



An-Najah National University
Faculty of Graduate Studies

**FACTORS AFFECTING THE PROFITABILITY
OF GCC BANKS: IN THE COVID-19 PANDEMIC**

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Dedication

I dedicate this achievement-the pinnacle of my efforts and the joy I have long awaited- to the teacher of humanity and the source of knowledge, our Prophet Muhammad (peace and blessings be upon him).

To the pure hand that removed the thorns of failure from my path; to my companion, my dearest, my confidante, my paradise, and my first teacher; to the one who supported me in my weakness and taught me patience, love, and respect; to the one whose prayers and blessings were a source of strength throughout my educational journey- to my beloved mother.

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department of Finance.

Declaration

I, the undersigned, declare that I submitted the thesis entitled:

FACTORS AFFECTING THE PROFITABILITY OF GCC BANKS: IN THE COVID-19 PANDEMIC

I declare that the work provided in this thesis, unless otherwise referenced, is the researcher's own work, and has not been submitted elsewhere for any other degree or qualification.

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Date: _____ 12/2/2026 _____

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Abstract

This study examines the factors influencing the profitability of Islamic and traditional banks operating in the Gulf Cooperation Council (GCC) countries, with a particular emphasis on the impact of the COVID-19 pandemic.

The objective of this study is to examine internal and external factors of banks and the impact of the COVID-19 pandemic that significantly influence profitability. The internal factors used in this study are the CAMEL variables (Capital Adequacy, Asset Quality, Management Efficiency, Earnings Ability, and Liquidity), while the external factors include macroeconomic variables such as GDP, inflation rate, and interest rate.

The panel data of 59 banks, collected from the annual reports available on the official websites of the banks and the stock exchanges operating in six GCC countries, is used for the period from 2015 to 2023. Employing a quantitative approach and panel data regression analysis, the impact of internal and external explanatory variables is evaluated using fixed-effects and random-effects models. The measures of profitability used as dependent variables are return on assets (ROA) and return on equity (ROE).

Fixed effects results are used for interpretation based on the Hausman test. The findings reveals that inflation shows positive and significant impact and GDP and interest rate have negative and insignificant impacts. Capital adequacy, Asset quality and liquidity are positively and significantly related to profitability. The COVID-19 pandemic has negative and insignificant impact on profitability. It could be observed that during the pandemic capital strength and liquidity as internal financial indicator becomes more relevant while the external macroeconomics variable became less relevant.

The above signifies the importance of unification of banking regulations among the regulators within GCC. On an interbank level, this convergence of banking regulations

will support the development of a uniform standard for capital adequacy, liquidity and risk management requirements.

Keywords: Profitability, GCC Countries, COVID-19, ROA, ROE, CAMEL.

Chapter one

Introduction and Theoretical Background

1.1 Introduction

Banks are widely recognized institutions that have been expanding their scope over time by virtue of their promising growth prospective. Between 8000 BC, the extremely early beginnings of banking systems, the concepts, the operational mechanisms, the agencies' supervision and the services that they provide have been a constant everchanging phenomena. They are really part of the economy and their activities contribute much more to sustainable economic development and crisis avoidance. They are essential through the providing of basic functions of mobilization of funds from the savers to the investors, through collection of deposits, provision of loans, offer of payment services and investment management.

In essence banks are broadly categorized into two types, difference type are conventional and Islamic banks. Both of the banking systems build a structural framework in the financial system and are considered as an fundamental basis for economic activity and business in a country.

The banking industry remains a vital component for economic asset, merely because it is the prime tool, by which governments carry out monetary as well as fiscal policy. Hence, the return of banking industry, is a vital factor, which indicates the state of economy.

Conventional banking is both profit and interest oriented. Conventional financial activities involve mainly giving out loans with borrowed paying interest and depositors getting interest on their savings account. Conventional Banks also carry out investment activities. Whereas if we look at Islamic banking, banks are based on the principles of Shariah and usually do not charge interest. Islamic Banks work on sharing risk, and complete honesty towards people and society at large therefore emphasis is laid on profit sharing, leasing, selling and buying of commodities and sharing of profits through profit sharing partnerships where profit amounts are distributed as per the existing ratios. Islamic financial institutions do however steer clear of investing in entertainment,

alcohol, illicit smuggling, movies, and gambling and pig related industries by only to adhere with the Islamic rules (Mansoor Khan & Ishaq Bhatti, 2008).

Although conventional and Islamic institutions are better organized and their operations established in a comparatively structured way, they are operating within a sophisticated network providing financial products or services based on numerous treaties, different sources of fund, risk and return and on various institutional regulators and supervisors resulted in different contexts. But there are various objectives to be met by the Islamic or conventional banks for both categories.

There are many factors that directly affect banks performance which can be summarized into two categories: Internal and external factors. Internal factors refer to the characteristics of the bank itself such as size, capital adequacy, liquidity, operation efficiency and management style. Internal factors help with using assets and allocating resources in order to generate profit, minimize costs and effectively manage risks (Jaouad & Lahsen, 2018). Internal factors on the other hand are to do with the market where the bank is operating under and include macroeconomic factors, industry concepts, regulatory environment and market structure and competition.

All under these external factors' banks need to match the supply and demand of banking services along with its requirements for funding and the opportunities and threats faced (Hughes & Mester, 2014). There have been many models and frameworks to measure banks performance level such as CAMELS, DEA, SFA and the Z-score model. All these models used different financial ratios and indicators to perform benchmarking of banks in terms of liquidity, capital adequacy, quality of assets, profitability, efficiency and managing risks. (Iqbal & Molyneux, 2016).

Bank performance can be assessed using several indicators including, profitability, solvency, asset quality, and growth. Profitability is typically measured by return on assets (ROA) and return on equity (ROE). Solvency is evaluated using the capital adequacy ratio (CAR), is what is used to measure solvency, while non-performing loans (NPL) serve as an indicator of asset quality. Growth is generally reflected by changes in total assets, deposits, or loan portfolios (Athanasoglou et al., 2008).

In light of the continuous changes in the global economic environment, banks are exposed to numerous risks that affect their various activities, including lending and investment. These risks include credit risk, liquidity risk, and capital risk, all of which impact bank performance and, consequently, the safety of depositors' funds (Mabkhot & Al-Wesabi, 2022). operations of the banking system have been severely affected by various global economic crises, such as the financial crisis of 2007-2008 (Alsharif, 2024). The most recent crisis the world has faced is not a financial crises but the coronavirus pandemic, namely the COVID-19 pandemic. This pandemic has adversely affected banking systems worldwide. The first case was identified in December 2019 in Wuhan, China (Tekeoglu & Ramdoun, 2021). The virus spread rapidly across globe and constitutes a major public health emergency, resulting in millions of deaths and infections (Prabheesh et al., 2020).

The pandemic has had a profoundly negative impact on the global economy due to continuous lockdowns and social distancing measures worldwide. Restrictions on public moment and travel, halted production, and a decline in demand for goods and services , along with partial or complete shutdown of offices, factories and banks, as well as barriers to international trade, have collectively triggered a severe economic downturn and disrupted the normal functioning of various sectors and industries (Shen et al., 2020). COVID-19 has exerted a persuasive, significant, distressing and effect on global financial and economic markets (Gazi et al., 2022). According to (Ashraf, 2020), stock market returns have reacted adversely to the preventive measures implemented during the pandemic. Key performance indicators of banks including profitability, capital adequacy, asset quality, management efficiency, earnings ability, and liquidity have been affected worldwide due to COVID-19 (Çolak & Öztekin, 2021). regarding the GCC economy, the COVID-19 pandemic caused major demand and supply shocks, leading to a sharp decline in oil prices and necessitating production cuts. Although expectations of a price recovery alleviated some pressure, the loss of expatriate labor and the postponement of development projects constrained long-term growth. Additionally, higher borrowing costs following credit rating downgrades further strained the region's economic performance (Abuzayed & Al-Fayoumi, 2021).

One of the sectors severely affected by the COVID-19 crisis is the banking sector, which plays a vital role in providing financial intermediation and stability to the

economy (Demir & Aydın, 2025). Several factors contributed to the banking sector being badly hit by the pandemic. Among these were a significant decline in: the demand for and supply of financial products and services, increased credit and operational risks due to loan defaults and cyberattacks, and reduced bank profitability and solvency caused by higher provisioning and narrower interest margins (Rizwan et al., 2022).

The extent and nature of the pandemic's impact on the banking sector may vary depending on the type of bank, as conventional and Islamic banks possess distinct features and characteristics of their business models, risk profiles, and regulatory frameworks (Rizwan et al., 2022).

Therefore, it is important to analyze the internal and external factors that influence the performance and resilience of GCC banks, and to determine whether the COVID-19 crisis plays a role in this context.

1.2 Problem statement

The primary research problem involves understanding the relationship between internal and external variables and their effects on bank profitability, as well as assessing the impact of COVID-19 pandemic on bank profitability in the GCC countries.

Numerous studies have examined key issues such as (Alsharif, 2024) analyzing internal factors (LIQ, diversification, AQ, MAN, size, business model) and external factors (GDP, INF, oil prices, COV, GFC) that contribute to the profitability of banks in the GCC dual banking. Additionally, these studies have explored the impact of global financial crises (GFC) and non-financial crises from 2005 to 2022, covering 61 banks.

The study by (Bilal et al., 2024) examines whether the type of financial stricter in GCC influences the relationship between liquidity risk and bank performance from 2007 to 2021. The study covers 62 banks and measures the profitability using ROE and ROA. Internal factors considered include TLTA, LIQ and deposit ratio, while other factors include size, GDP, and inflation (INF). (Abdulla & Ebrahim, 2022) they investigate the effect of COVID-19 on the performance of 49 banks from the first quarter of 2017 to the third quarter of 2020, The factors they use include (bank size, deposits, CIR, CAP, loans, COV) and COVID-19 impact (COV), with inflation (INF) as the sole external factor. (Khan, 2022a) investigates the determinants of profitability for banks operating

in GCC countries, using data from 59 banks between 2011 and 2017. Profitability is measured by ROA and ROE, with internal factors (bank size, deposit, operating efficiency, financial risk, CAP, AQ and MAN) and macroeconomic indicators such as GDP and inflation (INF).

Despite numerous previous studies examining bank profitability and its determinants, a noticeable gap remains understanding the impact of internal and external factors on the profitability of GCC banks. This study seeks to close this gap by taking a more recent period, from 2015 to 2023, which has previously not been studied. Moreover, this study differs from others by using the CAMEL model variables which have not been used in previous studies, and considers the factors contribution of internal variables while other studies focus on other internal variables. On the other hand, this study adds the interest rate to analyze its direct impact on the bank profitability. Importantly, this study also specifically investigates the impact of the COVID-19 pandemic as a distinct variable to evaluate its repercussions on the profitability of GCC banks during the studied period.

This study aims to address this gap by providing a clearer understanding of the impact of these factors on profitability within the banking sector of the GCC countries during the period from 2015 to 2023.

1.3 Study questions

Based on above, the following study questions can be formulated:

Q1: What is the effect of external factors on the profitability of GCC banks?

Q1.1: What is the effect of GDP on the profitability of GCC banks?

Q1.2: What is the effect of inflation on the profitability of GCC banks?

Q1.3: What is the effect of interest rate on the profitability of GCC banks?

Q2: What is the effect of internal factors on the profitability of GCC banks?

Q2.1: What is the effect of capital on the profitability of GCC banks?

Q2.2: What is the effect of assets quality on the profitability of GCC banks?

Q2.3: What is the effect of management on the profitability of GCC banks?

Q2.4: What is the effect of earnings on the profitability of GCC banks?

Q2.5: What is the effect of liquidity on the profitability of GCC banks?

Q3: What is effect of Covid-19 pandemic on the profitability of GCC banks.

1.4 Objectives

The primary aim of this research is to investigate the factors affecting the profitability of GCC banks and to determine whether the COVID-19 pandemic has had a significant impact.

The specific objectives of this research are as follows:

- To determine the impact of external factors on the profitability of banks in the GCC region.
- To determine the impact of GDP on the profitability of the banks in the GCC region.
- To determine the impact of inflation on the profitability of banks in the GCC region.
- To determine the impact of interest rates on the profitability of banks in the GCC region.
- To determine the impact of internal factors on the profitability of banks in the GCC region.
- To determine the impact of capital adequacy on the profitability of banks in the GCC region.
- To determine the impact of asset quality on the profitability of banks in the GCC region.
- To determine the impact of management efficiency on the profitability of banks in the GCC region.
- To determine the impact of earnings quality on the profitability of banks in the GCC region.
- To determine the impact of liquidity on the profitability of banks in the GCC region.
- To determine the impact of the Covid-19 pandemic on the profitability of banks in the GCC region.

1.5 Importance of the study

There are a few theoretical and practical relevant reasons for this research. From the theoretical point of view, the magnitude of this research adds to the general literature and theoretical background of the banking industry by providing an empirical proof of

the convergence theory within the banking industry in the GCC region, showing that the maturity of Bank regulations of the an economy might have led to narrowing the performance gap among Islamic banking model and Conventional banking model. Moreover, the research extends the signaling theory literature by demonstrating the role of capital and liquidity indicators as time and leading signals of stability during the COVID19 pandemic under this exogenous non-financial crises. Furthermore, this research increases the literature about comparing and regulating bank's performance in the GCC by leading multiple indicators and ratios, namely liquidity, capital ratio, levels of assets quality, profitability and cost efficiency among conventional and Islamic banks model.

The implications of these findings are especially useful to policy makers and practitioners in Islamic and conventional banking such as regulators, supervisors, managers and customers. By recognizing both the strengths and weaknesses of a bank operating in the GCC countries during the COVID-19 crisis, they will be in a position to have better understanding of the current situation as well as finding ways to boost performance in such an environment to maintain viability.

1.6 Literature review

This part reviews the pieces of writing on the theory, features, and measuring the performance of banks, mainly focusing on banking institutions in the GCC. Besides, it investigates the internal and external factors influencing the bank's performance and explains the impact of the COVID-19 pandemic by referencing both global and local research to bring a wide-angle view.

1.6.1 External factors and the profitability of banks

1.6.1.1 GDP

There have been considerable research exploring the impact of GDP on bank profitability. Where the findings differ depending on the industry and country concerned and state of economy. This is attributable to in the following nations:, GDP is identified as a factor that positively affects bank profitability because economic growth increases the demand for financial services and stabilizes asset quality, thereby enhancing banks' profitability. However, in some cases-such as in China, the UK, and

Pakistan- research has shown a negative or ambiguous relationship between GDP growth and bank profitability, as intense competition or high levels of non-performing loans may reduce profitability despite economic expansion (Islam, 2023). In the Eurozone and India, findings indicate that higher GDP correlates with greater bank profitability, while other factors, such as inflation and unemployment, exert varying effects. (Mirović et al., 2024; Sarkar & Rakshit, 2023; Yüksel et al., 2018). According to economic theory, GDP growth is expected to positively impact bank performance through increased interest income, improved loan loss provisions, and reduced operating costs. Economic growth leads to higher loan and deposit volumes, improved net interest income, and lower default rates.(Islam, 2023).

Mirović et al. (2024) analyze the factors affecting bank profitability in the Eurozone, focusing on the period from 2015 to 2020. The data were examined to determine the relationship between macroeconomic variables and bank profitability. The researchers found a positive impact only in the case of GDP, which is often associated with higher bank profitability in the Eurozone. However, results vary at the country level. GDP is one of the most important economic factors positively influencing the banking sector compared to other variables such as inflation, unemployment, and government debt.

O'Connell (2023) investigates the determinants of bank profitability in the United Kingdom (UK), considering banking, industrial, and macroeconomic factors such as GDP. The study employs a panel data regression model with both fixed and random effects and conducts various diagnostic tests to ensure the validity and reliability of the results. findings indicate that GDP does not have a significant or direct impact on the profitability of UK banks during the study period.

Yüksel et al. (2018) examine the relationship from gross domestic product (GDP) to bank profitability in 13 post-Soviet countries between 1996 and 2016, using fixed effects panel regression analysis. The study demonstrates how GDP growth influences bank performance, providing both quantitative and qualitative findings. The results reveal a strong positive relationship between GDP and bank profitability, with a significant positive correlation between ROE and GDP. Conversely, an increase in the loan-to-GDP ratio negatively impacts the financial performance of banks in these countries. Additionally, the study concludes that economic growth positively affects

bank profitability, indicating that higher GDP is associated with greater profitability for banks in post-Soviet countries.

Sobol et al. (2023) aimed to examine the determinants of profitability for Islamic and conventional banks in the Middle East and to identify the most significant factors affecting these two types banks. Among the factors studied was relationship between GDP growth and bank profitability. The study analyzed data from 270 banks across 12 countries over the period 2012–2020. It hypothesized a positive relationship between GDP growth and bank profitability, and the results confirmed this positive association for both Islamic and conventional banks. Specifically, higher GDP growth leads to an increase in bank profitability. Additionally, the contribution of GDP growth to the profitability of conventional banks was found to be greater than that for Islamic banks, indicating that conventional banks benefit more from improved economic growth.

Ledhem and Mekidiche (2020) examined the impact of Islamic banks' financial performance on the economic growth of five countries—Malaysia, Indonesia, Brunei, Turkey, and Saudi Arabia using the CAMELS framework to assess their financial performance. GDP was employed as a measure of economic growth, and the authors hypothesized that an improvement in the financial performance of Islamic banks would lead to positive economic growth. Their research revealed that profitability, measured by return on equity (ROE), was the only indicator with a significant effect on GDP in the countries studied, while other CAMELS components showed no significant impact. These findings suggest that enhancing profitability, along with other aspects of financial performance, could play a crucial role in driving economic growth through the Islamic banking sector.

Mateev et al. (2023) revealed that the severe decline in GDP growth due to COVID-19 lockdowns had a direct and adverse effect on the performance of banks in the Middle East and North Africa region during the period 2010–2021. This impact is attributed to the decreased in demand for credit and the increased credit risks resulting from the economic recession.

Bilal et al. (2024) aim to examine whether the type of financial structure (bank-based versus market-based) in GCC countries affects the relationship between liquidity risk and bank performance. GDP growth within the banking system has a statistically

significant positive effect on both ROA and ROE. However, in the market-based system, no statistically significant effect was observed.

Akhtar et al. (2024) analyzed the performance of India's banking sector by assessing profitability, productivity, and efficiency. The results indicate that economic growth (GDP) has a positive and significant effect on all performance measures. The positive impact of strong economic growth increases demand for credit and reduces default risk thereby enhancing bank performance. Similarly, Fahlevi (2020) examined the impact of macroeconomic and internal factors on the financial performance of Indonesian Islamic banks. Expecting a positive relationship between GDP and bank profitability (ROA), the study confirmed that GDP has a positive and significant impact on ROA. as higher GDP reflects increased public income and savings, which support the profitability of Islamic banks.

H1.1: GDP has a statistically significant effect on the profitability of GCC bank.

1.6.1.2 Inflation

In the banking sector, numerous studies have found that inflation is often positively associated with profitability, particularly when if banks can anticipate inflation and adjust interest rates accordingly, leading to revenues increasing faster than costs. However, at time, the impact is negative or insignificant, mostly for banks that cannot raise or lower their rates very rapidly, or for banks that operate in unknown or incontinently inflation situations. The benefit of inflation to the bank's profitability is positive for traditional banks, while depending on the economic stage and banking system, inflation has either positive or negative effects for Islamic banks. Due to the fact that traditional banks are based on the control of interest rate, they will be more benefited from inflation compared to Islamic banks where banks have to run their business by Shariah-compliance contract (Hadriche, 2015).

Fahlevi (2020) the study aims to examine the effects of external and internal factors on the financial performance of Indonesian Islamic banks. The hypothesized that inflation would have an insignificant and negative effect. The results confirmed this expectation, showing that inflation has an insignificant impact on and a negative relationship with ROA. This fining aligns with the theoretical foundation of Islamic banks, as their

financial performance of these banks is not significantly influenced by the central bank decisions to raise interest rates to combat inflation.

Bilal et al. (2024) aim to examine whether the type of financial structure (bank-based versus market-based) in GCC countries affects the relationship between liquidity risk and bank performance. Inflation in both systems had a statistically insignificant effect.

Sobol et al. (2023) this study examined the factors affecting the profitability of Islamic and conventional banks in the Middle East, with a particular focus on the role of inflation. The study hypothesized a positive relationship between inflation rates and the profitability of conventional banks, and a negative relationship for Islamic banks. However, the results indicate that inflation had an insignificant impact on both the profitability of either Islamic and conventional banks in the region. The key point is that regional banking markets possess unique characteristics that influence bank profitability making it essential to accurately localize market conditions as part of the profit analysis.

Hadriche (2015) compared Islamic banks and conventional banks in the GCC countries using data from 71 conventional banks and 46 Islamic banks between 2005 and 2012. The study primarily focused on inflation as a macroeconomic factor influencing bank performance. It found that inflation positively affected the profitability of Islamic banks, with this relationship being statistically significant, whereas no such relationship was observed for conventional banks. These findings suggest that during periods of inflation- characterized by simultaneous increases in costs and revenues- Islamic banks can better capitalize on inflationary conditions than conventional banks, leading to increased profitability. Conversely, fluctuation in inflation rates appear to have no significant impact on the profitability or performance of conventional banks.

O'Connell (2023) examined the bank-specific, industrial, and macroeconomic factors influencing the profitability of UK commercial banks. Inflation, as a macroeconomic factor, featured prominently in the analysis. The study, which utilized data from 1998 to 2018, found that inflation was a significant determinant of bank profitability in the UK and should therefore be considered as key factor during the study period.

Mateev (2023) studied the effect of market concentration on the banking sector's efficiency in the MENA region during the COVID-19 pandemic. They found that when inflation was increasing during the pandemic, the bank performance and ultimately the bank profitability, were decreasing in this region. Sarkar and Rakshit (2023) analysed the impact of some macroeconomic indicators, like inflation, on the performance and profitability of commercial banks in general and public sector in India specifically. This provides insights for understanding the impact of macroeconomic indicators on bank profitability and predicting the impact of economic policy. Their findings show that inflation has a positive impact on several indicators of bank profitability as ROE and NIM. Meaning, increasing inflation should show to increase the banks' profits in this region, often through increased interest rates on loans and banking operations.

H1.2: Inflation has a statistically significant effect on the profitability of GCC banks.

1.6.1.3 Interest rate

O'Connell (2023) conducts analysis on the banking sector, as well as consider macroeconomic factors which influence the profitability of banks in the UK, including those of interest rates. The study finds that interest rates are pivotal concerning bank profitability, with particular emphasis placed on the influence of long-term interest rates along with other macroeconomic forces, which determine bank profitability. Further, long-term interest rates are deemed the most significant factor.. Statistically, this finding is comfortably justified and emphasises the need to be vigilant of the developments in interest rates.

Sarkar and Rakshit (2023) looked at the relationship among the macroeconomic indicators and the profitability of commercial banks, specifically public banks operating in India from 2000 to 2017.

They analyzed the relationship between interest rates and profitability ROE and NIM. The results showed that the effect of interest rates on ROE and NIM was statistically insignificant, indicating that changes in interest rates did not significantly impact the profitability of public banks in India during the study period.

Rahman et al. (2020) aimed to examine the effects of bank-specific and macroeconomic determinants on the profitability Pakistani banks. Their study sheds light on the

relationship between interest rates and bank performance during the period 2003–2017. The results show that higher interest rates lead to a deterioration in banks' (ROA) indicating that increased interest rates reduce banks' profitability relative to their assets. However for ROE, they found no statistically significant relationship with interest rates, suggesting that the impact of interest rates on shareholders' profitability remains unclear.

Jallad and Antari (2024) examine the performance differences between Palestinian Islamic and conventional banks, focusing on the factors affecting the profitability and efficiency of each type of bank during the period 2011-2021. The results show that the interest rate variable was statistically significant in explaining the performance of conventional banks, as it was associated with increased profitability; however, for Islamic banks, it had an indirect effect. The researchers argue that the continued linkage of Islamic products to conventional interest rate benchmarks exposes Islamic banks to the risks of interest rate fluctuations and limits the independence of the Islamic banking sector. The study confirms the existence of clear differences in the performance of Palestinian Islamic and conventional banks and highlights the important role of the interest rate variable in explaining these differences, especially in light of the dual banking environment.

Fahlevi (2020) investigated the influence of external (macroeconomic) factors and internal factors on Islamic Banks financial performance in Indonesia. The researcher expected interest rate to have a nonsignificant effect as Islamic Banks are not affected by interest rates, rather they are based on profit-loss sharing principle to give the fund to the customers instead of taking interest. The results were positive but insignificant.

Tashkandi (2019), with regard to the sample consisted of 24 banks, intends to illustrate the effects of governance instruments on profitability of Islamic banks in GCC countries. The research results reveal a huge importance of the variable the interest rate on the profitability of Islamic banks in GCC. The statistical output point out a result of a strong and positive impact of the variable Interest rate, signifying the fact that elevated market interest rates generate high returns on the Islamic finance instruments indicated by the market prices.

H1.3: Interest rates have a statistically significant effect on the profitability of GCC banks.

H1: External factors have a statistically significant effect on the profitability of GCC banks.

1.6.2 Internal Factors and the Profitability of Banks.

CAMEL model is now considered as a safe in the view of evaluating banks' financial conditions as well as bank's internal stability and power. The CAMEL includes five categories: Capital adequacy, Asset quality, Management quality, Earnings capacity and Liquidity. And they all can summarize what a bank fundamentally states in reality, for examples, whether it has risk-bearing capacity, has efficient skill managing asset, can make profits involve consistent income, and have a safety structure in liquidity. Moreover, CAMEL can measure some aspects, such as how well the bank limits its losses, cope with credit risks, own operation efficiency, and holds apparent short-term liquidity safety (Bawaneh & Dahiyat, 2019).

For the banks in the GCC, CAMEL framework is a way of strengthening the GCC banking industry as a whole by highlighting both the identification and measurement of the banking sector characteristics and risk factors. Further, this model can help, in particular, the financial sector to see how internal factors influence banks profitability and to what extent the various bank-specific factors are affected by external shocks, for example, the COVID-19 outbreak. In this paper, the CAMEL components are used to explore how these internal factors can improve bank performance, and increase the bank stability in periods of high uncertainty.

H2: Internal factors have a statistically significant effect on the profitability GCC banks.

1.6.2.1 Capital

Capital adequacy refers to the availability of capital relative to a bank's risk-weighted assets and serves as a key regulatory measure designed to ensure financial stability and prevent insolvency. It is widely implemented across countries under the Basel Accords issued by the Bank for International Settlements (BIS). The primary objective is to

prevent bank failures and protect depositors and lenders. One of the main indicators used to assess a bank's capital strength or solvency is the ratio of total equity to total assets. Effectively managing capital adequacy enhances a bank's financial stability and operational efficiency (Jallad & Antari, 2024; Khan, 2022a).

Khan (2022a) aims to identify determinants of bank profitability, both internal and external in the GCC countries. Using unbalanced panel data from 59 banks over the period 2011–2017, the analysis primarily focused on the results of fixed-effects models based on the Hausman test. Profitability was measured by ROA and ROE. The expected effect of the CAR was positive. The results, however, show a positive insignificant impact on ROA and a significant and negative impact on ROE implying, that while holding more capital can lower the credit risk of banks it also had the opportunity cost of diminishing potential profits.

Kashif and Ali (2022) intended to investigate and analyze the significance of CAMELS indicators in measuring the success of the banking system of National Bank of Egypt. The study was primarily designed to analyze the impact of CAMELS indicators on bank performance by examining the magnitude, direction and significance of its impact. The study was mainly descriptive analytical in nature and systematically examined the quarterly information related to financial statement for the period of 2014 to 2020. The analysis revealed the Capital adequacy as having a positive as well as significant impact on performance. And when capital financial structure increases; the performance of bank also increases indicating that the bank is financially solid and has an opportunity to grow by putting their capital into good use and its finance safely.

Al Zaidanin's (2020) study aims to analyze the effects of the CAMEL model on the profitability and financial strength for Jordanian commercial banks over the period 2013-2019. The study used CAMEL components to evaluate and rank banks and measured the impact on profitability (ROA, ROE) using a fixed-effects regression model. It was expected that there would be a positive relationship between the CAMEL components and profitability (ROA, ROE). However, the results indicated that the CAR had a negative and significant relationship only with ROE. an increase equity relative to assets reduces profitability (ROE).

Abdulla and Ebrahim (2022) conducted a study of the impact to assess the COVID-19 pandemic on the performance of Islamic and conventional banks in the GCC countries. The research aimed to examine the relationship between banking and economic variables and financial performance indicators. The study utilized the CPTL variable, which measures the ratio of equity to total assets serves as an indicator of a bank's ability to absorb losses. A positive relationship between CPTL and profitability was anticipated. However, the results showed mixed effects, with a negative and significant relationship observed in the GMM model. For conventional banks, a high capital ratio negatively affected performance in some models. This inverse relationship can be explained by the opportunity cost associated with holding capital above regulatory requirements; instead of investing this capital in profitable activities, it is held as a reserve, potentially reducing return on equity. In contrast, Islamic banks exhibited a relationship that was statistically insignificant. The study suggests that this difference may be due to the unique characteristics of Islamic finance, where a portion of deposits (investment accounts) are treated as profit and loss sharing (PLS). Consequently, the need for conventional operating capital is less influential in explaining profitability for Islamic banks compared to conventional banks.

Slimani and Tahkout (2024) conducted a study to investigate the determinants of financial performance of commercial banks in Algeria. The study used a sample of 12 commercial banks over the period 2010-2015. Using pooled regression analysis, the researchers examined the impact of a set of bank-specific and macroeconomic variables on financial performance. Capital Adequacy Ratio (CAP) showed a positive and significant impact on ROA and net income, while it did not have a significant effect on ROE or NIM. This finding is explained by the fact that banks with higher capital ratios have a greater ability to generate higher net income and better profitability relative to their total assets (ROA). The study concluded that the capital adequacy is a positive and significant determinant of financial performance.

Almanaseer (2014) conducted empirical research to examine the impact of the global financial crisis on the profitability of Islamic banks in the GCC countries, with a primary focus on capital. The results indicate that capital adequacy (CAP) had a significant positive effect on the profitability (ROA) of Islamic banks. Additionally, the study analyzed an interaction term between the crisis dummy variable (CD) and CAP,

which yielded a statistically significant negative result. This suggests that banks with higher capital were better positioned to withstand the financial and operational shocks of the crisis and so, they were able to enhance their resilience and maintain profitability.

Mouna (2025) examined the impact of capital adequacy on the market value of banks in Saudi Arabia, including a comparison between Islamic and conventional banks within the Kingdom's dual banking system. The study covered the period from the first half of 2020 to the second half of 2024 and focused on 10 banks listed on the Saudi Stock Exchange (6 conventional and 4 Islamic). Regression multiple analysis was used to examine the data and the findings showed that capital adequacy has a positive and statistical significant impact on market value of bank which implied that when the Capital to asset ratio is increases, the market value of the bank increases. Corresponds to Signaling Theory, the bank's capital adequacy ratio increases the investors' confidence, long strength and ability to face shocks and has a positive impact on their market value.

H2.1: Capital has a statistically significant effect on the profitability of GCC banks.

1.6.2.2 Assets Quality

Assets of the bank include current assets and fixed assets with loans and advances extended to individuals and corporate bodies for various financial requirements. Loan and advances constitute the primary source of income to banks and forms an important part of the overall activity.

A bank's credit quality of the loan account reflects the efficiency of operation and asset quality of a bank is one of the most important indicators of the strength of the bank. In the context total loans/assets have been taken as the measure of asset quality as the impact of loans- the bank's most important and riskiest activity- on its overall performance during a financial crisis.

Akhtar et al. (2024) evaluated the performance of the Indian banking industry by focusing on profitability, productivity, and efficiency. For this purpose, they used balanced panel data of 46 commercial banks during the period 2011-2023. Using the panel regression analysis (dynamic GMM model), the relationship among the

independent variables -either derived from the CAMELS-based framework or the macroeconomic variables- and performance measures was analyzed.

The findings revealed that asset quality (measured by TLTA) has a negative and significant effect on all three performance indicators. A high ratio of loans, particularly non-performing loans (NPA), was associated with reduced performance.

Abdulla and Ebrahim (2022) conducted a study of the impact on the COVID-19 pandemic on the performance of Islamic and conventional banks in the GCC countries. The study used the LOAN variable (net loans to total assets) and hypothesized a positive relationship with banks' financial performance. The results indicated a generally positive impact. Loans are one of the primary and high-risk services provided by banks, especially during times of crisis. The positive impact is attributed to the increase in lending activities and the exploitation of high-profit lending opportunities to enhance performance.

Altan et al. (2014) conducted a comprehensive analysis of the performance and financial soundness of state-owned and privately owned banks in the Turkish banking sector during the period 2005-2012. The study selected three state-owned and twelve privately owned banks representing more than 70% of the banking system in terms of total assets. The data were analyzed by calculating 23 financial ratios related to the CAMEL model. As an important indicator of resource utilization efficiency and asset quality in banks, the results revealed a clear disparity between state-owned and private banks in asset quality. The State owned banks like Ziraat Bank displayed more conservative approach towards their credit policy, which resulted in higher asset quality and better financial health. In comparison, private bank led more aggressive approach towards getting higher credit intensity resulting in both higher return and risk.

Srairi (2009) study examined the determinants of Islamic and conventional commercial banks' profitability in the GCC countries in the period 1999-2006 by assessing credit risk (NLA). She found that the effect of credit risk in these banks was of positive in Islamic banks and of negative in conventional banks, which implies that knowledge sharing system in Islamic banks makes conversion of credit easier than profit making while interest payment system in conventional banking instigates higher credit risk and lower bank profitability.

Bilal et al. (2024), test if having different financial structure in the GCC influences the relationship between liquidity risk and bank performance between 2007 and 2021. They examined the impacts using the indicator Total Loans to Total Assets (TLTA) and found a positive effect that is statistically significant in a bank-based systems to both ROA and ROE. The effect is however statistically insignificant in a market-based systems. The significant results and actually key results from this study show that a higher loan ratio has positive effect on bank performance in countries like Saudi Arabia and Qatar. This is because banks are the dominate source of fundings in these countries and therefore they will demand higher profit margins on their loans which will outweigh the risk.

Conversely, in market-based countries like the UAE and Bahrain, competition from financial markets (such as stock and bond markets) limits banks' ability to increase profits simply by expanding lending. Therefore, taking on more liquidity risk does not translate into higher profitability in these markets.

Almanaseer (2014) analyzed the impact of the 2007 global financial crisis on the profitability of Islamic banks operating in the GCC. He examined credit risk as an internal variable, measured by the loan-to-asset ratio (LOR), and hypothesized that the impact of credit risk (LOR) on the bank's ROA would be negative. The results, showing a statistically significant negative relationship between LOR and ROA, were consistent with this expectation. This finding is explained by the fact that a higher LOR indicates increased exposure to default risk. Furthermore, as credit risk increases, banks are expected to rises their loan loss provisions, leading to a decrease in net income and, consequently, a decline in profitability (ROA).

Al-Damir (2014) conducted research to examine the impact of internal and external factors on the profitability of banks in the GCC countries. One of the independent variables studied was asset quality, where an increase in loans (financing) relative to total assets was expected to have a positive effect on profitability (ROE, NIM). The results showed a significant positive effect on both ROE and NIM, confirming these expectations. This finding indicates that the bank's financing activities are a key driver of returns, underscoring the importance of the financing portfolio in overall profitability.

H2.2: Asset quality has a statistically significant effect on the profitability of GCC banks.

1.6.2.3 Management

According to Shah et al. (2023), Objective of this paper is to investigate and analyze the effects of COVID-19 pandemic on the profitability of conventional and Islamic banking sector in Pakistan. Sample comprised of 10 conventional banks and 5 Islamic banks using quarterly data from 2016 to 2021. The study investigated how COVID-19, as a moderating variable, influences the relationship between profitability determinants - such as bank size and operational efficiency- and bank profitability. Operational efficiency reflects a bank's ability to manage its expenses and is measured by the ration of total operating expenses to total assets. The results indicate a significant negative relationship between operational efficiency and ROA for both conventional and Islamic banks. Specifically, higher operating expenses (including lower efficiency) correspond to reduced bank profitability. Furthermore, when COVID-19 was introduced as a moderating variable, the pandemic intensified this effect, amplifying the negative impact of poor operational efficiency on profits, particularly in Islamic banks.

Nguyen et al. (2020) aimed to investigate the impact of the CAMEL model components on the financial performance of commercial banks in Vietnam. The study used management quality and the operating cost (OC) indicator (operating expenses to total assets). The results were statistically insignificant in the models measuring ROA and ROE. This suggests that the level of operating expenses (as a measure of management efficiency) was not a decisive factor in determining the profitability of banks (ROA and ROE) in the sample studied. The researchers interpreted this as reflecting "the lack of focus by Vietnamese banks on improving the managerial capacity of managers.

Slimani and Tahkout (2024) investigated the determinants of financial performance in commercial banks in Algeria. The study examined the impact of various bank-specific and macroeconomic variables on financial performance. Among these variables, the management variable showed no statistically significant impact on any of the financial performance measures used (ROA, ROE, NIM, or NI). Therefore, management efficiency is not considered a significant determinant of the financial performance of Algerian commercial banks during the study period.

Khan (2022a) aims to explore the determinants of bank profitability in the GCC. The management variable was measured as total operating expenses divided by total assets. Although the initial expectation was a negative relationship, the results showed a positive but insignificant effect on ROA, and a negative and significant effect on ROE. The negative impact on ROE – indicating that higher operating expenses reduce ROE – prompted further analysis. This analysis concluded that banks managing their operating expenses more effectively (i.e., maintaining a low ratio of operating expenses to assets) are more likely to achieve higher shareholder profitability (ROE).

Eid and Salameh (2017) found that the ratio of operating expenses to total assets has a significant negative impact on the profitability of Islamic banks in the GCC, whether measured ROA or ROE. An increase in operating expenses reduces the bank's net income, which in turn lowers both ROA and ROE. This finding highlights the importance of controlling costs and improving efficiency to enhance the profitability of Islamic banks in the region.

Al-Damir (2014) conducted a study on the impact of internal and external factors on the profitability of banks in the GCC. The independent variable, management efficiency, showed a statistically significant positive effect on both ROE and ROA. This strong positive impact indicates that efficient management and expense control are key drivers enhancing bank's profitability.

H2.3: Management has a statistically significant effect on the profitability of GCC banks.

1.6.2.4 Earnings

Cost efficiency is typically reflected in the BOPO ratio (operational costs to operating income), which measures a bank's ability to manage its budget effectively. A low BOPO value indicates successful cost control and strong management of operational expenses, whereas a high BOPO ratio suggests that operational efficiency needs improvement. To increase profits, a bank should focus on enhancing its efficiency by reducing costs and improving performance (Mursalini et al., 2025).

Mursalini et al. (2025) employed the CAMEL model to analyze the financial performance of Indonesian state-owned banks from 2018 to 2022. Their study

highlighted differences in cost efficiency among banks before the pandemic, while post-pandemic results indicated that all banks had improved their performance based on BOPO ratios.

Jadeja and Raythatha (2025) applied CAMEL-based financial ratios to evaluate the financial performance of the five largest public sector banks in India from 2019 to 2023. They used the cost-to-income ratio (CIR) as a measure of operational efficiency, identifying it as a key factor influencing variations in earnings quality that directly impacted profitability and financial stability.

Abdulla and Ebrahim (2022) focused on the Cost -to- Income Ratio (CIR) as both a control and explanatory variable in their study, defining it as operating expenses divided by operating revenues for Islamic and conventional banks in the GCC. They expected a negative relationship between the CIR and profitability. Their research showed the impact of the CIR on bank performance which demonstrated that operational efficiency was the more decisive factor in the sustainable profits, for conventional banks, the size of the CIR falling proved that, the higher the operating expenses (generally associated with the expansion of newly launched services/ facilities), the lower operating income and the better effect on bank performance.

In Islamic banks, the higher operating expenses, with the substantial increase in operating income, had the more effect on bank performance. Fahlevi (2020) wished to test the relationship of macroeconomics and internal factors on Islamic banks in Indonesia on the financial performance (ROA). Using quarterly data from Q1 2013 to Q3 2017, he proposed the impact of the Operating Expense Ratio (OER), on ROA. The results confirmed that OER has a negative and significant effect on ROA. This finding aligns with expectations.

Srairi (2009) focused on measuring the ratio of operating expenses to operating income, anticipating a negative relationship. The results demonstrated a significant negative correlation between operational efficiency and profitability in both Islamic and conventional banks in the GCC countries.

Al Malkawie (2020) aims to identify the bank-specific and macroeconomic factors affecting the profitability of Islamic banks in the GCC countries. Data from 28 Islamic

banks were collected for the period 2011-2016. The results revealed a statistically significant negative relationship between operational efficiency and profitability. This negative relationship suggests that a substantial increase in operating expenses, whether for efficiency improvements or other reasons, can adversely affect the bank's overall profitability.

H2.4: Earnings have a statistically significant effect on the profitability of GCC banks.

1.6.2.5 Liquidity

Alsharif (2024) aims to analyze the factors contributing to the profitability of conventional and Islamic banks in the GCC countries as well as the impact of global financial and non-financial crises on these banks. The study found that the liquidity variable (LATA) has a positive and statistically significant effect on ROA of GCC banks. This indicates that higher levels of liquidity improve the profitability of GCC banks. Notably, the positive effect of liquidity on profitability was statistically significant only for small banks, while it had no significant impact on large banks. The study explains this by suggesting that large banks possess advantages that small banks do not, such as easier access to capital markets. Consequently, during times of crisis or financial need, large banks can secure liquidity quickly and at a lower cost, a luxury that smaller banks don't have this luxury.

Akhtar et al. (2024) analyze the performance of the banking sector in India. The liquidity variables (LATA and LASTL) showed a negative and significant impact on efficiency and productivity, but an insignificant effect on profitability. The negative impact on profitability (ROA) is due to maintaining excessive liquidity, which reduces a bank's ability to invest these funds in higher-yielding loans, thereby harming profitability.

Gazi et al. (2022) examined the impact of COVID-19 on the financial performance and profitability of the banking sector in Bangladesh. Their analysis of the liquidity ratio (LATAR) revealed a significant negative effect ROA and ROE of private commercial banks in Bangladesh. This suggests that the high liquidity held by banks during the crisis contributed to a decline in profitability, possibly because these funds were not invested profitably.

Sar and Panigrahi (2025) examine the relationship between financial performance and market performance of Indian banks, focusing on the impact of financial performance indicators on the stock price growth of 32 Indian banks listed on the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE) between 2018 and 2022. They used the CAMELS model to assess financial performance and employed multiple linear regression analysis of panel data. The independent variable was the liquid assets to total assets ratio (LATA), while the dependent variable was stock price growth (market performance). The results showed that the LATA ratio had a negative and statistically insignificant effect. The study also confirms that some financial indicators- namely. NNPA, NIM and ROCE have a negative and significant impact on the profitability and market performance of Indian banks, whereas other indicators exhibit weak or insignificant effects.

Kashif and Ali (2022) studied and analyzed the role of CAMELS indicators in evaluating the banking performance of the National Bank of Egypt. The study's results demonstrated a significant positive effect of liquidity on banking performance. This indicates that maintaining a high proportion of liquid assets within a bank's total assets enhances its resilience and ability to withstand unexpected financial crises. Such resilience is a fundamental pillar of strong banking performance.

Bilal et al. (2024) examine whether the type of financial structure in the GCC affects the relationship between liquidity risk (LIQA) and bank performance. Their results indicate that in the bank-based system, liquidity risks has a positive and statistically significant effect on (ROA), while its effect on ROE was insignificant. In contrast, within the market-based system, liquidity risk has a statically insignificant effect on both ROA and ROE,

In a study (Nguyen et al., 2020) examining the impact of CAMEL model components on the financial performance of commercial banks in Vietnam, the liquidity variable (LROA) was included only in the third model, which analyzes the net interest margin (NIM). The results showed that the LROA variable had a very strong and statistically significant positive impact on NIM. This indicates that banks with a higher ratio of liquid assets relative to their total assets tend to achieve a better NIM.

H2.5: Liquidity has a statistically significant effect on the profitability GCC banks.

1.6.3 Impact of the COVID-19 Pandemic on Bank Profitability

The World Health Organization, the global authority on public health, made a historic declaration on March 11, 2020, announcing the COVID-19 outbreak as an international pandemic. This is an unprecedented incident which has resulted into catastrophic repercussions for various spheres in the world of which the most prominently shaken to its core is the economy of the world. This led to loss to the stock markets of all countries involved and a volatile pendulum swing in the oil markets. During the COVID-19 pandemic, there was an abrupt and substantial decline in global financial markets, reflecting a decrease in investor risk appetite and widespread uncertainty (Naseer et al., 2023).

Unlike previous crises when banks were largely seen as the problem during COVID-19. Banks were recognized as part of the solution. Although innovation and digital strategies were necessary even before the pandemic, the viral outbreak greatly accelerated the transformation of the digital banking sector.

Banks faced numerous challenges, including, economic slowdown, reduced business activity, and increased demand for loans and liquidity from both corporations and individuals. These factors contributed to a rise in nonperforming loans and deterioration in asset quality. Measures such as loan repayment deferral and holidays, increased lending flexibility, expedited loan approvals, and a focus CSR exemplify banks' efforts to sustain their operations (Marcu, 2021).

Marcu (2021) conducted a narrative literature review of the global banking sector, examining studies that focused on bank's conditions during the pandemic to synthesize and analyze the findings. A key insight from research was the recognition that the COVID-19 crisis differed significantly from the 2008–2009 financial crisis, the latter of which led to banks being identified as the core of the problem.

It is stated that banks have become the mainstay of the economy, keeping it operational. Digital transformation is both real and rapid. The questions raised by this crisis are how to become more adaptable in the future and how to establish a robust risk management system to cope with unpredictable challenges. Lassoued et al. (2025) studied the performance of traditional and Islamic banks in the MENA region during the pandemic,

employing Data Envelopment Analysis (DEA) and stochastic Tobit regression. They analyzed 134 banks across 10 countries over 11 years, from 2011 to 2021.

The findings showed that conventional banks had over Islamic banks in the period of the pandemic. However, the deviations of Islamic banks from their ROA and ROE were severe, and the t-tests have proved that there were modifications between the two periods of the time. To sum up, the pandemic greatly dragged down the efficiency and profitability of banks. This effect was particularly reflected in Islamic banks. The results suggested that Islamic banks were more fragile to crisis than traditional banks.

The objectives of Mursalini et al. (2025) are to describe the financial performance of Indonesian public banks pre-and-post pandemic with CAMEL Model. A comparative quantitative method used in this study from 2018-2022. The COVID-19 pandemics had affected negatively the banks profitability in the beginning of the pandemics with a decreasing of CA in 2020, which is the main indicator of the profitability, and the ROA.

The results also indicate that bank profitability began to recover and improve in the subsequent years (2021 and 2022), demonstrating the resilience of public banks during the crisis.

Shah et al. (2023) examined how COVID-19, as a moderating factor, affects the relationship between profitability determinants such as bank size and operational efficiency and bank profitability in Pakistan. Using a fixed-effects approach, the study hypothesized that the pandemic significantly impacts bank profitability, with a stronger effect appears to be stronger in the Islamic banking sector. The results that COVID-19 had a significant impact on bank profitability. COVID-19 significantly affected the relationship between bank size and profitability (Moderator 1). COVID-19 had a negative and significant impact on the relationship between operational efficiency and profitability (Moderator 2), with this negative effect being more pronounced in Islamic banks. However, the pandemic did not have a statistically significant impact on the relationship between bank deposits and profitability (Moderator 3).

Mateev et al. (2023) examine the impact of market concentration and bank efficiency on the performance of Islamic and conventional banks during the COVID-19 pandemic, the study uses data from 321 banks across 17 MENA countries for the period 2010-2021.

Dynamic regression analysis employing the GMM methodology was used to estimate the relationships. The findings indicate that the COVID-19 pandemic reinforced the importance of market concentration in enhancing bank efficiency, particularly for Islamic banks. Moreover Islamic banks demonstrated greater resilience and efficiency during the crisis. The study concludes that market concentration and bank efficiency played a crucial role in improving bank performance in the MENA region during the pandemic, with Islamic and state-owned banks significantly outperforming others under these conditions.

Bilal et al. (2024) examine the financial structure in the GCC, using fixed effects models and fully modified ordinary least squares (FMOLS). It finds that the impact of liquidity risk on bank profitability differs between the two systems (bank-based versus market-based). It also compares the effects of the 2008 global financial crisis and the COVID-19 pandemic on bank performance. The results show that the COVID-19 pandemic had a statistically insignificant impact on bank performance in the bank-based system. However, in the market-based system, it had a statistically significant negative impact on (ROE), but not a significant effect on (ROA). Conversely, the 2008 global financial crisis had a statistically significant positive impact on bank profitability (ROA and ROE) in the bank-based system, while its effect was statistically insignificant in the market-based system.

Alsharif (2024) aimed to analyze the internal and external factors affecting the profitability of Islamic and conventional banks in the GCC countries, as well as the impact of the global financial crises (2007-2008) and the non-financial crisis caused the COVID-19 pandemic. The researcher employed the Generalized Method of Moments (GMM) methodology, using data from 38 conventional banks and 23 Islamic banks in the GCC countries during the period from 2005 to 2022. The results indicated that the COVID-19 pandemic had a negative and statistically significant impact on the profitability ROA of conventional banks only; however, it did not have a statistically significant effect on the ROA of Islamic banks which were not significantly affected.

El-Chaarani et al. (2024) aimed to analyze the impact of the COVID-19 pandemic on the financial structure and performance of Islamic banks compared to conventional banks operating in the GCC. The study utilized data from 64 banks (32 Islamic and 32 conventional) over the period from 2017 to 2021, encompassing both the pre-pandemic

and post pandemic periods. The researchers employed a panel data methodology, using both fixed assets and stochastic regression models. The results showed that the pandemic had a negative and statistically significant effect on the financial structure of both types of banks (Islamic and conventional). This may be explained by the uncertainty that prompted customers to withdraw deposits or slowed loan growth during the crisis. The coronavirus crisis led to a downward trend in the profitability of controversial banks, as evidenced by statistically significant declines in their financial performance metrics (ROA and ROE). In contrast, Islamic banks managed to remain stable and maintain their profit levels, with no statistically significant changes observed in their financial performance during the pandemic. findings attests to their strength and resilience in times of crisis.

Alshammari aimed to examine the impact of the COVID-19 pandemic on bank depositors in the six GCC economies over the period from 2000 to 2023. The researcher employed with a quantitative perspective, in addition to utilizing a full panel data set and tried to measure this effect. As the main independent variable to be tested, the researcher considered COVID-19 as the dummy and there are two other dependent variables, in consideration of number of deposit accounts and number of depositors. According to the analysis, the researcher found a positive and statistically significant relation between the period of COVID-19 and both dependent variables, in other words, at the period of COVID-19, there was a considerably significant increase in number of deposit accounts, along with number of depositors in GCC banks. However, the researcher thought that the driver of more deposits is not a flight from investment but an increase, for example, amount of precautionary savings, of deposits in bank accounts, among other reason, such as safe haven mentality and trust in banking system.

H3: COVID-19 pandemic has a statistically significant effect on the profitability of GCC banks.

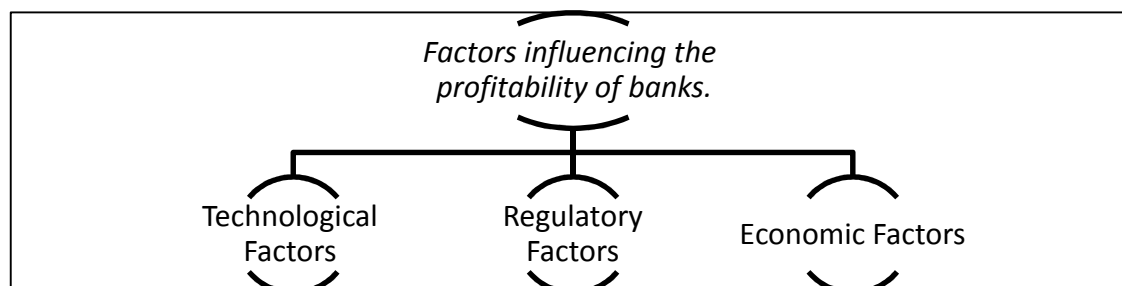
1.6.4 Factors influencing the profitability of banks in the GCC countries

The factors that impact the profitability of the banks. In general, the various conditions or elements that impacts the banks profitability are termed as 'Factors influencing the profitability of banks'. These factors include; interest rates, macro and microeconomic

conditions, regulation, competition, technology, operational efficiency, asset quality and risk management practices.

Figure 1

Factors influencing the profitability of banks.



Source: Prepared by the researcher

1. Economic Factors

Macroeconomic environment, such as inflation rate, interest rates, standard of living has a profound influence on net interest margins and profits in banking industry. Low inflation has a positive effect on the need for banking services through the various channels of the demand of funds to be loaned and the cost of funds available. Moreover, low interest rates have a positive effect on the banking industry, enabling banks to obtain funds at lower costs and resell to a lesser extent (Hao et al., 2023).

However, living standards can affect the banking industry in many ways. People and firms are more likely to avail of credit and various banking facilities to uphold their lifestyle and businesses. Moreover, the high living standards imply high costs for operation banks (Chen, et al., 2023).

It is also found that there is a positive relationship between financial development and growth in, GDP per capita. As, GDP per capita tends to rise, this is equivalent to rising standard of living among the inhabitants of a country and it results to an increase of demand for banking services. This pressure banks to develop and broaden their related banking services to serve the surging population.

To conclude, an increase in net interest margin and profit seems to be closely associated with the preferred economic growth environment with low inflation, low interest rates and higher standard of living. A low inflation rate (along with a low interest rate) reduces the inflation rate and may weakens credit quality however, it good to increase

demand stability and not to higher borrowing costs on credit. Moreover, high standard of living impacts positively banking services, but negatively it impacts widely the operation costs. Additionally, the growth of the GDP per capita is a significant benefit to the extent of banking growth as well as the contribution of banking to surmise the changes in financial demand from the economy (Al-Gasaymeh, 2020).

2. Regulatory Factors

Regulatory changes can subsequently affect banks' liquidity ratios, which reflect their capacity to generate profits through the utilization of their own resources, thereby impacting overall profitability. For example, more stringent regulations that mandate higher liquidity reserves or impose restrictions on specific types of investments can alter the composition of a bank's balance sheet, consequently diminishing its profit-generating potential. Furthermore, modifications to regulatory requirements concerning capital adequacy, those established under in the Basel framework can influence a banks' risk-taking behaviors and profitability. Hence, comprehending the effects of regulatory changes on liquidity ratios is essential for evaluating the financial health and profitability of the banking sector. In this context, it has been posited that banks better equipped to withstand the economic challenges posed by the COVID-19 pandemic, including those in the GCC region, benefited from of their rigorous compliance with regulatory principles. Regulation.

The above is reinforced by evidence that the banking regulations applied to the GCC banks, exemplified by the regulatory measures adopted by the CBB, are very similar to best practices internationally formulated post-GFC. . Chief factors affecting profitability are the Capital Adequacy ratio (CAR), liquidity ratio, and provision for loan loss. As such, the world largest negatives impacts of COVID-19 are expected to further increase after the discontinuation of support measures such as debt moratoria and the resumption of loan markets. The adverse effect of the CAR on the profitability is expected to increase as time passes by (Al-Sharkas & Al-Sharkas, 2022; Assous, 2022).

Technological Factors

Technological factors encompasses the changes, advancements, and emerging trends in technology that substantially influence the operational methods and profitability of banks. These factors affect banks by enabling them to utilize technology not only to

satisfy customer demands but also to manage risks enhance profitability. The primary technological factors impacting bank profits are as follows:

A. Digitale Banking-Dienste (on-line banks services): The appearance of digitally based banking services demand various innovative solutions based on online banking services, on-line banking applications and digital payment services, radically changed the way how banks interact with their clients. Furthermore, all the other cited developments resulted in an improvement of service quality offered to customers. Digitallization offers the opportunity to banks reduce the costs of physical branches and widen the consumer base and overall plays positive role within the strategic aim of the banking sector (Kozubikova & Kotaskova, 2019).

B. Fintech Disruption: With the advent of financial technology startups and their innovative digital interfaces, there has been a retardation in the traditional banking business models by adopting business models like peer-to-peer lending, robo-advisors and block chain-based offerings. So banks will have to respond in a quick manner adopting some sort of either collaborating with fintech companies or by adopting the new technology or through coming up with their own set of innovative solutions (SRISHTI, 2024).

C. Cybersecurity Strategies: With the rising trend of value being exchanged through virtual avenues it becomes increasingly important to devise robust cybersecurity measures by the banks. Thefts of data, ransomware, phishing attacks, not only can lead to operational losses, but also there has to be a mandatory requirement of advanced encryption technologies, threat detection systems and elaborate staff training so as to be able to protect data, comply with regulation and remain profitable (SRISHTI, 2024).

D. Data Analytics and Artificial Intelligence (AI): Through use of data analytics, banks are able to better comprehend customer behavior, evaluate the risks, identify fraudulent activities and optimize their decisions-making processes. Banking institutions, by using big data and machine learning, can effectively delivery differentiated goods, optimize operation and minimize their risk level with consequent profit optimization (Juregui-Velarde et al., 2024).

E. Regulatory compliance and integration of technology within the banking industry is under the ambit of some of the strict regulations and rules enacted in the recent past in the accounting industry. The role of ruling technology within the banking industry is that banks don't only need to imitate the current rules and regulation, they need to be prepared for the upcoming regulation for the banking industry altogether. For this realization of regulatory technology in then banking industry is identified to be a crucial element as it can assist banks in these fundamental ways:

1. Automate the compliance process.
2. The ability to be always up to date with new regulation.
3. The ongoing tracking of the any compliance the firm as against the established rules.,
(Kozubikova & Kotaskova, 2019).

1.7 Variables Definitions

Return on Assets (ROA) measures the profitability of a bank relative to its total assets It is calculated by dividing net income by the average total assets over a specific period. A higher ROA indicates greater efficiency and profitability bank (Ross, 2019)

Return on Equity (ROE) is a metric used to assess a bank's effectiveness in utilizing shareholders 'equity to generate income. It is calculated by dividing net income by the average shareholders' equity over a specific period. A higher ROE indicates greater profitability and operational efficiency of the bank (Mankiw, 2021)

Gross Domestic Product (GDP) refers to the total monetary or market value of all final goods and services produced country's borders during a specific period. It serves as a comprehensive measure of the economic activity and growth of a nation's population. GDP can be calculated using three primary methods: the expenditure approach method, the income approach, and the production approach (Mishkin, 2019).

Inflation is defined as the general increase in the prices of goods and services within an economy over a period of time. It represents the decline in of the purchasing power of money. Various indices are utilized to measure inflation, including the Wholesale Price Index (WPI), and the Consumer Price Index (CPI). Several factors contribute to inflation, among which demand-pull inflation, cost-push inflation, and built-in inflation are prominent (Saunders, 2024).

The interest rate refers to the percentage charged by a lender to a borrower for the use of borrowed funds. Interest rates can vary depending on factors such as type of loan, its durations, associated risk, demand for the loan, and the availability of the funds in the market. These rates have significant implication for the economy, influencing consumption, investment activity, saving, inflation, and exchange rates (Penman & Penman, 2010).

Capital Adequacy Ratio (CAR) serves as the key indicator of a bank's financial strength and stability. It is calculated as the ratio of a bank's capital to its risk-weighted assets. Capital refers to the funds that a bank must hold to absorb potential losses and comply with regulatory requirements. Risk-weighted assets represent the bank's assets adjusted according to the level of risk associated with each asset. A higher CAR indicates a healthier and more robust banking institution (Ross, 2019).

Asset Quality Ratio (AQR) is a metric used to assess the quality and performance of a bank's loan portfolio. It is calculated by dividing the loan impairment expense incurred during the year by the average loans and advances extended to customers over the same year. The loan impairment expense represents the amount a bank sets aside to cover potential losses from non-performing loans. A lower AQR indicates a reduced risk of default for the associated company, which generally correlates with higher profitability for the bank (Ross, 2019).

The management efficiency ratio (MER) assesses the effectiveness with which a bank operates. It is calculated by dividing operating income by the total assets over a given period. Operating income refers to the revenues generated from the bank's core business activities, excluding interest and taxes. Assets represent the resources a bank utilizes to generate revenue. A higher MER indicates greater productivity and operational efficiency of the bank (Ross, 2019).

The Earnings Ability Ratio (EAR) is a superior metric when evaluating how market risk is reflected in income statement and cash statement. This ability ratio is estimated by modeling the fluctuations in foreign exchange and interest rates and assessing their potential impact on net income and cash flow. An increase in the EAR indicates heightened exposure and vulnerability to market risk (Ross, 2019).

The liquidity ratio represents the capacity of a bank to meet its short-term obligations using current or liquid assets. It is calculated as the ratio of current or liquid assets to current liabilities over a specified period. Current or liquid assets refer to those assets that can be readily converted into cash, including cash itself, accounts receivable, and marketable securities. Current liabilities consist of obligations due within one year, such as, accounts payable, short-term debt, and accrued expenses. A higher liquidity ratio indicates a more favorable solvency and liquidity position for the bank.

Chapter Two

Methodology and data

2.1 Methodology

This chapter outlines the research methods employed in the study. It provides a detailed description of the data collection techniques, the sample selection, the research model and comprehensive analysis of gathered information.

This study seeks to examine the determinants of profitability in banks within the GCC and assess the impact of the COVID-19 pandemic on these factors. Employing a quantitative methodology, the research utilizes panel data analysis to explore the relationship between the dependent variable profitability, and various independent variables encompassing both external and internal factors.

The study sample comprises of 59 banks distributed across six countries: 9 Qatar, 10 in Bahrain, 7 in Oman, 15 in UAE, 9 in KSA, 9 in Kuwait. Table 1 provides a detailed breakdown of the sample, including the number of banks in each country, as well as the counts of traditional banks and Islamic banks for per country.

Table 1

Sample of the study

Country	Number of banks	Traditional banks	Islamic banks
Qatar	9	4	5
Bahrain	10	4	6
Oman	7	6	1
UAE	15	10	5
KSA	9	6	3
Kuwait	9	5	4
Total banks	59	35	24

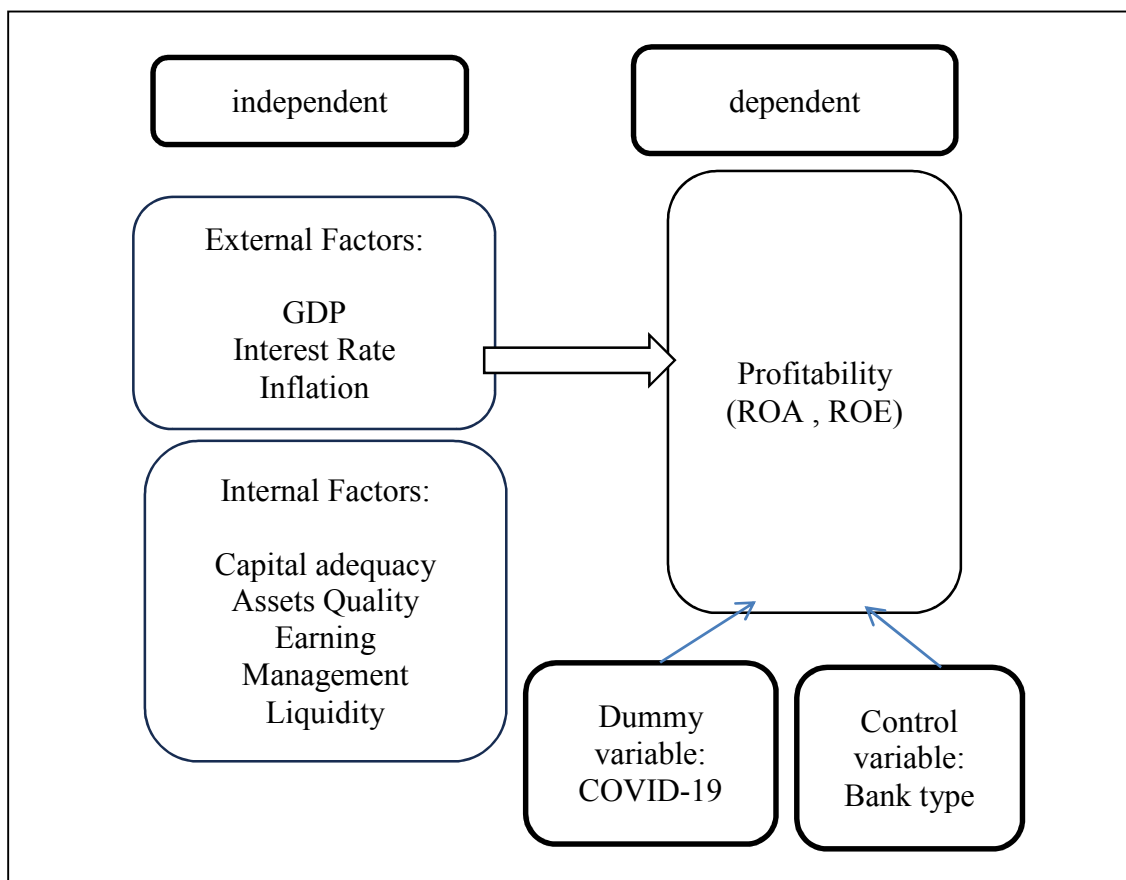
Source: Prepared by the researcher

2.2 Study model

The study model figure 2 consists of four parts. The first part contains the independent variables, which are divided into two parts: internal variables and external variables, internal variable: capital adequacy, assets quality, management, earnings ability, liquidity. External variables: GDP, inflation, interest. The second part involves the dependent variables: ROA and ROE. The third part is the control variable: bank type, the fourth part is dummy variable: COVID-19.

Figure 2

Study model



Source: Prepared by the researcher

2.3 Research model

The following linear model was estimated to test the hypothesis of this study, the models shows for two dependent variable:

$$\text{Model (1) } ROA = \beta_0_{i,t} + \beta_1_{GDP_{i,t}} + \beta_2_{INF_{i,t}} + \beta_3_{INT_{i,t}} + \beta_4_{CAP_{i,t}} + \beta_5_{AQ_{i,t}} + \beta_6_{MAN_{i,t}} + \beta_7_{EAR_{i,t}} + \beta_8_{LIQ_{i,t}} + \beta_9_{COVED_{i,t}} + \beta_{10} BT_{i,t} + \epsilon_{i,t} \dots \dots \dots (1)$$

$$\text{Model (2) ROE} = \beta_{0i,t} + \beta_{1GDPi,t} + \beta_{2INFi,t} + \beta_{3INTi,t} + \beta_{4CAPi,t} + \beta_{5AQi,t} + \beta_{6MANi,t} + \beta_{7EARi,t} + \beta_{8LIQi,t} + \beta_{9COVEDi,t} + \beta_{10BTi,t} + \epsilon_{i,t} \dots\dots\dots(2)$$

Where:

ROA & ROE: represent the Profitability (Dependent Variable)

$\beta_{1\dots\dots10}$ = variables coefficients.

i = number of banks.

t = period form (2015 to 2023).

β_0 = Intercept of model.

β_{GDP} = Gross Domestic Product.

β_{INF} = Inflation.

β_{INT} = Interest Rate.

β_{CAP} = Capital.

β_{AQ} = Assets Quality.

β_{MAN} = Management.

β_{EAR} = Earning.

β_{LIQ} = Liquidity.

β_{COVED} = COVID-19 dummy variable.

β_{BT} = bank type control variable.

ϵ = random Error Term.

2.4 Data Collection

The data collection for this study was conducted through secondary sources, namely the annual reports of sample of total GCC banks which is in total 59 banks (35 traditional banks, 24 Islamic banks) from 2015 to 2023. The sample was selected based on the availability and reliability of the data, as well as the geographical and financial diversity of the banks.

The data was extracted from the financial statements of the banks, such as return on assets (ROA), return on equity (ROE), gross domestic product (GDP), inflation, interest rate, capital, assets quality, management, earnings, and liquidity. The data was obtained from the official websites of the banks, and the official websites of stock exchanges in the GCC and from the websites of World bank group. The data was then organized and coded using Microsoft Excel and E-Views software.

Table 2*Shows the measurement of all variables*

variable	shorts	Measurement	References	Expected Sign
Dependent variables				
return on asset	ROA	Net income to total assets		Dependent
return on equity	ROE	Net income to total assets		Dependent
Internal variable				
Capital adequacy ratio	CAP	equity to assets	(Al-Gazzar, 2014; Al Zaidanin, 2020; Altan et al., 2014; Dembel, 2020; Kashif & Ali, 2022; KWEKU, 2023; Mohd, 2013)	Positive
Assets quality ratio	AQ	total loan to total assets (for Islamic banks: total financing to total assets)	(Akhtar et al., 2024; Al Zaidanin, 2020; Altan et al., 2014; Kashif & Ali, 2022; Mohd, 2013)	Negative
Management efficiency ratio	MAN	operating expense to total assets	(Amira et al., 2021; Belabed & Al-Nawi, 2022; Kashif & Ali, 2022; Khalou & Sufyan; Mensah-Dadzie, 2; Mohd, 2013)	Positive
Earnings ability ratio	EAR	operating expense to operating income	(Jadeja & Raythatha, 2025; Mursalini et al., 2025)	Positive
Liquidity ratio	LIQ	liquidity assets to total assets	(Akhtar et al., 2024; Altan et al., 2014; Ledhem & Mekidiche, 2020; Mohd, 2013; Sar & Panigrahi, 2025)	Positive
External variable				
gross domestic product	GDP		World bank indicators	Positive
inflation	INF		World bank indicators	Negative
Interest rate	INT		World bank indicators	Negative
Control variable				
Bank type	BT	0= Islamic	1= TRADITIONAL	
Dummy variable				
COVID_19	COV	Dummy 0 for COVID _ 19 and 1 otherwise		

Source: Prepared by the researcher

Financial ratios have been used to measure the performance of traditional banks as well as Islamic banks. These ratios reveal important details about the bank's financial condition, its operational effectiveness, and the management of risks in various banking sectors. The chosen indicators are instrumental in determining the banks' capacity to withstand losses, to distribute and manage resources in a proper manner, and to be profitable over a long period of time. Here is a comprehensive description of each financial indicator:

1. BT (Bank Type): The variable "Bank Type" B.T. stands for either conventional or Islamic bank. As a controlling factor, it distinguishes banks that follow traditional interest-based practices from those that operate under Sharia-compliant principles. The coding is 0 for Islamic banks and 1 for conventional banks, thus allowing the two banking models to be compared.
2. GDP (Gross Domestic Product): GDP is the aggregate market value of all the goods and services produced in a country during a certain time, which is normally a year. In this research, GDP is used as a remote variable that represents the environment of the economy. A rise in GDP boosts bank performance as the growing economy not only raises the demand for financial services, but also strengthens the loan repayment capacity. However, a fall in the economy can do the reverse.
3. INF (Inflation): Inflation indicates the pace at which the general price level increases, and purchasing power decreases. In the case of banks, inflation affects the financing costs and credit demand. Inflation that is too high may cause the raising of interest rates and consequently profitability will be affected. Inflation is considered as an external factor that could have an impact on bank performance, especially when it comes to the real returns on assets and liabilities.
4. IR (Interest Rate): Interest rate is basically the charge for the use of money or profit earned through lending. It is one of the main factors that determine the profit of a bank where most of the bad news are for conventional banks which are highly dependent on interest-based lending. Despite the fact that Islamic banks have profit-sharing schemes, interest rates still can affect their performance indirectly.
5. ROA (Return on Assets): Return on Assets is a measure of profitability which shows the bank's ability to generate income out of its assets. It is a study variable where higher ROA is the indicator of better assets utilization and operational efficiency.

6. ROE (Return on Equity): The main goal of ROE is to calculate profit relative to shareholders' equity, thus telling how efficiently a bank is turning invested capital into profit. Just like ROA, ROE is a dependent variable that points to the company's financial health from the perspective of the shareholders.
7. CAP (Capital Adequacy Ratio): Equity to Assets Ratio: With this ratio, one can figure out the bank's capital strength by comparing the equity with total assets. High ratios mean that banks are less dependent on borrowing, are at less risk financially, and are stronger to survive market fluctuations or shocks. The ratio is used by both conventional and Islamic banks to determine their comfort level with potential losses.
8. AQ (Asset Quality Ratio): The instrument exposes the side of a bank's assets that are dedicated to loans or financing through a percentage. Thus, for a conventional bank, the figure would be that of total loans over total assets; for an Islamic bank-total financing over total assets. The larger the figure, the more exposure a bank has to risk in the lending sphere, which in turn can generate more profit if the bank is able to manage it well. Particularly for the Islamic banks, this ratio is of paramount importance, taking into consideration the Sharia-compliant financing structures.
9. MAN (Management Efficiency Ratio): With the help of this ratio, the bank's management is able to assess the efficiency of bank operations and operating costs in relation to the bank's assets. The indication of low figures in the respective ratio is that the bank uses its funds more efficiently, thus turning out more income per a certain lesser amount of expenditure. A certain measure in both the conventional and the Islamic banking sectors which define operational efficiency.
10. EAR (Earnings Ability Ratio): Operating Expenses to Operating Income: EAR is a measure of business efficiency and one of several ways it can be calculated is by comparing the company's operating expenses with its operating income. Low ratios correspond with high efficiency and profitability, while the opposite is true for high ratios which signify that the company has to work on its operations to improve them.
11. LIQ (Liquidity Ratio): Liquidity Assets to Total Assets: The measurement in question is the share of the unit's assets that are kept in liquid form, i.e., can be quickly turned into cash out of the total assets the unit may possess. The higher the figure, the safer the bank will be when facing a situation where inability to meet

short-term obligations occurs, ensuring stability not only for the conventional but also for the Islamic bank.

12. COV(COVID-19): This variable represents the influence of the COVID-19 pandemic on bank metrics. It is numbered 1 for the years 2020–2022 (pandemic period) and 0 for the rest, allowing the impact of COVID-19 on different metrics such as ROA and ROE to be analyzed.

2.5 Statistical Analysis Methods

The bank profitability study used panel data regression models to analyze the effect of cross-sectional and time-series variables. These models take into account differences and correlations between banks and over time. The researchers used two kinds of panel data models: fixed effects and random effects. The fixed effects model assumes that the regression intercepts for different banks are different, while the random effects model assumes that the intercepts are randomly distributed. The Hausman test was used to choose the most suitable model for each set of variables.

Furthermore, diagnostic tests such as multicollinearity checks were performed to confirm the validity and reliability of the findings. The data was analyzed using E-Views, and the results were shown in tables. The study understood the results by looking at regression coefficients, significance levels, and R-squared values, and also by talking about the implications and limitations of the results.

Chapter Three

Results

This chapter provides the results of a quantitative study based on the data extracted from banks in the GCC countries during the period 2015-2023. The research hypotheses were tackled through an examination of the data employing panel data regression techniques. Various models for the study were estimated and identified with the help of E-Views software version 12. The findings are structured into five main sections: descriptive statistics, correlation analysis, regression outcomes for external and internal factors, the effect of the COVID-19 pandemic, and Control variable test.

3.1 Descriptive Statistics

Descriptive statistics provide an initial overview of the dataset and offer useful insights for further analysis. The dataset for this study includes 531 observations over nine years (2015–2023) of banks in GCC countries. This part is intended to present the data spread and changes, along with, identifying the initial figures and trends of the banking sector.

For each variable, the descriptive measures reported include the mean, median, maximum, minimum, and standard deviation (Std. Dev.). These statistics are presented for the dependent variables (ROA, ROE), the internal variables based on the CAMEL indicators, the external variables (GDP, inflation, and interest rate), as well as the control variable (bank type). This provides a comprehensive understanding of the central tendencies and dispersion of the data prior to conducting regression analysis.

Table 3

The descriptive statistical indicators for the dependent variables and independent variables

	Observations	Mean	Median	Maximum	Minimum	Std. Dev.
ROA	531	0.128%	1.215%	7.055%	-436.150%	19.093%
ROE	531	8.068%	8.856%	168.135%	-145.502%	12.211%
GDP	531	2.98E+11	1.75E+11	1.11E+12	3.11E+10	2.75E+11
INF	531	1.509881	1.814077	4.995276	-2.540315	1.887313
IR	531	2.6998	2.5	6.25	0.15	1.708747
CAP	531	0.038753	0.136358	0.439522	-15.72771	1.076353
AQ	531	0.585492	0.634613	2.468833	0	0.193878
MAN	531	-0.00218	-0.01004	0.278743	-0.105116	0.028879
EAR	531	-0.11291	-0.30568	5.292419	-6.167882	0.680914
LIQ	531	0.170906	0.14377	0.991822	0.026875	0.109826
BT	531	0.59322	1	1	0	0.491696

Table 3 reports 531 observations for all variables used in the study, wherein the dependent variables were ROA and ROE. The average ROA for the entire sample was 0.128%, with values ranging from a minimum of -436.15% to a maximum of 7.055%. The standard deviation of ROA was 19.093%. ROE had a mean value of 8.068%, a minimum of -145.502%, a maximum of 168.135%, and a standard deviation of 12.211%.

The findings reveal that the average ROA throughout the sample was quite low, which is consistent with the conservative nature of the GCC banking sector and the macroeconomic challenges in the region. On the other hand, ROE demonstrated a larger variation, thus, differences in the practices of equity management among banks were more profound. Moreover, a set of external macroeconomic variables such as GDP growth, inflation, and interest rates, experienced changes through the study period, especially during the COVID-19 pandemic. Internal banking indicators like the capital adequacy ratio, asset quality, and liquidity also showed wide-ranging changes, also BT shows a minimum value is 0, its maximum is 1, and the median is 1. This confirms that it is a "dummy variable" used to classify the sample into two groups (traditional banks=1, Islamic bank=0), The mean (0.59) indicates that approximately 59% of the sample

belongs to the category assigned the value of 1 which is traditional banks, thus, they offer significant background when assessing their association with profitability.

3.2 Correlation Analysis

A Pearson correlation matrix was created to examine the first connections between the variables. The matrix shows the extent as well as the direction of the linear relationships between each pair of variables in the model. The absolute value of the correlation coefficients indicates the size of the relationship, whereas the sign (positive or negative) shows its direction. Besides, the correlation matrix helps to figure out the possible multicollinearity among the independent variables.

According to the Table 4 in the correlation matrix indicate that any variable is perfectly correlated with itself, capital adequacy, assets quality, GDP, INF and COV have positive relationship with ROA on the other hand, management, earning, liquidity, interest, bank type has a negative relationship with ROA. ROE have a positive relationship with all variable accept capital adequacy and COV. The relationships between independent variables are generally low, indicating no multicollinearity problems in subsequent regressions.

Normality and multicollinearity tests were conducted to assess the robustness of the results the Variance Inflation Factor (VIF) test shows a value less than 10 indicating the absence of multicollinearity between the independent variables. The result of the (VIF) is included in Table 5-6.

Table 4*The correlation coefficient*

	ROA	ROE	CAP	AQ	MAN	EAR	LIQ	GDP	INF	IR	BT	COV
ROA	1.000											
ROE	-0.523	1.000										
CAP	0.184	-0.014	1.000									
AQ	0.162	0.034	0.259	1.000								
MAN	-0.242	0.179	-0.699	-0.304	1.000							
EAR	-0.058	0.104	-0.422	-0.238	0.658	1.000						
LIQ	-0.224	0.092	-0.411	-0.348	0.400	0.156	1.000					
GDP	0.062	0.113	0.094	0.150	0.034	0.106	-0.171	1.000				
INF	0.002	0.142	0.044	0.053	-0.039	0.010	0.040	0.081	1.000			
IR	-0.002	0.086	-0.059	-0.008	-0.033	-0.024	-0.043	0.016	0.267	1.000		
BT	-0.036	0.066	-0.077	0.063	0.060	0.008	0.091	0.103	-0.009	-0.066	1.000	
COV	0.029	-0.008	-0.047	0.001	0.022	0.078	-0.057	0.010	0.018	0.004	0.006	1.000

Table 5*multicollinearity test (VIF) for (ROA)*

Variable	Coefficient	Uncentered	Centered
	Variance	VIF	VIF
C	0.004616	73.77706	NA
GDP	1.97E-26	29.39483	1.436896
INF	2.14E-05	1.909898	1.129192
IR	4.09E-05	6.265231	1.504705
CAP	0.000212	1.832685	1.827588
AQ	0.006894	38.84582	1.072509
MAN	0.604064	1.97183	1.925793
EAR	0.000348	1.276952	1.206081
LIQ	0.018171	9.727506	1.243638
COV	0.000308	1.463505	1.021416

Table 6*multicollinearity test (VIF) for (ROE)*

Variable	Coefficient	Uncentered	Centered
	Variance	VIF	VIF
C	0.001597	73.77706	NA
GDP	6.80E-27	29.39483	1.436896
INF	7.41E-06	1.909898	1.129192
IR	1.41E-05	6.265231	1.504705
CAP	7.35E-05	1.832685	1.827588
AQ	0.002385	38.84582	1.072509
MAN	0.208978	1.97183	1.925793
EAR	0.00012	1.276952	1.206081
LIQ	0.006286	9.727506	1.243638
COV	0.000107	1.463505	1.021416

3.3 Regression estimation

The central goal of this research is to identify the internal and external factors that affect the profitability of banks in the GCC and quantify the COVID-19 pandemic's moderating impact. Consequently, the study considers two dependent variables and nine independent variables that may influence bank profitability.

Before conducting the regression analysis, the research has gone through diagnostic tests, among which the Hausman test has been performed to decide whether the Fixed Effects Model (FEM) or Random Effects Model (REM) is more suitable. The Hausman test results for the ROA and ROE models indicate that the probability values for these models are 0 and 0.0007, respectively, which are both less than the 0.05 significance level, meaning that the Fixed Effects Model is the most suitable one for the analysis. Hence, FEM was chosen as the study's best model. Appendix B contains more information about the Hausman test results.

3.3.1 Model (2) Dependent Variable ROA

Table 7

Regression result for fixed effect model ROA

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.08425	0.067938	-1.24012	0.2156
GDP	3.69E-14	1.40E-13	0.263333	0.7924
INF	-4.94E-05	0.004629	-0.01067	0.9915
IR	-0.00383	0.006392	-0.59859	0.5497
CAP	-0.05683	0.014572	-3.89981	0.0001
AQ	0.218962	0.083028	2.637206	0.0086
MAN	-0.88098	0.777216	-1.13351	0.2576
EAR	0.013332	0.018649	0.714879	0.475
LIQ	-0.24087	0.134801	-1.78682	0.0746
COV	-0.00108	0.017563	-0.0616	0.9509
R-squared	0.203916			
Adjusted R-squared	0.088716			
F-statistic	1.770108			
Prob(F-statistic)	0.000398			

3.3.1.1 Regression Analysis of External Factors

The initial group of regression models, as illustrated in Table 5, was created to analyze how external macroeconomic factors, such as GDP growth, inflation, and interest rates, affect bank profitability. The panel data were evaluated by both fixed effects and random effects models, and the Hausman test indicated that the fixed effects model was suitable for this analysis.

The regression output for Model (1) (ROA) reveals that the economic variables, i.e., GDP, interest rates, and inflation, did not produce statistically significant impacts on bank profitability. To be more precise, the GDP variable pointed to a positive effect; however, it was not statistically significant at the 5% level (p-value = 0.7924). The coefficient for GDP was 3.69E-14 and the t-statistic was 0.263333, which means that even though GDP has a positive impact on ROA, this effect is not significant, thus, there is no substantial relationship between GDP and bank profitability. So, there is no effect of GDP on the profitability (ROA) of GCC banks.

H1.1: GDP doesn't have a statistically significant effect on the profitability (ROA) of GCC banks.

The INF variable had a detrimental effect on ROA, but the effect was not statistically significant at the 5% level (p-value = 0.9915). The coefficient was -4.94E-05 with a t-statistic of -0.01067. The negative coefficient alone would have implied that the variable inflation might have had an adverse effect on the dependent variable, but the enormously high p-value shows that this impact is not statistically significant. Hence, inflation (INF) is not a significant factor in the profitability (ROA) ratio, and it is not possible to ascertain any relationship between INF and ROA.

H1.2: INF doesn't have a statistically significant effect on the profitability (ROA) of GCC banks.

In a similar way, the IR variable influenced ROA negatively, but the impact was not statistically significant at the 5% level (p-value = 0.5497). The coefficient was -0.00383, and the t-statistic was -0.59859. The negative coefficient would indicate a possible detrimental effect of profitability, but the high p-value shows that the effect is

not statistically significant. Hence, the interest rate (IR) is not a significant factor for ROA, and it is not possible to infer any relationship between IR and profitability.

H1.3: IR doesn't have a statistically significant effect on the profitability (ROA) of GCC banks.

This mean rejects the hypothesis of external variable, and there is no relationship between the external factors and the ROA of GCC banks.

H1: External variable doesn't have a statistically significant effect on the profitability (ROA) of GCC banks.

3.3.1.2: Regression Analysis of Internal Factors

A second model was developed to analyze how internal factors influenced bank profitability. The internal factors were capital adequacy (CAP), asset quality (AQ), management efficiency (MAN), earnings ability (EAR), and liquidity (LIQ).

The findings for ROA show that capital adequacy (CAP) and asset quality (AQ) are two factors that have a statistically significant impact on profitability. On the other hand, management efficiency (MAN), earnings ability (EAR), and liquidity (LIQ) do not have statistically significant effects.

The CAP variable had a coefficient of -0.05683, a t-statistic of -3.8998, and a p-value of 0.0001. This points to a statistically significant negative effect on ROA at the 5% significance level. To put it differently, even though CAP impacts profitability negatively, the relationship is significant, pointing to a substantial association between capital adequacy and ROA.

H2.1: CAP has a statistically significant effect on the profitability (ROA) of GCC banks.

AQ variable has a coefficient of (0.218962), a t-statistic of (2.63721), and a probability value of (0.0086) it have a statistically significant effect and positive relationship with ROA p-value less than 5%. AQ variable has a positive influence on the dependent variable ROA.

H2.2: AQ has a statistically significant effect on the profitability (ROA) of GCC banks.

MAN variable showed a negative but it was not statistically significant at a probability value of (0.2576) because its more than the 5%, a coefficient of (-0.88098), a t-statistic of (-1.13351). MAN variable have a negative influence on the dependent variable ROA, and there is no significant impact or a relationship between MAN and profitability (ROA).

H2.3: MAN doesn't has a statistically significant effect on the profitability (ROA) of GCC banks.

EAR variable showed a positive effect with not statistical significance at the 5% level (p-value <0.475), the coefficient is (0.013332) with a t-statistic of (0.714879). EAR variable have a positive influence on the dependent variable ROA, but there is no significant impact or a relationship between EAR and profitability (ROA).

H2.4: EAR doesn't has a statistically significant effect on the profitability (ROA) of GCC banks.

LIQ variable showed a negative but it was not statistically significant at a probability value of (0.0746) because its more than the 5%, a coefficient of (-0.24087), a t-statistic of (-1.78682). LIQ variable have a negative influence on the dependent variable ROA, and there is no significant impact or a relationship between LIQ and profitability (ROA).

H2.5: LIQ doesn't has a statistically significant effect on the profitability (ROA) of GCC banks.

Capital adequacy is one of the factors that have a statistically significant impact on the profitability of the bank, however, the relationship is negative with the return on assets, thus, it is in fact a strong capital buffer that should be maintained not only to be able to absorb possible losses but also to restore the confidence of investors. On the other hand, asset quality shows a statistically significant positive relationship with the return on assets which is in line with the idea that better quality of assets leads to fewer provisioning costs and, as a result, higher profits.

H2: there is two hypothesis (CAP, AQ) they have statistically significant effect and relationship with ROA and three hypotheses (MAN, EAR, LIQ) don't have statistically significant effect on ROA of GCC banks.

3.3.1.3 The Impact of COVID-19

In order to measure the effect of the covid-19 health crisis on the profits of the banks, a dummy variable was added to represent the years 2020-2021 and 2023. This variable reflects the overall effect of the pandemic on the performance of banks in the GCC while other factors are taken into account.

The regression outcomes imply that the COVID-19 variable is associated with a negative, however, statistically insignificant effect on ROA. To be more precise, the coefficient value -0.00108 indicates that banks' performance during the pandemic years 2020-2022 was only slightly lower compared to normal years 2015-2019 and 2023. The p-value for the COV variable is 0.9509, which is higher than the 5% significance level, meaning that the difference between the pandemic years and other years is statistically negligible. Thus, the pandemic did not have a statistically significant impact on ROA in the sample.

H3: The COVID-19 pandemic doesn't has a statistically significant effect on the profitability (ROA) of GCC banks.

The findings indicate that the coronavirus crisis situation has put profitability under pressure, and this was mainly caused by the increased credit risk, lower lending activities, and more significant income-generating operations' cost areas. The detailed analysis with the interaction terms to look at the moderating effects revealed that the pandemic made the positive influence of GDP on profitability to be less strong. Still, at the same time, it increased the effect of internal factors like capital adequacy and liquidity. These results highlight the fact that in times of systemic crises, a bank's internal financial robustness is even more decisive for its survival than external macroeconomic conditions.

3.3.2: Model (2) Dependent Variable ROE:

Table 8

Regression result for fixed effect model (ROE)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.091452	0.03996	2.288599	0.0226
GDP	-4.42E-14	8.25E-14	-0.53561	0.5925
INF	0.008106	0.002722	2.977263	0.0031
IR	0.006772	0.00376	1.801098	0.0723
CAP	0.032309	0.008571	3.769516	0.0002
AQ	-0.09799	0.048835	-2.00659	0.0454
MAN	0.135286	0.457141	0.29594	0.7674
EAR	-0.00556	0.010969	-0.50695	0.6124
LIQ	0.153708	0.079287	1.938632	0.0532
COV	0.00467	0.01033	0.452084	0.6514
R-squared	0.326626			
Adjusted R-squared	0.229183			
F-statistic	3.351969			
Prob(F-statistic)	0			

3.3.2.1 Regression Analysis of External Factors:

As show in table 6 The regression results for model (2) ROE showed that economic factors GDP and interest rates had not statistically significant effects on profitability (ROE) but there is a statistically significant effects and a relationship between the INF and the ROE of GCC banks.

For the GDP variable, GDP showed a positive effect with not statistical significance at the 5% level (p-value <0.5925), the coefficient is (-4.42E-14) with a t-statistic of (-0.53561). This indicates that GDP has a positive influence on the dependent variable, but this influence is not significant on profitability and this mean there is no relationship between GDP and profitability (ROE).

H1.1: GDP doesn't have a statistically significant effect on the profitability (ROE) of GCC banks.

The INF variable has a coefficient of (0.008106), a t-statistic of (2.977263), and a probability value of (0.0031) it has a statistically significant effect and positive relationship with ROE p-value less than 5%. This mean we accept the hypothesis of external variable INF, because there is a relationship between the INF and the ROE of GCC banks.

H1.2: INF has a statistically significant effect on the profitability (ROE) of GCC banks.

Meanwhile, the IR variable was positive but it was not statistically significant at the 5% level (p-value < 0.0723), and has a coefficient is (0.006772), with a t-statistic of (1.801098). That IR has no significant impact on profitability (ROE) and there is no relationship between IR and profitability (ROE).

H1.3: IR doesn't have a statistically significant effect on the profitability (ROE) of GCC banks.

H1: There is effect of external factor on the profitability ROE of GCC banks this mean there is a relationship between INF and profitability (ROE). But there is no effect of GDP and IR on profitability ROE of GCC banks.

3.3.2.2 Regression Analysis of Internal Factors

The findings demonstrate for ROE showed that CAP, AQ and LIQ has a statistically significant effect on profitability, but MAN, EAR don't have a statistically significant effect on profitability.

CAP variable has a coefficient of (0.032309), a t-statistic of (3.769), a probability value of (0.0001), P-value less than 5% so it have a statistically significant effect and positive relationship with ROE.

H2.1: CAP has a statistically significant effect on the profitability (ROE) of GCC banks.

AQ variable has a coefficient of (-0.097992), a t-statistic of (-2.006591), and a probability value of (0.0454), p-value less than 5% so it have a statistically significant effect but negative relationship with ROE.

H2.2: AQ has a statistically significant effect on the profitability (ROE) of GCC banks.

MAN has a probability value of (0.7674) and a coefficient of (0.135286), a t-statistic of (0.29594), because p-value more than 5% variable don't have a statistically significant effect on profitability (ROE).

H2.3: MAN doesn't has a statistically significant effect on the profitability (ROE) of GCC banks.

(EAR) has a probability value of (0.6124) and a coefficient of (-0.00556), a t-statistic of (-0.50695), variable don't have a statistically significant effect on profitability (ROE) because the p-value more than 5%.

H2.4: EAR doesn't has a statistically significant effect on the profitability (ROE) of GCC banks.

(LIQ) has a coefficient of (0.153708), a t-statistic of (1.938632), a probability value of (0.0532), they have a statistically significant effect on profitability p-value equal 5% and positive relationship with (ROE).

H2.5: LIQ has a statistically significant effect on the profitability (ROE) of GCC banks.

H2: there is 3 hypothesis have statistically significant effect of internal factors and relationship on ROE (CAP, AQ, LIQ) and there is 2 hypothesis (MAN, EAR) don't have statistically significant effect on ROE of GCC banks.

3.3.2.3 The Impact of COVID-19

The regression results reveal that the COVID-19 dummy variable don't have a statistically significant effect on ROE. The dummy variable COV don't have significant on ROE because the value of the coefficient (0.00467) indicates a very slight improvement in shareholder returns during the pandemic period compared to other periods. And the p-value (0.6514) is also not significant it is more than 5%.

H3: The COVID-19 pandemic doesn't have a statistically significant effect on the profitability (ROE) of GCC banks.

3.3.3 Control variable (bank type)

Table 9

Control variable test

	ROA	ROE
Variable	Prob.	Prob.
C	0.8157	0.6821
GDP	0.4709	0.1179
INF	0.8186	0.0123
IR	0.7752	0.0453
CAP	0.6677	0.0001
AQ	0.1025	0.0603
MAN	0	0
EAR	0.0055	0.5792
LIQ	0.0366	0.0825
COV	0.7068	0.9792
BT	0.6315	0.243

We make a control to test if there is difference between Islamic banks and traditional banks, for (ROA) BT P-value was (0.6315) and it more than 5% so it's not significant, (ROE) BT P-value was (0.243) its more than 5% also not significant. The result shows that there is on difference between bank type Islamic or traditional banks to effect on profitability.

3.4 Discussion results

GDP showed a negative and statistical insignificant impact on GCC bank profitability both ROA and ROE. With the Prob. values exceeding the 5% significance level in both models (0.7924 and 0.5925, respectively). Despite the direct negative repercussions of the COVID-19 pandemic and the accompanying lockdown restrictions, which led to a decline in demand for credit and increased in the risk of default as a result of the economic recession, banks maintained stable profitability levels. This is mainly due to massive government support packages and financial buffer policies that acted as a buffer against fluctuations in GDP and oil prices.

Accordingly, the proximity of Gulf banks to international financial markets as well as financial movement by foreign portfolio and other investors seems to have stronger effects on them than the variations in the domestic GDP, given also the all economies were devastated by the recent global crisis. The appearance of the non-significant negative signal in the ROE model suggests that a typical feature of banks is to build their capital buffers in booms, which statistically acts downward on the return ratio as greater replenishments of equity stocks takes place than growth in the dividends. Altogether, these findings support the view that the Gulf States stand alone and that profitability is institutionally insensitive to the GDP periodically relative size, and so it is influenced more by the internal management efficiency, capital strength and the monetary authorities policy. Contrary to the theoretical expectations of this study, it does not overall provide an evidence in favor of the first hypothesis. This result is in line with some earlier empirical findings such as (Khan, 2022a) who showed that macroeconomic factors, including the GDP, often do not have any significant link to performance of GCC banks or in the Gulf Co-operation Council (GCC) countries in general; this conclusion is also consistent with (Bilal et al., 2024) in their (2008) study.

Inflation exhibited a mixed effect it had a positive and significant relationship with ROE but an insignificant and negative relationship with ROA. This supports the second hypothesis regarding the effect of inflation on profitability. The positive relationship found with ROE can be attributed to the relative ability of different GCC banks in accurately predicting the inflation rate and to adjusting their interest spreads and repricing their credit products accordingly. In doing this, the net interest income increases by a factor which disproportionately to increase leverage in the shareholders' (ROE) interests. However, the weaker relationship found with the ROA can be credited to the fact that operating costs and the higher nominal asset value tend to offset the increases in interest margins expected from inflation.

In terms of literature comparison, the positive link with ROE aligns with (Khan, 2022a; Sobol et al., 2023), who argued that banks in stable financial environments like the GCC can exploit inflation to improve profit margins. Interestingly, the results regarding Islamic versus Conventional frameworks find partial support in (Hadriche, 2015), who noted that inflation has a positive and significant coefficient for Islamic banks, as an increase in inflation leads to an increase in both costs and income, thereby improving

profitability. However, (Hadriche, 2015) also found that inflation does not have a significant effect on the performance of Conventional banks. These findings contrast with (Bilal et al., 2024), who found inflation to be a non-significant determinant across their sample.

Interest rates showed its effect was statistically insignificant on profitability of GCC banks in the study sample was not directly affected by interest rate fluctuations during the study period. This can be explained by the fact that banks' have succeeded in adopting effective hedging policies and managing the asset and liability gap with high efficiency, which has made profit margins resilient to external changes in monetary policy. Furthermore, government interventions and payment deferral programs during the COVID-19 pandemic may have disrupted the traditional transmission mechanism of IR impact on profitability. The non-significant results of interest rates (IR) found in this study are consistent with the empirical evidence provided by (Adedeji et al., 2019) in their analysis of GCC banks.

The conclusion follows that GCC banks have built very high resilience, as domestic operating management and hedging activity, has isolated bottom line profits from monetary shocks. Additionally, the intervention from Central Governments and liquidity injections stabilizes bank evolution to be even less sensitive to interest rate variation. The non-significant effect of IR on bank profitability found in this research, is not consistent with the results of (Tashkandi, 2019) who found a positive and significant effect of interest rate as a main factor of profitability for Islamic banks at GCC countries.

This inconsistency could be explained scientifically due to the difference in the period of study, while Tashkandi used sample covering from 2005 to 2016 (an earlier period where monetary characteristics are different) the present sample for 2008 to 2023 which covers the COVID-19 pandemic crisis and the risky unconventional monetary policies that followed by the central banks of GCC countries back to back, for this modern period, the market interest rate effects tended to average bank profits. So, in the post-pandemic era, the internal resilience and the help of the government tend to be more decisive than the market rate of interest.

These findings are consistent with the study of (Masood et al., 2015) who emphasized that GDP and inflation are among the most critical external determinants of bank profitability in OIC member states. Likewise (Khan, 2022b) reported that macroeconomic factors such as GDP and inflation significantly explain profitability in GCC banks confirming the sensitivity of financial performance to changes in the economic environment. The difference in the impact of GDP on ROA versus ROE in this study can be interpreted in light of the observation that ROA reflects efficiency in asset utilization whereas ROE captures shareholder value and tends to respond more strongly to inflationary trends. Overall the results support previous research (Masood et al., 2015); (Khan, 2022a)) and reinforce the conclusion that macroeconomic stability is crucial for sustaining profitability in GCC banks.

By matching the results of (Adedeji et al., 2019), this study reinforces the conclusion that the GCC banking sector operates under a unique structural environment that decouples immediate profitability from global interest rate cycles. The discrepancy highlights that in the specific timeframe of this study (2015-2023), which includes the volatile COVID-19 era, the ability of GCC banks to manage interest rate risks and purchasing power fluctuations became a more decisive factor in protecting equity returns compared to earlier periods.

Capital Adequacy measured by total equity to total assets, which measures a bank's ability to absorb operating losses and protect depositors, showed a strong and significant positive relationship with profitability (ROE), this supports the relevant hypothesis and indicates that well-capitalized banks are more resilient, less prone to bankruptcy risks, and better positioned to reduce the cost of capital and improve overall performance by enhancing market confidence, which ultimately amplifies returns for shareholders (Al-Musai, 2014; Almanaseer, 2014; Srairi, 2009).

On the other hand, CAP was negatively and significantly related to profitability (ROA). This is a typical risk-return trade-off, which is caused by the 'opportunity cost' of maintaining too much capital. Banks that maintain a higher capital buffers, often due to stringent regulatory requirements like Basel III, may adopt a more conservative investment stance, bypassing high-yield opportunities to mitigate risk. Furthermore, during the crisis periods covered in this study (2015-2023), banks might have increased their capital reserves at the expense of lending activities, leading to a decline in overall

asset utilization efficiency (Abdulla & Ebrahim, 2022; Khan, 2022a). This suggests that while high capitalization strengthens institutional stability, it may lead to 'over-capitalization', where a higher proportion of assets is held in low-risk, low-yield forms, thereby diluting the bank's total asset productivity.

Asset Quality measured by total loan to total assets and for Islamic banks total financing to total assets, the empirical results show that AQ has a significant positive impact on ROA, supporting the study hypothesis. This indicates that during the period GCC banks that allocated a larger proportion of their assets to financing activities achieved higher operating returns. This result is consistent with the findings of (Abdulla & Ebrahim, 2022; Al-Damir, 2014; Srairi, 2009), who confirmed that strong funding portfolios are key drivers of profitability in the GCC banking sector. On the other hand, AQ was found to have a significant negative impact on profitability (ROE), negative impact is expected.

This inverse relationship is economically justified by the increased risk of credit and the need to allocate higher provisions for loan losses during periods of volatility. As the level of lending increases, the additional cost of management of potential default increases, which directly impacts on net income and, ultimately, shareholders returns. These latter results are coherent with the findings of (Almanaseer, 2014; Bilal et al., 2024) where they found significant and positive effect on each of the profitability of GCC banks, which confirms that high levels of credit exposure and poor asset quality can significantly disturb the financial efficiency of GCC banks. The (dual) nature of these results reflects the risk and return trade-offs of the banking sector, a higher such lending increases the asset returns (ROA), while it incurrences risk costs on the equity (ROE).

Management Efficiency measured by ratio of operating expenses to total assets, showed a negative but statistically insignificant impact on profitability. This suggests that while inefficiencies in cost management may reduce returns, but the effect is not strong enough to be conclusive for GCC banks during the study period. Earnings ability also exhibited a negative and statistically insignificant relationship with profitability, indicating that variations in income-generating capacity did not significantly influence profitability during the study period.

These factors may not directly contribute to profitability but are more closely linked to maintaining financial stability and long-term sustainability rather than causing immediate fluctuations in profitability. The limited significance of management efficiency and earnings ability in this study partly diverges from the arguments of (Abdulla & Ebrahim, 2022; Al-Damir, 2014; Al Malkawie, 2020; Khan, 2022a; Srairi, 2009) who emphasized the critical role of operational efficiency and revenue diversification in enhancing bank performance.

This anomaly can however be theoretically explained by the unique structural background of the banking region, i. E. Since the pressures of government intervention were high, the financial environment was stable and capital levels were also quite high in the GCC countries, the effect of these factors on performance is relatively difficult to measure. Therefore, balance sheet and capital adequacy measures take prominence over efficiency variables.

Liquidity which is used to evaluate the bank's capacity to settle its current obligations had a significant positive impact on ROE. However, the relationship with ROA was not statistically significant. Contrary to the expectations of the hypothesis, the result implying that adequate liquidity position increases shareholders' wealth rather than the profitability of the bank's using total assets. The bank with higher percentage of liquid assets in its total assets is most likely to have positive results.

This means that the bank's asset structure as a whole becomes more resilient and secure, reducing liquidity risk and enhancing its ability to withstand financial shocks, which translates into better performance. And banks with higher liquidity are perceived as "safer." This security reduces the banks' funding costs (such as interest on deposits), which enhances depositor and investor confidence and ultimately improves profitability. The positive impact observed in this study aligns with previous research (Al-Musai, 2014; Alsharif, 2024; Bilal et al., 2024) they all found that liquidity have a positive and significant effect on profitability of GCC banks.

However, the lack of significance regarding ROA in this study suggests that while liquidity reduces risk and funding costs (which benefits shareholders), it may not necessarily lead to an improvement in the overall efficiency of the asset base in generating profits. This may be due to the nature of the highly liquid, low-yield assets,

creating a neutral effect on (ROA) despite the clear benefits to the bank's financial stability and shareholder value.

Bank type which represented as a control variable (0 for Islamic banks and 1 for conventional banks), showed a negative and statistically insignificant impact on profitability of GCC banks. This insignificance effect indicates that there is no substantial performance gap between conventional and Islamic banks in the GCC region during the study period. This result suggests a convergence in the financial outcomes of both banking models, likely attributable to the harmonized regulatory frameworks and the intense competitive nature between the two banking systems in the Gulf region.

These results are partly consistent with the arguments of (Almanaseer, 2014; Srairi, 2009), who noted that despite the differences in operational structures, the general economic environment often imposes similar profitability trends for both types of banks. Furthermore, the lack of statistical significance is consistent with the broader view that GCC banks, regardless of their religious orientation, operate under similar macroeconomic pressures and government support mechanisms. Overall, these results point to the fact that systemic crises, such as the COVID-19 pandemic, do not necessarily change the basic determinants of profitability for one type over the other; but, on the contrary, they increase its effects and changes its relative importance throughout the banking sector.

A major contribution of this study lies in its assessment of the COVID-19 pandemic as a moderating factor. The outcomes from the study were significantly clear that the COVID-19 pandemic had a statistically negligible negative impact on the profitability of banks in the GCC region, for model ROA the results shows that banks were able to maintain asset efficiency and generate profits in 2020-2022 at a level very similar to that of 2015-2019 and 2023. A return to the value (0) in 2023 means that the model assumes a return to normal conditions, and the results confirm that the pandemic did not cause a significant decline in asset efficiency.

As for model ROE shows that shareholder returns in the pandemic years did not differ substantially from those in stable years (past and future); thus, the third hypothesis (H3) was rejected. A pandemic overshadowed the contribution of exogenous factors like GDP and highlighted the significance of endogenous factors especially capital adequacy

and liquidity. This statement points out that in times of universal crises, the bank's internal financial capability turns out to be a more decisive factor for the bank's survival than macroeconomic conditions.

The statistical results suggest that the COVID-19 pandemic had not imposed a permanent structural shock on the financial performance of the US banks studied, since the statistical insignificance of the COV term indicates a high degree of economic resilience based on a number of vital pillars. On one hand, the results vindicated the performance-path being led by the capital adequacy (CAP), inferring that these banks depended on strong capital cushions that could limit the impact of credit pressures on them without impeding profitability.

Meanwhile, the liquidity injection and expansionary monetary policy initiatives having been introduced by the GCC central banks were instrumental in containing the risk of the pandemic shock turning into a solvency crisis along with the swift rebound of oil prices in 2021 and 2022, which enhanced the government's fiscal solvency and the soundness of the banking industry. Additionally, the digital capital of the banking industry enabled the banks to sustain their operational and income streams during lockdowns, making the banking industry performance during the pandemic years (2020-2022) statistically indistinguishable from that of the stability years (2015-2019) and the post-pandemic growth year (2023).

The study concludes that the banking system in the GCC region possesses an exceptional capacity to withstand external shocks, as the findings demonstrate that the differences in financial performance between the crisis period and normal periods were not substantial, reflecting the success of integrated risk management strategies and the effectiveness of proactive government interventions.

Furthermore, the empirical evidence regarding the COVID-19 pandemic aligns with recent literature on the GCC banking sector, (El-Chaarani et al., 2024) found that the technical efficiency of conventional banks was higher than that of Islamic banks during the pandemic which is in line with these results.

Likewise, Alsharif (2024) pointed out that non-financial crises had a negative impact on the performance of conventional banks in the GCC; however, Islamic banks were hardly

affected, suggesting that the latter had more significant resilience. Khan (2022a) agreed that internal and external factors were the main causes of profitability in GCC banks and only with the pandemic as an extraordinary macroeconomic shock did the relative influence of these factors change. Besides that, the insignificant role of the capital structure during the pandemic is in line with Khan (2022b), who noted that capital structure generally had little impact on ROA and ROE in GCC banks. Collectively, these studies reinforce the result that the pandemic necessitated a shift in focus toward institutional stability and risk mitigation rather than conventional profit-driving mechanisms.

In general, these findings suggest that systemic crises such as the COVID-19 pandemic do not alter the fundamental determinants of profitability but, on the contrary, they intensify their effects and change their relative importance within the banking sector.

Chapter Four

Conclusions and Recommendations

4.1 Conclusions

This research was conducted to identify the factors that affect the profitability of banks in the Gulf Cooperation Council (GCC) countries by examining internal (bank-specific) and external (macroeconomic) factors and also the moderating factor of the COVID-19 pandemic. Finally the econometric analysis reveal into the following issues that not only enhance the significant theoretical concepts but also offers some practical an advice to the policy and the banking practitioners.

Primarily, the results confirmed the importance of macroeconomic determinants on bank's profits and more precisely, only the significant and positive effect on profitability of inflation, Bank's ROE. Furthermore, the growth of GDP provided a marginal explanation only on the bank's ROA. In conclusion, the impact of external shocks affects to a different extend each bank performance indicator (e.g. Profitability). The extraordinary features of the economies (mostly oil exporting and dependent on the fiscal policy) under the investigation, contributed to highlight the asymmetries that each country's economies have.

Moreover, it was turned out that the internal factors are the primary sources of bank profitability. Bank asset quality and liquidity were the main pillars of the bank profitability that the latter repeated over and over very notable, showing that on one hand, good credit risk management and on the other hand, sufficient liquidity reserves is an absolute must for the continuation of profitability.

Furthermore, these findings reiterate that the bank-specific soundness is at the heart of bank performance, mainly in the shaky economic situations. In contrast to this, while the role of sufficiency of capital is never to be forgot as a system stabilizer, it pointed out scarcely direct influence on short-term profitability which might be explained by the fact of broadly similar regulatory compliance levels among the GCC banks. The two variables - the efficiency of management and the ability to earn - similarly showed very weak explanatory power, which led to the conclusion that structural balance sheet

indicators are more potent in predicting performance than operational ones in this region.

The third point reflects the negative effect of the coronavirus crisis on one of the most important parts of the financial sector i.e., the bank profitability. Essentially, COVID-19 situation put heavy pressure on earnings caused by demand for credit falling, default risks rising, and so on, all at the same time. Moreover, the pandemic led a shift in the determinants' weights: on the one hand, external factors were less influential, on the other hand, internal resilience, e.g., asset quality and liquidity, became more important. In fact, the evidence in the paper supports the notion that the crisis scenarios do not cause a blanket effect on the profitability drivers rather they determine the degree of dependence on the external/internal factors.

Concerning theory, this study has wider implications being one of the few research projects works exploring the causes of bank profitability in the Gulf region, taking into account not only the difference of the factors, but also the COVID-19 factor. It illustrates that profitability is a consequence of the interaction between economy and bank-specific characteristics with the exception that extraordinary events reshape these interactions, rather than abolish them altogether.

Moreover, the conclusions deliver clear-on-the-hand implications. Policymakers in the GCC should remain devoted to one of their top priorities i.e., ensuring macroeconomic stability not only to keep the domestic market safe but also to make it conducive to banking activities. Executives in banks ought to put their efforts in advancing credit risk management, building liquidity base and upgrading asset quality so as to have a firm control not only under the normal scenario but also in a crisis situation. On the other hand, the role of capital should be restated as most pivotal for regulatory compliance and the overall safety of the system, but not as a driver of short-term profitability which direct link to the latter is weak.

Lastly, this research will lead to further studies. Firstly, some of them can delve into long-run consequences of pandemics like COVID-19 on bank profitability in the GCC and look at different factors behind the phenomenon in areas such as Islamic banks versus conventional, fintech, tech-savviness, digital transformation, etc. These types of research would increase the comprehension of the banking sector's resilience and would

be very useful in devising sustainable profit strategies in the ever more rapidly changing financial environment.

4.2 Recommendations

1. Banks should focus three pillars first and foremost: risk management, operational efficiency, and profitability in order to sustain themselves in the long run.
2. A strong capital ratio must be maintained to support the operations and to be able to absorb any potential losses. This should be accompanied by regular capital requirement assessments.
3. One of the most important ways to upgrade the financial health of banks is to improve management quality through more effective administrative processes.
4. Banks should concentrate on the execution of such strategies that would raise operational efficiency thus financial performance and profitability would be better.
5. The interconnection among the GCC banks can be a great source of strength in coming times of economic or financial shocks.
6. Additional financial ratios should be considered by future research and a comparative analysis between Islamic and conventional banks should be included in order to measure the impact on profitability of each banking model.
7. Further research should broaden both the time period and the variables taken into account, and should also consider environmental, social, and governance (ESG) factors to talk about bank resilience in a more comprehensive way.
8. Regulators in the GCC ought to align banking regulations so as to guarantee uniform standards for capital, liquidity, and risk management, thus stabilizing the financial system in the region.

List of abbreviations

Abbreviation	Meaning
BT	Bank Type
GDP	Gross Domestic Product
INF	Inflation
IR	Interest Rate
ROA	Return On Assets
ROE	Return On Equity
CAP	Capital Adequacy Ratio
AQ	Assets Quality Ratio
MAN	Management Efficiency Ratio
EAR	Earnings Ability Ratio
LIQ	Liquidity Ratio
COV	Covid-19

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Appendices

Appendix A

Summary of the hypothesis

variable	effect for ROA	effect for ROE	test the hypothesis
GDP	negative	negative	Reject H1.1
INF	negative	positive and significant	Accept H1.2
IR	negative	negative	Reject H1.3
CAP	negative and significant	positive and significant	Accept H2.1
AQ	positive and significant	negative and significant	Accept H2.2
MAN	negative	negative	Reject H2.3
EAR	negative	negative	Reject H2.4
LIQ	negative	positive and significant	Accept H2.4
COV	negative	negative	Reject H3

Appendix B

Hausman Test

Model	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
ROA	61.11605	9	0
ROE	28.89052	9	0.0007

Table: model (1) dependent variable: ROA

Dependent Variable: ROA				
Method: Panel Least Squares				
Sample: 2015 2023				
Periods included: 9				
Cross-sections included: 59				
Total panel (balanced) observations: 531				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.08425	0.06794	-1.2401	0.2156
GDP	3.69E-14	1.4E-13	0.26333	0.7924
INF	-4.94E-05	0.00463	-0.0107	0.9915
IR	-0.00383	0.00639	-0.5986	0.5497
CAP	-0.05683	0.01457	-3.8998	0.0001
AQ	0.218962	0.08303	2.63721	0.0086
MAN	-0.88098	0.77722	-1.1335	0.2576
EAR	0.013332	0.01865	0.71488	0.475
LIQ	-0.24087	0.1348	-1.7868	0.0746
COV	-0.00108	0.01756	-0.0616	0.9509
Root MSE	0.170194	R-squared		0.203916
Mean dependent var	0.001284	Adjusted R-squared		0.088716
S.D. dependent var	0.19093	S.E. of regression		0.182264
Akaike info criterion	-0.447636	Sum squared resid		15.38093
Schwarz criterion	0.099791	Log likelihood		186.8474
Hannan-Quinn criter.	-0.233382	F-statistic		1.770108
Durbin-Watson stat	2.693843	Prob(F-statistic)		0.000398

Table: Model (2) Dependent Variable: ROE

Dependent Variable: ROE				
Method: Panel Least Squares				
Sample: 2015 2023				
Periods included: 9				
Cross-sections included: 59				
Total panel (balanced) observations: 531				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.091452	0.03996	2.288599	0.0226
GDP	-4.42E-14	8.25E-14	-0.53561	0.5925
INF	0.008106	0.002722	2.977263	0.0031
IR	0.006772	0.00376	1.801098	0.0723
CAP	0.032309	0.008571	3.769516	0.0002
AQ	-0.097992	0.048835	-2.00659	0.0454
MAN	0.135286	0.457141	0.29594	0.7674
EAR	-0.005561	0.010969	-0.50695	0.6124
LIQ	0.153708	0.079287	1.938632	0.0532
COV	0.00467	0.01033	0.452084	0.6514
Root MSE	0.100104	R-squared		0.326626
Mean dependent var	0.080676	Adjusted R-squared		0.229183
S.D. dependent var	0.122105	S.E. of regression		0.107204
Akaike info criterion	-1.509088	Sum squared resid		5.321078
Schwarz criterion	-0.961661	Log likelihood		468.663
Hannan-Quinn criter.	-1.294835	F-statistic		3.351969
Durbin-Watson stat	2.644981	Prob(F-statistic)		0

Appendix C

The list for the sample of bank

#	name of bank	countries	Type of Bank
1	Dubai Islamic Bank	UAE	Islamic Bank
2	Abu Dhabi Islamic bank	UAE	Islamic Bank
3	Emirates Islamic Bank	UAE	Islamic Bank
4	Sharjah Islamic Bank	UAE	Islamic Bank
5	Ajman Bank	UAE	Islamic Bank
6	first Abu Dhabi Bank	UAE	Traditional Bank
7	Abu Dhabi Commercial Bank	UAE	Traditional Bank
8	Commercial Bank International	UAE	Traditional Bank
9	United Arab Bank	UAE	Traditional Bank
10	Emirates NBD	UAE	Traditional Bank
11	Emirates Investment Bank	UAE	Traditional Bank
12	Bank of Sharjah	UAE	Traditional Bank
13	National Bank of Umm Al Qaiwain	UAE	Traditional Bank
14	Commercial Bank of Dubai	UAE	Traditional Bank
15	National Bank of Ras Al Khaimah(RAKBANK)	UAE	Traditional Bank
16	GFH	Bahrain	Islamic Bank
17	Ithmaar Bank B.S.C.	Bahrain	Islamic Bank
18	Al Baraka Group	Bahrain	Islamic Bank
19	Bahrain Islamic Bank	Bahrain	Islamic Bank
20	Khaleeji Bank	Bahrain	Islamic Bank
21	Al Salam Bank	Bahrain	Islamic Bank
22	Bank ABC	Bahrain	Traditional Bank
23	Bahrain Middle East Bank	Bahrain	Traditional Bank
24	National Bank of Bahrain	Bahrain	Traditional Bank
25	Bank of Bahrain and Kuwait	Bahrain	Traditional Bank
26	Al Inma Bank	KSA	Islamic Bank
27	Al Rajhi Bank	KSA	Islamic Bank
28	Bank Albilad	KSA	Islamic Bank
29	Saudi National bank	KSA	Traditional Bank

30	The Saudi Investment Bank	KSA	Traditional Bank
31	Arab National Bank	KSA	Traditional Bank
32	Saudi Awwal Bank	KSA	Traditional Bank
33	Banque Saudi Fransi	KSA	Traditional Bank
34	Riyad Bank	KSA	Traditional Bank
35	Kuwait International Bank	Kuwait	Islamic Bank
36	Boubyan Bank	Kuwait	Islamic Bank
37	Warba Bank	Kuwait	Islamic Bank
38	Kuwait Finance House	Kuwait	Islamic Bank
39	Al Ahli Bank of Kuwait	Kuwait	Traditional Bank
40	The National Bank of Kuwait (NBK)	Kuwait	Traditional Bank
41	Commercial Bank of Kuwait	Kuwait	Traditional Bank
42	Gulf bank	Kuwait	Traditional Bank
43	Burgan Bank	Kuwait	Traditional Bank
44	Bank Nizwa	Oman	Islamic Bank
45	Ahlli Bank	Oman	Traditional Bank
46	Bank Dhofar	Oman	Traditional Bank
47	Oman Arab Bank	Oman	Traditional Bank
48	National bank of Oman	Oman	Traditional Bank
49	Bank Muscat	Oman	Traditional Bank
50	Sohar International Bank	Oman	Traditional Bank
51	Qatar Islamic Bank	Qatar	Islamic Bank
52	Dukhan Bank	Qatar	Islamic Bank
53	Qatar International Islamic Bank	Qatar	Islamic Bank
54	Lesha Bank	Qatar	Islamic Bank
55	Al Rayan Bank	Qatar	Islamic Bank
56	Qatar National Bank	Qatar	Traditional Bank
57	Ahli Bank	Qatar	Traditional Bank
58	Commercial Bank	Qatar	Traditional Bank
59	Doha Bank	Qatar	Traditional Bank



جامعة النجاح الوطنية
كلية الدراسات العليا

العوامل المؤثرة على ربحية بنوك دول مجلس التعاون الخليجي في جائحة كوفيد-19

إعداد

رواء غازي احمد قب

إشراف

د. معاذ اسمر

قدمت هذه الرسالة استكمالاً لمتطلبات الحصول على درجة الماجستير في التمويل،
من كلية الدراسات العليا، في جامعة النجاح الوطنية، نابلس - فلسطين.

العوامل المؤثرة على ربحية بنوك دول مجلس التعاون الخليجي في جائحة كوفيد-19

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إشراف

د. معاذ اسمر

المخلص

تبحث هذه الدراسة في العوامل المؤثرة على ربحية البنوك الإسلامية والتقليدية العاملة في دول مجلس التعاون الخليجي، مع التركيز بشكل خاص على تأثير جائحة كوفيد-19.

تهدف الدراسة إلى توضيح العوامل الداخلية والخارجية للبنوك وتأثير جائحة كوفيد-19 التي تؤثر بشكل كبير على الربحية. العوامل الداخلية المستخدمة في هذه الدراسة هي متغيرات CAMEL (كفاية رأس المال، وجودة الأصول، وكفاءة الإدارة، والقدرة على تحقيق الأرباح، والسيولة)، والعوامل الخارجية، وهي المتغيرات الاقتصادية الكلية (الناتج المحلي الإجمالي، ومعدل التضخم، وسعر الفائدة).

تم استخدام بيانات لـ 59 بنكاً من التقارير المالية السنوية ومن المواقع الرسمية للبنوك والمواقع الرسمية للبورصات العاملة في ست دول من دول مجلس التعاون الخليجي خلال الفترة من 2015 إلى 2023. باستخدام النهج الكمي وتحليل انحدار البيانات، تم استخدام تقديرات الآثار الثابتة والعشوائية لاستكشاف تأثير المتغيرات التفسيرية (العوامل الداخلية ومتغيرات العوامل الخارجية). تُقاس الربحية بعائد الأصول (ROA) وعائد حقوق الملكية (ROE) اللذين استُخدما كمتغيرين تابعين.

استُخدمت نتائج التأثيرات الثابتة للتفسير بناءً على اختبار هاوسمان. تُظهر النتائج أن للتضخم تأثيراً إيجابياً وهاماً، بينما لإجمالي الناتج المحلي وسعر الفائدة تأثير سلبي وغير هام. تُظهر كفاية رأس المال وجودة الأصول والسيولة تأثيراً إيجابياً وهاماً على الربحية. علاوة على ذلك، وُجد أن لجائحة كوفيد-

19 تأثير سلبي وغير هام إحصائيًا على الربحية. خلال الجائحة، ازدادت أهمية المؤشرات المالية الداخلية، وخاصة قوة رأس المال والسيولة، بينما تضاعل تأثير المتغيرات الاقتصادية الكلية الخارجية.

تؤكد النتائج على ضرورة قيام الجهات التنظيمية في دول مجلس التعاون الخليجي بمواءمة اللوائح المصرفية، وضمان معايير متسقة في متطلبات رأس المال والسيولة وإدارة المخاطر، وبالتالي تعزيز الاستقرار المالي الإقليمي. وينبغي أن تُوسّع الأبحاث المستقبلية الإطار الزمني والمتغيرات المُعتمدة، بما في ذلك المؤشرات البيئية والاجتماعية ومؤشرات الحوكمة (ESG)، للحصول على رؤية أشمل لمرونة البنوك.

الكلمات المفتاحية: الربحية، دول مجلس التعاون الخليجي، كوفيد-19، العائد على الأصول، العائد على حقوق الملكية، CAMEL.