CAR	0.729211	-0.779532	-9.624257	-12.12204	-0.810559	2.982886		
	0.599052	-0.674167	-0.628553	-0.407028	-0.205376	1.000000		
IER	-6.967850	29.88727	387.3644	292.9422	10.65679	-46.80800	3319.440	
	-0.171591	0.774828	0.758369	0.294861	0.080943	-0.470402	1.000000	
AU	-0.011707	0.299712	3.830395	11.74299	0.980147	-0.277964	16.05007	0.540860
	-0.022586	0.608714	0.587482	0.925984	0.583220	-0.218841	0.378793	1.000000

The covariance and correlation statistics for Shajalal Islami Bank Limited (SJIBL) are displayed in Table 05. The findings imply that CAR has a positive correlation with GDP and that ROA, ROE, EPS, ETA, AU, and IER have negative correlations.

The covariance and correlation statistics for Social Islami Bank Limited (SIBL) are displayed in Table 06. The findings imply that EPS, CAR, IER has a positive correlation with GDP and that ROA, ROE, ETA, AU have negative correlations.

Table 06: Covariance and correlation of Social Islami Bank Limited (SIBL)

Covariance Correlation	GDP	ROA	ROE	EPS	ETA	CAR	IER	AU
GDP	0.496754							
	1.000000							
ROA	-0.090899	0.106229						
	-0.395703	1.000000						
ROE	-0.319049	0.859031	10.04250					
	-0.142845	0.831701	1.000000					
EPS	0.657257	0.285851	6.270855	16.88020				
	0.226974	0.213467	0.481634	1.000000				
ETA	-0.691005	0.440156	1.599851	-0.832732	3.171461			
	-0.550529	0.758325	0.283484	-0.113812	1.000000			
CAR	0.664583	-0.046466	-0.312773	-0.156265	-0.101788	2.134663		
	0.645377	-0.097578	-0.067553	-0.026032	-0.039120	1.000000		
IER	1.889268	13.66749	126.6066	49.87749	44.11514	13.48003	3062.443	
	0.048438	0.757763	0.721941	0.219372	0.447635	0.166722	1.000000	
AU	-0.023320	0.114230	1.263752	0.705076	0.294617	0.206822	20.84328	0.266503
	-0.064094	0.678906	0.772486	0.332427	0.320463	0.274209	0.729594	1.000000

The above results in table 02 to table 06 show the correlation and covariance of sample banks. Using a regression specification with GDP as the dependent variable and various financial ratios of Islamic banks as the explanatory variable, the direct

association between economic growth and the performances of Islamic banks' is evaluated, for the selected banks.

Unit Root Tests

The ARDL method of cointegration, that is, I (0) or I (1), is used if the variables are integrated of order 0 or 1. Nonetheless, in order to guarantee that no variables are integrated of order two, or I (2), stationarity tests are still necessary. For that reason, stationarity is assessed using Phillips-Perron (PP) tests.

Table 07: Results of Phillips-Perron Tests (on GDP)

Particulars	level			1st difference		
Prob.*	0.7646			0.0369		
t-Statistic	-0.813580			-3.553228		
Level of significance	1%	5%	10%	1%	5%	10%
Critical values	-4.420595	-3.259808	-2.771129	-4.582648	-3.320969**	-2.801384*

Note: *significant at 10% alpha; **significant at 5% alpha; ***significant at 1% alpha (at 1st difference)

According to Table 7's unit root test results, the variable is not stationary at levels, basis on GDP for all sample banks, as the Phillips-Perron Test's t-Statistic is less than 5% level or any level of significance's critical thresholds and p-value is greater than α. The first difference, however, caused it to become stationary. Since at 1st difference, t-statistic is higher than 5% or 10% level of significance's critical thresholds and p-value is lower than α, which indicates GDP is stationary at there and suggests that GDP is integrated of order I (1). The ARDL approach to cointegration has been chosen because of the mixture of I (0) and I (1), if all variables of given sample banks are considered.

Lag Selection Criterion

To ascertain the ideal number of lags to incorporate in the model, the lag-length criteria approach from unrestricted VAR is employed.

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-7.252154	NA*	0.461384	2.063038	2.072969	1.996063
1	-5.105780	3.219561	0.349726*	1.776445*	1.796305*	1.642495*
2	-5.042921	0.078574	0.454440	2.010730	2.040521	1.809805

The AIC lag selection criterion was used to identify the right lag before executing the ARDL test. The findings show that, the "*" marks are predominantly situated on the first lag. Therefore, it was found that, lag-1 was appropriate and ideal.

ARDL Test

Table 9 displays the bound test and long-run form estimates for the ARDL. According to the rules, the F-statistic is compared to two asymptotic critical values that represent the polar instances in which all variables are either fully I (1) or purely I (0). Accept the null hypothesis that there is no cointegration if the test statistic is less than the lower critical value. On the other hand, reject the null hypothesis and draw the conclusion that there is cointegration between the variables if the test statistic is higher than the upper critical value. On the other hand, testing is deemed inconclusive if the test statistic lies between the lower and higher critical values.

Table 09: Results of Bounds F-test for Long-run Relationship

Sample Banks	Lag	F-statistic	Sig. level (%)	I (0)	I (1)
FSIBL	1	3.241240	1 5 10	2.54 1.97 1.7	3.91 3.18 2.83
IBBL	1	5.329820	1 5 10	2.54 1.97 1.7	3.91 3.18 2.83
AIBL	1	6.982378	1 5 10	2.54 1.97 1.7	3.91 3.18 2.83
SJIBL	1	251.4649	1 5 10	2.54 1.97 1.7	3.91 3.18 2.83
SIBL	1	5.512573	1 5 10	2.54 1.97 1.7	3.91 3.18 2.83

Observe from Table 09 that, the *F*-statistics are 3.241240, 5.329820, 6.982378, 251.4649, and 5.512573 for FSIBL, IBBL, AIBL, SJIBL, and SIBL respectively. In the cases of IBBL, AIBL, SJIBL, and SIBL at the 1%, 5%, and 10% significance levels, this is greater than the upper bound I (1) when compared to the asymptotic critical values, lower bound and upper bound that correspond to the polar cases of all variables being purely I (0) or purely I (1), respectively. Also, the F-statistic for FSIBL is larger at the 5% and 10% significance levels and lower at the 1% significance level relative to the upper bound. Hence, the results indicate evidence of a long-run relationship among the variables of FSIBL, IBBL, AIBL, SJIBL, and SIBL, except a short-run relationship among the variables of FSIBL only at a 1%

significance level. The overall F-statistic indicates that there is evidence to support a long-standing connection between Bangladesh's economic growth and the financial performance of Islamic banks. This relationship is significant enough to reject the null hypothesis that there is no cointegration among Islamic banks' financing.

Granger Causality Analysis

This section presents the findings from the paired Granger causality test, which was used to determine whether the performance of Islamic banks and Bangladesh's economic growth are causally related. The test has a maximum of one lag duration. To decide whether to accept or reject the null hypothesis, the F-statistics and accompanying p-values were consulted. The decision-making process involves rejecting the null hypothesis that there is a causal association between GDP and ROA, GDP and EPS in the cases of FSIBL and IBBL, respectively, and between GDP and AU in the cases of AIBL, SJIBL, and SIBL, provided the p-value is lower than the 0.05 (P < 5%) significant threshold.

Table 10: Results of Granger Causality Analysis

	Pair	Null Hypothesis	Obs.	F-statistic	Prob.	Causal Relationship
FSIBL	GDP/ ROA	ROA does not Granger Cause GDP GDP does not Granger Cause ROA	8	33.6724 2.31370	0.0088 0.2467	Exists (unidirectional)
IBBL	GDP/ EPS	EPS does not Granger Cause GDP GDP does not Granger Cause EPS	8	15.3552 1.99531	0.0265 0.2811	Exists (unidirectional)
AIBL	GDP/ AU	AU does not Granger Cause GDP GDP does not Granger Cause AU	8	16.4731 1.34567	0.0241 0.3827	Exists (unidirectional)
SJIBL	GDP/ AU	AU does not Granger Cause GDP GDP does not Granger Cause AU	8	6.02411 0.18563	0.0495 0.6816	Exists (unidirectional)
SIBL	GDP/ AU	AU does not Granger Cause GDP GDP does not Granger Cause AU	8	0.13167 58.8854	0.8814 0.0039	Exists (unidirectional)

According to Table 10's Granger causality study results, return on assets leads to GDP in the case of FSIBL, and we cannot rule out the causal relationship between GDP and ROA. Furthermore, we can accept the causal association between GDP and EPS and reject the null hypothesis, meaning that in the instance of IBBL, earning per share leads to GDP. The null hypothesis—that asset utilization causes

GDP—may be rejected in the cases of AIBL and SJIBL, however, where we can clearly observe a causal relationship between GDP and AU. On the other hand, in the SIBL scenario, we are able to reject the null hypothesis and acknowledge the causal relationship between GDP and AU, in which case asset usage is a result of GDP. We can conclude that there is a one-way relationship in all cases between financial ratios and GDP. Table 10 shows that there is a substantial causal relationship between Bangladesh's GDP and the financial ratio of Islamic banks. The p-value is below any traditional level of significance, which makes this clear. Therefore, it appears that during the 2010–2019 study period, GDP and financial ratios were statistically linked. It is additionally apparent that the economic progress of Bangladesh is positively and considerably impacted by the functioning of Islamic banks.

Discussion

The ARDL test's findings indicate that there is a long-term relationship between GDP and the sample banks' financial ratios, which means that, Islamic banks' performance significantly influenced Bangladesh's economic growth. The Granger Causality Analysis also revealed a causal relationship between the performance of Islamic banks and Bangladesh's economic expansion. Put another way, Bangladesh's Islamic banking industry contributes to the nation's economic expansion. The results are similar to the outcomes found by Furqani and Mulyayn (2009), Tabash and Dhankar (2014a), Abduh and Chowdhury (2012), Tabash and Dhankar (2014b), Atici (2018), Jawad and Christian (2019), Kassim (2016), Yazdan and Sadr (2012), M. Anwar et. al. (2020), Sarwer et. al. (2013), and many more. On the other hand, the findings are dissimilar with the investigation done by Johnson (2013), Hachicha and Amar (2015, Afandi and Amin (2019), and many others.

Conclusion

Islamic banking is becoming more and more well-liked almost everywhere. The structure of this banking system is influenced by a wide range of factors. It is necessary to have a banking system without interest, for instance, because Muslims are sensitive to Islamic laws. Examining whether Islamic banking performance supports Bangladesh's economic growth is the major objective of this investigation. The findings indicate a long-term association between the sample banks' financial ratios (ROA, ROE, EPS, ETA, CAR, and AU) and GDP, suggesting that Islamic bank performance significantly influenced Bangladesh's economic expansion. Moreover, a causal link was shown between Bangladesh's economic growth and the Islamic banks' performance. Stated differently, the Islamic banking sector affects Bangladesh's economic growth.

It will therefore be preferable to conduct this analysis once Bangladesh's Islamic banks have increased in size. Although the relationship between Islamic

banks and economic growth has been the subject of numerous studies, none have precisely looked at how Islamic banks' performance affects growth in the economy. This work makes a substantial contribution to the literature by accounting for this component in the analysis. Still, a more recent study focusing on larger banks over a longer period of time will be beneficial.

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