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RESEARCH PAPER

A Comparative Analysis of Islamic vs Conventional Banks by Evaluating Efficiency, Credit Quality and Business Model

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ABSTRACT

This study utilizes a comprehensive dataset of 62 Islamic banks and 218 conventional banks across 20 countries, having dual banking system, from 1995 to 2020 to examine differences in business models, efficiency, and credit quality between the two banking types. The study finds that IBs and CBs tend to behave differently during the sampled period in terms of efficiency, credit quality and business model. Islamic banks demonstrate superior performance than conventional banks possess better credit quality and possess more diversified business model. The better performance of Islamic banks is mainly due to their superior risk management practices as mandated by the Shariah rules. Risk and return sharing remained the key driver behind this behavior of Islamic banks. The conclusion suggests that IBs need to achieve critical mass to reduce their costs and they need to introduce more innovative instruments to deal with the changing business environment across different countries.

KEYWORDS Credit Quality, Bank Efficiency, Islamic Banking, Conventional Banking, Dual Banking System

Introduction

As the aftermath of the recent Covid-19 pandemic, the entire global economy in 2021 experiences downside risk in terms of volatility in oil prices, foreign exchange rate, and weakened real sector productive capacity. Islamic banking sector showed tremendous growth rate of 11.3%. Islamic banking transactions are linked with real economy which help them mitigate the uncertainty and promote fairness in the financial system. As per Islamic Financial Services Industry Stability Report (IFSB), total Islamic banking assets increases from USD 3.06 trillion to USD 3.25 trillion in 2021-2022. Sharia-compliant banking operates in 38 countries with dual financial systems, and the number of jurisdictions where Islamic banking has expanded rapidly—accounting for over 15% of total banking assets—has increased to 15. Approximately 92.1% of Islamic banking assets are clustered in countries where Islamic banking plays a systemic role. (IFSB, 2023).

Economic uncertainty seriously affects the credit quality, efficiency, and stability of the banking sector. IBs stayed unaffected during the GFC attributable to distinctive feature of risk-return sharing and more risk prone during crisis (Ibrahim &Rizvi, 2018). Islamic banks are required to undertake transactions based on Maqasid-e-Shariah. Maqasid-e-Shariah provides ruling regarding the prohibition and permission of Islamic banking activities, it requires preservation of Al-Din, Al-Nafs, Al-Nasl, Al-Aql, and Al-Mal (Rohman et al., 2021; Alwi et al., 2021; Kader, 2021; Ishak and Asni, 2020). Shariah has ordained Islamic banks to develop products as per risk-return sharing principle. Deposit mobilization and financing activities should be lying on profit-loss sharing arrangements. Islamic banking system mobilize savings by maintaining three types of

accounts which include demand deposits (Qard or Amanah), saving deposits, and profit-sharing accounts (PSIA). As Islamic banks forbid to compensate depositors with interest, shariah requires Islamic banks to distribute profits-losses with depositors. However, in practice, Islamic banks offer competitive returns to the depositors (Khan, 2010; Kuran, 1995) to compete with the conventional banks. Moreover, Islamic banking deposits profit rates are tightly linked to the deposit rates of conventional banks (Chong and Liu, 2009). On assets side, Islamic banks are engaged in financing activities based on sale-based modes such as Murabaha, Salam, Istisna, Ijara. Islamic banking financing activities are based on non-PLS basis (Khan, 2010). Islamic banks often look like similar version of their conventional peers (Bakhouche et al. 2022).

Islamic banking business model is largely based on non-interest revenues such as fees and commission in order to compensate for the lack of interest revenues. Furthermore, Islamic banks neither take loans nor do they lend explicitly but they are involved in sale-based modes, a tailored form of loans. Islamic banks are limited by Shariah to invest in non-real assets. Islamic banks might face lower agency problems and lower monitoring costs leading to cost efficiency. On the other hand, the complexities of Islamic banking instruments and diseconomies of scale might contribute towards their higher costs. Regarding asset quality, the financing instruments such as Murabahah, Ijara, Salam, and Istisna are structured in a way that they have in-built stability. As the bank can monitor the flow of funds to the agreed sector, hence the chances of diversion to unproductive sectors and default can be minimised. The Shariah's limits investing in risky activities improve credit quality of Islamic banks. On the contrary, Islamic banks lack the necessary risk management techniques which might expose them to interest rate risk. To investigate the difference in the both banking systems in terms of their business mode, credit quality and cost efficiency the current study employees that data of 62 Islamic banks and 218 conventional banks operating concurrently across 20 countries. Both banking systems are compared by examining business model, credit quality, cost effectiveness, and stability which provides insights about the resilience and the risk sharing capability of Islamic banks that help them protected during economic downturns.

Literature Review

The previous literature on the difference between Islamic and conventional banks in terms of their business model, efficiency, and credit quality which is largely based on mixed findings. As regards the business models, Islamic banks demonstrate a greater involvement in non-traditional revenue-earning activities, such as fee-based services, leading to diversified revenue sources and high loans-to-deposits intermediation ratio, which reflects active deposit intermediation due to limited developed Shariah compliant money markets (Aggarwal & Yousef, 2000; Beck et al., 2013). Moreover, despite the theoretical emphasis of Islamic banks on profit and loss sharing framework, studies show dominance of debt like Murabaha contracts making them structurally similar to CBs in practice (Chong & Liu, 2009; Khan, 2010). Overall, empirical evidence on business orientation is mixed with some studies finding no significant distinctions; recent work highlights higher financing growth in IBs during stress periods compared to CB lending in CBs, and diversification positively links to credit growth in both, though more pronounced in IB subsidiaries (Shahimi et al. (2006); Ariff & Rously (2011); Hardianto & Wulandari (2016); Miah & Uddin (2017); Suzuki et al. (2017); Ibrahim & Rizvi (2018); Seho et al. (2024)

In terms of cost efficiency, the literature provides conflicting results, larger chunk of the literature indicates lower cost efficiency in IBs attributed to higher operational overheads arising from Shariah governance structure, limited economies of scale as younger institutions, and higher cost-income ratios (Bader et al., 2010; Srairi, 2010). In contrast, several studies demonstrate higher cost efficiency especially during crisis period such as global financial crisis possibly due to conservative financing strategies of Islamic banks (Beck et al., 2013; Miah & Uddin, 2017). Some analysis reveal no significant differences, suggesting contextual factors influence outcomes; overall, IBs lag in routine efficiency but gain resilience in turbulent times. (Hassan (2006); Brown et al. (2007); Majid et al. (2010); Pradiknas & Faturohman (2015); Hardianto & Wulandari (2016); Asmild et al. (2018); Miah & Sharmeen (2015)

Regarding asset quality, strong consensus on superior asset quality in IBs, characterized by lower loan loss provisions (LLP), reduced non-performing loans, and lower default risks, stemming from non-aggressive lending strategies and emphasis on risk-sharing (Baele et al., 2012; Soedarmono et al., 2017). Islamic banks maintain high capitalization and undertake less risky operations. higher capital buffer enables Islamic banks to adopt counter-cyclical provisioning behavior increasing their shock absorbing capacity. However, with increased scaling operations and increased reliance on certain shariah compliant contracts may expose Islamic banks to adverse selection and moral hazard risks in specific regional context such as the MENA region. (Taktak et al. (2010); Baele et al. (2012); Erol et al. (2014); Aman et al. (2016); Soedarmono et al. (2017); Mahdi & Abbes (2018); Rahim & Zakaria (2013); Bitar et al. (2017). Lastly, literature on stability and resilience during crisis finds Islamic banks to be more stable during systemic shock owing to higher capitalization, profitability, and consistent credit supply (Hasan & Dridi, 2010; Bourkhis & Nabi, 2013). Islamic banks were from financial contagion but their close linkages to real economy linkages magnify vulnerabilities during real-sector downturns. Absence of risk hedging instruments and risk mitigation tools limit Islamic banks' ability to mitigate risk. Recent studies show mixed results which include higher CB stability in some contexts and no differences during crises. recent evidence also shows faster leverage adjustments in Islamic banks across different regions. Boumediene & Caby (2009); Khediri et al. (2015); Olson & Zoubi (2016); Rashid et al. (2018); Kabir & Worthington (2017); Hoque & Liu (2022); Mateev et al. (2024).

Overall, despite extensive research, previous literature lacks comprehensive assessment of how business model, efficiency and credit quality of Islamic and conventional banks particularly in the context of emerging and dual banking countries. This gap motivates the investigation of current study.

Material and Methods

The dataset covers countries where Islamic and conventional banks operate together, using annual panel data from 1995 to 2020. It includes 62 Islamic banks and 218 conventional banks across 20 countries, with conventional banks selected to match the asset size of Islamic banks.

Table 1
Measurement of Variables

Category	Variable	Measure	Description	Expectations for IBs vs. CBs
Business Orientation	Sources of Funds	Fee Income ratio (FIR)	Fee income as a share of total operating income; measures relative extent of	Higher involvement in non-interest-based earnings due to Shariah-compliant nature.

			non-interest revenues (e.g., fees, commissions).	
Business Orientation	Funding Allocation	Loans to deposit ratio (LDR)	% of Loans to total deposits; measures deposit allocation toward advances.	Higher ratio, as IBs intermediate more deposits due to lack of non-interest-based money markets.
Efficiency	Overhead Costs	Overhead costs ratio 9OCR)	Ratio of Total operating costs to total assets.	Higher attributable to Shariah board supervisory cost
Efficiency	Cost Income Ratio	Cost income ratio (CIR)	Ratio of overhead costs to total gross revenues	Higher, as IBs are relatively young and have limited economies of scale.
Credit Quality	Loan Loss Reserves	Loan loss reserves ratio (LLR)	Loan loss reserves (LLR) divided by total gross loans; higher ratio indicates more problematic loans.	Lower (better quality), due to non-aggressive strategies.
Credit Quality	Loan Loss Provisions	Loan loss provisions ratio (LLP)	Loan loss provisions (LLP) divided by total gross loans; expense set aside for bad loans based on repayment likelihood and collateral.	Lower (better quality), due to non-aggressive strategies.
Credit Quality	Non-Performing Loans	Non-performing loans ratio (NPL)	Non-performing loans (NPL) divided by total gross loans; NPLs are loans in default or near default.	Lower (better quality), due to non-aggressive strategies.

To assess differences in efficiency, business structure, and asset quality between the two types of banks, the study formulates the following regression model

$$BANK_{ijt} = \alpha\, BANK_{ijt-1} + \beta_1 D_{ij}^{Islamic} + \beta_2 D_{ij}^{Conventional} + C_j + B_i + Y_t + \varepsilon_{ijt} \quad (1.1)$$

where $BANK_{ijt}$ represents indicators of business orientation, operational efficiency, and credit quality for bank i operating in country j at time t. The dummy variable $D_{ij}^{Islamic}$takes the value of 1 if bank i in country j is an Islamic bank and 0 otherwise, while $D_{ij}^{Conventional}$equals 1 for conventional banks and 0 otherwise." The estimation of the proposed models is carried out using "Two Step Robust System GMM" technique originally developed by Arellano and later by Bover (1995) and Blundell & Bond (1998).

Results and Discussion

Table 2: Descriptive Statistics: Islamic Banks and Conventional Banks

	Business Orientation		**Efficiency**		**Credit Quality**			**Control Variables**	
	FIR	**LDR**	**CIR**	**OHR**	**LLR**	**LLP**	**NPL**	**SIZE**	**FAR**
Observation	5,124	5,905	5,909	4,822	4,881	5,234	5,340	4,237	5,209
Mean	17.6	19.9	54.8	6.3	6.9	2.9	8.4	14.465	2.489
Standard Deviation	81.2	92.3	158.5	6.7	9.4	28.1	11.8	1.9	2.7
Types of Banks									
Islamic	19.6	22.2	59.6	9.7	5.7	2.9	7.2	12.1	2.4
Conventional	13.6	17.2	51.3	6.3	6.8	9.4	8.2	14.5	2.0

Difference t-test (p-value)	0.001***	0.009***	0.003***	0.000***	0.004***	0.911	0.001** *	0.000***	0.110

***Notes*:** Mean statistics of variables for overall sample, Islamic & conventional Banks. p<0.01= ***, p<0.05= **, p<0.1= *

Results of descriptive statist1ic in Table 2 indicate that Islamic banks demonstrate significant difference from conventional banks in terms of their business orientation, efficiency, and credit quality. Islamic banks have a diversified and financing oriented business model with greater reliance on non-traditional of revenues such as fee-based activities and intermediate most of the deposits they receive as confirmed by Beck et al. (2013). Islamic banks show significantly higher fee income ratio (FIR) and higher loan to deposits ratio (LDR) as compared to the conventional banks. Mean value of FIR for Islamic banks (19.6) is higher than that of conventional banks (13.6). Similarly, Islami banks have higher value of LDR (22.2) as compared to the conventional banks (17.2). Islamic banks appear to be more cost inefficient having significantly higher cost to income ratio (CIR) and overhead ratio (OHR) showing higher operating and administrative costs for Islamic banks as compared to conventional banks. Cost to income ratio (CIR) for Islamic banks (59.6) is higher for Islamic banks as compared to conventional banks (51.3). Similarly, overhead ratio (OHR) for Islamic banks (9.7) is also higher than conventional banks (6.3).

Islamic banks exhibit stronger credit quality as compared to conventional banks as shown by significantly lower loan loss reserves ratio (LLR) and lower non-performing loans (NPL). Islamic banks (5.7) maintain lower value of LLR as compared to conventional banks (6.8). Likewise. Islamic banks (7.2) report significantly lower NPL as compared to conventional banks (8.2). However, the difference between Islamic banks and conventional banks in terms of loan loss provisions (LLP) is statistically insignificant. With respect to control variables, Islamic banks (12.1) are significantly smaller in size as compared to conventional banks (14.5). however, there exists no meaningful difference in asset structure of Islamic banks as compared to conventional banks as the difference in fixed asset ratio (FAR) is statistically insignificant.

Overall findings suggest diversified and financing-based business model for Islamic banks, with Islamic banks facing cost inefficiency as a major challenge but maintain better asset quality than conventional banks.

Table 3
Islamic and Conventional Banks: A Comparison

	Model 1						
	Business Orientation		**Efficiency**		**Credit Quality**		
REGRESSORS	**FIR**	**LDR**	**CIR**	**OHR**	**LLR**	**LLP**	**NPL**
	Panel A: Estimation Results						
$BANK_{ijt-1}$	0.00878**	0.206	0.0765	0.387***	0.751***	0.361***	0.369**
	(0.005)	(0.167)	(0.059)	(0.051)	(0.077)	(0.005)	(0.153)
$Islamic_{ij}$	27.842***	79.198**	49.085***	7.781***	1.824***	6.098	5.157***
	(5.941)	(30.534)	(4.519)	(1.053)	(0.547)	(5.174)	(1.492)
$Conventional_{ij}$	19.789***	60.251***	46.679***	4.397***	3.234***	4.513***	9.489***
	(1.352)	(12.832)	(3.472)	(0.492)	(0.935)	(1.675)	(2.351)
	Panel B: Diagnostic Tests						
Observations	3,921	2,978	3,069	3,435	3,254	3,247	3,254
Banks	254	264	209	242	229	229	212
AR(2)	0.582	0.792	0.732	-0.476	-0.862	0.725	1.784
p-value	0.594	0.437	0.623	0.545	0.652	0.429	0.542

J-statistic	189.524	17.357	202.372	228.763	155.923	169.832	162.543
p-value	0.653	0.435	0.672	0.712	0.453	0.435	0.545

SE in () p<0.01= ***, p<0.05= **, p<0.1= *

Table 3 reports the results of dynamic panel regression model comparing Islamic and conventional banks in terms of their business orientation, efficiency, and credit quality. The lagged dependent variable is positive and statistically significant in majority of the specifications indicating persistence in banks' business orientation, efficiency, and credit quality over time.

Islamic banks show positive and significantly higher values of fee income ratio (FIR) and loan deposits ratio (LDR) suggesting their stronger inclination towards non-traditional and financing oriented business model. IBs are more involved in fee-based business and have higher proportion of non-interest-based revenues in their operating income. They tend to seek alternative revenue sources in the form of service income such as fees and commission. Instruments such as Kafalah, Amanah, Wakalah and Ju'alah help them diversify their income sources. These earnings provide them with the greater access to financial innovation and help them avoid the risks associated with the debt financing. Higher value of LDR shows that Islamic banks intermediate major portion of the deposits in financing instruments such as Salam, Istisna, Ijaarah, Murabahah due to non-availability of Shariah based interbank money market.

The result presented in the above table also show that Islamic banks also exhibit significantly higher cost-to-income (CIR) and overhead ratios (OHR), implying lower cost efficiency. Higher values for CIR is attributed to their short history which shows that they have not attained enough critical mass to attain economies of scale. Secondly, Islamic banking instruments are not fully developed and most of the IB contracts are plated to avoid the interest mechanism of conventional banking contracts which has also contributed towards their cost inefficiency (Al-Suwailem, 2009). Overhead costs of IBs are also higher due to high cost of Shariah supervisory boards and committees which includes members with expertise in both Shariah rulings and financial matters. This evidence of higher cost efficiency is consistent with the findings of Aman et al. (2016), and Miah and Uddin (2017).

Regarding credit quality, Islamic banks indicate relatively better asset quality with significantly lower loan loss reserves (LLR) and non-performing loans (NPL). Overall, the Islamic banks are involved in less aggressive lending by providing low-risk investment projects leading to less probability of default. As per Shariah rules, the IBs are not allowed to undertake risk mitigating tools such as credit default swaps (CDS) or securitization to transfer the credit risk of their trade contacts to the third party. This restriction has improved their approach for evaluation of their risk resulting in better asset quality. Based on the results reported above, no significant difference in the loan loss provisions (LLP) of Islamic and conventional banks is observed.

The diagnostic test indicates the model is correctly specified as AR (2) and J-Hansen tests indicate no second order correlation and the valid instruments. Overall, the results demonstrate more diversified and financing oriented but costlier business model for Islamic banks while maintaining better and superior assets quality as compared to conventional banks.

Table 4
Comparison of Islamic and Conventional Banks with Controls for Bank-Specific Characteristics

	Model 2						
	Business Orientation		**Efficiency**		**Credit Quality**		
REGRESSORS	**FIR**	**LDR**	**CIR**	**OHR**	**LLR**	**LLP**	**NPL**
	Panel A: Estimation Results						
$BANK_{ijt-1}$	0.457***	0.083***	0.273***	0.669***	0.753***	0.219	0.781***
	(0.131)	(0.024)	(0.079)	(0.055)	(0.071)	(0.143)	(0.072)
$Islamic_{ij}$	29.575***	105.012***	63.543***	4.172**	10.057**	8.923**	12.874**
	(9.799)	(32.637)	(10.243)	(1.794)	(4.234)	(4.834)	(5.778)
$Conventional_{ij}$	27.978***	78.295**	61.522***	4.461**	13.054***	9.139**	14.981**
	(9.055)	(30.78)	(10.44)	(1.928)	(4.582)	(4.169)	(5.463)
$SIZE_{ijt}$	-1.593**	0.873	-2.987***	-0.544**	-0.846***	-0.638**	-0.742**
	(0.623)	(1.637)	(0.674)	(0.233)	(0.471)	(0.354)	(0.738)
FA_{ijt}	-0.046	-10.793***	3.792**	0.084**	0.068	0.004	-0.047
	(0.376)	(3.489)	(1.675)	(0.037)	(0.069)	(0.076)	(0.288)
	Panel B: Diagnostic Tests						
Observations	4,256	2,975	3,325	2,484	4,846	3,445	4,671
Banks	223	215	235	101	209	151	109
AR(2)	0.731	1.356	0.876	-0.491	-1.721	0.743	1.359
p-value	0.623	0.352	0.477	0.791	0.436	0.761	0.353
J-statistic	14.020	47.573	149.763	36.663	181.572	136.685	121.821
p-value	0.870	0.347	0.623	0.628	0.592	0.729	0.929

S SE in () p<0.01= ***, p<0.05= **, p<0.1= *

Table 4 reports the difference in business orientation, efficiency, credit quality across Islamic and conventional while controlling for size and asset structure. The lagged dependent variable is positively and statistically significant in most of the specifications which indicate that the current value of business orientation, efficiency, credit quality are largely influenced by their past values.

Islamic banks exhibit positive and significantly higher values of FIR and LDR as compared to conventional banks showing confirming stronger inclination towards income diversification and financing-oriented business model for Islamic banks. The impact of size on the fee income ratio (FIR) is negative, larger banks rely less on fee-based income. With regard to the size of the bank, higher size enables banks to access diversified financial markets and instruments. This result may present a challenging point as traditional view which states that larger banks have more incentives such as more specialization and more access to technology to involve in non-traditional services as compared to smaller ones. Fixed assets ratio (FA) has significantly negative impact on LDR indicating higher fixed assets tangibility reduces lending activities.

Islamic banks report higher values of Cost income ratio (CIR) and slightly lower value of Overhead ratio (OHR). Thes values show higher operational cost of Islamic banks. The impact of bank size on CIR and OHR is significantly negative. This negative impact confirms that larger banks have economies of scale which enable them to get financial services in bulk at low cost. Fixed assets ratio (FIR) has significantly positive impact on CIR and OHR which indicates that more tangible assets in assets structure increased operating costs.

As regards the assets quality, the value of LLP, LLR and NPL shows significantly positive and higher values for Islamic banks showing less vulnerability of Islamic banks in managing their credit risk. Size of the bank negatively impacts the assets quality depicting better credit management in larger banks. This econometric result provides an inverse relationship between credit quality and bank size implying that large banks have superior loan portfolios due to better risk management strategies. Diagnostic test confirms absence of second order serial correlation and validity of instruments

Conclusion

Based on the above analysis, this paper examines variations in business dynamics, credit quality, and cost structure between Islamic and conventional banking institutions. The findings indicate that Islamic banks exhibit a more diversified business structure, with greater reliance on fee-based activities and relatively higher loan-to-deposit ratios. Although Islamic banks tend to be less cost-efficient, they demonstrate stronger asset quality compared to conventional banks. Even during economic downturns, while asset quality in Islamic banks is affected, it remains superior to that of conventional banks. This resilience is largely attributable to Shariah principles, which prohibit speculative investments and thereby enable Islamic banks to outperform their conventional counterparts.

Recommendations

These results offer valuable insights for regulators, bankers, investors, depositors, and policymakers regarding the performance and practices of Islamic banks. In particular, Islamic banks present a viable alternative for investors seeking faith-based financial avenues. Bank senior management should align investment and lending strategies with macroeconomic conditions while ensuring prudent cost control and effective capital loss management, especially during economic slowdowns. Furthermore, Islamic banks should develop new financing products to enhance liquidity management, as excessive reliance on fee-based income may threaten stability and long-term profitability. Expanding and effectively implementing fee-based instruments can strengthen non-interest income streams, while robust project evaluation, management, and monitoring are essential when applying profit-and-loss sharing mechanisms to mitigate risks associated with adverse selection and moral hazard.

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