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Title:	**Impact of Internal and Macroeconomic Risks on Financial Performance, Growth, and Stability of Domestic and Foreign Banks in Pakistan**
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Impact of Internal and Macroeconomic Risks on Financial Performance, Growth, and Stability of Domestic and Foreign Banks in Pakistan

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Abstract

The current study aims to scrutinize and compare the effects of internal and macroeconomic risks taken by foreign and domestic banks in Pakistan on their financial performance, growth, and stability. It also compares the substantial impact of both types of risks between foreign and domestic (both Islamic and conventional) banks. Internal risks include liquidity risk, operational risk, credit risk, and capital risk, whereas macroeconomic risks include exchange rate risk, interest rate risk, and inflation rate risk. Using a two-step system GMM with the collapse command, a sample of commercial banks including both Islamic and conventional banks was analyzed over the period 2008-2020. Based on the results, it was determined that both types of banks experience negative exposure to both macroeconomic and internal risks, affecting their financial performance, growth, and stability. However, the impact of both categories of risks was found to be more substantial in the case of domestic banks. Moreover, the results also hold true for both Islamic and conventional banks. The findings recommend that both domestic and foreign Islamic banks are more competent in the practices of risk management, as compared to domestic and foreign conventional banks. The current study has implications for investors, bank management, policymakers, and regulators. In particular, domestic conventional banks should prioritize to enhance their cost management, granting and monitoring of credit, and risk diversification, as well as upgrading their human and technological capital.

Keywords: bank performance, growth, internal risks, macroeconomic risks, profitability, stability, ownership

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Introduction

The banking industry is a significant pillar of the economy and financial instability in this industry has a pronounced adverse influence on a country's economic stability. Therefore, factors that influence bank performance and stability should be thoroughly investigated. Specifically, since the global financial crisis of 2007-08, banking risks have caused significant distress for policymakers. On the one side, taking too little risk may hinder economic growth. On the other side, taking too much risk may threaten economic stability. Hence, taking excessive risks may lead commercial banks to financial crises and ultimately cause the failure of the entire financial system (Lassoued et al., 2016). Additionally, Abdelaziz et al. (2022) reported that the financial performance of commercial banks is highly elusive due to the increase in liquidity and credit risk. Moreover, excessive risk-taking adversely affects the financial stability of banks.

Bank internal risks including capital risk, liquidity risk, operational risk, funding risk, and credit risk, as well as macroeconomic risks including interest rate risk, inflation rate risk, and others have an adverse impact on their profitability and stability (Alsyahrin et al., 2018; Berríos, 2013; Hakimi & Zaghdoudi, 2017; Hassan, et al., 2019). Moreover, volatility in dynamic macroeconomic variables may lead to a hostile business environment for banks. Likewise, instability in economic variables may deteriorate the business environment from borrowers' perspective and affect their financial power of loan repayment, ultimately decreasing bank liquidity (Singh & Sharma, 2016).

Micco et al. (2007), Lehner et al. (2008), and Shaban and James (2018) argued that bank ownership is an important factor in explaining their risk-taking and performance. Berger et al. (2005) asserted that foreign shareholders have a higher preference for risks than national shareholders. This is because foreigners have a better and easier access to the capital market and a greater ability to diversify risk effectively. In the same way, Lehner et al. (2008) argued that foreign banks have a greater capability to increase capital accumulation, exercise efficient corporate control, provide more profitable investment portfolios, and practice better risk management techniques. Similarly, foreign banks are more capable of absorbing financial shocks arising in the host market by providing important

diversification services (De Haas & Van Lelyveld, 2010). In the same manner, these banks have comparatively higher profitability and lower overhead costs (Azam & Siddiqui, 2012). They also possess improved human capital, make better use of advanced technologies, and offer more diverse products and services (Lassoued et al., 2016).

Ownership is an important determinant associated with the financial performance of banks. In this regard, banks with a higher proportion of foreign shareholders have higher capital, higher profit, low overhead cost, low financial instability, and high operational efficiency. Further, foreign banks have better regulation and supervision, advanced technology, superior management practices, and better techniques and tools to diversify risks effectively (Rahman & Reja, 2015; Noor & Mohamed, 2019). On the other side, Shaban and James (2018) asserted that public sector banks are less profitable and more vulnerable to risks than foreign and private banks.

There are divergent views about bank performance and risk-taking. Some studies reported that foreign banks are highly profitable and exposed to lower risk, while others reported contrasting views. Thus, the lack of empirical studies that provide a clear understanding regarding the nexus between risks, financial performance, and stability with reference to bank ownership types motivated this study. Hence, it attempts to explore whether bank internal and macroeconomic risks differently affect the growth, financial performance, and stability of foreign and domestic banks. Moreover, the study also determines whether the impact of both types of risks is different across domestic versus foreign (Islamic and conventional) banks. The outcomes revealed that both sets of risks reduce the financial performance, growth, and stability of both foreign and domestic banks. However, the growth, financial performance, and stability of domestic banks (including both Islamic and conventional banks) are more sensitive to all risks. This supports the view that banks with a majority of foreign shareholders are more cost-efficient, more profitable, have better supervision and risk management, higher capital, lower financial instability, and better operational efficiency.

The rest of the paper is arranged as follows: Section 2 reviews the literature, Section 3 describes the research methodology, Section 4 details the estimation results, and Section 5 states the conclusion.

Literature Review

Banks are exposed to several types of risks including market risk, insolvency risk, credit risk, off-balance sheet risk, liquidity risk, interest rate risk, country risk, foreign exchange risk, operational risk, and technology risk due to their dynamic structure as well as the complex nature of the economic and business environment in which they operate. These risks have extensive and adverse effects on their market value, profitability, equity, and liability. Thus, bank management is essentially required to monitor and control these risks effectively because they may lead to bank default (Ekinci & Poyraz, 2019; Kakar et al., 2021). For the period 2004-2015, Abdelaziz et al. (2022) observed the empirical link among liquidity risk, credit risk, and profitability of conventional banks operating in the MENA region. Their findings revealed that the profitability of banks is extremely sensitive to both kinds of risks, resulting in a substantial decrease as these risks increase. Likewise, Wood and McConney (2018) reported that interest rate risk, credit risk, operational risk, capital risk, and liquidity risk had a significant and negative effect on the performance of commercial banks in Barbados. Similarly, Al-Tamimi et al. (2015) reported a negative association between capital and operational risks and Islamic banks' performance.

Lassoued et al. (2016) analyzed the effect of foreign and state ownership on the risk-taking behavior of banks in the MENA region during the period 2006-2012. They reported that higher foreign ownership is associated with decreased risk-taking, while state ownership in banks encourages higher risk-taking. Likewise, Al-Tamimi and Al-Mazrooei (2007) compared foreign and UAE national banks with respect to risk management. They found that foreign banks are more competent in the practices of risk management. Further, Berger et al. (2009) argued that Chinese banks with a large number of foreign shareholders are more profit-proficient and cost-effective as compared to others. Similarly, Kalluru (2009) examined the risks and performance of Indian commercial banks in relation to ownership structure. The study aimed to determine if there were significant differences in relation with risks and performance between foreign banks and domestic (private and state-owned) banks. The study concluded that foreign banks exhibited higher profit and risk-taking than domestic banks.

Kamau (2009) analyzed the data of Kenya's banks for the period 1997-2006. The results suggested that domestic banks with a higher proportion of

foreign shareholders showed greater performance. Further, the study showed that foreign banks have better technical capacity and more know-how, in general. Moreover, foreign banks obtain liquidity resources from their parent banks and have access to the international financial market, thus increase competition for local banks. Likewise, the empirical study of Sufian and Habibullah (2010) evaluated the impact of the entrance of foreign banks on the performance of domestic Islamic banks. They argued that domestic Islamic banks are relatively less profitable than their domestic conventional counterparts. Rahman and Reja (2015) investigated the impact of the various forms of ownership structure (family, government, insider, foreign, and institutional ownership) on banking performance in Malaysia over the period 2000-2011. Based on the findings, the study concluded that the performance of banks varies depending on the types of ownership structure. The banks with a higher proportion of foreign shareholders are more competent in their operations because they have sufficient and efficient financial, human, and technical resources and lower overhead costs. Further, they are more cost-efficient and offer good services (Lensink & Naaborg, 2007). Along the same lines, foreign banks have a larger capital adequacy ratio, liquidity, asset quality, and size than domestic banks (Matthew & Esther, 2012), are efficient in risk mitigation, hold better technology, implement high governance standards, and also specialize in taking advantage from specific tax breaks (Al-Harbi, 2019).

Foreign ownership in banks is significantly associated with high returns and low financial instability. Foreign banks are known for superior management practices, use of advanced technology, efficient risk management, high operational efficiency, and higher profitability (Micco et al., 2007). Similarly, foreign banks have technical advantages as compared to local banks in their host country. They also have increased economies of scale due to functioning in more than one country at a time. Further, they are not often affected by interest rate volatility. For example, when interest rates go higher in their home countries than the interest rate in their host countries, they just decrease their loans and advances in the host country and increase loans and advances in the home country and vice versa (Aburime, 2008). Moreover, foreign shareholders and investors play a significant role in the implementation of a transparent corporate governance system, managing moral hazards, leading to good relationships among stakeholders, and reducing information asymmetries. These steps reduce the risks taken (Oh et al., 2011).

On the other hand, some empirical studies such as De Nicolò and Loukoianova ([2007](#)), San et al. ([2011](#)), Dogan ([2013](#)), and Mungly et al. ([2016](#)) reported better performance of domestic banks than foreign banks. For example, De Nicolò and Loukoianova ([2007](#)) asserted that banks with majority foreign shareholders possess higher risk profiles than domestic banks. Similarly, the study conducted by San et al. ([2011](#)) demonstrated that Malaysian domestic banks exhibit greater efficiency and managerial competence as compared to foreign banks. Additionally, Dogan (2013) reported the outperformance of Turkish domestic banks in terms of return on equity, asset quality, management effectiveness, and total assets than foreign banks. Further, Mungly et al. ([2016](#)) found that the profitability of banks decreases with the increase in foreign ownership.

H_1: Banks' internal and macroeconomic risks have differential negative effects on the financial performance, growth, and stability of foreign and domestic banks.

H_2: Bank's ownership moderates the negative impact of bank's internal and macroeconomic risks on financial performance, growth and stability of both Islamic and conventional banks.

Methodology

Sampling and Data Collection

The population of the study included 33 scheduled commercial banks operating in Pakistan over the period 2008-2020. Purposive sampling technique was used to select 22 commercial banks as sample. The remaining banks were excluded because of the absence of data for the sampling period. The sample included both full-fledged Islamic banks (IBs) and conventional banks (CBs). Islamic branches and windows of CBs were excluded because of the unavailability of data regarding ownership types. The bank-level data regarding bank ownership, internal risks, and other bank-related control variables was collected from the financial reports of each concerned bank. Further, data concerning macroeconomic risks and other macro-level associated and control variables was obtained from publications and economic surveys issued by the State Bank of Pakistan (SBP).

Description of Variables

Table 1 displays variables and their measurement proxies. To measure growth, an index consisting of three proxies namely asset growth, deposit

growth, and loan/financing growth was utilized. Similarly, for profitability, an index comprising the return on assets (RoA) ratio, return on equity (RoE) ratio, and net interest/markup margin (NIMM) ratio was developed. Likewise, indexes to measure banks' internal risks (BIR) and macroeconomic risks (MER) were also developed for this research. BIR comprises respective ratios of credit risk, capital risk, liquidity risk, and operational risk, while MER includes foreign exchange rate risk, inflation rate risk, and interest rate risk. Additionally, credit risk, liquidity risk, and operational risk were measured by using an index comprising its respective ratios, as shown in Table 1. All indexes were developed by using the principle component analysis (PCA) technique.

Table 1

Study Variables

Variables	Measurement Proxies
Dependent Variables	
Growth	1. Deposit growth = Deposits in current year minus deposits in the previous year divided by deposits in the previous year. 2. Assets growth = Assets in the current year minus assets in the previous year divided by assets in the previous year. 3. Loan/financing = Loan/financing for the current year minus loan/financing for the previous year divided by loan/financing for the previous year. The term "loan" for conventional banks while "financing" for Islamic banks.
Profitability	1. RoA = net income divided by total assets 2. RoE = net income divided by total equity 3. NIMM = net interest/mark-up earned minus interest/mark-up expense to total assets
Stability	$Z_{it} = \frac{(RoA)_{it}+(E/A)_{it}}{\delta(RoA)_{it}}$, Z_{it} Signify stability, i denote individual bank at time t, $\delta(RoA)_{it}$ represent standard deviation of return on total asset, $(E/A)_{it}$ denote capital to asset ratio.
Independent Variables	
Credit risk	1. Non-performing loan (NPL) to gross advances ratio 2. Ratio of Provision against loans to gross loans 3. NPL write-off divided by total provision against advances
Liquidity risk	1. Current assets divided by total deposits 2. current assets divided by total assets

Variables	Measurement Proxies
Operational risk	1. total Admin expense divided by non-interest/mark-up-up income 2. Non-interest/mark-up expense divided by total income 3. Total Admin expense divided by profit before interest and tax
Capital risk	Total equity to total assets ratio
Inflation rate risk	monthly standard deviation of inflation rate
Interest rate risk	monthly standard deviation of lending interest rate
Exchange rate risk	monthly standard deviation of real effective exchange *rate*
Control Variables	
Bank size	log of total bank'assets
Tax ratio	tax paid divided by profit before tax
Cost efficiency ratio	total expense/total assets ratio
Deposits	total deposits divided by total assets
Savings	total savings in relation to GDP
Assets structure ratio	total loan divided by total assets
Financial development	credit provided to private sector as percent of GDP
Moderating variable	
Bank ownership	*Take value* 1 *if the bank is foreign and* 0 *otherwise.* A bank will be categorized as foreign if foreigners own 50% or more of its shares; otherwise, it will be classified as domestic.

Econometric Model

A total of six (06) dynamic panel data models were estimated in this study. The first three models denoted in equations (1), (2), and (3) below were established to perceive the effects of BIR and MER across domestic versus foreign banks.

$$growth_{it=} \beta_0 + X_{it}\beta_1 + \beta_2 BIR_{it} \times D_i^{Dom} + \beta_3 BIR_{it} \times D_i^{For} + \beta_4 MER_t \times D_i^{Dom} + \beta_5 MER_t \times D_i^{For} + \mu_{it} \qquad (1)$$

$$Profitability_{it=}\beta_0 + Y_{it}\beta_1 + \beta_2 BIR_{it} \times D_i^{Dom} + \beta_3 BIR_{it} \times D_i^{For} + \beta_4 MER_t \times D_i^{Dom} + \beta_5 MER_t \times D_i^{For} + \mu_{it} \qquad (2)$$

$$Stability_{it=}\beta_0 + Z_{it}\beta_1 + \beta_2 BIR_{it} \times D_i^{Dom} + \beta_3 BIR_{it} \times D_i^{For} + \beta_4 MER_t \times D_i^{Dom} + \beta_5 MER_t \times D_i^{For} + \mu_{it} \qquad (3)$$

In the above equations, BIR_{it} denotes banks' internal risks at time t for i bank, where BIR is the index developed from the ratios of credit risk, capital risk, operational risk, and liquidity risk. MER_t denotes the macroeconomic risks at time t, which includes exchange rate risk, inflation rate risk, and interest rate risk. X_{it} is the vector of control variables in the growth model which include bank size, tax ratio, and cost efficiency. Y_{it} denotes control variables in the profitability model namely bank size, savings, and deposits. Moreover, Z_{it} represents the control variables in the stability model which include bank size, financial development, and asset structure. Further, D_i^{Dom} is the dummy for domestic banks, assuming the value of 0 for domestic and 1 for foreign banks. Similarly, D_i^{For} is the dummy for foreign banks, assuming the value of 1 for foreign banks and 0 for domestic banks. In all equations, $\beta_0, \beta_1\ \beta_2, \beta_3, \beta_4, \beta_5$ are the coefficients denoting the responsiveness of growth, profitability, and stability of domestic and foreign banks with respect to each unit change in bank' internal risks and macroeconomic risks. Whereas, μ_{it} is the error term.

In order to observe the differential influences of both sets of risks across foreign versus domestic banks (including CBs and IBs), estimation models were employed. These models are displayed in equations (4), (5), and (6). In these equations, four dummies for domestic IBs, foreign IBs, domestic CBs, and foreign CBs with BIR and MER were used for interaction.

$$growth_{it=}\beta_0 + X_{it}\beta_1 + \beta_2 BIR_{it} \times D_i^{DomIB} + \beta_3 BIR_{it} \times D_i^{ForIB} + \beta_4 BIR_{it} \times D_i^{DomCB} + \beta_5 BIR_{it} \times D_i^{ForCB} + \beta_6 MER_t \times D_i^{DomIB} + \beta_7 MER_t \times D_i^{ForIB} + \beta_8 MER_t \times D_i^{DomCB} + \beta_9 MER_t \times D_i^{ForCB} + \mu_{it}$$
$$(4)$$

$$Profitability_{it=}\beta_0 + Y_{it}\beta_1 + \beta_2 BIR_{it} \times D_i^{DomIB} + \beta_3 BIR_{it} \times D_i^{ForIB} + \beta_4 BIR_{it} \times D_i^{DomCB} + \beta_5 BIR_{it} \times D_i^{ForCB} + \beta_6 MER_t \times D_i^{DomIB} + \beta_7 MER_t \times D_i^{ForIB} + \beta_8 MER_t \times D_i^{DomCB} + \beta_9 MER_t \times D_i^{ForCB} + \mu_{it} \quad (5)$$

$Stability_{it=} \beta_0 + Z_{it}\beta_1 + \beta_2 BIR_{it} \times D_i^{DomIB} + \beta_3 BIR_{it} \times D_i^{ForIB} + \beta_4 BIR_{it} \times D_i^{DomCB} + \beta_5 BIR_{it} \times D_i^{ForCB} + \beta_6 MER_t \times D_i^{DomIB} + \beta_7 MER_t \times D_i^{ForIB} + \beta_8 MER_t \times D_i^{DomCB} + \beta_9 MER_t \times D_i^{ForCB} + \mu_{it}$ (6)

$(BIR_{it} \times D_i^{DomIB})$ represents the interaction term between the index of BIR and the dummy of domestic IBs, while $(BIR_{it} \times D_i^{ForIB})$ denotes the interaction term between the index of BIR and the dummy of foreign IBs. Further, $(BIR_{it} \times D_i^{DomCB})$ denotes the interaction term expressing BIR for domestic CBs, whereas $(BR_{it} \times D_i^{ForCB})$ shows BIR for foreign CBs. The interaction term $(MER_t \times D_i^{DomIB})$ shows MERs for domestic IBs. Likewise, the term $(MER_t \times D_i^{ForIB})$ represents MERs for foreign IBs. Further, $(MER_t \times D_i^{DomCB})$ is the interaction term between MERs and the dummy of domestic CBs. Similarly, $(MER_t \times D_i^{ForCB})$ is the interaction term between MERs and the dummy of foreign CBs.

Estimation Techniques

The current study scrutinizes the dynamic panel data set for the sample period 2008-2020. The regressions of a dynamic panel data set may contain the problems of autocorrelation, heterogeneity, and endogeneity. Thus, the use of conventional econometric techniques such as OLS and GLS would be unfair and biased. The reason is that conventional techniques do not provide a solution for the problem of autocorrelation, heterogeneity, and endogeneity. To overcome the problems of traditional econometric techniques, two-step system GMM known as dynamic panel data estimator was employed to examine the effects of BIR and MER. The GMM estimator is the standard estimation technique for estimating parameters in dynamic econometric models. It was initially developed by Arellano-Bond (1991) and later modified and fully refined by Arellano and Bover (1995) and Blundell and Bond (1998). Recently, this estimator has emerged in the empirical literature as the most popular and dynamic panel data estimator among academicians and researchers (Ali et al., 2019; Ghenimi et al., 2017; Shair et al., 2019).

Results and Discussion

Descriptive Statistics

Table 2 shows the descriptive statistics. The mean values of growth and profitability indicate that foreign banks, on average, are more efficient than domestic banks. On the other side, domestic banks are, on average, more

stable than foreign banks. The average value of the credit risk ratio is higher for domestic banks as compared to foreign banks. The higher value denotes higher credit risk. Further, on average, the value of foreign banks' liquidity ratio is higher than that of domestic banks. It suggests that foreign banks have more liquid assets against their total assets and deposits.

The mean value of domestic banks' operational risk ratios is higher, which depicts that domestic banks have higher operational expenses than foreign banks. Furthermore, foreign banks exhibited a higher mean value of capital ratio, cost efficiency ratio, and asset structure as compared to domestic banks. This shows that, on average, foreign banks have more shareholder equity against their total assets, are more cost-efficient, and hold a greater portion of financing in total assets. On the other side, domestic banks, on average, have a greater bank size, more deposits, and pay more taxes.

Regression Results

Table 3 demonstrates the regression results of the first three models denoted by equations (1), (2), and (3). Table 4 displays the estimation results of equations (4), (5), and (6). Both tables consist of two parts, namely A and B. Panel A demonstrates the estimated results for research variables needed to explore the significant impacts of both types of risks. Panel B denotes the results of diagnostic tests, which determine the overall validity of the model. In both tables the value of AR (1) is significant, which recommends that all regression models are free from the problem of 2nd order autocorrelation. Further, the value of the J-test signifies that all instruments applied to the model are valid and there is no over-identifying restriction existing in the applied instruments.

The estimates in panel A in both tables denote that the coefficients of the lagged dependent variables for both types of banks in all models are significant and positive. This suggests that banks which experienced greater growth in the past are likely to continue to experience higher growth in the current years. Similarly, banks that previously earned higher profits and were more financially stable are expected to continue earning higher profits and maintain financial stability in the current period.

Table 2

Descriptive Statistics

		Foreign Banks					Domestic Banks			
Variable	N	Mean	SD.	Min	Max	N	Mean	SD	Min	Max
Growth	104	0.028	1.077	2.449	2.858	182	0.016	0.956	3.888	2.905
Profitability	104	0.233	0.863	2.046	2.731	182	0.133	1.052	3.045	3.459
Financial Stability	104	1.023	0.216	0.658	1.581	182	1.147	0.349	0.051	1.579
Credit Risk	104	0.145	0.827	1.489	3.435	182	0.183	1.085	1.486	4.689
Liquidity Risk	104	0.281	1.065	1.581	4.653	182	0.163	0.926	1.251	5.323
Operational Risk	104	0.145	1.107	1.828	4.212	182	0.197	0.877	1.747	2.686
Capital Risk	104	10.373	6.267	4.186	33.215	182	8.711	5.259	3.103	27.144
Inflation Rate risk	104	1.697	1.424	0.365	5.276	182	1.697	1.417	0.365	5.276
Exchange Rate Risk	104	2.233	0.821	0.881	3.884	182	2.233	0.819	0.880	3.884
Interest Rate Risk	104	0.372	0.354	0.052	1.225	182	0.372	0.349	0.052	1.225
Bank Size	104	8.372	0.577	6.952	9.89	182	8.539	0.618	6.861	9.981
Asset Structure	104	44.253	10.461	22.72	66.79	182	41.723	9.899	15.33	70.860
Deposit	104	8.023	0.566	6.658	9.521	182	8.313	0.611	6.774	9.458
Financial Development	104	18.491	4.082	14.772	27.099	182	18.491	4.073	14.77	27.099
Tax Ratio	104	0.338	0.152	0	1.224	182	0.374	0.242	0	1.799
Savings	104	1.144	0.069	0.983	1.286	182	1.144	0.068	0.98	1.286
Cost Efficiency	104	10.212	2.983	6.169	24.524	182	9.503	2.453	4.494	16.807

Table 3

Estimation Results

Regressors	Growth Model		Profitability Model		Stability Model	
	Coefficient	(*SE*)	Coefficient	(*SE*)	Coefficient	(*SE*)
Panel A						
Lagged growth[Dom]	0.976***	(0.151)				
Lagged growth[For]	0. 074*	(0.038)				
Lagged profitability[Dom]			0. .668***	(0.082)		
Lagged profitability[For]			0.77***	(0.053)		
Lagged stability[Dom]					1.035***	(0.172)
Lagged stability [For]					1.118***	(0.201)
BIR-Domestic	-0.507***	(0.163)	-0. 664***	(0.178)	-0.168**	(0.087)
BIR-Foreign	-0.418***	(0.011)	-0.393***	(0.106)	-0.132***	(0.01)
MER-Domestic	-0. 409**	(0.16)	-0. 245*	(0.245)	-0.132*	(0.011)
MER-Foreign	-0.092*	(0.052)	-0.142**	(0.253)	-0.022 ***	(0.005)
Bank size	0. 494***	(0.074)	1.722*	(0.883)	0.06***	(0.02)
Tax ratio	-1.177**	(0.577)				
Cost efficiency ratio	0. 143***	(0.041)				
Total Deposit			1.711*	(0.989)		
Total Saving			- 9.498***	(2.737)		
Asset structure ratio					0.757***	(0.266)
Financial Development					0.371*	(0.209)
constant	6.087***	(1.011)	10.298***	(3.659)	0.14**	(0.29)
Panel B						
No of Observations		286		286		286
No. of Banks		22		22		22
No. of Instruments		19		21		18
AR (1)		0.037		0.007		0.016
AR (2)		0.596		0.156		0.312
p-value		0.933		0.864		0.838
J-state		9.41		4.08		7.48
p-value		0.668		0.253		0.486

Note. *** $p<0.01$. ** $p<0.05$. * $p<0.1$.

The estimates of BIR and MER display significantly negative coefficients, which suggests that banks exposed to higher risks would have lower growth and be less profitable and stable. However, the coefficients of both categories of risks exhibit high values in the case of domestic banks. Such as a one unit increase in banks' internal risks leads to 0.50 unit, 0.66 unit, and 0.16 unit decrease in domestic banks' growth, financial performance, and stability, respectively. On the other side, a one unit increase in banks' internal risks leads to 0.41 unit, 0.39 unit, and 0.13 unit

decrease in the growth, profitability, and stability of foreign banks, respectively. In the case of macroeconomic risks, a one unit increase causes a greater decrease in the growth, profitability, and stability of domestic banks than foreign banks. This suggests that domestic banks are exposed to more bank internal and macroeconomic risks than foreign banks.

The estimates in Table 4 signify the significant and negative coefficients of all risks in all models. However, the coefficient of both types of risks in the case of domestic IBs and CBs are higher than foreign IBs and CBs. Additionally, the coefficient of both types of risks are less in the case of domestic and foreign IBs as compared to domestic and foreign CBs. The results recommend that both categories of risks exhibit a large but adverse influence in the case of both domestic IBs and CBs, as compared to foreign IBs and CBs. The suggested results are in line with the studies of Oh et al. (2011), Rahman et al. (2012), Rehman and Rejab (2015), Shaban and James (2018), and Noor and Mohamed (2019). Their results suggested that foreign banks usually are more profitable, have the ability to increase liquid funds or capital easily from the international market, and have higher operational efficiency. Additionally, foreign banks have better regulation and supervision, advanced technology, superior management practices, and better techniques and tools to mitigate and diversify risks effectively. Moreover, foreign shareholders play a significant role in monitoring the moral hazards of managers and forcing them to develop transparent corporate governance, which leads to better relationships among stakeholders and mitigates informational asymmetries.

The estimates in Table 4 also provide evidence that both domestic and foreign IBs are less affected by both types of risks than domestic and foreign CBs. The reason behind this may be that Islamic banks are based on risk-sharing principles and Islamic law prohibits investment in risky products, such as the selling of loans and derivatives.

Table 4
Estimation Results

Regressors	Growth Model		Profitability Model		Stability Model	
	Coefficient	(*SE*)	Coefficient	(SE)	Coefficient	(*SE*)
Panel A						
Lagged growth[CBs]	0.380***	(0.516)				
Lagged growth[IBs]	0.932***	(1.029)				
Lagged profitability[CBs]			0.395***	(0.114)		

Regressors	Growth Model		Profitability Model		Stability Model	
	Coefficient	(*SE*)	Coefficient	(SE)	Coefficient	(*SE*)
Lagged profitability[IBs]			0.143**	(0.193)		
Lagged stability[CBs]					1.209***	(0.297)
Lagged stability[IBs]					1.590***	(0.312)
BIR-DCBs	-0.555**	(0.098)	-0.664***	(0.284)	-0.087**	(0.081)
BIR-FCBs	-0.402**	(0.102)	-0.322**	(0.077)	-0.032**	(0.030)
BIR-DIBs	-0.452*	(0.083)	-0.110***	(0.370)	-0.049***	(0.013)
BIR-FIBs	-0.334**	(0.061)	-0.227***	(0.179)	-0.017**	(0.010)
MER-DCBs	-0.488**	(0.211)	-0.423*	(0.218)	-0.056*	(0.023)
MER-FCBs	-0.347**	(0.111)	-0.140*	(0.103)	-0.042 **	(0.011)
MER-DIBs	-0.404*	(0.171)	-0.282**	(0.239)	-0.046**	(0.019)
MER-FIBs	-0.170***	(0.629)	0.109***	(0.105)	-0.031***	(0.010)
Bank size	0.634*	(0.886)	1.641*	(0.901)	0.053**	(0.042)
Tax ratio	-0.359**	(0.148)				
Cost efficiency ratio	0.764*	(0.281)				
Total Deposit			0.903*	(0.388)		
Total Saving			- 0.133**	(0.702)		
Asset structure ratio					0.795*	(0.277)
Financial development					0.406**	(0.178)
Constant	4.067***	(0.287)	3.021**	(1.367)	0.621***	(0.087)
Panel B						
No. of Observations		286		286		286
No. of Banks		22		22		22
No. of Instruments		19		18		21
AR (1)		0.068		0.010		0.022
AR (2)		0.732		0.782		0.415
p-value		0.301		0.397		0.981
J-state		7.46		6.83		8.050
p-value		0.487		0.981		0.709

Note. *** $p<0.01$. ** $p<0.05$. * $p<0.1$.

While examining the coefficients of control variables in all models in both tables, it was found that bank size is positively associated with the growth, profitability, and stability of banks. It shows that big banks (in terms of assets) experience higher growth in their deposits, assets, and loan/financing. Further, big banks remain highly profitable and stable. They take advantage of the economies of scale, where banks reduce their average cost by spreading fixed costs over a greater assets base. Furthermore, bank size reduces risks by diversifying operations across various product lines, regions, and sectors.

Unlikely, the coefficient of tax ratio has a negative effect on bank growth. This result suggests that a high tax rate diminishes the assets, deposits, and loan growth of banks. The reason may be that the tax burden

is fully shifted to commission and interest rates on loans. Consequently, it increases the cost of loans for households as compared to firms. On the other hand, the coefficient of cost efficiency remains positive, which implies that effective management of cost boosts bank growth. While examining the estimated coefficient of deposits, it was determined that total deposits have a positive impact on the overall profitability of banks. This result indicates that banks with greater deposits would be more profitable. On the other hand, the coefficient of savings remains negative, which suggests that an increasing amount of savings (as a percentage of GDP) decreases bank profitability. Moreover, in the stability model, the coefficients of asset structure ratio and financial development ratio remain significantly positive. This suggests that a high portion of loan/financing in total assets increases the stability of banks because banks earn more return on the granting of loan/financing. Similarly, the provision of an increased amount of credit to the private sector leads to greater stability for banks.

Conclusion

In this study, the effects of risks on financial performance, growth, and stability of banks with respect to their ownership types (based on foreign and domestic shareholdings) were examined and compared. Additionally, the impacts of risks across foreign and domestic IBs and CBs were also compared. It was found that the index of banks' internal risks as well as the index of macroeconomic risks adversely affected their financial performance, growth, and stability. Furthermore, it was also determined that domestic banks, including both domestic IBs and CBs, are more affected by both types of risks than foreign IBs and CBs. Moreover, the results suggested that foreign and domestic IBs are less exposed to risks than foreign and domestic CBs.

Implications and Future Directions

The study provides a clear understanding of the adverse impacts of various types of risks on the operations and performance of banks. Hence, there is a strong need for the management and regulators of both types of banks, particularly domestic banks, to improve banking supervision, operational management, cost efficiency, mechanism of credit granting, and risk diversification. Further studies may be conducted to compare risks across various ownership types, such as institutional ownership, family ownership, and state ownership. Additionally, similar studies may be

conducted at the regional level or to make comparisons among different countries.

Conflict of Interest

The authors of the manuscript have no financial or non-financial conflict of interest in the subject matter or materials discussed in this manuscript.

Data Availability Statement

The data associated with this study will be provided by the corresponding author upon request.

References

Abdelaziz, H., Rim, B., & Helmi, H. (2022). The interactional relationships between credit risk, liquidity risk and bank profitability in MENA region. *Global Business Review*, *23*(3), 561–583. https://doi.org/10.1177/0972150919879304

Aburime, T. U. (2008). *Determinants of bank profitability: Macroeconomic evidence from Nigeria*. *SSRN*, Article e1231064. https://doi.org/10.2139/ssrn.1231064

Al-Harbi, A. (2019). The determinants of conventional banks profitability in developing and underdeveloped OIC countries. *Journal of Economics, Finance and Administrative Science*, *24*(47), 4–28. https://doi.org/10.1108/JEFAS-05-2018-0043

Ali, M., Sohail, A., Khan, L., & Puah, C. H. (2019). Exploring the role of risk and corruption on bank stability: Evidence from Pakistan. *Journal of Money Laundering Control*, *22*(2), 270–288. https://doi.org/10.1108/JMLC-03-2018-0019

Alsyahrin, D. P., Atahau, A. D. R., & Robiyanto, R. (2018). The effect of liquidity risk, financing risk, and operational risk toward Indonesian Shariah bank's financing with bank size as a moderating variable. *Journal of Economics, Business and Accountancy Ventura*, *21*(2), 241–249.

Al-Tamimi, H. A. H., Miniaoui, H., & Elkelish, W. W. (2015). Financial risk and Islamic banks' performance in the Gulf Cooperation Council Countries. *The International Journal of Business and Finance Research*, *9*(5), 103–112.

Al-Tamimi, H. A., & Al-Mazrooei, F. M. (2007). Banks' risk management: A comparison study of UAE national and foreign banks. *The Journal of Risk Finance*, *8*(4), 394–409. https://doi.org/10.1108/15265940710777333

Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies*, *58*(2), 277–297. https://doi.org/10.2307/2297968

Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. *Journal of Econometrics*, *68*(1), 29–51. https://doi.org/10.1016/0304-4076(94)01642-D

Azam, M., & Sıddıquı, S. (2012). Domestic and foreign banks' profitability: Differences and their determinants. *International Journal of Economics and Financial Issues*, *2*(1), 33–40.

Berger, A. N., Clarke, G. R., Cull, R., Klapper, L., & Udell, G. (2005). Corporate governance and bank performance: A joint analysis of the static, selection, and dynamic effects of domestic, foreign, and state ownership. *Journal of Banking and Finance*, *29*(8), 2179–2221. https://doi.org/10.1016/j.jbankfin.2005.03.013

Berríos, M.-R. (2013). The relationship between bank credit risk and profitability and liquidity. *The International Journal of Business and Finance Research*, *7*(3), 105–118.

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, *87*(1), 115–143.

De Haas, R., & Van Lelyveld, I. (2010). Internal capital markets and lending by multinational bank subsidiaries. *Journal of Financial Intermediation*, *19*, 1–25. https://doi.org/10.1016/j.jfi.2009.02.001

De Nicolò, G., & Loukoianova, E. (2007). *Bank ownership, market structure and risk* (Working Paper NO. WP/07/215). International Monitory Fund (IMF). https://www.imf.org/external/pubs/ft/wp/2007/wp07215.pdf

Dogan, M. (2013). Comparison of financial performances of domestic and foreign banks: The case of Turkey. *International Journal of Business and Social Science*, *4*(1), 233–240.

Ekinci, R., & Poyraz, G. (2019). The effect of credit risk on financial performance of deposit banks in turkey. *Procedia Computer Science*, *158*, 979–987. https://doi.org/10.1016/j.procs.2019.09.139

Ghenimi, A., Chaibi, H., & Omri, M. A. B. (2017). The effects of liquidity risk and credit risk on bank stability: Evidence from the MENA region. *Borsa Istanbul Review*, *17*(4), 238–248. https://doi.org/10.1016/j.bir.2017.05.002

Hakimi, A., & Zaghdoudi, K. (2017). Liquidity risk and bank performance: An empirical test for Tunisian banks. *Business and Economic Research*, *7*(1), 46–57.

Hassan, M. K., Khan, A., & Paltrinieri, A. (2019). Liquidity risk, credit risk and stability in Islamic and conventional banks. *Research in International Business and Finance*, *48*, 17–31. https://doi.org/10.1016/j.ribaf.2018.10.006

Kakar, S. K., Ali, J., Bilal, M., Tahira, Y., Tahir, M., Bahadar, N., & Aziz, T. (2021). Corporate governance, risk management and bank performance: Does type of ownership matter? *Journal of Financial Risk Management*, *10*(3), 342–366. https://doi.org/10.4236/jfrm.2021.103020

Kalluru, S. R. (2009). Ownership structure, performance and risk in Indian commercial banks. *IUP Journal of Applied Finance*, *15*(8), 31–45.

Kamau, A. W. (2009). *Efficiency in the banking sector: An empirical investigation of commercial banks in Kenya* [Doctoral dissertation, University of Nairobi]. University of Nairobi Research Archive. http://erepository.uonbi.ac.ke/handle/11295/20715

Lassoued, N., Sassi, H., & Attia, M. B. R. (2016). The impact of state and foreign ownership on banking risk: Evidence from the MENA countries. *Research in International Business and Finance*, *36*, 167–178. https://doi.org/10.1016/j.ribaf.2015.09.014

Lehner, M., & Schnitzer, M. (2008). Entry of foreign banks and their impact on host countries. *Journal of Comparative Economics*, *36*(3), 430–452. https://doi.org/10.1016/j.jce.2008.02.002

Lensink, R., & Naaborg, I. (2007). Does foreign ownership foster bank performance? *Applied Financial Economics*, *17*(11), 881–885. https://doi.org/10.1080/09603100600827653

Matthew, N. G., & Esther, L. A. (2012). Financial performance comparison of foreign VS local banks in Ghana. *International Journal of Business and Social Science*, *3*(21), 82–87.

Micco, A., Panizza, U., & Yanez, M. (2007). Bank ownership and performance. Does politics matter? *Journal of Banking & Finance*, *31*(1), 219–241. https://doi.org/10.1016/j.jbankfin.2006.02.007

Mungly, Y., Seetanah, B., Babajee, R., & Maraye, N. (2016, January 21–23). *Determinants of Mauritian commercial banking profitability* [Paper presentation]. Fifth Asia Pacific Conference on Global Business, Economics, Finance and Social Sciences, Port Louis, Mauritius.

Noor, F. M. N., & Mohamed, J. (2019). Profit equalization reserve and income smoothing practices in Malaysian Islamic banks: Robust statistical analysis. *Asian Academy of Management Journal*, *24*(1), 79–92.

Oh, W. Y., Chang, Y. K., & Martynov, A. (2011). The effect of ownership structure on corporate social responsibility: Empirical evidence from Korea. *Journal of business ethics*, *104*(2), 283–297. https://doi.org/10.1007/s10551-011-0912-z

Rahman, N. A. A., & Reja, B. A. F. (2015). Ownership structure and bank performance. *Journal of Economics, Business and Management*, *3*(5), 483–488.

Rahman, N. A. A., Ahmad, N. H., & Abdullah, N. A. H. (2012). Ownership structure, capital regulation and bank risk taking. *Journal of Business and Economics*, *3*(3), 176–188.

San, O. T., Theng, L. L., & Heng, T. B. (2011). A comparison on efficiency of domestic and foreign banks in Malaysia: A DEA approach. *Business Management Dynamics*, *1*(4), 33–49.

Shaban, M., & James, G. A. (2018). The effects of ownership change on bank performance and risk exposure: Evidence from Indonesia. *Journal of Banking & Finance*, *88*, 483–497. https://doi.org/10.1016/j.jbankfin.2017.02.002

Shair, F., Sun, N., Shaorong, S., Atta, F., Hussain, M. (2019) Impacts of risk and competition on the profitability of banks: Empirical evidence from Pakistan. *PLOS ONE*, *14*(11), 1–27. https://doi.org/10.1371/journal.pone.0224378

Singh, A., & Sharma, A. K. (2016). An empirical analysis of macroeconomic and bank-specific factors affecting liquidity of Indian banks. *Future Business Journal*, *2*(1), 40–53. https://doi.org/10.1016/j.fbj.2016.01.001

Sufian, F., & Habibullah, M. S. (2010). Does foreign banks entry fosters bank efficiency? Empirical evidence from Malaysia. *Engineering Economics*, *21*(5), 464–474

Wood, A., & McConney, S. (2018). The impact of risk factors on the financial performance of the commercial banking sector in Barbados. *Journal of Governance & Regulation*, *7*(1), 76–93.