The Spillover Effect of IFRS experience on the association between Capital Structure and Bank Performance: Further Evidence of Financial Institutions across GCC region

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Keywords: IFRS, Capital Structure, Bank Performance, GCC region.
JEL Classification:

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1. Introduction

Since the year of 2020, the world has changed rapidly due to the various events starting by COVID-19 pandemic and ending by massive collapsing of international banks (e.g., Silicon Valley and Credit Suisse) in the year of 2023. Although the United States of America (U.S.A) undertook various strategies to rein the inflation, recent collapse of banks brings to our mind the financial crisis that emerged in 2008. Obviously, and as indicated by Yousaf & Goodell (2023), not only does the failure of large banks impact globe financial systems but also increase negative implications on segments of economics. Capital structure deems to be one of the crucial components that should be the key matter of financial institutions. Several international investors are inclined to make the investment decisions in firms that apply the highest level of financial reporting quality. We can articulate that International Financial Reporting Standards (IFRS) adoption will provide the highest level of transparency that attract foreign direct investment (FDI) to engage in the firm and invest their capitals; hence, financial institutions will maintain better performance since they comply with IFRS requirements. In other words, clearer financial reports occurred by adopting IFRS will attract more capital inflows into bank that lead to better performance. This elaborates that there is a vital interlink among IFRS adoption, firm performance and capital structure. In this study, we investigate the relation between capital structure and bank performance considering the moderator role of IFRS experience on this relation in the GCC nations between 2014 and 2022. According to Al-Hadi et al. (2019), the vast majority of the Gulf Cooperation Council

(GCC) countries are headquarters of several financial sectors and international trades. We target this sector due to the fact that these banks have a significant economic characteristic where this sector is engaged with international financial institutions: World Trade Bank, Basel, and International Monetary Fund (IMF). The present investigation tests IFRS experience as a new corporate governance mechanism. As long as stock exchanges in the GCC have heterogeneity in governance (Abdallah & Ismail, 2017), IFRS adoption is needed to gain a high level of financial reporting quality and harmonized business language across GCC region. GCC is an interesting context and it has unique characteristics such as lower asymmetric information, and very liquid markets (Ball, 2006; Zeitun & Saleh, 2014). Although the vast majority of IFRS studies of emerging markets have conducted in the context of GCC countries, the results have been empirically inconclusive especially in respect to the relation between capital structure and bank performance under IFRS adoption. Therefore, the inadequacy of empirical evidence in the literature is our prime motivation to provide further evidence of this relation from GCC listed banks.

Several nations contributed to creating innovation and conductive environments in business, and different corporate governance mechanisms. One of these innovations is the establishment of international financial reporting standards (IFRS) that was a turning point in financial reporting quality. Mantzari and Georgiou (2019) indicate that IFRS adoption is a *de facto* global accepted accounting standard. They refer to ideological hegemony and consent to IFRS, arguing that financial reporting reforms are meant to be relevant business network among practitioners and stockholders. Furthermore, the integrity and transparency represent the main features of banking sector. Regulation and policy makers pay a special attention to this type of industry. For instance, and in case of Saudi Arabia, every commercial banks should be audited by two external auditors and one of them should be from big four firms (Alruwaili *et al.,* 2023). This study aims to gain a deep insight into spillover impact of IFRS adoption on the relation between capital structure and bank performance across GCC region. Despite the high volume of research (Berger and Patti, 2006; King and Santor, 2008; Margarities and Psillaki, 2010; Bergere and Bouwman, 2013; Khan *et al*., 2020; Boshnak, 2023) that conducted in this realm, scant attention has been paid to moderating role of IFRS experience.

While the period of IFRS adoption in these emerging markets labels as curve learning, our contribution will be valuable to both practice and theory. This period has labelled by Al-Enzy et al. (2022) who states that applying IFRS adoption will progress slowly as countries in GCC region needs to learn the requirements of successful adoption of this phenomenon. An important motivation for the current investigation arises from the current crisis in the globe banking systems while several studies in the literature empirically show that capital structure play a critical role in reflection of banking performance. We are also motived by the fact that banking sector in emerging economies deems to be a lifeline for development of economy. Remarkably, IFRS adoption has its economic impact on both developed and emerging markets and huge number of empirical papers document the economic impact of IFRS on region. We document several implications on this study that might be useful for regulators and monitoring banking operations. For instance, we find a negative relation between capital structure and operational bank performance that modified to positive sign by the interaction terms of IFRS.

Apart of that, we contribute to discussions of corporate finance in the following ways. First, we report the moderating role of IFRS adoption in the relation between capital structure and bank performance by highlighting the level of leverage and financial slack across GCC region. Further, our findings of this investigations indicates that international standards of

such IFRS will enhance the readability of financial reports. For instance, a successful implementation of IFRS 16 will reflect the faithful representation of a bank's assets and greater transparency. Thus, it will lead to proper capital structure that undoubtedly maximize the shareholder's capital.

GCC are categorized into six countries: Bahrain, Kuwait, Qatar, Saudi Arabia, and United of Arab Emirates. While those countries are similar in culture, political, and economic factors, each countries has its unique characteristics. As noted in the above, GCC countries context is worth investigation in several regards. In this paper, three essential factors are analysed in detail. Initially, the short experience of IFRS adoption across this region and its effect on the association between capital structure and bank performance. Secondly, the key financial drivers and challenges shaped by GCC listed banks that make this industry more worthy than others. Thirdly, the economic integration of creating a conductive innovation to enhance the financial reporting quality and make attractive environment for foreign direct investment (FDI). Given the fact that GCC countries are worthy and have its unique characteristics, we express our further motivations in the following advantages. First, GCC countries are the largest economics and play a critical role in global hub for fully fledged Islamic banks (Alandejani *et al*., 2017). Second, Amar et al. (2021) state that Sovereign Wealth Funds in GCC differ from other funds due to the fact that it has various sources (e.g., Commodity funds, non-commodity funds). Figure 1 displays a clustered bar of several GCC countries to compare values across a few categories and this information was extracted from Argaam platform (2023).

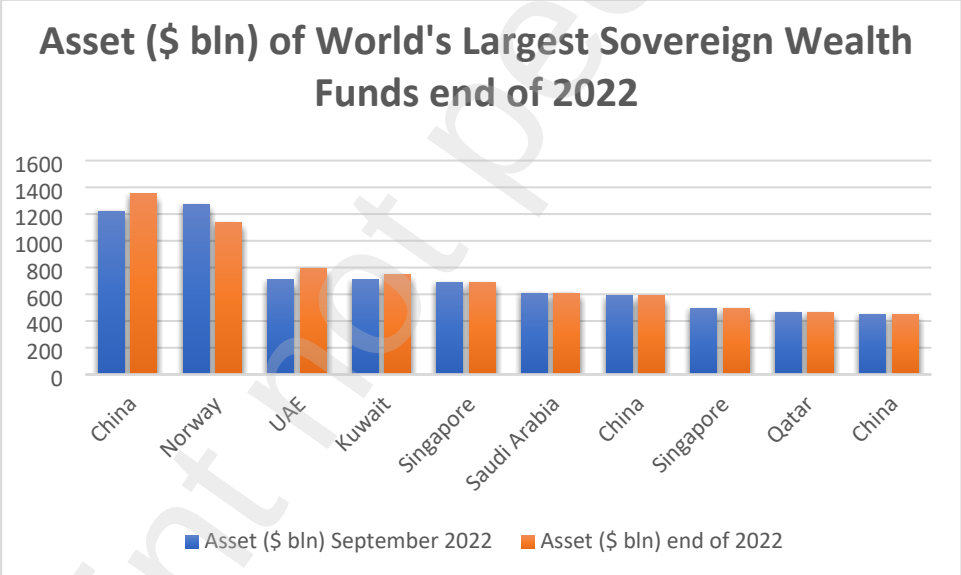

Figure 1: Asset of World's Largest Sovereign Wealth Funds end of 2022

Not only does region have an obvious economic integration which encourage investors to mimic, but also there is notable improvements of fiscal systems in the GCC countries over the last couple of decades (Youssef and Mokni, 2018; IMF, 2018). As indicated by Ahmed (2016), strong financial integration is reflection of financial efficiency and greater economic enhancement. Despite the financial crisis, Islamic banks in GCC countries maintained its stability and fostered credit growth as opposed to conventional banks around the world that have a low performance (Abuzayed *et al.,* 2018). Interestingly, GCC countries have launched many innovations to diverse their economy (e.g., Saudi Arabia has established *Shareek* Program which is private sector partnership reinforcement program). In addition, these countries are highly opened to financial development that led by banking

sectors. As indicated by Khan et al. (2021) recent trade and financial opens in GCC countries provided a positive impact on the level of profitability of Islamic banks.

The remainder of this paper is organized as follows. Section 2 explores the theoretical preceptive. Section 3 elaborates the procedures of data and methods used in this investigation. Section 4 reports the empirical results and eventually section 5 concludes the paper.

2. Brief Literature Review and Some Theoretical Perspective

Drawing from agency theory, high leverage ratio which is the key measurement of capital structure may reduce the agency costs. This theory also agrees with the institutional logic developed by Myers (2001), who indicate that high leverage will reduce the pressure of mangers to increase the cash follows. Although these arguments raised a long time ago, several steady studies emerged relying on theory of Modigliani and Miller (MM theory). This theory argue that under no circumstances does the value of levered firm be higher than that of unlevered firm. In other words, MM states that there is no effect of capital structure on firm.

value.

Table 1 exhibits a summary of key empirical studies that investigated this relation in both developed and emerging markets. As indicated before, there is mixed evidence on the relation between capital structure and corporate performance. While the vast majority of these studies indicated in Table 1 showed a positive sign on this relation, this relation still a questionable as it is subject to exogenous factors, such as: extension of information asymmetry, rising of profitability, fraction of unobservable cash flows, and preserving of managerial reputation. These factors has been argued by Harris & Raviv (1991), who thoroughly surveyed capital structure theories.

Table 1: Summary of Key Empirical Studies related to our paper.

Author(s)	Year	Sample	Time Period	Outcomes
Berger and Patti	2006	U.S. Commercial Banks	1990-1995	Positive (+)
King and Santor	2008	Canadian firms	1998-2005	Negative (-)
Margarities and Psillaki	2010	French Manufacturing firms	2002-2005	Positive (+)
Bergere and Bouwman	2013	U.S. Banking	1984-2010	Positive (+)
Abdullah and Tursoy	2021	Germany Stock Market	1993-2016	Positive (+)
ElBannan	2017	Emerging countries	2006-2014	No Effect
Khan et al.,	2020	Saudi Stock Market	2010-2017	Positive (+)

As shown in prior Table 1, there is a lack of evidence showing the moderating role of IFRS on the association between capital structure and bank performance. Nevertheless, the only study undertake an empirical study targeting IFRS adoption implications was by Abdullah and Tursoy across Germany context. They found an increase of firm performance and capital structure under the IFRS adoption. Likewise, Alruwaili et al. (2023) examined the impact of IFRS adoption on firm investment' efficiency and financial reporting quality in the case of Saudi Arabia. Their outcomes suggest that IFRS adoption is a means of boosting to establish a conductive economic environment in Saudi Arabia.

Across the world, many empirical investigations argue the expected benefits of adopting IFRS such as attracting foreign direct investment (Ramos, 2011; Gordon *et al.,* 2012; Chriata & Dascalu, 2017). On the other hand, there are also a number of studies that have analyzed the difference of key aspects during the IFRS adoption. Several empirical

investigations shed light difficulties of adopting IFRS from a different angle such a culture dimensions (Nurunnabi, 2015), risk forecasting ability of accounting numbers (Chih *et al.,* 2022), firm investment' efficiency (Lenger *et al.,* 2011), firm performance (Abdullah & Tursoy, 2021), earnings management (Nnadi *et al.,* 2023), Our study contributes to the literature in following ways. Initially, we add to research on bank performance and capital structure considering the role of IFRS. Second, we conduct this investigation across GCC region where several foreign investors are interested in investing their capital into these countries.

3. Research Design and Methodological Framework

For the purpose of exploring the moderating effect of IFRS on relation between capital structure and bank performance, our sample is based on financial institutions, particularly banking industry listed in GCC stock markets during the period 2014-2022. We chose this period for many reasons. First, several countries such as Saudi Arabia, and United Arab of Emirates began to prepare their financial statement in accordance with IFRS adoption requirements during this period. Second, this period is contemporary time for a massive event that significantly affected the globe markets, such as COVID-19 pandemic. Thus, our sample is spanning 8 years covering 523 observations. Moreover, the data are quantitative in nature, and obtained from the S&P global platform and we extract several missing variables from annual report published in each bank afterwards. In this regard, we use an additional model to test several variables that are not available in several country while we keep the main key variables that are consistent with all GCC banks such as: ROA, ROE, LEVE, and BIG4. Table 2 illustrates our collective sample.

Table 2: Distribution of banks in the sample across GCC region

Bank identifier	Country	Dropped observations	Total observations	Years of IAS/IFRS adoption experience
9	Bahrain	4	71	22 years
10	Kuwait	12	96	33 years
8	Qatar	0	66	25 years
11	Saudi Arabia	0	92	21 years
18	UAE	2	139	8 years
8	Oman	0	68	25 years
64	GCC listed Banks	18	532	-

Note(s): we obtain the years of IFRS adoption experience from this source: https://www.iasplus.com/en/resources/ifrs-topics/useof-ifrs

We initially runs our panel data in general using the following equation:

$$y_{it} = x'_{it}\beta + a_i + u_{it} \quad (1)$$

Where X represents our time-varying regressors, i is the number of cross-sections, t is the number of time periods and u_{it} refers to error term. We have a_i as a means of controlling heterogeneity and any bias. Then, we specifies our panel data of GCC banks by following Abdullah and Tursoy (2019) and Le and Phan (2017) who suggested a following equation as a means of determining the linear between capital structure and firm performance:

$$\mathrm{BP}_{it} = \alpha_0 + \beta' X_{it} + \varepsilon_{it} \quad (2)$$

$$i = 1,\ldots, N \text{ and } t = 1,\ldots, T$$

Briefly, Table 3 exhibits descriptions of our key variables used in this analysis. While these data extracted from annual report and international global platforms, our data quite limited in several countries. To be specified, we estimate our initial panel in Equation 2, where i represents company identifier and t is year identifier. We eventually move into models specification running various ordinary least squares (OLS) to estimate the association between capital structure and bank performance considering the moderating role of IFRS experience across GCC listed Banks, where we allow a number of interaction effects on this relation as follows:

$$\begin{aligned}\mathrm{LEVE}_{jt} &= \alpha_{jt} + \beta_1 \mathrm{IFRS}_{(t)j} + \beta_2 \Delta \mathrm{ROA}_{(t)j} + \beta_3 \mathrm{ROE}_{(t)j} + \beta_3 \mathrm{SIZE}_{(t)j} + \beta_4 \Delta \mathrm{CASH}_{(t)j} + \beta_5 \mathrm{BIG4}_{(t)j} \\ &+ \beta_6 \mathrm{SLACK}_{(t)j} + \beta_7 \mathrm{WC}_{(t)j} + \beta_8 \mathrm{FRISK}_{(t)j} + \beta_9 \mathrm{INVES}_{(t)j} + \beta_{10}\, AGE_{(t)j} \\ &+ \beta_{11} \mathrm{X}_{(t)j} * \mathrm{IFRS} + \varepsilon_j \quad (3)\end{aligned}$$

$$\begin{aligned}\mathrm{ROA}_{jt} &= \alpha_{jt} + \beta_1 \mathrm{IFRS}_{(t)j} + \beta_2 \Delta \mathrm{ROA}_{(t)j} + \beta_3 \mathrm{ROE}_{(t)j} + \beta_3 \mathrm{SIZE}_{(t)j} + \beta_4 \Delta \mathrm{CASH}_{(t)j} + \beta_5 \mathrm{BIG4}_{(t)j} \\ &+ \beta_6 \mathrm{SLACK}_{(t)j} + \beta_7 \mathrm{WC}_{(t)j} + \beta_8 \mathrm{FRISK}_{(t)j} + \beta_9 \mathrm{INVES}_{(t)j} + \beta_{10}\, AGE_{(t)j} \\ &+ \beta_{11} \mathrm{X}_{(t)j} * \mathrm{IFRS} + \varepsilon_j \quad (4)\end{aligned}$$

$$\begin{aligned}\mathrm{ROE}_{jt} &= \alpha_{jt} + \beta_1 \mathrm{IFRS}_{(t)j} + \beta_2 \Delta \mathrm{ROA}_{(t)j} + \beta_3 \mathrm{ROE}_{(t)j} + \beta_3 \mathrm{SIZE}_{(t)j} + \beta_4 \Delta \mathrm{CASH}_{(t)j} + \beta_5 \mathrm{BIG4}_{(t)j} \\ &+ \beta_6 \mathrm{SLACK}_{(t)j} + \beta_7 \mathrm{WC}_{(t)j} + \beta_8 \mathrm{FRISK}_{(t)j} + \beta_9 \mathrm{INVES}_{(t)j} + \beta_{10}\, AGE_{(t)j} \\ &+ \beta_{11} \mathrm{X}_{(t)j} * \mathrm{IFRS} + \varepsilon_j \quad (5)\end{aligned}$$

Where: j = bank identifier and t = year identifier; LEVE= capital structure; IFRS = IFRS experience; ROA= return on assets; ROE= return on equity; SIZE = log of bank size; CASH = operational activities of cash flow; BIG4= audit quality; FRISK=bank risk measured by cash hold and short investment; SLACK=bank financial slack; ε_j= error term.

Table 3: Variables definitions and measurements

Definition	**Measurement**
Dependent variable	
Bank performance (ROA)	Net income to total assets ratio (ROA) is the proxy for firm performance
Operational Bank performance (ROE)	
Independent variables including (dummy variables, and explanatory variables)	
Financial leverage (LEVE)	Total debt to total assets ratio
Bank cash' holds (CASH)	Cash's holds from bank and short investments
Audit Quality (BIG4)	Bank takes a value of 1 if they audited by one of the following big four firms (PWC, EY, KPMG, and Deloitte) and 0 otherwise.
Working Capital (WC)	Current assets subtract current liabilities
Financial Slack (SLACK)	The ratio of cash to net assets in bank
Bank investment' level (INVES)	Natural logarithm of the total investments divided by total assets.
Bank risk (FRISK)	Natural logarithm of Cash & short investment divided by total assets of bank
Definition	**Measurement**
Bank age (AGE)	The year of firm establishment until the current study time period

Bank size (SIZE)	Natural logarithm of total assets
Capital investment (INVES)	Natural logarithm of the total investments by subtracting tangible assets with current assets divided by total assets
IFRS experience (IFRS)	IFRS is the number of years since a selected GCC mandatorily adopted the IFRS

4. Results and Major Findings

Before we conduct our empirical investigation of moderating effect of IFRS experience on capital structure and bank performance, we graphically illustrate our results by displaying the key interactive impact of IFRS on capital structure measured by financial leverage (LEVE) and bank performance that measured by return on asset (ROA) in figure 2. These figures display a strong association between capital structure and bank characteristics under the interaction terms of IFRS.

We further undertake a various test to identify our data distribution to confirm the consistency. In doing so, we apply Kernel density estimation as a means of checking our matched observations for selected GCC countries, the bias reduced, at least 80%. As shown in Figure 14, there are three different levels of IFRS variables which refers to standard deviation of the means. We could confirm that the association between capital structure and bank performance is slightly positive above the mean of the red line.

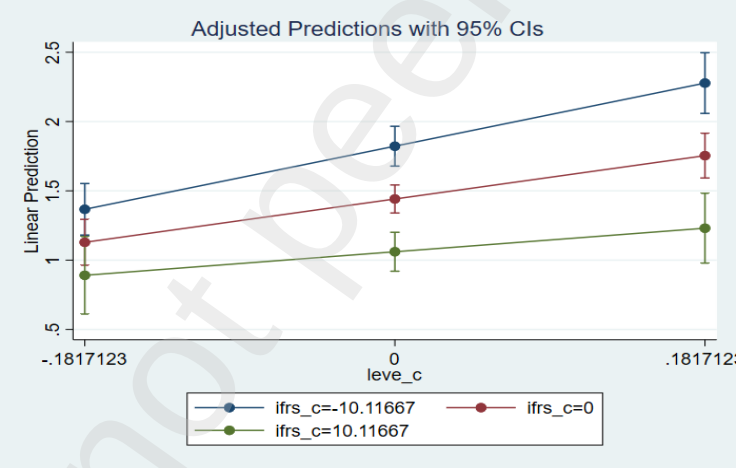

Figure 2: Graphical analysis of moderating effect of IFRS on the association between capital structure (LEVE) and bank performance (ROA)

Kernel Density Plots (Common support)

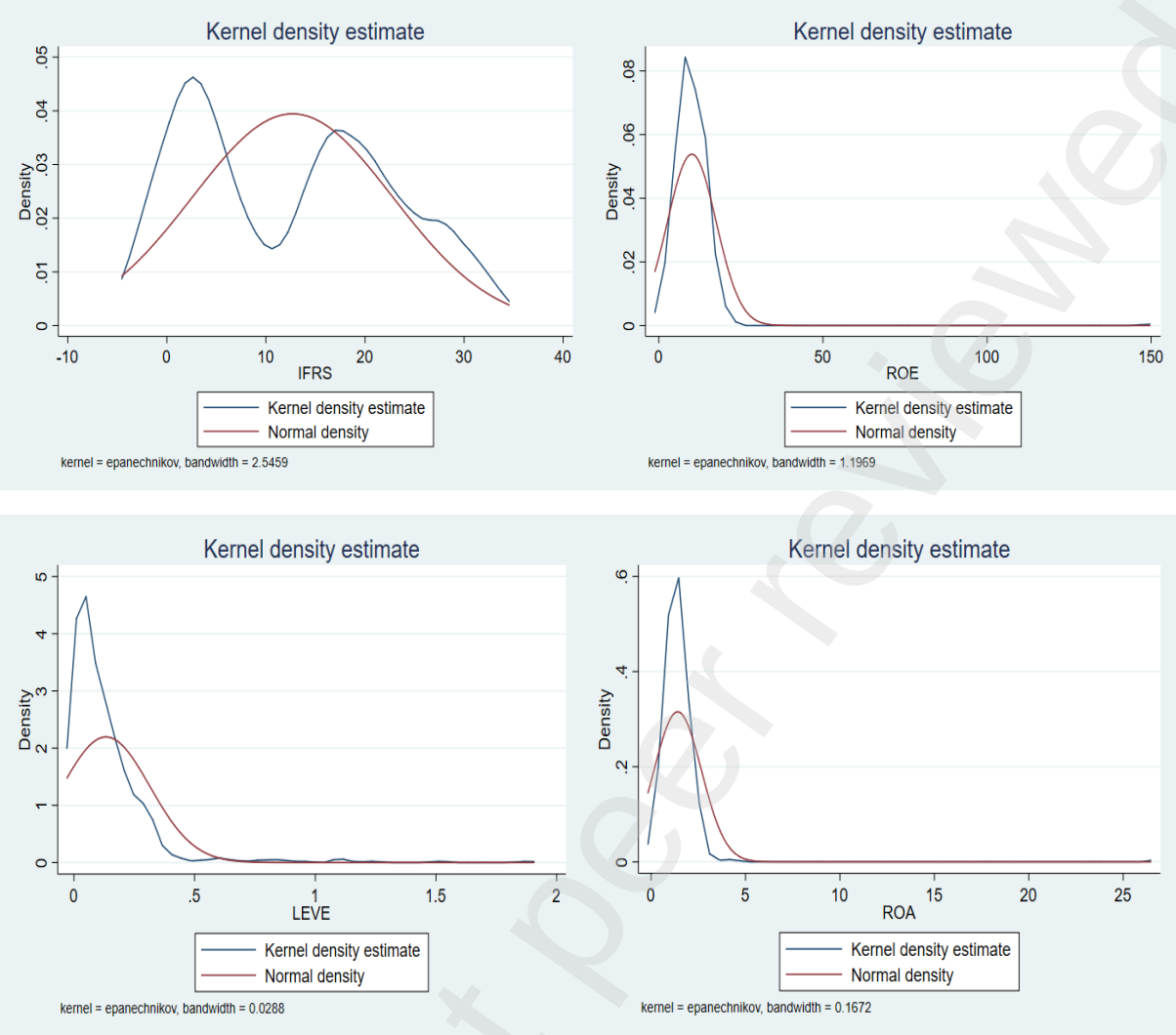

Figure 3: Common Support of Kernel density estimate of our estimation for the key variables of this investigations.

Descriptive statistics: As stated before, our sample is based on six countries namely: Saudi Arabia, Kuwait, Bahrain, Oman, Qatar and UAE. The descriptive statistics are presented in Table 4 covering 590 observations of GCC listed Banks. In this investigation, we convert our data from string to numeric to reduce the outliers' issues. Since the absence of the outliers, our results is not contaminated. Table 4 reports aggregate sample of our thorough analysis. The mean of key variables as a follow: ROA is 1.40, IFRS is 12.69, ROE is 10.05, SLACK is 0.77, LEVE is 0.13 and SIZE 4.24. Obviously, larger banks are more profitable and leveraged than smaller. We also acknowledge that longer experience of IFRS lead to highly positive working capital as illustrated in our following in Table 5. As shown in our sample, the vast majority of GCC banks have a lower level of bank risk at 0.55 referring to the fact that GCC listed banks maintain the highest level of governance and hedge.

Table 4: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	532	1.408	1.265	0	26.3
IFRS	585	12.692	10.117	-2	32
ROE	534	10.057	7.413	.001	148.5
SIZE	569	4.243	.52	2.818	5.514
AGE	585	34.246	17.69	-3	74
SLACK	569	.776	.061	.537	.922
CASH	571	3.299	.543	1.698	5.042
INVES	553	2.997	1.551	-3.689	6.373
WC	576	-19799.984	30308.036	-221703.8	420.1
FRISK	569	.132	.075	.02	.55
LEVE	569	.133	.182	0	1.878
BIG4	585	.462	.499	0	1

Note(s): This table provides summary statistics for bank for 64 banks from 2014 to 2022. ROA is first measurement of bank performance dependent variable and calculated as return on assets. Furthermore, ROE is the second measurement of operational bank performance calculated as a return on equity. Our explanatory variable is LEVE as a measurement of capital structure. Independent variables are represented as follows: bank size (SIZE), bank age (AGE), financial slack (SLACK), cash from short operation (CASH), cash from short investment (INVES), working capital (WC), bank risk (FRISK), audit quality (BIG4). All these variables are defined in Table 3.

Pairwise correlations: Table 5 report the association between capital structure and bank performance while considering the moderating effect of IFRS. This analysis captures the entire GCC listed banks covering 532 bank-year observation over the period 2014 to 2022. The dependent variable *ROA* is positively and significantly correlated at the 99.9% significance level with *IFRS, ROE, SLACK, WC*, and *LEVE*. Likewise, the correlation matrix exhibits a significantly positive correlation (on the 95% significance level) of *IFRS* with *AGE, SLACK, WC, LEVE.* Notably, a significantly positive relation between SIZE and INVES which refers that larger banks tend to be more diversified. Since the highest percentage of correlation less than 10%, there is a confirmation of the absence of multicollinearity issue.

Table 5: Pairwise correlations (n=532)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) ROA	1.000										
(2) IFRS	**-0.270*** **	1.000									
(3) ROE	**0.954*** **	**-0.240*** **	1.000								
(4) SIZE	0.059	**-0.141*** **	**0.158*** **	1.000							
(5) AGE	0.006	**0.093** **	0.016	**0.283*** **	1.000						
(6) SLACK	**-0.082***	**0.081***	-0.065	**0.317*** **	0.048	1.000					
(7) INVES	0.027	**-0.180*** **	**0.121*** **	**0.812*** **	**0.173*** **	**0.287*** **	1.000				
(8) WC	**-0.090** **	**0.165*** **	**-0.174*** **	**-0.653*** **	**-0.248*** **	**-0.217*** **	**-0.539*** **	1.000			
(9) FRISK	-0.015	0.057	-0.027	-0.036	-0.048	0.008	-0.033	0.041	1.000		
(10) LEVE	**0.213*** **	**0.083** **	**0.204*** **	**-0.129*** **	**-0.125*** **	**-0.069***	**-0.222*** **	**-0.116*** **	-0.024	1.000	
(11) BIG4	0.015	**-0.140*** **	0.001	**0.271*** **	**0.123*** **	0.050	**0.212*** **	**-0.282*** **	0.133***	-0.196***	1.000

Note(s): Where ROA: Return assets as a measurement of bank performance, IFRS: IFRS experience, ROE: Return on equity as a measurement of operational bank performance, SIZE: natural log of total assets, AGE: Bank age, SLACK: Financial Slack, INVES: Bank investment level, WC: Working Capital, FRISK: Bank risk level, LEVE: Financial leverage, BIG4: Audit Quality. All variables are defined in Table 3 *, **, *** denote levels of significance at 10%, 5%, and 1%, respectively.

Major Result Analyses of Key variables: Our interpretation of the outcomes is divided into various groups. We run a general pooled OLS to estimate the association between bank performance and capital structure, considering the moderating role of IFRS adoption. Then, we regress the second estimation to point out the relation between operational bank performance and capital structure considering the IFRS. We further undertake various econometric techniques such as: Fixed Effect, Random Effect, 2SLS regression, and FGLS regression to confirm our robustness of results.

Generally, Table 6 reports the association between capital structure and bank performance under IFRS adoption experience. As shown in below, there is a statistically negative relation between IFRS and bank performance (ROA) at (-0.008***). This result can be articulated by the fact that longer experience of IFRS will incur additional costs and bank cannot fully utilize from its profits during the IFRS adoption period. As indicated by Alruwaili et al. (2023), GCC countries have a lower experience of IFRS which means there is no high benefits are expected. These findings are consistent with (Terzi *et al.,* 2013; Uzoma *et al.,* 2016; Abebe, 2022) who reported a negative relation between IFRS and return on assets. On the other hand, there is notable significantly positive relation between IFRS and operational bank performance (ROE) at (0.163***). This elaborates that the level of transparency of financial reports under IFRS requirements bring more disclosure to shareholders; therefore, it brings more inflow into the banks. We confirm this relation also by the Table 7 that significantly shows the association between operational bank performance (ROE) and (IFRS) at 5.609***. In the first column of Table 5, we use the indicator that cash from short investment (CASH) is significantly and negatively related to operational bank performance (ROE). In other words, shorter investment period led to weak bank performance. This is consistent with findings of Livn et al., (2013) who indicate that bank with short period of investment incur more cash bonus and higher risk.

Notably, there is a mixed bidirectional relation between bank performance (ROA), operational bank performance (ROE) and bank size (SIZE). In column (1) of Table 6, there is a negative relation between ROA and SIZE at (-0.356***), and a positive relation of interaction terms of (IFRS * SIZE) at (0.009***), suggesting that IFRS adoption confound this relation from negative to positive sign. Since the purpose of IFRS adoption is to increase the level of transparency as a means of attracting more capital inflows into the bank, our results is plausible and indicate that GCC banks are wisely uses its assets efficiently to generate a profit. On the other hand, and in Table 7, operational bank performance measured by return on equity (ROE) is statistically positive with bank size (SIZE). On this regression, the interaction of IFRS terms (IFRS * SIZE) is statistically negative with bank size (SIZE), suggesting that larger banks will hire additional experts to fully comply with IFRS and this will enable them to add more compensations to executive level. Table 8 and 9 report the sensitivity tests including fixed effect, random effect and 2SLS regression.

Among the rest of variables in Table 10 and 11, we preform additional robustness test of this relation. Capital structure that measured by financial leverage (LEVE) is significantly positive with both bank performance (ROA) and operational bank performance (ROE), indicating that despite the high volume of market capitalization of GCC listed banks, these banks are able to generate more profit to enhance its performance. As indicated by Ghardallou (2022), a relation between leverage and firm performance is heterogenous relation. In other words, banks' leverage degree is based on the size of bank and subject to various situations. This result is in line with (Jouida, 2018; Chen *et al.,* 2019; Zeitun and Goaied, 2022).

We notice also in Table 11 there is a statistically negative association between operational bank performance (ROE) and financial slack (SLACK). This finding is consistent with agency perspective, revealing that mangers exploit the change to engage in self-interested investments (Jensen and Meckling, 1976; Bergh, 1998). While several investigations rational that financial slack is based on excess resource, this relation is still questionable. Although financial slack (SLACK) encourages mangers to gain a chance of growth, the return of resources are not predictable (Mishina *et al.,* 2004). We interact (IFRS * SLACK) as a means of interpreting our results. In Table 10, we find that this relation modifies to positive but not significant. This implies that IFRS adoption may reduce misbehaviours of mangers and increase disclosure announcements; therefore, executives in banks might not be able to conceal any ambiguous investment activities.

Lastly, to confirm our results, we undertake an additional analysis using Feasible GLS to assess the robustness of findings. In Table 12, we also take an amount the additional bank-specific characteristic such as: financial slack, financial risk, and bank investment inflows. Table 12 shows that there is a significantly positive impact of ROE, LEVE, WC, AGE, and BIG4 with ROA. While IFRS experience has significantly negative relation with ROA. As shown in Table 12, several interaction terms are reported with IFRS from Column 2 to Column 6.

Table 6: ROA is the dependant variable as a measurement of operational performance (2014-2022) (Pooled Sample using OLS regression)

	(1)	(2)	(3)	(4)
VARIABLES	Model 1	Model 2	Model 3	Model 4
IFRS	**-0.008*** **	**-0.047*** **	**-0.008*** **	**-0.048*** **
	(0.002)	(0.015)	(0.002)	(0.015)
LEVE	**0.174***	0.126	**0.172***	0.122
	(0.102)	(0.104)	(0.103)	(0.104)
ROE	**0.163*** **	**0.163*** **	**0.162*** **	**0.162*** **
	(0.002)	(0.002)	(0.002)	(0.002)
SIZE	**-0.356*** **	**-0.451*** **	**-0.479*** **	**-0.609*** **
	(0.071)	(0.080)	(0.171)	(0.176)
CASH	0.080	0.070	-0.093	-0.148
	(0.067)	(0.066)	(0.227)	(0.227)
BIG4	**0.090*** **	**0.093*** **	**0.089*** **	**0.092*** **
	(0.032)	(0.032)	(0.032)	(0.032)
IFRS * SIZE		**0.009*** **		**0.009*** **
		(0.004)		(0.004)
IFRS * CASH			0.039	0.049
			(0.048)	(0.048)
Constant	**1.064*** **	**1.524*** **	**1.613** **	**2.228*** **
	(0.150)	(0.231)	(0.705)	(0.737)
Observations	532	532	532	532
R-squared	0.924	0.925	0.924	0.925
Robust	No	Yes	No	Yes

Note(s): This table reports the key results of the panel data to investigate the association between capital structure and bank performance. Bank performance is the dependent variable and is measured by the return on asset (ROA) and capital structure is the explanatory variable measured by financial leverage. All other independent variables including bank size (SIZE), bank cash (CASH), and audit quality (BIG4). The results are based on the yearly data for all listed firms in Saudi Arabia between 2016 and 2019 with special attention to the IFRS transition period after 2017. This table has various econometric techniques to identify the moderating assessment of IFRS between these variables. These models are Pooled OLS regression. We acknowledge that

larger banks might be older and has larger board of members. We note that the financial literacy of board members are overqualified and each bank has at least member who hold a PhD qualification Values in parentheses are robust standard errors; *****denotes significance at the 1% level; **denotes significance at the 5% level; *denotes significance at the 10% level.**

Table 7: ROE is the dependent variable as a measurement of bank performance (2014-2022) (Pooled Sample using OLS regression)

VARIABLES	(1) Model 1	(2) Model 2	(3) Model 3	(4) Model 4
IFRS	**0.027*** **	**0.255*** **	**0.028*** **	**0.252*** **
	(0.009)	(0.090)	(0.009)	(0.091)
LEVE	0.076	0.338	0.069	0.330
	(0.603)	(0.609)	(0.604)	(0.610)
ROA	**5.609*** **	**5.614*** **	**5.599*** **	**5.607*** **
	(0.076)	(0.076)	(0.078)	(0.078)
SIZE	**2.411*** **	**2.955*** **	**1.838***	**2.565*** **
	(0.416)	(0.466)	(1.007)	(1.044)
CASH	**-0.685***	-0.624	-1.482	-1.156
	(0.390)	(0.389)	(1.333)	(1.333)
BIG4	**-0.536*** **	**-0.552*** **	**-0.539*** **	**-0.553*** **
	(0.189)	(0.188)	(0.189)	(0.188)
IFRS * SIZE		**-0.053*** **		**-0.052*** **
		(0.021)		(0.021)
IFRS * CASH			0.178	0.119
			(0.285)	(0.285)
Constant	**-5.993*** **	**-8.626*** **	-3.453	-6.897
	(0.887)	(1.364)	(4.159)	(4.364)
Observations	532	532	532	532
R-squared	0.924	0.925	0.924	0.925
Robust	No	Yes	No	Yes

Note(s): This table reports the key results of the panel data to investigate the association between capital structure and bank performance. Operational Bank performance is the dependent variable and is measured by the return on equity (ROE) and capital structure is the explanatory variable measured by financial leverage. All other independent variables including bank size (SIZE), bank cash (CASH), and audit quality (BIG4). The results are based on the yearly data for all listed firms in Saudi Arabia between 2016 and 2019 with special attention to the IFRS transition period after 2017. This table has various econometric techniques to identify the moderating assessment of IFRS between these variables. These models are Pooled OLS regression. Values in parentheses are robust standard errors; *****denotes significance at the 1% level; **denotes significance at the 5% level; *denotes significance at the 10% level.**

Table 8: Sensitivity Tests of Panel Data of the period 2014-2022 across GCC Banks

	Bank Performance (ROA)			Operational Bank Performance (ROE)		
VARIABLES	ROA (FE)	ROA (RE)	ROA (2SLS)	ROE (FE)	ROE (RE)	ROE (2SLS)
IFRS	**0.023*** **	-0.001	**-0.008*** **	**-0.155*** **	-0.009	**0.027*** **
	(0.006)	(0.003)	(0.002)	(0.035)	(0.016)	(0.009)
ROE	**0.157*** **	**0.159*** **	**0.163*** **			
	(0.002)	(0.002)	(0.002)			
SIZE	**-0.635*** **	-0.135	**-0.356*** **	**3.299*** **	**0.806***	**2.411*** **
	(0.154)	(0.083)	(0.071)	(0.954)	(0.482)	(0.413)
CASH	**-0.149** **	**-0.158** **	0.080	**0.804** **	**0.779** **	**-0.685***
	(0.064)	(0.062)	(0.066)	(0.397)	(0.381)	(0.388)
LEVE	**0.807*** **	**0.661*** **	**0.174***	**-1.760***	-1.310	0.076
	(0.167)	(0.142)	(0.102)	(1.052)	(0.855)	(0.599)
BIG4		0.119	**0.090*** **		-0.561	**-0.536*** **
		(0.076)	(0.032)		(0.408)	(0.187)
ROA				**5.961*** **	**5.865*** **	**5.609*** **
				(0.072)	(0.068)	(0.076)
Constant	**2.656*** **	**0.795*** **	**1.064*** **	**-12.946*** **	**-3.757*** **	**-5.993*** **
	(0.555)	(0.255)	(0.149)	(3.451)	(1.443)	(0.881)
Observations	532	532	532	532	532	532
R-squared	0.960		0.924	0.957		0.924
Number of id	65	65		65	65	
Robust	No	Yes	No	No	No	Yes

Note(s): This table reports the results of the panel data to investigate the association between bank performance and capital structure considering the IFRS experience. Bank performance is the dependent variable and is measured by the return on asset (ROA) and capital structure is the independent variable measured by financial leverage (LEVE). The results are based on the yearly data for all listed banks in GCC countries between 2014 and 2022. This table has various econometric techniques to identify the moderating assessment of IFRS between these variables. These models are fixed effect, random effect, and 2SLS estimation. Values in parentheses are robust standard errors; ***denotes significance at the 1% level; **denotes significance at the 5% level; *denotes significance at the 10% level.

Table 9: Capital Structure and Bank performance across GCC region during 2014-2022 (ROE)

VARIABLES	(1) Pooled OLS	(2) IFRS * AGE	(3) IFRS * LEVE	(4) IFRS*SLACK	(5) IFRS * ROE	(6) IFRS * INVE	(7) Pooled OLS
IFRS	-0.188	**0.048****	**0.070*****	-0.084	**-0.141*****	**0.066*****	**0.034*****
	(0.123)	(0.020)	(0.013)	(0.130)	(0.017)	(0.017)	(0.010)
SIZE	**0.628***	**1.023*****	**1.239*****	**1.010*****	**0.535***	**0.916****	**0.994*****
	(0.348)	(0.355)	(0.354)	(0.354)	(0.310)	(0.387)	(0.353)
SLACK	**-5.241****	**-3.773****	**-3.727****	**-5.848****	**-4.076*****	**-2.831***	**-3.879****
	(2.527)	(1.650)	(1.620)	(2.715)	(1.431)	(1.715)	(1.643)
ROA	**4.779*****	**5.612*****	**5.583*****	**5.608*****	**4.864*****	**5.643*****	**5.615*****
	(0.096)	(0.076)	(0.075)	(0.076)	(0.094)	(0.077)	(0.076)
INVES	**0.782*****	**0.193***	**0.217****	**0.195***	**0.231****	**0.543*****	**0.200***
	(0.129)	(0.108)	(0.106)	(0.108)	(0.094)	(0.150)	(0.108)
WC	-0.001	**-0.001*****	**-0.001****	**-0.001*****	**-0.001****	-0.001	**-0.001*****
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
AGE	-0.004	-0.007	-0.009	**-0.013****	-0.006	**-0.013****	**-0.012****
	(0.008)	(0.009)	(0.005)	(0.005)	(0.005)	(0.006)	(0.005)
BIG4	**-0.376****	**-0.770*****	**-0.687*****	**-0.765*****	**-0.398****	**-0.809*****	**-0.761*****
	(0.185)	(0.195)	(0.193)	(0.195)	(0.173)	(0.211)	(0.195)
FRISK	0.103	0.070	0.130	0.067	0.180	0.244	0.071
	(0.153)	(0.164)	(0.163)	(0.164)	(0.144)	(0.179)	(0.164)
LEVE	**2.246****	-0.322	**2.517****	-0.414	0.010	0.320	-0.396
	(1.000)	(0.664)	(0.985)	(0.658)	(0.575)	(0.759)	(0.657)
IFRS * AGE	-0.001	-0.001					
	(0.000)	(0.000)					
IFRS * LEVE	-0.121		**-0.297*****				
	(0.077)		(0.076)				
IFRS * SLACK	0.164			0.151			
	(0.157)			(0.165)			
IFRS * ROE	**0.022*****				**0.020*****		
	(0.002)				(0.002)		
IFRS * INVE	**-0.003*****					**-0.002*****	
	(0.001)					(0.001)	
Constant	2.125	0.188	-0.833	2.054	3.604**	-0.375	0.547
	(2.316)	(1.749)	(1.700)	(2.363)	(1.493)	(1.885)	(1.687)
Observations	412	504	504	504	477	412	504

R-squared	0.958	0.931	0.933	0.931	0.952	0.941	0.931
Robust	No	Yes	No	No	No	No	Yes

Note(s): Unlike prior tables, this table identifies the moderating effect of IFRS experience on the relation between capital structure and operational bank performance (ROE) in GCC region and interacts the several bank specific characteristics variables to point out the effect on this relation. Further, this table uses a pooled OLS for a collective sample with interaction terms in Model 1, and every model has its own interacted variables. The last column of this table is based on regression model with any interaction terms. Definitions of variables are performed in Table 3. ***p < 0.01, **p < 0.05 and *p < 0.1 indicates significant at the 1, 5 and 10% levels, respectively.

Table 10: Capital Structure and Bank Performance across GCC region during 2014-2022 (ROA)

VARIABLES	(1) Pooled OLS	(2) IFRS * AGE	(3) IFRS * LEVE	(4) IFRS * SLACK	(5) IFRS * ROE	(6) IFRS * INVES	(7) Pooled OLS
SIZE	**-0.144****	**-0.151****	**-0.182*****	**-0.149****	**-0.114***	**-0.131****	**-0.148****
	(0.067)	(0.061)	(0.061)	(0.061)	(0.059)	(0.066)	(0.060)
IFRS	0.014	**-0.010*****	**-0.013*****	-0.002	**0.006***	**-0.015*****	**-0.009*****
	(0.024)	(0.003)	(0.002)	(0.022)	(0.003)	(0.003)	(0.002)
SLACK	0.783	**0.473***	**0.470***	0.589	**0.517***	0.349	**0.484***
	(0.492)	(0.282)	(0.279)	(0.465)	(0.273)	(0.293)	(0.281)
ROE	**0.181*****	**0.164*****	**0.165*****	**0.164*****	**0.175*****	**0.165*****	**0.164*****
	(0.004)	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)
INVES	**-0.123*****	**-0.032***	**-0.035***	**-0.032***	**-0.034***	**-0.092*****	**-0.032***
	(0.025)	(0.018)	(0.018)	(0.018)	(0.018)	(0.026)	(0.018)
WC	0.001	**0.001*****	**0.001****	**0.001*****	**0.001*****	0.001	**0.001*****
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
AGE	0.001	0.002	**0.002****	**0.002****	**0.002****	**0.002****	**0.002****
	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
BIG4	**0.107*****	**0.124*****	**0.114*****	**0.124*****	**0.104*****	**0.136*****	**0.123*****
	(0.036)	(0.033)	(0.033)	(0.033)	(0.033)	(0.036)	(0.033)
FRISK	-0.033	-0.007	-0.015	-0.007	-0.040	-0.039	-0.007
	(0.030)	(0.028)	(0.028)	(0.028)	(0.027)	(0.031)	(0.028)
LEVE	-0.222	**0.257****	-0.130	**0.266****	**0.263****	0.161	**0.265****
	(0.195)	(0.113)	(0.170)	(0.112)	(0.109)	(0.129)	(0.112)
IFRS * AGE	0.001	0.001					
	(0.000)	(0.000)					
IFRS * LEVE	**0.029***		**0.040*****				

	(0.015)		(0.013)				
IFRS * SLACK	-0.028			-0.008			
	(0.031)			(0.028)			
IFRS * ROE	**-0.002*** **				**-0.002*** **		
	(0.000)				(0.000)		
IFRS * INVES	**0.001*** **					**0.001*** **	
	(0.000)					(0.000)	
Constant	-0.046	0.131	0.276	0.014	-0.247	0.189	0.095
	(0.451)	(0.298)	(0.292)	(0.404)	(0.285)	(0.322)	(0.288)
Observations	412	504	504	504	477	412	504
R-squared	0.947	0.931	0.932	0.931	0.939	0.942	0.931
Robust	No	Yes	No	No	No	No	Yes

Note(s): This table identifies the moderating effect of IFRS experience on the relation between capital structure and bank performance (ROA) in GCC region and interacts the several bank specific characteristics variables to point out the effect on this relation. Further, this table uses a pooled OLS for a collective sample with interaction terms in Model 1, and every model has its own interacted variables. The last column of this table is based on regression model with any interaction terms. Definitions of variables are performed in Table 3. ***p < 0.01, **p < 0.05 and *p < 0.1 indicates significant at the 1, 5 and 10% levels, respectively.

Table 11. Robustness Check (FGLS regression)

VARIABLES	(1) FGLS regression	(2) IFRS * SIZE	(3) IFRS * LEVE	(4) IFRS * SLACK	(5) IFRS * ROE	(6) IFRS * INVES	(7) FGLS regression
IFRS	**-0.009*** **	**-0.048*** **	**-0.014*** **	-0.008	0.005	**-0.016*** **	**-0.010*** **
	(0.002)	(0.015)	(0.002)	(0.022)	(0.003)	(0.003)	(0.003)
ROE	**0.163*** **	**0.163*** **	**0.164*** **	**0.163*** **	**0.175*** **	**0.165*** **	**0.163*** **
	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)
SIZE	-0.426	-0.450	-0.440	-0.421	-0.045	0.193	-0.395
	(0.388)	(0.385)	(0.384)	(0.397)	(0.381)	(0.445)	(0.395)
LEVE	**0.232** **	**0.185** *	-0.168	**0.232** **	**0.232** **	0.141	**0.226** **
	(0.109)	(0.110)	(0.163)	(0.109)	(0.106)	(0.126)	(0.110)
SLACK	-0.882	-0.563	-0.771	-0.826	0.999	2.128	-0.714
	(2.016)	(2.007)	(1.996)	(2.178)	(1.979)	(2.295)	(2.057)
INVES	-0.028	**-0.031** *	**-0.030** *	-0.028	**-0.031** *	**-0.091*** **	-0.028
	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.025)	(0.018)
WC	**0.001*** **	**0.002*** **	**0.002*** **	**0.001*** **	**0.001*** **	0.004	**0.001*** **
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
AGE	**0.003*** **	**0.002** **	**0.002** **	**0.003*** **	**0.002** **	**0.002** **	0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
BIG	**0.121*** **	**0.124*** **	**0.110*** **	**0.122*** **	**0.094*** **	**0.122*** **	**0.122*** **
	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.035)	(0.032)
CASH	0.332	0.246	0.304	0.325	-0.111	-0.433	0.289
	(0.482)	(0.480)	(0.477)	(0.494)	(0.472)	(0.557)	(0.493)
IFRS * SIZE		**0.009*** **					
		(0.003)					
IFRS * LEVE			**0.042*** **				
			(0.013)				
IFRS * SLACK				-0.002			
				(0.028)			
IFRS * ROE					**-0.002*** **		
					(0.000)		
IFRS * INVES						**0.001*** **	
						(0.000)	
IFRS * AGE							0.002
							(0.000)
Constant	1.253	1.423	1.364	1.209	-0.457	-1.035	1.143
	(1.605)	(1.596)	(1.589)	(1.730)	(1.583)	(1.812)	(1.627)
Observations	517	517	517	517	490	425	517
Number of id	64	64	64	64	64	61	64
Robust	No	Yes	No	No	No	No	Yes

Note(s): In this table, the results of the FGLS regression are reported to investigate the relation between capital structure and bank performance considering IFRS experience. Bank performance is measured by return on assets (ROA), capital structure is measured using financial leverage (LEVE), while the rest measurements of variables are defined in Table 3.

This table is categorized as robustness analysis to confirm our results. ***p < 0.01, **p < 0.05 and *p < 0.1 indicates significant at the 1, 5 and 10% levels, respectively.

5. Conclusion and Policy Implications

Based on our findings of this investigation, we draw several implications for policy makers, academics, practitioners, regulators, and other stockholders. IFRS adoption represents a vital milestone in enhancing quality of financial reporting; thus, there is persistent need to update academic curriculum of universities in GCC countries to increase the knowledge of their graduate students who will be part of workplace and accounting departments in publicly traded firms. Likewise, policy makers should highlight on last empirical issues of IFRS to avoid any difficulties of measurement of restatement the book value of banks. As stated before, the bank sector is the cornerstone of country' economic, therefore, providing more transparent environment will undoubtedly attract foreign investment and encourage any international portfolio to borrow the country either bonds or loans. Furthermore, the economic stability is consistent with efficiency of banks (Yousef & Goodel, 2023).

From another perspective, further implications based on this finding should be vital to regulators and policy makers in stock exchanges across GCC region, especially who update the governance codes such as (e.g., Capital Market Authority in Saudi Arabia). Proposed that a strong capital structure will maintain the financial stability to banks, this investigation provide this importance step by preforming the role of IFRS on this relation as a new corporate governance mechanism. Logically, all the banks in the sample share the same institutional settings and therefore, institutional factors may have a similar effect on all banks across GCC countries. Nevertheless, the results may offer a recommendation to policy makers suggesting the inclusion of IFRS adoption on capital structure in the GCC banks that might lead to higher leverage and ensure better bank performance. IFRS adoption has a significant influence on the decision of firms especially in firms with higher financial leverage (Yoo & Kim, 2023).

Our research findings have also pivotal policy implications since there is persistent needs to encourage abiding IFRS adoption standards as a modern corporate governance mechanism to create conductive economic environment for foreign investors and other stockholders. In addition, it is favourable to provide effective monitoring of bank performance in GCC listed firms, especially those with an international integration. These banks operate the best practice of corporate governance, where executives have greater motivation to enhance their bank performance to attract foreign loans and liquidity by attracting the attention of stockholders. This suggest that similar efforts across GCC region would be rewarding in enhancing the transparency of financial reporting as a means of promoting economic efficiency. The positive sign of *IFRS * SLACK* gives a bank's mangers opportunity to diverse their investments. This implies that after adoption, IFRS creates a proper capital structure. In addition, a comprehensive adoption of IFRS in emerging markets could undermine the uncertainty that enables executives and managers to issue equity and debt instruments with low level of risk. Meanwhile, bank can enhance the way of information is acquired by IFRS adoption. This provides an extensive information flow and enables mangers to less dependent on their own judgements.

Moreover, we extend some implications to self-regulatory bodies such as capital market authority (TADWUAL) in Saudi Arabia. Such of these studies targeting IFRS aspects in emerging markets will boost the attractive of Saudi stock market and other stock exchanges across GCC through enhancing the efficiency of information flows. In addition, modifications of stock exchange practices in accordance with international standards will contribute to enhancing the liquidity of market. Several GCC countries such as Saudi Arabia launched various innovations and programs, and one of these vital innovations is Qualified Foreign Investors (QFIs). In light of the results derived for bank investment' level and its

impact on both operational bank performance (ROE), and according to our observations of this relation between 2014 – 2022, board directors of banks shall also make further endeavours in preserving its operational activities for short period. The short period of debt is classified as a cheaper such as customer deposits and contribute to reducing the financial risks (Shaik & Sharma, 2021).

The current study examined how the effect of IFRS yield moderation impact of the association between capital structure and bank performance across GCC nations. We found that several key variables of this study impacted by the interaction terms of IFRS such as: Bank age, Bank size, financial leverage, and financial slack. Furthermore, IFRS experience confound the relation between bank performance and capital structure from negative to positive which means IFRS rise the level of transparency and contribute to reducing asymmetric information. We also found the relation between capital structure and IFRS are more pronounced for bank performance compared to operational bank performance.

Our investigation can be considered the first step toward the IFRS applications and its effect on the relation between capital structure and bank performance in the context of GCC region. While several studies (Zeitun, 2014; Abdullah & Naser, 2015; Al-Hunnayan, 2020; Khaki, Akin; 2020; Boshnak, 2021) examine this relation without considering the role of IFRS, our study provide a thorough analysis of this relation in according with international settings. This study is not free from limitations, we face several difficulties to figure out innovation measurements as several studies relies on number of patents issues by the firm, while the level of patents across GCC listed firm is low comparing with developed countries.

We encourage future researchers to extend our country sample to Middle East and North Africa (MENA) region and provide a comparability study that might be generalized to developed economy. In addition, we advise interested authors to pay attention on board characteristics on this relation including board size, gender diversity, audit committee members, and board meeting frequency. Eventually, since our research statement is motivated by latest banks collapses, we encourage authors to conduct a comparative study before and after the year of 2023 across GCC region to estimate the spillover effects on financial institutions.

Appendix A: Linear Regression Analysis of Key variables by Country

Linear regression: country = Bahrain

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
IFRS	.018	.013	1.41	.164	-.008	.045	
ROE	.134	.009	15.54	0	.117	.151	***
SIZE	-1.33	.322	-4.13	0	-1.973	-.688	***
CASH	1.129	.269	4.20	0	.593	1.666	***
BIG4	-.012	.093	-0.14	.893	-.198	.173	
LEVE	.15	.307	0.49	.626	-.462	.763	
Constant	1.379	.546	2.52	.014	.288	2.47	**

Mean dependent var	1.129	SD dependent var	0.569
R-squared	0.831	Number of obs	71
F-test	52.425	Prob > F	0.000
Akaike crit. (AIC)	8.286	Bayesian crit. (BIC)	24.125

***p < 0.01, **p < 0.05 and *p < 0.1 indicates significant at the 1, 5 and 10% levels, respectively.

Linear regression: country = Kuwait

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
IFRS	.003	.005	0.68	.499	-.006	.013	
ROE	.127	.004	28.92	0	.119	.136	***
SIZE	-.033	.072	-0.46	.649	-.176	.11	
CASH	-.034	.055	-0.62	.539	-.142	.075	
BIG4	.084	.024	3.54	.001	.037	.131	***
LEVE	.819	.117	6.99	0	.586	1.052	***
Constant	-.035	.168	-0.21	.835	-.369	.299	

Mean dependent var	0.888	SD dependent var	0.401
R-squared	0.936	Number of obs	96
F-test	217.197	Prob > F	0.000
Akaike crit. (AIC)	-154.004	Bayesian crit. (BIC)	-136.053

***p < 0.01, **p < 0.05 and *p < 0.1 indicates significant at the 1, 5 and 10% levels, respectively.

Linear regression: country = Oman

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
IFRS	.023	.009	2.72	.009	.006	.041	***
ROE	.118	.007	17.59	0	.105	.131	***
SIZE	.11	.114	0.97	.336	-.117	.337	
CASH	.071	.089	0.80	.426	-.106	.248	
BIG4	.011	.041	0.26	.797	-.071	.092	
LEVE	-.528	.253	-2.09	.041	-1.033	-.022	**
Constant	-.901	.27	-3.34	.001	-1.441	-.361	***

Mean dependent var	1.122	SD dependent var	0.413
R-squared	0.909	Number of obs	68
F-test	101.026	Prob > F	0.000
Akaike crit. (AIC)	-76.955	Bayesian crit. (BIC)	-61.418

***p < 0.01, **p < 0.05 and *p < 0.1 indicates significant at the 1, 5 and 10% levels, respectively.

Linear regression: country = Qatar

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
IFRS	-.04	.012	-3.19	.002	-.065	-.015	***
ROE	.121	.01	12.66	0	.102	.14	***
SIZE	-.434	.128	-3.38	.001	-.691	-.177	***
CASH	.105	.145	0.73	.469	-.184	.395	
BIG4	-.204	.078	-2.63	.011	-.36	-.049	**
LEVE	.963	.471	2.05	.045	.021	1.905	**
Constant	2.355	.309	7.63	0	1.737	2.973	***

Mean dependent var	1.629	SD dependent var	0.571
R-squared	0.833	Number of obs	66
F-test	49.193	Prob > F	0.000
Akaike crit. (AIC)	7.978	Bayesian crit. (BIC)	23.305

***p < 0.01, **p < 0.05 and *p < 0.1 indicates significant at the 1, 5 and 10% levels, respectively.

Linear regression: country = Saudi Arabia

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
IFRS	-.017	.012	-1.38	.17	-.04	.007	
ROE	.09	.007	13.82	0	.077	.103	***
SIZE	.188	.159	1.18	.241	-.128	.504	
CASH	.288	.125	2.31	.023	.04	.536	**
BIG4	0	.	.	.	.	.	
LEVE	-1.79	.783	-2.29	.025	-3.346	-.233	**
Constant	-1.164	.437	-2.67	.009	-2.032	-.296	***

Mean dependent var	1.705	SD dependent var	0.547
R-squared	0.840	Number of obs	92
F-test	90.480	Prob > F	0.000
Akaike crit. (AIC)	-7.797	Bayesian crit. (BIC)	7.334

***p < 0.01, **p < 0.05 and *p < 0.1 indicates significant at the 1, 5 and 10% levels, respectively.

Linear regression: country = UAE

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
IFRS	.01	.013	0.76	.45	-.016	.037	
ROE	.179	.003	58.85	0	.173	.185	***
SIZE	-.865	.198	-4.38	0	-1.255	-.474	***
CASH	.355	.173	2.05	.042	.013	.698	**
BIG4	.199	.092	2.17	.032	.017	.38	**
LEVE	-.456	.159	-2.87	.005	-.77	-.142	***
Constant	2.174	.347	6.26	0	1.487	2.86	***

Mean dependent var	1.749	SD dependent var	2.232
R-squared	0.970	Number of obs	139
F-test	718.883	Prob > F	0.000
Akaike crit. (AIC)	141.891	Bayesian crit. (BIC)	162.433

***p < 0.01, **p < 0.05 and *p < 0.1 indicates significant at the 1, 5 and 10% levels, respectively.

Table A1: Robustness tests using a financial leverage as a Dependent variable to gain a bidirectional relationship between capital structure and bank performance (2014-2022) (Pooled Sample using OLS regression)

VARIABLES	(1) Model 1	(2) Model 2	(3) Model 3	(4) Model 4
IFRS	**0.003*** **	**-0.023*** **	**0.003*** **	**-0.023*** **
	(0.001)	(0.006)	(0.001)	(0.006)
ROA	**0.031***	0.022	**0.031***	0.022
	(0.018)	(0.018)	(0.019)	(0.018)
ROE	0.001	0.002	0.001	0.002
	(0.003)	(0.003)	(0.003)	(0.003)
SIZE	**-0.073** **	**-0.135*** **	-0.103	**-0.186** **
	(0.031)	(0.034)	(0.073)	(0.075)
CASH	**0.063** **	**0.055** **	0.022	-0.015
	(0.028)	(0.028)	(0.097)	(0.096)
BIG4	**-0.050*** **	**-0.046*** **	**-0.050*** **	**-0.046*** **
	(0.014)	(0.013)	(0.014)	(0.013)
IFRS * SIZE		**0.006*** **		**0.006*** **
		(0.001)		(0.001)
IFRS * CASH			0.009	0.016
			(0.021)	(0.020)
Constant	**0.174*** **	**0.472*** **	0.305	**0.697** **
	(0.066)	(0.099)	(0.301)	(0.312)
Observations	532	532	532	532
R-squared	0.123	0.149	0.123	0.150
Robust	No	No	No	No

Note(s): This table is used as robustness tests to estimate the relation between capital structure and bank performance considering IFRS experience across GCC region. Definition of variables are performed in Table 3. ***p < 0.01, **p < 0.05 and *p < 0.1 indicates significant at the 1, 5 and 10% levels, respectively.

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