Available Online
Journal of Economic Impact
ISSN: 2664-9764 (Online), 2664-9756 (Print)
https://www.scienceimpactpub.com/jei

FINTECH ADOPTION, ARTIFICIAL INTELLIGENCE, AND FINANCIAL STABILITY: AN ANALYSIS OF THE ISLAMIC BANKING SECTOR OF OIC COUNTRIES

Yasir Islam *, Aribah Aslam, Ghulam Ghouse

Department of Economics, The University of Lahore, Lahore, Pakistan

ARTICLE INFO

Article history
Received: October 16, 2024
Revised: January 24, 2025
Accepted: February 18, 2025

Keywords
Artificial intelligence
Fintech
Macroeconomic variables
Philips curve
Financial stability

ABSTRACT

Artificial intelligence (AI) and financial technology (fintech) are transforming the banking sector, not only in conventional systems but also within Islamic banking. There is a pressing need to assess the impact of AI-based fintech on the financial stability of Islamic banks. This study investigates the effects of AI and fintech, considering direct, indirect, mediating, and moderating relationships. The analysis is based on data from 2020 to 2023 for 35 selected OIC countries, using sources such as the World Development Indicators (WDI) and annual bank statements. A panel structural equation model (P-SEM) is employed to examine both direct and indirect path effects. The results show that capital adequacy and capitalization positively affect financial stability. In contrast, liquidity risk has a negative impact. Management quality also plays a significant role in enhancing financial stability. Among fintech indicators, the market and regulatory environment emerges as the most influential variable. However, due to the relatively small size of fintech in these economies, its direct impact may still appear negative. Despite this, fintech remains a crucial factor in promoting financial stability, as supported by the literature. The mediation effect of AI and fintech in this study is found to be positive and significant. Overall, this study provides a comprehensive and timely analysis of the AI-driven role of fintech in enhancing financial stability and supporting economic growth in the banking sector. It considers both financial and macroeconomic control variables and highlights the key importance of capitalization and management quality in maintaining stability.

* *Email: yasir@ranayi.com*
https://doi.org/10.52223/econimpact.2025.7112

INTRODUCTION

Islamic banking follows Sharia law, which prohibits interest-based transactions and promotes risk-sharing among stakeholders. Instead of earning income through interest, Islamic banks use profit-sharing contracts like Mudarabah and Musharakah to generate returns. This approach differs significantly from conventional banking, which relies heavily on interest-based lending and borrowing. Integrating AI into Islamic banking brings both opportunities and challenges. AI can automate routine tasks, enhance customer service, and improve risk assessment. However, Islamic banks must ensure AI tools comply with Sharia principles, especially in investments and financing activities. Transparency and accountability are critical as financial products must adhere to ethical guidelines (Alkhatib and Hussain, 2023). One major difference between Islamic and conventional banks is their approach to risk management. Islamic banks focus on risk-sharing, where both the customer and the bank share the rewards and risks of investments. This makes Islamic financial products less volatile and more resilient to market fluctuations (Karim and Archer, 2013). These processes can be ported by AI to reduce the risk. They can enhance financial solutions and meet customers' preferences related to risk. The main objective of commercial banks is to earn profit. This is entirely based upon interest rate tools like mortgage, lease, and loans. The products of conventional banks generate revenue by interest payments. Enhancement in FinTech, best ported AI tools, enhances the banking system. It reduces the risks associated with the system. It decreases the costs and enhances customer satisfaction (Sharma et al., 2023). The financial stability is the key indicator of economic growth in an economy. The secular stagnation theory indicates that no economy can grow without development in the financial sector (Summers, 2015). Macroeconomic indicators like inflation, unemployment rate, increase in population, and reduction in productivity over the years, along with declining investment, contribute to the lowering of economic growth. It indicates that to maintain a certain level of stability in the economy, there is a need to adopt flexible and sustainable macroeconomic policies (Zeng, 2023). It also indicates that financial stability is a main indicator of growth. Financial stability-centered policies are required for economic growth (Aslam et al., 2021; Ghouse et al., 2022a; Aslam et al., 2022).

It shows that economic relations are very complex. To identify these complex relations, Structural Equation Modelling (SEM) is commonly used. It is the most sophisticated trigonometric technique for path analysis (Naik and Aslam, 2024; Ghouse et al., 2023; Aslam et al., 2022; Ghouse et al., 2022a; Ghouse et al., 2022b; Ghouse et al., 2022c; Ghouse et al., 2022e; Naik et al., 2024; Shamim et al., 2024; Zulfiqar et al., 2016; Ghouse et al., 2022d). Structural Equation Modelling (SEM) is also used to identify mediation and moderation analysis. By following path analysis, we can find out the direct and indirect impacts of variables on the targeted variable (Aji et al., 2021). There are ample studies where Structural Equation Modelling is used to find out the direct and indirect links between variables (Aslam, 2020; Aslam and Farooq, 2019; Aslam et al., 2021; Aslam and Shabbir, 2019; Aslam and

Zulfiqar et al., 2016; Ghouse et al., 2022a; Ghouse et al., 2022b; Ghouse et al., 2022c; Ahmad et al., 2023; Aslam and Ghouse, 2023; Aslam et al., 2025; Aslam et al., 2024; Aslam et al., 2023).

The insights from these studies are highly relevant to emerging economies. Most OIC countries have financial systems that are not stable and not efficient. The Islamic banking sector, in particular, is more vulnerable to external shocks. Maintenance of financial stability is not only important in the short run but also has significant long-run implications for sustainable development (Bhatti and Ghouse, 2022; Ghouse et al., 2023; Naik and Aslam, 2024). Financial crises, such as disruptions in the banking and credit markets, can negatively affect the economy. These effects often persist for a long time (Dwyer et al., 2013). Financial stability is crucial for managing systemic risk and for the effective design of macroprudential policies (Ballouk et al., 2024). This research will address this limitation by empirically examining the role of AI readiness in translating macroeconomic variables like GDP growth, unemployment, and inflation into financial stability outcomes. Additionally, while they focused on systemic risk broadly, this study will investigate specific financial metrics, including capitalization, return on equity, and liquidity risk, comparing their impacts on Islamic and conventional banks under the influence of AI. Özpençe (2017) analyzed the long-term relationship between unemployment, economic growth, and inflation in the case of Turkey. The study particularly emphasized how rising unemployment rates affect the industrial production index. Bair (2015) discussed the role of the supplemental leverage ratio in enhancing financial stability and supporting traditional lending activities. He found that these ratios not only strengthen financial stability but also improve lending capacity, highlighting their importance within the broader financial regulatory framework.

Akalpler (2023) studied the effects of public debt on economic stability in the case of Cyprus. He found that the government indirectly influences consumption and capital. However, the results did not show any direct impact of public debt on economic growth. This research also explores the role of artificial intelligence (AI) in financial stability by analyzing the response of macroeconomic indicators. The findings indicate that the use of AI has a positive impact on economic growth. Mikaeva (2023) examined financial stability and its theoretical foundations by assessing frameworks for evaluating the stability of the energy sector. Their study provides a general overview of financial stability at the national level. However, it did not incorporate AI to enhance the accuracy or effectiveness of the assessment methods. This research will build on these findings by integrating AI-driven tools to assess financial stability metrics like liquidity risk and return on equity, specifically in the context of Islamic and conventional banks. This approach will offer actionable insights and extend the scope of financial stability assessments to include the transformative impact of fintech innovations (Iqbal and Mirakhor, 2011; Kilic, 2022; Kumar and Majeed, 2016).

However, the view that economic growth is always necessary for financial stability faces challenges. The theory of secular stagnation suggests that advanced economies may experience low or zero growth without financial instability (Summers, 2015). Factors like aging populations, declining productivity, and low investment levels may lead to slower growth rates. In such scenarios, maintaining stability requires strategies that prioritize resilience over continuous growth (Zeng, 2023). This perspective calls for a shift in policy focus from growth-centric approaches to stability-focused frameworks. The use of SEM and related techniques like path analysis has deepened understanding of these macroeconomic interactions (Aslam et al., 2023; Aslam, 2020). SEM enables researchers to quantify direct and indirect effects of variables like inflation, unemployment, and financial stability (Aslam and Qamar, 2019; Aslam and Husain, 2019; Aslam et al., 2024). For example, studies have used SEM to explore how inflation and interest rates interact with broader economic outcomes (Aji et al., 2021). These methods help identify key drivers of financial and economic performance. By accounting for both direct and indirect effects, researchers gain a comprehensive view of how macroeconomic variables influence one another. Such insights are particularly relevant for emerging economies, where financial systems are often less stable and more vulnerable to external shocks.

Maintaining financial stability is not just vital for short-term growth but also critical for long-term sustainable development. Financial crises, such as banking collapses or credit market disruptions, can have profound negative effects on economic activity, with impacts that persist for years (Dwyer et al., 2013). This underscores the need for policies that view economic growth and financial stability as complementary goals rather than competing priorities. By managing these forces together, policymakers can achieve optimal economic performance and ensure resilience against future challenges (Salas, 2020).

Ballouk et al. (2024) aimed to analyze financial stability with a focus on systemic risk and propose a research agenda on macroprudential policies. The study emphasized the importance of macroprudential regulation but concluded that there is limited empirical evidence regarding the effectiveness of these regulations in mitigating systemic risks. Kurtoglu and Durusu-Ciftci (2024) investigated the interrelationship between financial stability and economic growth in the Fragile Five (F5) and Group of Seven (G7) countries. The study highlighted that credit indicators showed a stronger causal relationship with economic growth compared to stock indicators. Panel Granger causality testing was used to establish these relationships. While the findings are insightful, the study did not specify sampling methods or provide detailed analyses of how systemic factors, such as unemployment or inflation, might influence these relationships. Furthermore, it did not consider how technological advancements like AI could mediate these dynamics. This research will expand upon this by incorporating the mediating role of AI readiness and exploring its impact on financial stability and growth. By focusing on AI-driven capitalization, return on equity, and liquidity risk, I will address the research gaps left by this study and provide a comparative analysis of Islamic and conventional banking systems. Hassan (2017) explored controversies around economic growth and financial stability, focusing on how aging populations and dependency on growth models limit policy effectiveness. The study provided a theoretical review of economic models and highlighted the challenges posed by structural demographic changes. While it offered valuable insights into the limitations of traditional growth models, the study lacked actionable empirical measures to address the impact of macroeconomic variables like unemployment or inflation on financial stability. This omission leaves room for further exploration.

Özpençe (2017) analyzed the long-term relationship between inflation, unemployment, and economic growth in Turkey, with a specific focus on how unemployment affects the Industrial Production Index (IPI). Using Johansen's cointegration test, the study found that unemployment has a significant impact on industrial productivity, emphasizing the long-term linkages between macroeconomic variables. However, the study did not account for the role of technological advancements like AI in mediating these relationships or enhancing financial stability. It also failed to model short-term behaviors of inflation and

unemployment. Bair (2015) focused on the role of the supplemental leverage ratio (SLR) in enhancing financial stability and supporting traditional lending activities. The study concluded that SLR improves stability and lending capacity, emphasizing its importance in the broader financial regulatory framework. However, it limited its analysis to the leverage ratio without exploring broader financial metrics such as liquidity risk or return on equity. Moreover, the study did not consider the potential of emerging technologies like AI in strengthening financial stability. Akalpler (2023) examined the impact of public debt on economic stability in Northern Cyprus, concluding that while public debt indirectly affects capital and consumption, there is no direct relationship with economic growth. Using restricted VAR and VECM models, the study highlighted the complex interactions between public debt and economic stability. However, the research did not address how macroeconomic variables such as inflation and unemployment might mediate these interactions, nor did it incorporate the role of technological advancements like AI. Mikaeva (2023) examined the concept, essence, and methods for assessing financial stability, evaluating various theoretical approaches. While the study provided a general overview of assessment methods, it lacked depth in practical evaluations and failed to explore the role of external factors such as inflation and unemployment in determining financial stability. Furthermore, it did not consider how digital technologies like AI could enhance the accuracy and application of these assessment methods.

This research will build on these findings by integrating AI-driven tools to assess financial stability metrics like liquidity risk and return on equity, specifically in the context of Islamic and conventional banks. This approach will offer actionable insights and extend the scope of financial stability assessments to include the transformative impact of fintech innovations. However, there are many challenges associated with the adoption of FinTech-based tools. Data privacy is one of the most concerning issues. The ethics of AI is also an issue of great concern. Complexities related to the regulatory framework must be navigated very carefully. This affects the patience of banks while introducing new products in the market based on these tools (Leslie et al., 2021). Conventional and Islamic banking systems in OIC countries are under transformation. They are adopting FinTech-based tools and facing unique challenges. Islamic banks have Islamic ethics that must be fulfilled with the adoption of AI. These ethics are known as Shariah principles. Conventional banks have no such restrictions. They adopt new technologies more easily. This enhances their digital transformation abilities more than Islamic banks. The efficiency of conventional banks is more compared to Islamic banks. Challenges like data privacy, compliance with regulatory frameworks, and algorithm biases must be addressed. These must be resolved on the basis of rules and principles.

This study makes a novel contribution to the literature. It focuses on how AI-based FinTech tool adoption can impact the financial stability of Islamic banks. It considers the mediating role of major macroeconomic indicators. It also looks into their collective impact on financial stability in selected OIC countries. The study also examines the mediating role of AI and GDP growth. It explores their collective impact on the financial stability of the banking system. There is no related study found on this issue in the literature. That is why there is a significant gap which this study aims to fill.

CONCEPTUAL FRAMEWORK, DATA AND METHODOLOGY

The SEM path in figure 1, 2 and 3 shows the mediating and moderation relationship among important variables for financial stability of banks. Particularly, the mediation in the relationship is of three kinds, (i) of AI readiness on GDP growth rate, (ii) the mediating relationship of AI readiness on GDP, and (iii) the mediating relationship of bank size on management quality and financial stability. In these channel/linkages, we see that financial stability is affected through two paths: one is through GDP growth rate, and the second is through inflation and employment variables. The description of variables shown in figure 3 are as below; Return on Assets (ROA) measures profit generation from assets. Higher ROA means better asset utilization. The formula is (Profit before Tax / Total Assets) * 100%. Return on Equity (ROE) shows profitability relative to shareholders' equity. Higher ROE means better efficiency in generating profits from investments. The formula is (Net Income after Tax / Total Equity) * 100%. Capital Adequacy Ratio (CAR) evaluates ability to withstand losses. It compares capital to risk-weighted assets. Higher CAR means more stability. The formula is (Bank Capital / Risk-Weighted Assets) * 100%. Financial Stability (Z-Score) measures insolvency risk. A higher Z-score means more stability. The formula is (ROA + (Equity / Assets)) / σ(ROA). The Liquidity Risk Ratio measures the ability to cover short-term obligations. It indicates short-term financial health. The formula is Current Assets / Current Liabilities. The Non-Performing Loans (NPL) ratio shows financial fragility. It indicates the percentage of loans at risk of default. High NPL affects balance sheet and profitability. The formula is Non-Performing Loans / Gross Loans. Capitalization (Equity Ratio) shows the proportion of assets financed by equity instead of debt. A higher ratio means lower financial risk. The formula is Equity / Assets. Size of Bank is measured by total assets. It reflects the capacity for income diversification. Larger banks are more stable due to diverse revenue streams. Management Quality measures efficiency in controlling operating expenses. It provides insights into operational effectiveness. The formula is Operating Cost / Gross Income. The Fintech Index evaluates digital readiness. It takes the weighted average of ATMs and credit card services. This indicates fintech capabilities.

Another important mediation link is AI readiness affecting financial stability through a different Fintech. Fintech is a very promising field, capturing significant attention in financial literature. It is also believed that without fintech, the banking system may struggle to operate, creating significant pressure to adopt various fintech options. AI readiness can influence financial stability, and this can be achieved through fintech adoption. Better AI capabilities will lead to improved fintech services, which can further enhance financial stability through operational efficiency gains. An important mediation link exists between bank size and financial stability through management quality. Bank size significantly influences the management quality of the banking sector, impacting financial stability. Additionally, if management quality is high, financial stability is often more balanced and sustainable. Larger banks may have more resources for better management practices.

Interestingly, we also observe the moderating effect of fintech and AI on GDP growth rate, which is illustrated in the last figure 3 of this section. It is important to understand the complex relationships shown in these diagrams Figure 1, Figure 2, and Figure 3. These relationships include the fintech affecting financial stability and GDP growth rate affecting financial stability. These are the two key channels under consideration when analyzing financial stability in the Islamic banking sector. The literature suggests that fintech adoption may directly impact financial stability, particularly by improving operational efficiency and risk management. Similarly, GDP growth rate may affect financial stability, as economic growth variables combined with financial variables provide a strong foundation for both theoretical and practical implications. This impact may occur

through loan performance improvements and the expansion of business opportunities.

Mediating relationship, particularly the mediation in relationships of AI readiness on GDP growth rate, tax, and bank size on management quality and financial stability. In this channel, we see that financial stability is affected through two parts; one is through GDP growth rate, and the second is through inflation and employment variables, which can impact financial stability.

Interestingly, we also develop the moderating effect of fintech and AI on the GDP growth rate, which can be observed in the last figure 3. It is important to understand the base for further developing the AI relationships shown in these diagrams: Figure 1, Figure 2, and Figure 3 to capture the mediations and moderations among these variables; (i) the relationships include the fintech affecting financial stability and (ii) the GDP growth rate also impacts financial stability. These are the two important channels under consideration for analyzing financial stability in the Islamic banking sector.

As observed in the literature, fintech adoption may directly impact the financial stability of banks, particularly by improving operational efficiency and risk management. Similarly, the GDP growth rate may influence financial stability, as economic growth variables, along with financial variables, provide a strong foundation with both theoretical and practical implications. This impact on financial stability may occur through improvements in loan performance and the expansion of business opportunities.

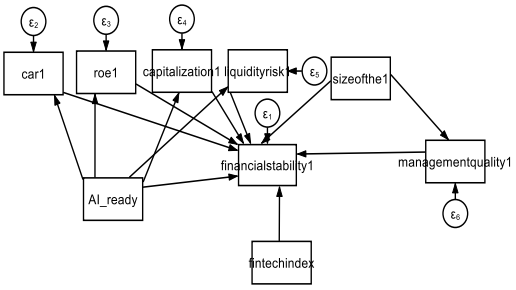

Figure 1. The financial determinants of financial stability.

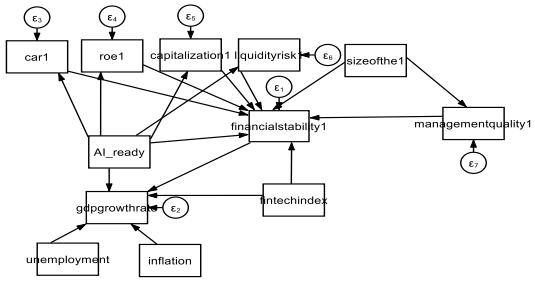

Figure 2. The financial and economic determinants of financial stability.

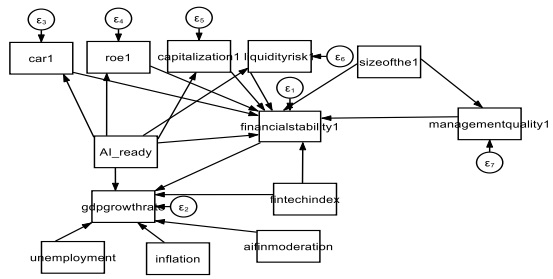

Figure 3. The financial model with mediation and moderation impact.

The dataset includes Islamic banks from many countries. These are Afghanistan, Bahrain, Bangladesh, Brunei, Dubai (UAE), Egypt, Gambia, Guyana, Indonesia, Jordan, Kazakhstan, Kuwait, Lebanon, Malaysia, Maldives, Nigeria, Oman, Pakistan, Qatar, Saudi Arabia, Senegal, Turkey, Uganda, and Uzbekistan. Each country has important conventional banks too, however, our sample contains only Islamic banks for now. Afghanistan has Afghanistan International Bank. Bahrain has National Bank of Bahrain and Bahrain Development Bank. Bangladesh includes AB Bank PLC and Bank Asia PLC. Brunei has Brunei Darussalam Central Bank. Dubai features Emirates NBD and First Abu Dhabi Bank. Egypt includes Commercial International Bank and Bank of Alexandria. Gambia has Guarantee Trust Bank. Guyana has Republic Bank. Indonesia includes Bank Central Asia and Bank Rakyat Indonesia. Jordan has Bank of Jordan and Arab Bank. Kazakhstan has Halyk Bank. Kuwait features National Bank of Kuwait and Commercial Bank of Kuwait. Lebanon has BLOM Bank. Malaysia includes Maybank and CIMB Malaysia. Maldives has Bank of Maldives. Nigeria has Zenith Bank. Oman includes Bank Muscat and Sohar International Bank. Pakistan has Islamic banking through HBL, UBL, MCB, and ABL. Qatar features Qatar National Bank and Commercial Bank of Qatar. Saudi Arabia includes Saudi National Bank and Riyad Bank. Senegal has Societe Generale Banque. Turkey includes Ziraat Bankasi and Türkiye Is Bankasi. Uganda has Stanbic Bank. Uzbekistan has National Bank of Uzbekistan.

The analysis cover years 2020, 2021, 2022, and 2023. This helps in studying performance over time, as well as, across banking sectors. The diversification in data shows how these banks respond to economic changes and global financial shifts. The study will use secondary data. Panel data on bank-level financial indicators, macroeconomic variables, and fintech/AI adoption indices are collected. The sources are OECD, WDI, and AI readiness Index. These variables will help estimate the structural equation model shown in figure 3. In this Structural Equation Model (SEM), the mediators are AI Readiness and GDP Growth. The role of these mediators is to help explain how or why the independent variables influence Financial Stability by serving as intermediate steps in the relationship.

RESULTS AND DISCUSSION

AI Readiness mediates the relationship between CAR, ROE, Capital, Liquidity Risk, and Bank Size (independent variables) and Financial Stability (dependent variable). This means that the bank's characteristics, such as Capital Adequacy Ratio (CAR), Return on Equity (ROE), available Capital, Liquidity Risk, and Bank Size, do not directly determine Financial Stability. Instead, they influence how prepared the bank is to adopt and integrate artificial intelligence (AI) technologies. AI Readiness reflects a bank's capability to effectively use AI, which, in turn, improves operational efficiencies, customer service, and risk management ultimately contributing to Financial Stability. In simpler terms, factors like ROE and Bank Size affect Financial Stability indirectly by shaping the bank's level of AI Readiness, which then influences stability. The results of Figure, along with its corresponding Table 1, present SEM results for selected Islamic banks in various OIC countries. It can be observed that the capital adequacy ratio has a positive impact on financial stability. This also aligns with the Basel III regulatory framework. Capital adequacy is a critical measure of a bank's ability to absorb losses and mitigate financial distress, which can contribute to enhanced stability.

Regarding returns on equity, we find a negative relationship, which could be due to excessive risk-taking that may reduce financial stability. Capitalization exhibits a positive and significant coefficient, suggesting that well-capitalized banks may contribute to the financial stability of Islamic banks in OIC countries. The

financial fragility hypothesis also states that banks with insufficient capital are more prone to financial crises. Hence, stronger capitalization requirements can further help ensure financial stability, the results are given below in Figure 4. The liquidity risk has a negative sign; however, the coefficient is insignificant. Similarly, management quality has a positive impact on financial stability, but it is also statistically insignificant.

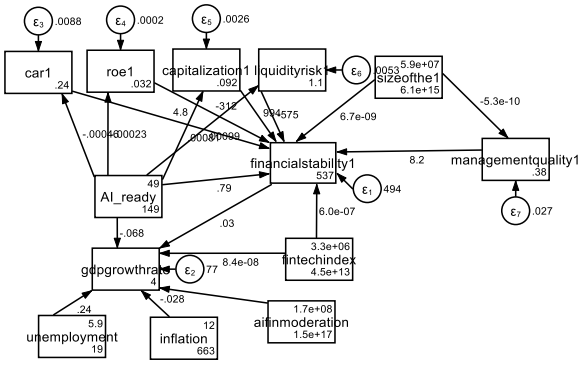

Figure 4. Results of structural equation modeling.

A major variable of our interest is our fintech index, and we find that it affects financial stability in Islamic banks, having both a negative and significant impact. This is interesting because it is assumed that fintech should have a positive impact in this case. However, the negative impact on financial stability and GDP growth rate is due to its small size. Hence, a better approach is required to enhance the size of the index variable, as strong literature suggests that fintech may increase the financial stability of banks.

However, this argument can be further strengthened by looking at the AI and fintech moderation effect on GDP growth, which is positive as well as significant. The significant positive effect suggests that AI-driven fintech services effectively moderate the impact of the GDP growth rate on financial stability. The GDP growth rate has a weak impact on financial stability, but it is an important contributing factor, as proposed by Romer in 1990. He also believed that innovations such as fintech can drive economic growth, which, in turn, can be fueled by financial stability.

The interaction between GDP growth rate and financial stability also has a very interesting finding. This reflects a direction that can improve credit allocation and financial stability. The most important result is that AI's interaction with fintech may contribute to GDP growth, confirming that AI can enhance the positive impact of GDP growth on financial stability. While fintech enhances financial inclusion, it may require stronger risk assessment and regulatory frameworks to prevent excessive liquidity risk. Complete results with different specifications are given in Table 1.

Table 1. Results of structural equation modeling.

Variables	(1) Financial stability	(2) GDP growth rate	(3) CAR	(4) ROE	(5) Capitalization	(6) Liquidity risk	(7) Management quality	(8) /
car1	2.843							
	(33.69)							
roe1	-312.7*							
	(174.5)							
capitalization1	963.7**							
	(482.3)							
liquidityrisk1	-552.9							
	(353.4)							
managementquality1	8.160							
	(13.40)							
Fintechindex	-5.23e-07*	-1.40e-06						
	(2.96e-07)	(8.87e-07)						
AI_ready	0.741***	-0.123	-0.000464	-0.0002**	0.000813**	0.00098**		
	(0.233)	(0.0763)	(0.000625)	(9.47e-05)	(0.000341)	(0.000483)		
sizeofthe1	8.64e-09						-5.33e-10***	
	(3.35e-08)						(1.71e-10)	
financialstability1		0.0291						
		(0.0300)						
Inflation		-0.0312						
		(0.0293)						
Unemployment		0.217						
		(0.174)						
Aifin_moderation		2.62e-08*						
		(1.56e-08)						
var(e.financialstability1)								494.5***
								(56.73)
var(e.gdpgrowthrate)								75.15***
								(8.621)
var(e.car1)								0.00882***
								(0.00101)

var(e.roe1)								0.000203***
								(2.33e-05)
var(e.capitalization1)								0.00263***
								(0.000301)
var(e.liquidityrisk1)								0.00528***
								(0.000606)
var(e.managementquality1)								0.0272***
								(0.00312)
Constant	517.5	7.255*	0.241***	0.0320***	0.0918***	1.108***	0.381***	
	(345.3)	(3.957)	(0.0315)	(0.00477)	(0.0172)	(0.0244)	(0.0168)	

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

The key findings are that capitalization is a very important determinant of financial stability, supporting banking regulation. Similarly, a higher probability shown by ROE can negatively impact stability, which raises concerns about the risk-taking nature of financial institutions. Fintech and AI play an important moderating role in the positive impact of GDP on financial stability.

CONCLUSIONS

The study is a novel study as it looks at the moderating and mediating effects of AI and fintech on financial stability in the presence of important financial and economic control variables that contribute to the financial stability of Islamic banks in selected OIC countries. The estimation technique used is Structural Equation Modelling. Results show that capital adequacy may positively affect financial stability. The impact of capitalization may also positively affect financial stability. Liquidity risk negatively affects financial stability. Management quality affects financial stability. The most significant variable in the fintech is the market and regulatory environment. However, the size of fintech may still be very small, which could explain why its impact may be negative. Nevertheless, Fintech is an important variable for financial stability as suggested by literature, hence, it results in the mediation of AI and Fintech, which appears to be positive and significant. The study also finds that inflation hurts growth. A similar trend is observed for unemployment, as high unemployment can erode financial stability by increasing loan defaults and reducing credit demand. A novel finding of the study is that AI may enhance financial stability.

The policymakers should enforce capital adequacy ratio requirements. Since the impact of return on equity (ROE) on financial stability is negative as well as significant, it implies that policymakers should monitor and regulate profit-driven incentives that may encourage excessive risk-taking behavior. The positive and significant coefficient of capitalization suggests that stronger capitalization requirements can help ensure the stability of the banking system. The coefficient for the Fintech index is negative and significant. The implications of these results suggest that policymakers should enhance fintech development to reduce financial instability. This can contribute to promoting efficiency and economic growth. Additionally, the significant positive coefficient of AI-fintech moderation in the relationship with the GDP growth rate and financial stability suggests that AI enhances financial stability. However, stronger risk assessment and regulatory frameworks may be required to prevent excessive liquidity risk.

The inverse relationship between inflation and employment indicates that higher inflation can reduce financial stability. A similar trend is observed for unemployment, as increased unemployment can erode financial stability through higher loan defaults and financial distress in the economy. Thus, policymakers must closely monitor profit-driven risk-taking behavior through regulators. For policy formulation, it is crucial to balance financial innovations with risk management regulations to ensure long-term financial stability, particularly in the Islamic banking sector of selected OIC countries.

REFERENCES

Ahmad, N., Ghouse, G., Bhatti, M.I., Aslam, A., 2023. The impact of social inclusion and financial development on CO2 emissions: panel analysis from developing countries. Sustainability 15, 14752.

Aji, H.M., Berakon, I., Riza, A.F., 2021. The effects of subjective norm and knowledge about riba on intention to use e-money in Indonesia. J. Islam. Mark. 12, 1180–1196.

Akalpler, E., 2023. Triggering economic growth to ensure financial stability: case study of Northern Cyprus. Financ. Innov. 9, 77.

Alkhatib, R., Hussain, F., 2023. AI's Role in Enhancing Financial Stability. Financ. Stud. Rev. 8, 102-115.

Aslam, A., 2020. The hotly debate of human capital and economic growth: why institutions may matter? Qual. Quant. 54, 1351–1362.

Aslam, A., Ali, M., Ghouse, G., 2024. Are religion and happiness on same side? Qual. Quant. 58, 2837–2854.

Aslam, A., Farooq, A., 2019. In pursuit of inclusive institutional growth: A comparative pattern of selected asian countries. Eur. Online J. Nat. Soc. Sci. 8, 495-511.

Aslam, A., Ghouse, G., 2023. Targeting the new sustainable inclusive green growth: a review. Clean. Responsible Consum. 11, 100140.

Aslam, A., Ghouse, G., Khan, B., 2022. The driver role of financial development on the economic complexity: An empirical evidence from 33 BRI Participation Countries. Audit Account. Rev. 2, 25–45.

Aslam, A., Ishaq, M., Ghouse, G., Khan, B., 2023. Economic complexity, institutions, and property rights. Eur. Manag. Stud. 21, 102–118.

Aslam, A., Mushtaq, U., Ghouse, G., Raoof, R., 2025. Corruption and Happiness: Fortune or Evil? J. Knowl. Econ. 16, 5693–5713.

Aslam, A., Naveed, A., Shabbir, G., 2021. Is it an institution, digital or social inclusion that matters for inclusive growth? A panel data analysis. Qual. Quant. 55, 333–355.

Aslam, A., Qamar, A., 2019. SEM Estimates: The long-term analysis of Pakistan's electricity demand and supply gaps. Eur. Online J. Nat. Soc. Sci. Proc. 8, 86.

Aslam, A., Shabbir, G., 2019. Socio-digital inclusion for inclusive growth: Evidences from world level data. Pakistan J. Soc. Sci. 39, 567–581.

Aslam, A., Zulfiqar, K., 2016. Policy framework for inclusive growth: a case study of selected Asian countries. Forman J. Econ. Stud 12, 21–40.

Bair, S.C., 2015. How a supplemental leverage ratio can improve financial stability, traditional lending and economic growth. Financ. Stab. Rev. 75–80.

Ballouk, H., Jabeur, S. Ben, Challita, S., Chen, C., 2024. Financial stability: A scientometric analysis and research agenda. Res. Int. Bus. Financ. 70, 102294.

Bhatti, M.I., Ghouse, G., 2022. Environmentally friendly degradations technology breakthrough. Energies 15, 6662.

Dwyer, G.P., Devereux, J., Baier, S., Tamura, R., 2013. Recessions, growth and banking crises. J. Int. Money Financ. 38, 18–40.

Ghouse, G., Aslam, A., Bhatti, M.I., 2022a. Green Energy Consumption and Inclusive Growth: A Comprehensive Analysis of Multi-Country Study. Front. Energy Res. 10, 939920.

Ghouse, G., Aslam, A., Bhatti, M.I., 2022b. The impact of the environment, digital–social inclusion, and institutions on inclusive growth: A conceptual and empirical analysis. Energies 15, 7098.

Ghouse, G., Aslam, A., Bhatti, M.I., 2022c. Role of Islamic banking during COVID-19 on political and financial events: Application of impulse indicator saturation. Sustainability 13, 11619.

Ghouse, G., Bhatti, M.I., Aslam, A., Ahmad, N., 2023. Asymmetric spillover effects of Covid-19 on the performance of the Islamic finance industry: A wave analysis and forecasting. J. Econ. Asymmetries 27, e00280.

Ghouse, G., Bhatti, M.I., Shahid, M.H., 2022d. Impact of COVID-19, political, and financial events on the performance of commercial banking sector. J. Risk Financ. Manag. 15, 186.

Ghouse, G., Ejaz, N., Bhatti, M.I., Aslam, A., 2022e. Performance of Islamic vs conventional banks in OIC countries: Resilience and recovery during Covid-19. Borsa Istanbul Rev. 22, S60–S78.

Hassan, M., 2017. Financial stability in the age of AI: A Conceptual framework. Int. J. Financ. Econ. 15, 50-65.

Iqbal, Z., Mirakhor, A., 2011. Financial stability in Islamic finance: The role of AI. Islam. Econ. Financ. J. 8, 45-67.

Karim, R.A.A., Archer, S., 2013. Islamic finance: the new regulatory challenge. John Wiley & Sons.

Kilic, M. (2022). Examining the Intersection of AI and Financial Stability. J. Econ. Financ. 44, 75-89.

Kumar, R., Majeed, M., 2016. Financial stability and AI: The case of developed economies. Int. J. Econ. Financ. 4, 77-88.

Kurtoglu, B., Durusu-Ciftci, D., 2024. Identifying the nexus between financial stability and economic growth: the role of stability indicators. J. Financ. Econ. Policy 16, 226–246.

Leslie, D., Mazumder, A., Peppin, A., Wolters, M.K., Hagerty, A., 2021. Does “AI” stand for augmenting inequality in the era of covid-19 healthcare? BMJ, 372.

Mikaeva, A. S., 2023. AI for enhancing financial stability in emerging economies. J. Financ. Technol. Innov. 17, 19-34.

Naik, S.N., Aslam, A., 2024. The impact of financial inclusion on the association between government cash transfers and violence against women. Bull. Bus. Econ. 13, 1.

Naik, S.N., Aslam, A., Bhatti, M.I., 2024. Microfinance’s Business Breakthrough for Women Empowerment. J. Entrep. Bus. Ventur. 4, 1.

Özpençe, M., 2017. Artificial intelligence and its role in strengthening financial stability. J. Financ. Technol. 15, 22-40.

Salas, A. 2020. AI and its implications for financial stability: A comprehensive study. Bank. Financ. Rev. 24, 30-45.

Shamim, M.A., Aslam, A., Hussain, R., Sanneh, T., 2024. The role of financial cooperatives in building trust: A gender wise global analysis. Bull. Bus. Econ. 13, 1.

Sharma, P., Subbarao, P.S., Sane, A., Biradar, J., 2023. Guest editorial: Innovative practices in business, trade and commerce–challenges and opportunities. J. Indian Bus. Res. 15, 1–8.

Summers, L.H., 2015. Demand side secular stagnation. Am. Econ. Rev. 105, 60–65.

Zeng, Z., 2023. The role of artificial intelligence in enhancing financial stability. J. Financ. Technol. 16, 29-45.

Zulfiqar, K., Chaudhary, M.A., Aslam, A., 2016. Financial inclusion and its implications for inclusive growth in Pakistan. Pak. Econ. Soc. Rev. 54, 297–325.