“The role of Islamic banks in promoting economic growth and financial stability: Evidence from Saudi Arabia”

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THE ROLE OF ISLAMIC BANKS IN PROMOTING ECONOMIC GROWTH AND FINANCIAL STABILITY: EVIDENCE FROM SAUDI ARABIA

Abstract

The aim of this study is to provide a suitable empirical framework for the interaction between Islamic finance, financial stability, and economic development. Additionally, it is an attempt to empirically evaluate how the levels of financial system stability and economic growth in an oil-rich nation are affected by the financing provided by Islamic banks. The study employs the fully modified ordinary least squares (FMOLS) and quantile regression (QR) based on quarterly data from 2013 to 2022. The findings indicate strong evidence that Islamic banking finance supports economic growth and improves financial system stability. Moreover, the study highlights that this positive relationship is negatively affected by inflation rates and levels of economic policy uncertainty. Financial inclusion has an important positive impact on both dependent variables, reinforcing this link. Furthermore, oil rents in Saudi Arabia (KSA) have contributed to improving economic development and supporting the financial sector's development to achieve economic diversification as outlined in the Saudi Vision 2030. These findings confirm the necessity of paying attention to developing Islamic banking and increasing its market share by creating products and services that achieve economic efficiency in accordance with suitable policies for making the financial sector a strategic sector that supports economic development in KSA.

Keywords Islamic banks, financial stability, economic growth, quantile regression

JEL Classification C22, G21, O47

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INTRODUCTION

Following the global financial crisis, maintaining rapid economic growth (GR) and stabilizing the financial system have become an important issue not only for emerging market economies but also for developed economies. Fears and doubts about the global banking and financial system increased after the spread of the crisis to the real economy. It is believed that the expansion and excessive granting of bank loans, the lack of transparency, weak governance practices, the interest-based system, and illegal speculation are among the most important causes of the crisis (Chapra, 2009). It has been shown that Islamic banks (IBs) experience lower levels of risk due to the Shariah principles that govern them, especially the profit and loss sharing system (PLS). In addition to avoiding speculation and financial products with high financial leverage. Also, IBs possess high liquidity compared to conventional banks. All of these factors helped them reduce the effects of the crisis (Mensi et al., 2020).

IBs are not entitled to engage in financing unethical projects and those prohibited by Sharia law and have a strong connection to the real economy (Hussien et al., 2019). It has also greater liquidity and

capital reserves than its conventional counterparts (Miniaoui & Gohou, 2013; Bourkhis & Nabi, 2013; Mobarek & Kalonov, 2014). IBs play the role of financial intermediation in a different sense than their conventional counterparts. It has emerged and received increased attention following the global financial crisis. It offers a wide range of products and services that adhere to the principles of Islamic Sharia. These products aim to enhance financial inclusion among a wide segment of the public who wish to deal with this type of banks on faith-based grounds. Which increases the customer base and raises levels of savings and investment.

Innovative Islamic finance products encourage entrepreneurship activity and increase commercial activities by providing the necessary financing based on mudarabah or musharakah formulas instead of providing interest-bearing loans. By encouraging financing linked to real assets, IBs support the real economy and productive investments and reduce speculative activities, which contributes to capital formation and promotes more effective risk management. It creates a more stable banking and financial system (Pappas et al., 2017). IBs are committed to the ethical aspects of investment, which creates a socially responsible investment environment. This paper examines how Islamic banks support both economic growth and financial stability in KSA.

1. LITERATURE REVIEW

The relationship between finance and growth is well-established in the literature. Four well-known theories represent the findings reached. However, the theoretical literature does not clearly explain the connection between Islamic banking and GR. The purpose of presenting these four theories is to determine which theory is most suitable for the relationship between Islamic finance and growth.

Studies on the impact of the financial sector on economic growth are evident in empirical research. Some studies show the beneficial impact of banking development on economic growth (Ratsimalahelo & Barry, 2010). In contrast, other studies have shown either a negative impact of banking development on economic growth or a combination of positive and negative impacts (Eggoh, 2010).

Islamic finance offers great potential to promote inclusive growth and finance investment projects. It was determined that the growth of Islamic banking supports macroeconomic effectiveness (Gheeraert & Weill, 2015). Also, Gheeraert (2014) found strong evidence that the development of IB services leads to the development of the banking sector. Hachicha and Ben Amar (2015) investigated the impact of IBs financing on GR in Malaysia. They found that IBs have a less significant impact in the long term, because IBs' operations were linked to non-participatory activities, which have an impact in the short term, while they avoid the PLS transactions.

In both conventional and Islamic banks, the power of financial intermediation is crucial in fostering GR (Saleem et al., 2021). Islamic finance has been shown to positively influence economic growth in Southeast Asia (Ledhem & Mekidiche, 2021), and it is seen as a crucial component of the endogenous growth model. Zarrouk et al. (2017) attempted to find out the relationship of financial development (by focusing on IBs) with GR in the UAE. The re-

Table 1. Theories between finance and economic growth

Hypothesis	Content	Support Studies
The Theory of Supply-Leading (SLH)	There is a causal relationship between financial development and economic expansion. This is because the financial sector is responsible for financing projects and investments and motivating entrepreneurs.	Schumpeter (1911), McKinnon (1973), Beck et al. (2000), Majid and Kassim (2010), Levine et al. (2000)
Demand-Following Hypothesis (DFH)	Economic development contributes to the improvement of the financial industry. This is because the financial sector responds to the expansion of economic operators' activities and businesses.	Robinson (1952), Patrick (1966), Furqani and Mulyany (2009), Carby et al. (2012), Pradhan et al. (2017)
The Feedback	Since their relationship is reciprocal, financial development and economic growth complement one another.	Pradhan et al. (2015)
The Neutral	There is no connection between the financial and economic sectors.	Lucas (1988).

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sults showed that GR enhanced the development of IBs with no reverse effect. There is a non-linear relationship between the development of IBs (deposits, loans, assets) and macroeconomic variables (Mensi et al., 2020). Anwar et al. (2020) concluded that there is a bidirectional causal relationship between GR and the development of IBs in the short and long terms. the risk-sharing instruments are positively associated with GR in Bangladesh. And the risk-free instruments are negatively associated with GR (Chowdhury et al., 2018).

Moreover, the findings of Jawad and Christian (2019) showed that the direction of causality follows the SLH hypothesis. Gani and Bahari (2012) concluded that there is substantial proof that GR and IB indicators have a causal bidirectional link. Kassin et al. (2015) found evidence of short and long-term association between industrial production and IBs. Despite the fact that earlier research has demonstrated that IBs have a substantial impact on GR. However, some studies have reached different results, such as Goaied and Sassi (2010), by using the generalized method of moments (GMM) on selected MENA countries, they concluded that the influence of IBs on GR is statistically insignificant.

For the relationships between Islamic banks and financial stability nexus**,** researchers have increased their interest in the Islamic banking system and investigated the role of these institutions in promoting financial stability. Rashid et al. (2017) examined the extent to which IBs contribute to financial stability in Pakistan. The findings showed that IBs contribute better to enhancing the stability of the financial sector compared to conventional banks. Also, banks that have a higher profitability rate and a higher degree of diversification have a greater level of financial stability. According to Beck et al. (2013), IBs are less susceptible to market fluctuations and are less vulnerable to risks than conventional banks.

The stability levels of IBs are higher than those of their conventional counterparts (Rajhi & Hassairi, 2013). Additionally, IBs perform better when they are smaller in size because they are more stable than larger IBs, and the 2008 global financial crisis had the least impact on small-scale IBs (Čihák & Hesse, 2010; Alqahtani & Mayes, 2018). This is supported by the fact that IBs with weak assets manage low-risk investments, while expanding would expose them to bigger risks that they would find challenging to manage, particularly when it came to financing based on profit-and-loss sharing.

Moreover, Tekdogan and Atasoy (2021) compared two groups in terms of their role in promoting financial stability, and they concluded that IBs improve financial stability because it has more liquidity than conventional banks, which increases their capabilities during shocks and crises. Recently, Shaheen et al. (2022) distinguished between debt-based financing and equity-based financing in IBs. It was concluded that financing based on ownership and debt did not affect price instability. The findings demonstrated that debt and equity-based financing have an inverted U-shaped impact on economic instability.

Theoretically, IBs support financial stability based on several factors, including their products based on sharing profits and losses and asset-backed products, in addition to their principles that aim to preserve depositors' funds and reduce risks. (Chong & Liu, 2009; Rashid et al., 2017; Baber, 2018). Islamic banks' commitment to providing interest-free services and asset-based financing instruments following ethical principles makes them enhance liquidity and reduce risks because they are linked to assets that can be used as collateral in cases of customer insolvency. This makes IBs more profitable and have high liquid compared to their conventional counterparts (Hassan & Mahlknecht, 2011; Safiullah & Shamsuddin, 2018; Bitar et al., 2020). Other researchers have demonstrated that when compared to conventional banks, IBs have higher Z-score levels (Pappas et al., 2017; Mollah et al., 2017). While Lassoued (2018) and Paltrinieri et al. (2021) discovered that conventional banks exhibit higher levels of financial stability than their Islamic counterparts.

The aim of the study is to examine the role of Islamic finance in economic development and financial stability in Saudi Arabia.

Thus, to achieve the aim of this paper and examine the role of IBs in economic growth and financial stability in KSA, the following hypotheses were developed:

H1: Islamic banks contribute positively to Saudi Arabia's economic expansion.

H2: Saudi Islamic banks enhance the stability of the financial system.

2. METHOD

Using the QR regression, the current study investigates how Islamic financing affects Saudi Arabia's financial stability and economic growth, including a set of control variables: inflation rate (INF), oil revenues (OILR), economic uncertainty index (EPU), and financial inclusion (FI). According to the availability of study data, the study period included quarterly data from 2013Q1 to 2022Q4.

The capacity of QR regression to depict the dependent variable's conditional distribution is one of its distinguishing features, and it relies on estimating the conditional median and not the mean like the OLS. Assume that Y is the dependent variable and Z is the independent variable:

$$Y_q = Z\beta_q, \tag{1}$$

where β_q is the parameter of the quantile q; q changes in the range from 0 to 1. To obtain the value of parameter q, the following equation must be solved by minimizing the sum function:

$$Min_{\beta_q} \sum_{j\in(y_j \geq z_j\beta_q)} q\left|y_j - z_j\beta_q\right| + \sum_{j\in(y_j \leq z_j\beta_q)} (1-q)\left|y_j - z_j\beta_q\right|, \tag{2}$$

where the β_q is the level of dependence between the independent variable and q^{th} conditional quantile of the dependent variable. Equation (3) can be solved using linear programming and allows the values of the parameter q to move in the range (0,1), allowing a more in-depth analysis of the relationship between the exogenous variable (Z_j) and endogenous variable (Y_j) (Koenker & D'Orey, 1987). QR regression is more powerful in explaining the relationship between variables if the errors do not follow a normal distribution, there is heterogeneity in the dependent variable, there are outliers in the observations, or the graph is skewed (Koenker & Hallock, 2001).

Based on previous literature (Boukhatem & Ben Moussa, 2018; Chowdhury et al., 2018), the paper reviews two models, where total Islamic finance is considered as an independent variable, and financial stability and GR as dependent variables after controlling for inflation, oil rents, financial inclusion, and economic policy uncertainty.

The QR regression is used to evaluate the relationship between our variables. The following econometric models have been developed:

$$GR_t = \gamma + \theta_1 IBF_t + \theta_2 FI_t + \theta_3 STAB_t + \theta_4 OILR_t + \theta_5 EPU_t + \theta_6 INF_t + \varepsilon_t, \tag{3}$$

$$STAB_t = \alpha + \beta_1 IBF_t + \beta_2 FI_t + \beta_3 GR_t + \beta_4 OILR_t + \beta_5 EPU_t + \beta_6 INF_t + \mu_t, \tag{4}$$

Where: γ, α are the intercepts. GR and STAB represent the economic growth and financial sta-

Table 2. Description and measurement of the variables

Variable Name	Symbol	Measurement	Source	
Dependent variables				
Economic Growth	GR	Gross Domestic Product	SAMA	Farahani and Dastan (2013), Yuksel and Canoz (2017)
Financial Stability	STAB	((Equity +ROA) / Assets)) / Std Dev (ROA)	GFDD	Kim et al. (2020), Beck et al. (2013), Dwumfour (2017), Čihák and Hesse (2010)
Independent variables				
Islamic financing	IBF	Total Islamic Banking Financing	SAMA	Ledhem and Mekidiche (2021), Al Fathan and Arundina (2019)
Control Variables				
Inflation	INF	Inflation rate	SAMA	Azmi (2013)
Oil rents	OILR	Oil rents to GDP (%)	WDI	Hidayat et al. (2020)
Economic Policy Uncertainty	EPU	Economic Policy Uncertainty Index	www.policyuncertainty.com	Phan et al. (2021)
Financial Inclusion	FI	Composite Index	Author calculations	Nguyen(2021)

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bility respectively. IBF is the total islamic banking financing.FI is the financial inclusion index. OILR represent the Oil rents.INF is the inflation rate. EPU is the economic policy uncertainty index. ε *and* μ are the error terms.

The paper studies the impact of Islamic financing on financial stability in Model 6 and the effect of Islamic financing on GR in Model 5. Equation (1) is formulated for the regression as follows:

$$Q_{GR}\left(q / Z_t\right) = \gamma'_i + \beta'_{1q}\, IBF_t + \beta'_{2q}\, C_t, \qquad (5)$$

$$Q_{stab}\left(q / Z_t\right) = \gamma_i + \beta_{1q} IBF_t + \beta_{2q} C_t, \qquad (6)$$

where Q_{GR} and Q_{stab} indicate the quantile of the GR and STAB variables, IBF_t represents Islamic financing, and C_t indicates the control variables described previously.

3. RESULTS

Table 3 delineates the descriptive statistics for the variables. The average IBF amounted to 1,247,141 million Saudi riyals, with a standard deviation of 315 thousand million Saudi riyals. The gross domestic product in KSA showed many fluctuations, as its lowest value in 2015–2016 was around $660 billion, but it improved in 2022 to reach more than $1.1 trillion after recovery from the Corona pandemic and the decline in oil prices. The average financial inclusion index reached 0.73 after the normalization of the indicator.

Note also that most variables are asymmetric and do not follow a normal distribution because the Skewness values differ from zero. In addition, the values of the Kurtosis statistic exceed +3. This makes the use of QR regression appropriate and gives reliable results. Also, QR regression works well with extreme values and skewed distributions.

To construct the financial index, the following indicators were used: banking accounts per 1,000 persons; outstanding bank deposits, the number of bank branches per 100,000 persons, outstanding loans from banks, and ATMs per 100,000 persons. The previous variables measure penetration of banking services in the demographic and usage dimensions (Beck et al., 2007). To save space, the steps of the principal component analysis (PCA) are well presented in the literature (Gharbi & Kammoun, 2023).

Table 4. Unit root tests

Variables	ADF		PP	
	Level	First difference	Level	First difference
Stab	0.621	–7.027***	–1.009	–2.576***
IBF	–1.470	–3.27***	–2.475	–6.103***
FI	–0.02	–2.98**	–3,291*	–5.263**
GR	2.117	–4.077***	1.544	–5.328**
EPU	0.896	–4.176***	–1.090	–6.619***
OIL	–0.906	–5.714***	–1.749*	–2.089***
INF	–1.356	–2.064***	–2.342	–2.737**

Note: *** P < 0.01. ** P < 0.05. * P < 0.1.

After ensuring the data series is stationary at the first difference for all study variables, the models are estimated using the OLS and the QR regression. Tables 5 and 6 display the results of models (5) and (6), respectively. This regression allows for differences in the effect of covariates across conditional quantiles, that is, the impact of Islamic financing on GR and financial stability at different points in the distribution in the three cases.

Table 3. Descriptive statistics

Variables and descriptive statistics	OILR	GR	IBF	INF	STAB	FI	EPU
Mean	26.64366	27.25161	1247141	1.755316	22.36795	0.730666	5.213412
Median	23.82155	27.25243	1124234	2.347216	22.31537	0.851819	5.201554
Maximum	44.45650	27.36588	1976498	3.532525	24.70000	1.000000	5.913918
Minimum	15.97891	27.14445	814100	–2.093333	20.10879	0.000000	4.574996
Std. Dev.	8.921379	0.048485	315200	1.853109	1.649223	0.267549	0.372888
Skewness	1.075951	–0.225931	0.944352	–1.124124	–0.057935	–1.601137	–0.035028
Kurtosis	2.948107	3.319518	2.845558	2.998041	1.726560	4.585150	1.800368
Jarque-Bera	3.284743	0.472169	5.536213	2.785694	0.681281	19.68286	2.406707
Probability	0.193521	0.789714	0.062781	0.248367	0.711314	0.005348	0.300186

Table 5. Effects of IBF on economic growth

Dependent variable (Economic growth)						
Variables	**Q10**	**Q25**	**Q50**	**Q75**	**Q90**	**OLS**
IBF	0.1708***	0.1933***	0.1488***	0.2226***	0.191**	0.216***
FI	0.368**	0.483*	0.424*	0.451*	0.1467	0.405***
EPU	−0.0256	−0.027	−0.0390**	−0.0458**	−0.054**	−0.044***
OILR	0.0577**	0.0817*	0.0465	0.0641*	0.031	0.055***
INF	−0.0001	−0.0006	−0.003	−0.006	−0.0031	−0.001
STAB	0.147*	0.0954	0.1870	0.0551	0.356**	0.087
Pseudo R2	0.8315	0.7544	0.7157	0.7532	0.7912	0.91

Note: *** P < 0.01. ** P < 0.05 . * P < 0.1.

Table 5 shows the impact of IBF on GR, as the relationship was significant and positive across all quantiles. It is important to note that it appears relatively strong for extreme and lower quantiles. These findings are consistent with those of Majid and Kassim (2015), Kassim (2016), and Imam and Kpodar (2016). This means that an increase in the market share of IB leads to improved GR. In other words, the greater the volume of Islamic finance, the greater the growth rates of GDP (Figure 1).

Over one-third of the global assets of Islamic banking are held by the Islamic banking sector in the KSA. This makes the Saudi market the largest in the world regarding total assets, and its share in the banking system represents more than 77% (SAMA, 2022). The INF and the EPU showed a negative relationship with GR, but the EPU was significant across all quantiles, in addition to its effect being greater in large quantiles compared to small quantiles. This shows that the Saudi economy is affected by economic uncertainty as a result of its geographical location in the Middle East and the connection of its economy to the oil markets and international financial markets. Therefore, this should be considered when preparing economic plans and policies in KSA.

Inflation was not significant. The OILR showed a statistically significant relationship across all quantiles. The financial stability proxy showed a positive relationship across the minimum quantiles (Q10) and maximum quantiles (Q90), while there was no significant effect on GR in the OLS model. Therefore, these results correspond with the first hypothesis, which is that IBs positively impact growth.

The IBF is statistically significant in the QR model at the upper quantile. Islamic banking enhances the stability of the financial system. The principles of IBs allow all transactions related to real assets, which enhances productive activities and the real economy. In this context, one of the lessons learned from the financial crisis is to consider the principles of Islamic finance to enhance financial stability (Imam & Kpodar, 2016; Boukhatem & Ben Moussa, 2018).

FI positively affects financial stability across all quantiles, but it has a stronger effect at smaller quantiles. When FIs improve the stability of the financial system, they thus expand the customer base and total deposits, which positively impacts the financing of investment projects and assets in various products,

Table 6. Effects of IBF on financial stability

Dependent variable (financial stability)						
Variables	**Q10**	**Q25**	**Q50**	**Q75**	**Q90**	**OLS**
IBF	0.2508***	0.2783***	0.2747***	0.2793***	0.3201***	0.273***
FI	0.9465***	0.841***	0.606***	0.4208***	0.3594	0.649***
EPU	−0.0352	−0.036	−0.025	0.0032	−0.004	−0.017
OILR	0.0917***	0.081**	0.056	0.0542	0.059	0.072***
INF	−0.0095***	−0.009***	−0.0105***	−0.01507***	−0.014**	−0.009***
GR	1.011	1.170	1.495	1.378*	0.868	0.913*
Pseudo R2	0.852	0.83	0.79	0.78	0.822	0.94

Note: *** P < 0.01. ** P < 0.05. Pseduo R2 shows the fit of the quantile regression model.

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whether PLS or debt-based (Banna et al., 2022). The financial inclusion index coefficient is significant. Therefore, financial inclusion promotes greater financial stability. This finding aligns with Banna et al.'s (2022) and Vo et al.'s (2021) studies.

In addition, the effect of EPU was negative but not significant across all quantiles, while the INF negatively affects financial stability across all quantiles but more clearly at larger quantiles. This demonstrates the negative impact of inflation on stability. Considering that inflation makes markets more volatile, there is a probability of higher defaults and a higher rate of non-performing loans (Global Financial Stability Report, 2022), in addition to its impact on the abilities of individuals and companies to obtain bank loans, whether for investment or consumption. Moreover, the continuous increase in prices reduces the well-being of individuals, which reduces the demand for some products and services. OILR also has a positive and significant relationship with financial stability through small quantiles only. Therefore, these results correspond with the second hypothesis that there is a positive and significant relationship between IB financing and the level of financial stability.

The FMOLS method was used to ensure the findings' reliability, as it can provide effective estimators in small samples.

The FMOLS show that the IBF was positive and significant in both models, confirming Islamic finance's positive role in improving financial stability and supporting GR in KSA. The signs of both inflation and the EPU were negative. In addition, FI and OILR improve growth and stability. These findings confirm the robustness of the quantile regression findings and give them greater reliability.

4. DISCUSSION

Islamic financing instruments are divided into debt and equity participation instruments, and both types depend on assets between the parties to the transaction. These tools are designed to manage risks at the lowest levels to preserve the funds of depositors and investors. Also, IBs, through the Sharia Supervisory Board, do not tend to invest in high-risk projects. This makes it support the financial system's stability (Chong & Liu, 2009; Hassan & Mahlknecht, 2011).

Numerous studies have shown that Islamic banks have greater capabilities to absorb financial shocks compared to conventional banks, based on the features the paper mentioned previously (Baber, 2018; Rashid et al., 2017). It has now become known in the literature that IBs are characterized by greater levels of liquidity. Perhaps the reason is due to the huge volume of deposits and the difficulty of finding Islamic liquidity management products that combine economic efficiency and Sharia compliance, and the absence of money market products among Islamic banks; this makes them maintain large cash surpluses (Lahsasna & Chiad, 2014; Dolgun, et al., 2020).

Some authors suggest that IBs with significant total assets support financial stability more than small banks (Ibrahim & Rizvi, 2017). This concept is relevant to the Kingdom of Saudi Arabia since Islamic banks have the most assets globally. Saudi total Islamic assets reached about 28.5 percent in 2020, followed by Iran with 22 percent and Malaysia with 11.4 percent (ISDB,2021). Moreover, the Islamic banking sector in KSA has a share of more than 77 percent (SAMA, 2022).

Table 7. Robustness check

Variables	FMOLS (STAB Model)			FMOLS (GR Model)		
	Coef.	S.E	t-stat	Coef.	S.E	t-stat
IBF	0.289***	0.0427	6.7559	0.245***	0.0192	12.754
GR	0.0228	0.213	0.107	–	–	–
OILR	0.0814***	0.0256	3.1816	0.0423**	0.0167	2.524
FI	0.6441***	0.176	3.643	0.4715***	0.1089	4.329
INF	–0.007***	0.0028	–2.792	–0.0043**	0.002	–2.088
EPU	–0.0382**	0.0147	–2.586	–0.048***	0.0111	–4. 3206
STAB	–	–	–	0.069	0.164	0.42

Note: *** P < 0.01. ** P < 0.05.

Moreover, one of the most important factors that made the IBs enhance financial stability is the nature of these institutions, the structure of their budgets, and how they manage business and financial risks. Due to the link between customer deposit returns and asset returns, the balance sheet items in IBs permit some consistency between the assets side and liabilities side (Iqbal & Mirakhor 2011). In addition, Islamic financial services are characterized by diversity, which helps meet the demands of individuals and corporate clients. This explains the positive role of IBs in promoting economic development. Thus, it contributes to converting deposits into investments through various Islamic financing tools (Chowdhury et al., 2018).

In accordance with Islamic finance's core values, IBs provide services and products that support the real economy in accordance with the foundations of ethical investment and the equity participation mechanism. Islamic financial services are anticipated to have a greater influence and facilitate more effective resource allocation. This is because the PLS system makes Islamic banks keen to choose the best investment projects, and thus their financing decisions are more careful than conventional banks (Siddiqi, 1999).

Furthermore, one of the factors that helps the positive role of IBs in financial stability and supporting GR is the PLS principle, which is regarded as one of the characteristics of Islamic banking, as it is linked to assets that make financing more stable due to the possibility of making the investment project's assets as bank guarantees. The PLS mechanism also contributes to better risk management because it distributes the risks to the shareholders in the investment project (partners).

It is crucial to note that using IB products will not replace the conventional banking system. Still, it will undoubtedly create other opportunities to increase financing for small and medium-sized businesses and will meet the desires of a segment of society. Moreover, this will increase competition with conventional banks, creating better opportunities to enhance economic progress and financial stability in nations that adopt the dual system.

CONCLUSION

This study examined the role of IBs in the financial stability and economic growth of KSA using QR regression. The results reveal that IBs positively affect GR and financial stability across various quantiles. This confirms that expanding the Islamic banks' activities will improve stability and contribute positively to the gross domestic product. The findings also confirm the SLH supply leading hypothesis, meaning that IBs positively affect Saudi economic growth. In this context, IBs have proven their performance as financial intermediaries has been effective by providing services and products between those with financial surpluses and those with deficits.

It is necessary for the financial authorities in KSA to expand access to banking services to all segments of society and improve financial inclusion indicators. Positive effects can then be expected on economic growth and financial stability. The results indicate the importance of reducing the detrimental effects of inflation and the necessity of adopting policies to reduce the negative effects of uncertainty in economic policies on the Saudi banking system.

The paper points out the need for the Saudi financial authorities to pay attention to improving and strengthening Islamic financial services, which have proven their positive role in improving economic growth and financial stability. Therefore, the share of IBs in the market must be increased by opening new IBs because the current number is only four IBs, which does not encourage competition. Accordingly, the introduction of foreign IBs into the Saudi market will lead to reduced levels of banking concentration and the development of new products and services.

Attention should also be given to human resources specialized in Islamic finance through training, formation, and qualification. Due to the lack of specialized human resources, many countries have opened

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professional and academic certificates specialized in this field. This will improve the performance of these institutions and make them provide competitive services. Moreover, it is important to improve FINTECH's financial technology sector to modernize the financial services provided.

The findings are considered useful for Islamic bank managers, officials of the Central Bank and the Ministry of Finance in KSA, and decision-makers interested in developing the financial sector within Saudi Vision 2030. Specifically, these results help enhance our understanding of how the study's variables interact, particularly the connection between Islamic finance and economic growth and its role in the financial stability of the Saudi banking system.

AUTHOR CONTRIBUTIONS

Conceptualization: Faycal Chiad.
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Investigation: Faycal Chiad.
Methodology: Faycal Chiad.
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Supervision: Faycal Chiad.
Validation: Abdelhalim Gherbi.
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Writing – original draft: Faycal Chiad.
Writing – review & editing: Abdelhalim Gherbi.

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APPENDIX A

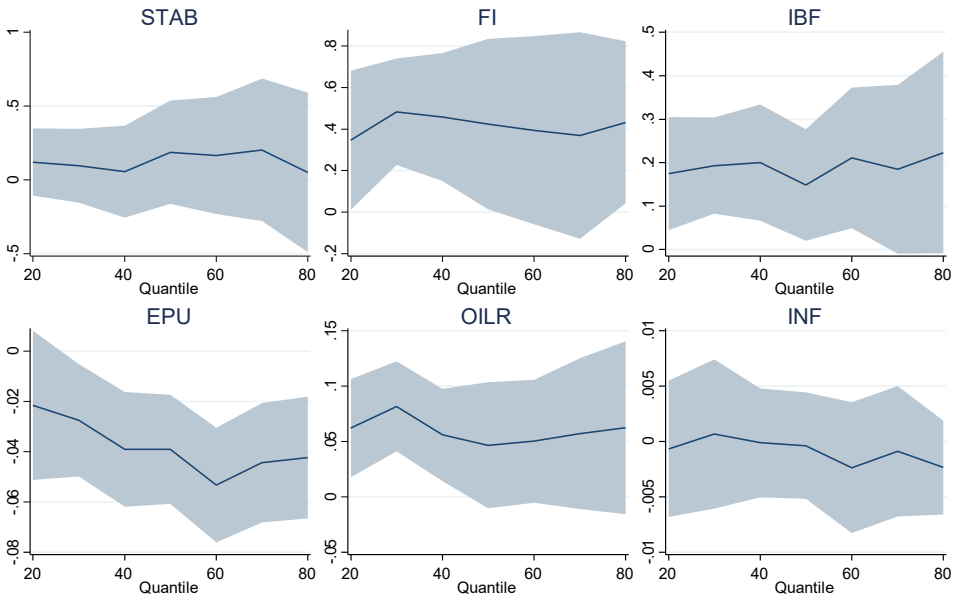

Figure A1. Quantile regression estimates (GR: the dependent variable)

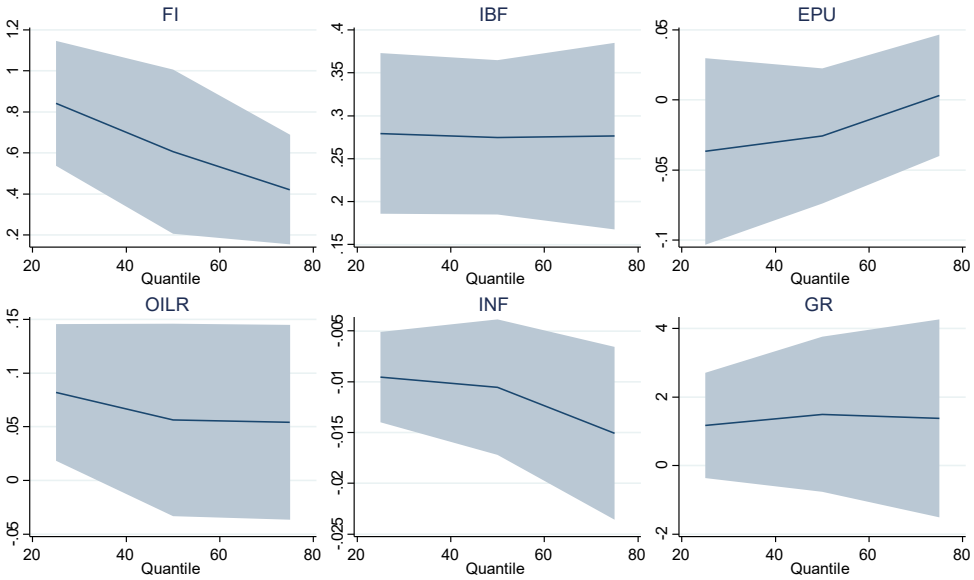

Figure A2. Quantile regression estimates (STAB: the dependent variable)