# DETERMINANTS OF FINANCIAL INSTITUTION PERFORMANCE AMID COVID-19

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## Abstract

Financial institutions are crucial players in the Bhutanese economy. However, little to no research has been conducted on the determinants of the performance of financial institutions in Bhutan to date, especially the COVID-19 pandemic (Yangchen et al., 2022). This research aims to address this gap by studying the impact of COVID-19, financial variables, and macroeconomic factors on the profitability of financial institutions in Bhutan. The panel data is collected from seven leading financial institutions (five commercial banks and two insurance companies) in Bhutan from 2018 to 2022. Random effects generalized least squares (GLS) regression was employed to conduct the empirical analysis focusing on dependent profitability indicators namely return on assets (ROA), return on equity (ROE), and net profit margin (NPM) and indicators of both financial and macroeconomic independent variables. The empirical results showed that Bhutanese financial institutions were resilient and were not significantly affected by COVID-19. The findings also revealed that non-performing loans (NPLs) and cost-to-income ratio (CIR) have a significant negative impact on the profitability of financial institutions in Bhutan, similar to previous research (Bhowmik & Sarker, 2024). The capital adequacy ratio (CAR) has a mixed relationship with profitability. Additionally, earnings per share (EPS) and statutory liquidity ratio (SLR) are found to have a marginal impact on profitability. On the other hand, asset size (LnTA), gross domestic product (GDP) growth rate, and inflation rate (INFL) are found to have insignificant effects on the profitability of financial institutions. The findings from this research provide useful recommendations and strategies to improve the profitability of financial institutions in Bhutan.

**Keywords:** COVID-19, Financial Institutions, Profitability, Bhutan, Random-Effects GLS Regression, Macroeconomic Factors

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## 1. INTRODUCTION

Financial institutions are companies that provide financial services, including loans, deposits, investments, and currency exchange, to individuals and businesses or both (Isayas & Yitayaw, 2020). They hold a vital position in every economy. In Bhutan, they are primary providers of financial services, including credit, investment, and risk management (Royal Monetary Authority, 2021). Financial institutions consist of commercial banks, insurance companies, pension funds, credit unions, and finance companies (Kidwell et al., 2016). A strong banking system is important for financial and economic stability especially in developing countries like Bhutan with bank-dominant financial systems. The banking system dominates the Bhutanese financial system, which accounts for 75% of the market share, whereas non-banking institutions make up the remaining 25% (Asian Development Bank [ADB], 2022). Yet, non-banking institutions play a vital role by providing long-term financing options, and investment opportunities, and offering risk management services (Kidwell et al., 2016).

Financial institutions in Bhutan have undergone remarkable changes in the last decade, becoming liberalized and modernized. According to Dorji (2023), Bhutanese financial institutions have seen many reforms, such as restructuring state-owned banks, deregulating interest rates, adopting digital technologies, improving access to financial services, and strengthening regulatory oversight. The Royal Monetary Authority of Bhutan, which is the central bank of Bhutan, has put policies into place measures to improve the financial system by fostering competition, improving regulatory practices, and enhancing risk diversification and liquidity management practices (Cole & Carrington, 2016). The authors state that economic growth in Bhutan has led to a surge in credit demand increasing the bank loan portfolio.

Financial institutions' profitability is vital for their various stakeholders including customers, shareholders, employees, regulators, management, and the economy (Kidwell et al., 2016). Profitability is crucial for the survival of any sector and is one of the primary goals of financial management. There are many internal and external factors influencing the performance of financial institutions. The internal factors are capital adequacy, liquidity risk, operational efficiency, asset quality, credit risk management, and cost controls which are within the control of the institutions (Alam & Islam, 2022; Sultan et al., 2020; Zeesha & Islam, 2023). Specifically, Murari and Pradhan (2019) have identified variables such as loan interest rates, interest income as a percentage of total income, deposit interest expenses, and the credit-to-deposit ratio as significant determinants of the banking performance in Bhutan. Apart from the internal factors, there are external factors that influence profitability indirectly which are not within the management's control. The external factors include macroeconomic factors, financial market conditions, fiscal and monetary policies, and broader economic trends (Isayas & Yitayaw, 2020). An example of the external factors is the Global Financial Crisis of 2008 to 2009 during which the global financial systems were adversely affected. However, Bhutanese financial institutions remained stable during the crisis since they had limited exposure to the international financial market (Royal Monetary Authority, 2010).

However, unlike the Global Financial Crisis, COVID-19 had a detrimental influence on the performance of the Bhutanese financial institutions. Although Bhutan was successful in controlling the domestic outbreak of coronavirus through strict measures, the pandemic disrupted economic activities and led to business closures. Firstly, lockdown measures and travel restrictions had caused the economy to contract. Secondly, the decline in international travel and trade globally has resulted in significant revenue losses and job losses in the tourism and hydropower sectors which are the primary source of revenue in the country (ADB, 2022). The decrease in earnings and employment rate had put pressure on financial institutions as businesses and individuals faced difficulty repaying loans and debts. High levels of non-performing loans (NPLs) were a major issue before the pandemic which resulted from economic downturns, borrower defaults, and inadequate risk assessment and management by banks (Cole & Carrington, 2016), but the pandemic worsened the situation. The asset quality was weakened, and capital adequacy levels decreased. Preliminary data from the Central Bank of Bhutan indicates that NPLs increased in 2020 and 2021 compared to pre-pandemic levels as borrowers in vulnerable sectors struggled to repay debts (Royal Monetary Authority, 2022).

According to the ADB (2022), the non-banking sector and insurance companies faced difficulties because of the increase in NPLs and a decline in credit growth, exacerbated by job losses. Insurance claims also rose relating to business interruptions and health costs. The economic disruption led to a decline in credit demand across various sectors (World Bank, 2021). There was a decline in the capital adequacy ratio (CAR), from 15% in December 2019 to 14% in December 2020, as reported by the Royal Monetary Authority (2021), which was attributed to the adverse effects of the pandemic. Saving and deposits started to increase as individuals and businesses became conscious of the economic consequences of the pandemic. Nevertheless, this unprecedented escalation in deposits has adversely affected the profitability of financial institutions. Since lending was the principal stream of revenue for banks, they were compelled to bear the burden of paying interest on excess deposits, consequently leading to a reduction in their net interest margin (NIM) and return on assets (ROA) (Dema, 2021).

Timely policy actions and public trust in banks, however, maintained the stability and resilience of the financial system. The Royal Monetary Authority of Bhutan has taken steps to address the impact of the pandemic on the financial sector, which aimed at promoting economic growth, ensuring financial stability, and safeguarding the financial sector. These measures involved relaxed monetary and regulatory requirements, loan deferment, interest payment support (IPS), and bridging loans to maintain liquidity flow (Royal Monetary Authority, 2021). In line with His Majesty the King's vision for resilient and inclusive economic policies, financial sector risks were managed through unprecedented monetary measures. Furthermore, in response to the economic hardships caused by the pandemic,

the Bhutanese government implemented strategic measures under the command of the king to support the affected individuals and businesses. According to the Ministry of Finance of Bhutan (2022), key credit relief measures included loan repayment deferment, His Majesty's relief fund for interest support, and eased working capital financing. These measures proved effective in mitigating the immediate financial impact of the pandemic, preventing a widespread collapse of the financial sector, and safeguarding the stability of the economy.

Several theories have grounded our study: contingency theory, dynamic capabilities theory, and the resource-based view (RBV). Contingency theory posits that the effectiveness of an organization's structure and management practices is contingent upon external environmental conditions (Donaldson, 2001; Lawrence & Lorsch, 1967). This theory is relevant to our study of how Bhutanese financial institutions adapted their business strategies and operations in response to the economic disruptions caused by the COVID-19 pandemic. Dynamic capabilities theory, which focuses on the ability of an organization to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments (Teece et al., 1997), is vital for examining how these institutions manage to dynamically adjust their resources and processes to maintain resilience. This includes adopting new technologies and implementing effective risk management practices. The RBV suggests that the resources and capabilities of a firm are important to help an organization achieve competitive advantage and superior performance (Barney, 1991; Wernerfelt, 1984). In the context of Bhutan, RBV helps identify which internal resources, such as financial capital, human capital, and technological infrastructure, were pivotal in sustaining performance during the pandemic. By integrating these theories, this study aims to comprehensively analyse how both internal capabilities and external adaptations influenced the profitability and resilience of Bhutanese financial institutions amid the COVID-19 crisis. The insights drawn from this integrated theoretical framework provide valuable recommendations for financial institutions, regulators, and policymakers to enhance the stability and performance of the financial sector in Bhutan.

Many studies have investigated the repercussions of COVID-19 on the performance and profitability of financial institutions worldwide. However, there is no research specifically focused on Bhutan. To the best of our knowledge, there have been no studies conducted on how COVID-19 has influenced the performance of financial institutions in Bhutan. A few research is done qualitative (Yangchen et al., 2022), and several done on profitability and the banking sector (Anita et al., 2022; Rathore, 2020; Sharma & Khan, 2024) but no or little relation to the disruptive disease like COVID-19.

Similarly, there is a dearth of research on the profitability of financial institutions. It is essential to address this research gap given that Bhutan has a unique development strategy that emphasizes the concept of gross national happiness. Therefore, the aim of this study is to examine the impact of how COVID-19, financial factors, and macroeconomic factors influence the profitability of financial institutions in Bhutan. This research contributes to the existing knowledge of financial institutions in developing countries and provides insights into the performance of Bhutan's financial sector. The findings of this study are invaluable for financial institutions, regulators, and policymakers, offering them useful information for informed decision-making.

The structure of the rest of the study is outlined as follows. Section 2 examines the literature on how COVID-19 has affected financial institutions and the factors determining their profitability. Section 3 outlines the research methodology. Section 4 presents and discusses the research findings. Finally, Section 5 concludes the research with policy recommendations and research limitations.

## 2. LITERATURE REVIEW AND HYPOTHESES DESIGN

### 2.1. The effect of COVID-19 on the profitability of financial institutions

The coronavirus disease, known as COVID-19, was first discovered in Wuhan, China, at the end of 2019 and has spread worldwide. On March 11, 2020, COVID-19 was declared a global pandemic by the World Health Organization (WHO) due to its widespread nature (Hao et al., 2022; Wahyuni et al., 2021). Governments worldwide implemented strict measures to stop the spread of diseases, such as travel restrictions, social distancing, and lockdowns (Feyen et al., 2021). Due to the pandemic, business and economic activities declined leading to recession and negative gross domestic product (GDP) growth rates in many countries (WHO, 2020). It was reported that the world economy contracted by 3.5% in 2020 which was considered the most severe economic downturn since the end of the Second World War (Shang et al., 2021). The different sectors of the economy including trade, tourism, industry, manufacturing, construction, and agriculture felt the repercussions of the pandemic. The disruption of these economic sectors resulted in job losses, a reduction in revenue, and shortages of essential goods (Louati et al., 2022). The financial sectors have also suffered the repercussions of the pandemic and its related shutdown (Shabir et al., 2023).

Some researchers have compared the economic crisis caused by the pandemic to the Global Financial Crisis of 2008–2009, recognized as the most severe financial crisis since the 1930s Great Depression. (Jałtuszyk, 2023; Barua & Barua, 2021). These studies assert that the Global Financial Crisis was attributed to the collapse of the housing market and subprime mortgage credit defaults in the USA, which led to a chain of events affecting the banking sector, credit market, and international trade. Similarly, COVID-19 has caused various challenges, including increased credit risk, liquidity risk, and operational risk. Additionally, the business model of banks has been threatened by several factors, including an increase in NPLs, a decrease in credit demand, a low CAR, and weak corporate governance. Additionally, challenges such as limited product, and service diversification, reliance on external shocks, and susceptibility to cyberattacks have further compounded the situation (Feyen et al., 2021; Miklaszewska et al., 2021; Shabir et al., 2023).

Prior literature has studied how COVID-19 has affected banks' performance on a global scale.

For example, Shabir et al. (2023) conducted an empirical analysis using the statement of financial position of 2073 banks from 106 countries. They found that the pandemic has reduced the performance and stability of the banks. The impact of the pandemic was observed in various geographical regions and income brackets although the degree of impact varied depending upon the banks and market structure. The country-specific studies also reported a reduction in the earnings of financial institutions. According to Magoma and Mbwambo (2021), the banks in Tanzania encountered a decline in profitability and liquidity. Similarly, a study by Mohammad and Khan (2021) on South Asian banks showed negative impacts on their performance due to COVID-19 prompting higher reliance on debt financing, demonstrated by an increase in leverage ratios for these institutions, corroborating the need for the implementation of effective mitigation policies against shocks affecting banking sectors on a large scale.

One of the challenges faced by the banks during the pandemic is the disruption of lending activities. Çolak and Öztekin (2021) conducted a study examining the effects of the pandemic on global bank lending in 125 countries, revealing that the impact of COVID-19 is more prominent in countries that are more vulnerable to the health crisis. A recent study by Darjana et al. (2022) explored the impact of the pandemic on credit performance in Indonesia. The study found that credit delivery decreased significantly during the pandemic, compared to pre-pandemic. Research has indicated that the pandemic's negative effect on bank profits persisted in the long run and was made worse by diminishing asset quality (Katusiime, 2021). The study found that, in the short term, NPLs, market sensitivity risk and, liquidity ratio have adverse effects on a bank's profitability. Susanti et al. (2023) observed significant declines in profitability, CAR, and deposit levels amid the COVID-19 pandemic compared to the pre-pandemic period.

While some banks struggled with liquidity and profitability issues, others such as Islamic banks in Indonesia demonstrated resilience (Pahlifi et al, 2023). The improved ROA and CAR ratios of these institutions suggest that certain banking models are capable of enduring economic shocks. Similarly, Gazi et al. (2022) discovered that commercial banks in Bangladesh which were robust before the outbreak continued to perform well during it. Governments and central banks worldwide implemented initiatives aimed at boosting liquidity while ensuring credit availability necessary for supporting economic recovery played a significant role in financial difficulties presented by COVID-19 (Shabir et al., 2023). As Li et al. (2021) highlighted diversifying into noninterest revenue sources was a vital strategic move adopted by several bank units not only improving performance but also mitigating risk factors guaranteeing stability amidst global uncertainty created due to this period of crises. Based on the findings from the previous literature the following alternative hypothesis is formulated:

*H1: COVID-19 had a statistically significant effect on the profitability of financial institutions in Bhutan.*

## 2.2. Determinants of the profitability of financial institutions

The success and performance of the company is determined by its profitability. Ichsan et al. (2021) define profitability as the company's effectiveness in generating profit compared to its sales, total assets, and equity. The common proxies used for profitability are ROA, net profit margin (NPM), return on equity (ROE), and NIM. These indicators demonstrate competitive positioning alongside operational effectiveness and overall financial well-being (Sultan et al., 2020; Titko et al., 2015; Yao et al., 2018). ROA indicates how much profit is generated from the assets. Specifically, it shows how effectively the company generates income from its resources, while ROE measures how much profit is generated from the shareholders' investment in common stock. It measures how effectively the company is using shareholders' funds. NPM is a financial metric that quantifies how much profit is generated as a percentage in terms of revenue. Understanding the multiple drivers of profitability of financial institutions is important for stakeholders to effectively evaluate performance and financial health.

Numerous studies have explored the principal determinants influencing bank profitability in different countries and regions using varying methods. Sultan et al. (2020) used the panel data of 17 commercial banks in Pakistan and discovered that profitability, measured by ROE, is significantly influenced by deposits, asset quality, asset size (LnTA), liquidity, CAR, and inflation rate (INFL). Isayas and Yitayaw (2020) have identified asset tangibility leverage structure firm age, liquidity ratio, and INFL as significant determinants of profitability in Ethiopia. Meanwhile, in Nigeria, Osuagwu (2014) found that exchange rates had an adverse impact on banks' ROE and NIM but it had an insignificant impact on ROA. This study assesses the effects of the following variables on the profitability of financial institutions in Bhutan.

### *2.2.1. Capital adequacy ratio*

The CAR measures a financial institution's ability to handle losses and maintain solvency. It is computed by dividing the bank's capital by its risk-weighted assets and is a vital metric for assessing its capacity to handle credit and operational risks. In other words, the capital held by the financial institution must be adequate to absorb losses arising from unforeseen circumstances (Ichsan et al., 2021). The chance of bankruptcy is considered low when the CAR is above the minimum requirement set by the regulators (Isayas & Yitayaw, 2020). In Bhutan, financial institutions are required to maintain a CAR of 12.5% as set by the Central Bank. A higher CAR is associated with higher profitability. The research conducted by Zeesha and Islam (2023) and Gaber (2018) demonstrated a significant positive association between the CAR and profitability. In contrast, few papers suggest an inverse relationship between CAR and profitability because it limits the funds available for income-generating activities. Gazi et al. (2022) concluded that the CAR

negatively affects profitability. Based on the previous findings, this study suggested the following alternative hypothesis:

*H2: Capital adequacy ratio had a statistical and positive impact on the profitability of financial institutions in Bhutan.*

### *2.2.2. Non-performing loans*

Non-performing loans are loans that have not been repaid by the debtors for a specified period usually 90 days or more. The primary causes of the NPL are financial distress, economic downturn, and inadequate risk management (Royal Monetary Authority, 2021). The ratio of NPLs represents asset quality. The NPLs are likely to turn into bad debt and the financial institutions must bear the loss of default risks and will earn low-interest income (Zeesha & Islam, 2023). When doubtful debt arises, banks must increase their provision to cover anticipated credit losses, which lowers profitability (Abel & Roux, 2016). Several studies (Bhowmik & Sarker, 2024) reported the adverse effect of NPL ratios on profitability. El-Chaarani (2023) and Wea et al. (2023) indicated that NPLs have significantly reduced profitability during COVID-19. Likewise, Rekha and Hossain (2022) reported high NPL levels caused a decrease in bank profitability before and during the pandemic. Based on this evidence, the following hypothesis is suggested:

*H3: Non-performing loans have a statistically and negative impact on the profitability of financial institutions in Bhutan.*

### *2.2.3. Statutory liquidity ratio*

The liquidity ratio evaluates a company's capacity to fulfil its short-term liabilities. The financial institutions must hold a certain percentage of their deposits in the form of liquid cash, gold, or other securities, referred to as the statutory liquidity ratio (SLR). In Bhutan, the SLR is 20% for banks and 10% for non-bank financial institutions. The purpose of the SLR is to ensure a stable liquidity position. The previous research presents varying conclusions on the link between liquidity and profitability. A study by Isayas and Yitayaw (2020) and Sultan et al. (2020) identified a significant positive influence of liquidity on profitability. While other research findings point to a negative association between liquidity ratio and profitability (El-Chaarani, 2023; Rekha & Hossain, 2022). While a higher liquidity ratio mitigates liquidity risk, the asset available for loanable funds decreases limiting the ability of financial institutions to generate earnings (Haider & Mohammad, 2022). Therefore, a higher level of liquidity ratio has detrimental effects on profitability. Based on these past findings, this study proposed the alternative hypothesis as follows:

*H4: Statutory liquidity ratio has a statistically and negative impact on the profitability of financial institutions in Bhutan.*

### *2.2.4. Earnings per share*

Earnings per share (EPS) measures the profitability of a company by dividing its net income by the total number of outstanding shares. It helps investors assess the company's performance, and how well it distributes its profits, and make better investment choices. A higher EPS means a higher return for shareholders, as more earnings are allocated on a per-share basis (Saeed & Tahir, 2015). Prior studies have discovered a positive correlation between profitability metrics and EPS. Saeed and Tahir (2015) analysed the association between EPS and the profitability of Pakistani banks. They found a strong positive relationship, where higher EPS corresponded to higher overall bank profitability. Therefore, the research suggested the alternative hypothesis:

*H5: Earnings per share has a statistically and positive impact on the profitability of financial institutions in Bhutan.*

### *2.2.5. Cost-to-income ratio*

The performance of financial institutions is greatly affected by their managerial efficiency during economic uncertainty (El-Chaarani, 2023). The cost-to-income ratio (CIR) is a financial indicator used for assessing managerial efficiency. It is calculated by dividing the operating cost by operating income. Financial institutions with a low CIR have better cost management and high-income generation. On the other hand, higher operating costs relative to income ratio indicate lower profitability. The empirical evidence from several studies has confirmed that the CIR and profitability share an inverse relationship. Multiple studies, including those by Rahmi and Sumirat (2021), El-Chaarani (2023), and Titko et al. (2015), have observed that a higher CIR is associated with lower profitability metrics for financial institutions and banks. Based on these consistent findings, this study proposed the following alternative hypothesis:

*H6: Cost-to-income ratio has a statistically and negative impact on the profitability of financial institutions in Bhutan.*

### *2.2.6. Size*

Financial institution size can be quantified by the natural logarithm of total assets, loans, deposits, and market capitalization. Bigger financial institutions tend to provide a broader array of products and loan diversification compared to their smaller counterparts. They also enjoy cost-saving benefits from economies of scale that help drive profitability higher which is supported by studies conducted by Sultan et al. (2020) and Titko et al. (2015), who stated that larger banks have higher ROA and ROE indicating more profits generated with expansion. Furthermore, according to Berhe and Kaur (2017), large companies can often leverage their market influence to effectively promote their products and maximize profits. However, it's worth noting potential challenges associated with bigger sizes such as added complexity, greater expenses in managing large organizations, and limited flexibility all may contribute negatively toward returns on investments (Petria et al., 2015). According to a recent study by Rekha and Hossain (2022), large banks were less profitable during the COVID-19 period. Drawing from the aforementioned research findings, the subsequent alternative hypothesis is proposed:

*H7: The size, as measured by total assets, has a statistically and positive impact on the profitability of financial institutions in Bhutan.*

### *2.2.7. GDP growth rate*

The earnings of financial institutions are affected by macroeconomic conditions. GDP growth rate serves as an indicator of economic well-being. GDP growth reflects changes in economic activity that impact the demand and supply of loans and deposits (Abel & Roux, 2016). Higher GDP growth means more disposable income in the hands of people and hence more financial activities. Zeesha and Islam (2023) state that as the GDP increases, the demand for loans and the level of deposits increases which eventually increases the profit margin. During the COVID-19 period, studies by Sultan et al. (2020) and Haider and Mohammad (2022) discovered a positive relationship between GDP and bank profitability. Consequently, this study presented the following alternative hypothesis:

*H8: The GDP growth rate has a statistically and positive impact on the profitability of financial institutions in Bhutan 2.2.8 inflation.*

Another macroeconomic factor that affects the performance of financial institutions is INFL. The INFL measures the aggregate level of price in the economy. A higher INFL negatively affects the real economic growth rate. Financial institutions must bear the increase in operating expenses during INFL. Moreover, it reduces the purchasing power of the consumers leading to a decrease in demand for loans and revenue. On the other hand, INFL may cause the interest rate to increase and thus lead to an increase in interest income. There is inconsistency in the findings regarding how the INFL affects profitability but most findings showed the inverse relationship between INFL and profitability (Isayas & Yitayaw, 2020; Sultan et al., 2020). Based on these consistent findings, this study suggested the subsequent alternative hypothesis:

*H9: Inflation has a statistically and negative impact on the profitability of financial institutions in Bhutan.*

## 3. RESEARCH METHODOLOGY

This research adopts a quantitative approach using panel data to examine the influence of COVID-19, financial variables, and macroeconomic factors on the profitability of financial institutions. It covers the financial year from 2018 to 2022. The sample comprises five commercial banks and two insurance companies, 35 firm-year observations. These entities were selected for their market dominance and the availability of reliable financial reports. The secondary data is derived from the financial statements that are published on the websites of those sampled financial institutions, and it is supplemented by the core indicators prepared by the Royal Monetary Authority. The data taken from the financial statements were used for calculating financial variables while the data on macroeconomic variables were gathered from the website of the National Statistics Bureau of Bhutan. The micro-finance institutions and other financial institutions were excluded from the study due to missing financial data.

In this study, profitability ratios serve as the dependent variables, represented by *ROA*, *ROE*, and *NPM*. While the previous studies commonly employ *ROA* and *ROE* (Haider & Mohammad, 2022; Katusiime, 2021; Rekha & Hossain, 2022; Fauzi et al., 2022), this study considers *NPM* as an additional proxy for profitability, following the study of Yao et al. (2018) and Saeed and Tahir (2015). The dependent variables are selected based on their theoretical significance and empirical support in the body of existing literature.

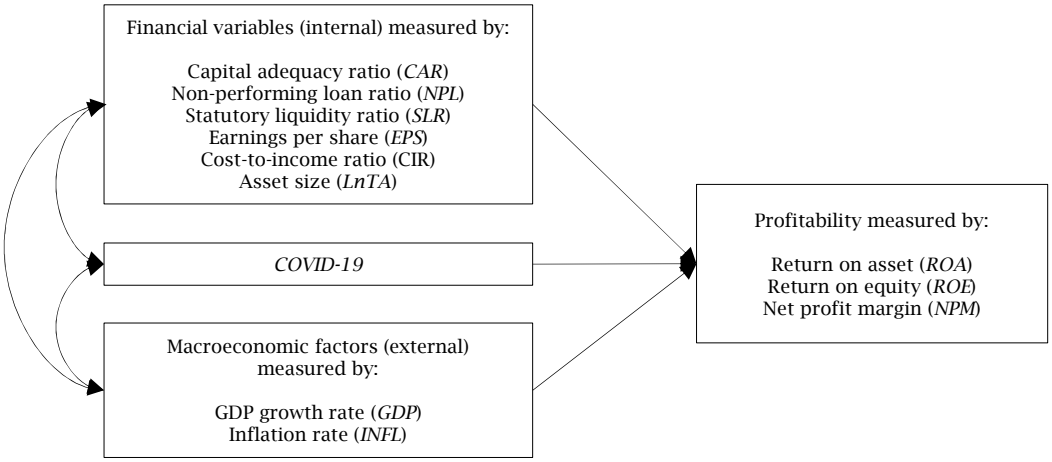
*COVID-19* is employed as a dummy variable to assess its influence on bank profitability based on previous research (Harshana & Wanniarachchige, 2022). Observations from the pre-pandemic years (2018–2019) are given a value of zero, while observations from the pandemic period (2020–2022) are given a value of one. The other dependent variables consist of *CAR*, *NPL*, *SLR*, *EPS*, *CIR*, and *LnTA* which is measured by the natural logarithm of total assets and economic determinants such as *GDP* growth rate and *INFL* which are considered as significant influencers in various studies (El-Chaarani 2023; Sultan et al., 2020; Fauzi et al., 2022; Isayas & Yitayaw, 2020; Haider & Mohammad, 2022). Table 1 summarizes the variables, including their acronyms and formulas, while the conceptual framework of both dependent and independent variables is presented in Figure 1.

**Table 1**. Summary of variables

| ***Variable*** | ***Acronym*** | ***Equation*** |
|---|---|---|
| *Dependent variable: Bank profitability* | | |
| Profitability | *ROA* | Net profit / total assets |
| | *ROE* | Net profit / total equity |
| | *NPM* | Net profit / total revenue |
| *Independent variables* | | |
| COVID-19 | *COVID-19* | Classification of the period as pre-pandemic (0) and pandemic (1) |
| Capital adequacy ratio | *CAR* | (Tier 1 capital + tier 2 capital) / risk-weighted assets |
| Non-performing loans ratio | *NPL* | Non-performing loans / total loans |
| Statutory liquidity ratio | *SLR* | Liquid assets / net demand and time liabilities |
| Earnings per share | *EPS* | Net income / number of common shares |
| Cost-to-income ratio | *CIR* | Operating expenses / operating income |
| Asset size | *LnTA* | Natural logarithm of total assets |
| Gross domestic product | *GDP* | GDP growth rate per year |
| Inflation rate | *INFL* | Inflation rate for the year |

*Source: Authors' elaboration.*

**Figure 1**. Conceptual framework




*Source: Authors' elaboration.*

The random effects ordinary least squares (OLS) regression method was utilized to test the hypotheses. The random effect model can account for individual-specific effects that are uncorrelated with the explanatory variables. It takes account into the heterogeneity across individuals in the panel data. It is more flexible as compared to the fixed effect model because it allows for time-invariant variables to be included in the analysis (Baltagi, 2005). The regression models are formulated as follows:

$$ROA_{it} = \alpha + \beta_1(COVID\text{-}19_t) + \beta_2(CAR_{it}) + \beta_3(NPL_{it}) + \beta_4(SLR_{it}) + \beta_5(EPS_{it}) + \beta_6(CIR_{it}) + \beta_7(LnTA_{it}) + \beta_8(GDP_t) + \beta_9(INFL_t) + \varepsilon_{it} \quad (1)$$

$$ROE_{it} = \alpha + \beta_1(COVID\text{-}19_t) + \beta_2(CAR_{it}) + \beta_3(NPL_{it}) + \beta_4(SLR_{it}) + \beta_5(EPS_{it}) + \beta_6(CIR_{it}) + \beta_7(LnTA_{it}) + \beta_8(GDP_t) + \beta_9(INFL_t) + \varepsilon_{it} \quad (2)$$

$$NPM_{it} = \alpha + \beta_1(COVID\text{-}19_t) + \beta_2(CAR_{it}) + \beta_3(NPL_{it}) + \beta_4(SLR_{it}) + \beta_5(EPS_{it}) + \beta_6(CIR_{it}) + \beta_7(LnTA_{it}) + \beta_8(GDP_t) + \beta_9(INFL_t) + \varepsilon_{it} \quad (3)$$

where, $\alpha$ is the intercept; $i$ and $t$ are the indices for financial institutions and periods, respectively; $\beta_1$ to $\beta_9$ are the coefficients of the explanatory variables; and $\varepsilon_{it}$ is the error term.

In addition to the random effect regression model, various alternative methodologies could be utilized to examine the factors influencing the profitability of financial institutions in Bhutan. The fixed effects regression model accounts for time-invariant characteristics of entities, thereby aiding in the isolation of the effects of variables that evolve over time (Wooldridge, 2010). This particular technique proves beneficial in cases where unobserved heterogeneity is associated with the independent variables, providing a precise estimation of financial and macroeconomic ramifications. The generalized method of moments (GMM) estimation tackles potential endogeneity concerns through the use of instruments and encompasses both time series and cross-sectional fluctuations (Arellano & Bond, 1991). GMM demonstrates notable efficacy in analysing dynamic panel data, where previous values of the dependent variable could influence current values, thus mitigating biases stemming from omitted variables and measurement inaccuracies. The difference-in-differences methodology juxtaposes alterations in outcomes over time between a treatment group and a control group, rendering it apt for evaluating the repercussions of COVID-19 by comparing profitability pre- and post-pandemic outbreak (Angrist & Pischke, 2008). Propensity score matching (PSM) lessens selection bias by pairing treated units with control units based on the likelihood of receiving treatment, ensuring analogous comparisons (Rosenbaum & Rubin, 1983). Lastly, structural equation modeling (SEM) explores intricate relationships among numerous variables, including latent constructs, to scrutinize direct and indirect effects on profitability, taking into account various pathways and mediating variables (Bollen, 1989; Kline, 2015). Despite the robust methodologies available, the random effects regression model is employed in this study due to its capability to accommodate within-entity and between-entity variations, rendering it suitable when individual effects are independent of the independent variables. This method furnishes efficient and unbiased estimates, thus proving ideal for the panel data configuration utilized in this investigation (Baltagi, 2005). These alternative approaches, in conjunction with the random effects model, proffer comprehensive frameworks for analysing the diverse factors impacting the profitability of financial institutions in Bhutan, thereby providing valuable insights for well-informed decision-making.

## 4. RESULTS AND DISCUSSIONS

### 4.1. Descriptive statistics

Table 2 below presents the descriptive statistics with a total of 35 observations. The table shows the average, standard deviation, maximum, and minimum values of both dependent and independent

variables. To begin with the profitability ratios, the mean values for *ROA*, *ROE*, and *NPM* are 0.011, 0.075, and 0.189, respectively. The maximum values of those profitability measures are 0.070, 0.240, and 0.690, respectively, showing that the financial institutions have earned profit however, the negative minimum values indicate that some financial institutions have incurred losses. The standard deviation of *ROA* is 0.020 which is less than *ROE* and *NPM* which have a standard deviation of 0.115 and 0.332, respectively. This implies that *ROE* and *NPM* vary from financial institution to financial institution. The mean of *CAR* is 0.165, higher than the statutory requirement of 12% in Bhutan, whereas the highest value is 0.330, and the lowest value is 0.050. *NPL* has an average of 0.124 and a standard deviation of 0.332, ranging from a minimum of 0.020 to a maximum of 0.430, with a minimum value of 20% in Bhutan. The mean of *SLR* is 0.251 which is more than above the minimum requirement of 20% in Bhutan. The *SLR* ranges from a maximum of 0.410 to a minimum of 0.130. The mean of *EPS* is 4.783 but with a substantial standard deviation of 9.896. The minimum *EPS* value of -7.160 indicates losses for some institutions, while the maximum value of 41.900 suggests high profitability. The negative minimum value of *EPS* elucidates that some financial institutions have earned losses. The average value of *CIR* is 0.653, with a maximum of 1.690, a minimum of 0.160, and a standard deviation of 0.380. The mean size represented by *LnTA* is 9.926, with the highest and lowest values being 11.590 and 7.620, respectively. Regarding the macroeconomic variables, the mean values of *GDP* and *INFL* are 1.642 and 4.814, respectively.

**Table 2**. Descriptive statistics

| *Variable* | *Mean* | *Std. dev.* | *Min* | *Max* |
|---|---|---|---|---|
| *ROA* | 0.011 | 0.020 | -0.040 | 0.070 |
| *ROE* | 0.075 | 0.115 | -0.270 | 0.240 |
| *NPM* | 0.189 | 0.332 | -0.940 | 0.690 |
| *CAR* | 0.165 | 0.062 | 0.050 | 0.330 |
| *NPL* | 0.124 | 0.108 | 0.020 | 0.430 |
| *SLR* | 0.251 | 0.066 | 0.130 | 0.410 |
| *EPS* | 4.783 | 9.896 | -7.160 | 41.900 |
| *CIR* | 0.653 | 0.380 | 0.160 | 1.690 |
| *LnTA* | 9.926 | 1.048 | 7.620 | 11.590 |
| *GDP* | 1.642 | 5.981 | -10.000 | 5.800 |
| *INFL* | 4.814 | 1.844 | 2.720 | 7.350 |

*Source: Authors' elaboration.*

## 4.2. Correlation analysis

Table 3 displays the level of correlation among the variables employed in the study and the value of the variance inflation factor (VIF) for all the independent variables to assess multicollinearity. A high correlation can be observed between *ROA*, *ROE*, and *NPM* since they are all profitability measures. *CAR* has a moderate correlation with the *ROA*, but less with *ROE* and *NPM*. *NPL*s exhibit a moderate inverse correlation with profitability ratios. Similarly, the *CIR* displays a significant negative correlation with profitability ratios. The VIF test shows that despite a strong correlation between some independent variables, multicollinearity is not a problem for our model as all VIF values are below the accepted threshold of 5 and 10.

**Table 3**. Correlation matrix and variance inflation factor

| | *ROA* | *ROE* | *NPM* | *CAR* | *NPL* | *SLR* | *EPS* | *CIR* | *LnTA* | *GDP* | *INFL* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***ROA*** | 1.000 | | | | | | | | | | |
| ***ROE*** | 0.889 | 1.000 | | | | | | | | | |
| ***NPM*** | 0.675 | 0.827 | 1.000 | | | | | | | | |
| ***CAR*** | 0.698 | 0.462 | 0.234 | 1.000 | | | | | | | |
| ***NPL*** | -0.408 | -0.564 | -0.550 | -0.223 | 1.000 | | | | | | |
| ***SLR*** | -0.182 | -0.023 | 0.001 | -0.208 | -0.427 | 1.000 | | | | | |
| ***EPS*** | 0.348 | 0.431 | 0.304 | -0.015 | -0.413 | 0.139 | 1.000 | | | | |
| ***CIR*** | -0.705 | -0.817 | -0.853 | -0.377 | 0.561 | -0.140 | -0.438 | 1.000 | | | |
| ***LnTA*** | -0.469 | -0.304 | -0.265 | -0.600 | -0.128 | 0.486 | 0.316 | 0.222 | 1.000 | | |
| ***GDP*** | 0.302 | 0.351 | 0.300 | 0.123 | -0.231 | -0.089 | 0.246 | -0.342 | 0.011 | 1.000 | |
| ***INFL*** | -0.011 | -0.010 | -0.108 | 0.120 | -0.017 | 0.253 | -0.125 | 0.032 | 0.133 | -0.225 | 1.000 |

*Source: Authors' elaboration.*

## 4.3. Random-effects generalized least squares regression

Table 4 illustrates the regression findings of the study. As depicted in the table, COVID-19 has no significant effect on the profitability measures of *ROA*, *ROE*, and *NPM*, as indicated by the p-values of 0.965, 0.838, and 0.380, respectively (p-values > 0.05). This could be because of the monetary measures implemented by the Central Bank of Bhutan which has helped the financial institutions to maintain resilience during the unprecedented period. Most importantly, the generous IPS provided by His Majesty the King played an important role in supporting the financial institutions and mitigating the impact of the pandemic.

The *CAR* exhibits a positive and significant association with *ROA* with a p-value of 0.004 ($p < 0.01$). However, it has a negative and statistically significant influence on *NPM*, with a p-value of 0.033 ($p < 0.05$). This result is in line with the findings of Rahmi and Sumirat (2021) and Sultan et al. (2020). The result is also supported by Abel and Roux

(2016) who found an inverse relationship between profitability and capitalization. The favorable impact of *CAR* on *ROA* and its adverse impact on *CAR* can be elucidated by the trade-off between risk-taking and capital allocation. Better capitalized financial institutions have more investment opportunities and thereby they have high opportunities to fetch profit (Berhe & Kaur, 2017). However, it decreases the funds for lending and investment resulting in interest income. Consequently, this leads to a lower *NPM*. The impact of *CAR* on *ROE* is positive but lacks statistical significance which is congruent with Johan (2021) who also found an insignificant relationship between *ROE* and *CAR*.

The *NPL* has demonstrated a marginal negative impact on *ROE* with a p-value of 0.072 ($p < 0.1$). While it has a significant but negative impact on *NPM* with a p-value of 0.010 ($p = 0.01$). This implies that financial institutions in Bhutan encountered difficulties in managing credit risk and recovering loans which had an adverse impact on their ability to earn profit. When borrowers fail to repay loans, financial institutions incur higher credit costs, provisions for bad loans, and operational expenses associated with managing and attempting to recover *NPL*. These factors contribute to lower profitability. However, *NPL* has a negative and insignificant impact on *ROA*.

The impact of the *SLR* on *ROA* and *ROE* is negative and not significant, with respective p-values of 0.210 and 0.273. However, negative, and marginally significant effects on *NPM* are observed with a p-value of 0.069 ($p < 0.1$). The research by Lartey et al. (2013), which found a marginally positive correlation between liquidity and profitability, is in conflict with this finding. The increase in *SLR* leads to a decline in *NPM*. The opportunity cost of holding liquid assets is the potential loss of higher returns that could be gained by investing those funds in other income-generating opportunities.

The *EPS* shows a positive and marginally significant link, with a p-value of $p = 0.091$ ($p < 0.1$). Although it is not statistically significant, in practical terms higher *EPS* enhances financial institutions' capacity to generate profit from their assets. The positive relationship between *EPS* and *ROA* can be attributed to the fact that *EPS* represents the portion of the company's profit allocated to common stock shares. On the other hand, *EPS* has no significant effect on *ROE* and *NPM*, with p-values of 0.227 and 0.292, respectively.

The result shows a significant negative association between *CIR* and all the profitability measures at a p-value of 1%. This implies that an increase in *CIR* causes a decrease in profitability. Abel and Roux (2016) state that efficient cost management is necessary to enhance profitability in the banking industry. The efficient management of expenses results in higher profitability.

*LnTA* does not show statistically significant effects on any of the profitability measures in this study ($p > 0.5$). This result is consistent with the findings of Johan (2021), El-Chaarani (2023), Isayas and Yitayaw (2020), and Haider and Mohammad (2022), who also found a negligible relationship between institution size and profitability. Similarly, *GDP* and *INFL* have an insignificant impact on any of the profitability measures ($p > 0.05$). These results are in line with the study conducted by El-Chaarani (2023) and Sultan et al. (2020) who also found an insignificant relationship between macroeconomic variables and profitability. These findings suggest that internal factors have a more substantial influence on financial health compared to broader economic factors. It is important to focus on internal strategies to enhance profitability rather than relying solely on macroeconomic factors.

The results show that independent variables substantially explain the profitability ratios. The model's fits are strong as indicated by r-square values. The R-square values for *ROA*, *ROE*, and *NPM* are 0.796, 0.765, and 0.846, respectively.

**Table 4**. Summary of random effects model

| ***Variables*** | ***ROA*** | ***ROE*** | ***NPM*** |
|---|---|---|---|
| *COVID-19* | -0.001 | -0.017 | -0.179 |
| *CAR* | 0.132*** | 0.090 | -1.417** |
| *NPL* | -0.017 | -0.267* | -0.946*** |
| *SLR* | -0.048 | -0.260 | -1.065 |
| *EPS* | 0.000* | 0.002 | -0.004 |
| *CIR* | -0.021*** | -0.166*** | -0.716*** |
| *LnTA* | -0.003 | -0.019 | -0.042 |
| *GDP* | 0.000 | 0.001 | -0.003 |
| *INFL* | 0.000 | 0.010 | 0.043 |
| *Cons* | 0.041 | 0.426 | 1.797 |
| *Prob. Chi-square* | 85.730 | 79.770 | 117.960 |
| *Wald Chi-square* | 0.000 | 0.000 | 0.000 |
| ***R-square:*** | | | |
| Within | 0.599 | 0.646 | 0.786 |
| Between | 0.979 | 0.930 | 0.944 |
| Overall | 0.796 | 0.765 | 0.846 |

*Note: ***, **, and * denote significance levels at 1%, 5% and 10%, respectively.*
*Source: Authors' elaboration.*

## 5. CONCLUSION

The research explored how financial factors, macroeconomic factors, and COVID-19 affected the profitability of financial institutions in Bhutan. Despite COVID-19 negatively affecting the global economy, including financial institutions, the empirical findings revealed that the profitability of financial institutions in Bhutan was not significantly impacted by the pandemic. Similar to the adaptability and resilience demonstrated by Islamic banks in Indonesia (Pahlifi et al., 2023) and commercial banks in Bangladesh (Gazi et al., 2022), financial institutions in Bhutan showed a remarkable capacity

to adapt and mitigate the effects of the pandemic. However, this study differs from the wider body of literature, which suggests that COVID-19 had a negative impact on bank profitability globally (Shabir et al., 2023; Çolak & Öztekin, 2021). This difference could be due to the policies implemented Bhutanese government to mitigate the financial impact of COVID-19.

The *LnTA* and macroeconomic factors such as *GDP* and *INFL* were insignificant variables of profitability. Overall, the findings of the research indicate that profitability is driven by financial variables. In the case of *ROA*, the most variables that drive *ROA* are *CAR* and *CIR*. The increase of *CAR* positively affects the *ROA* (with a coefficient of 0.132 at a 99% confidence interval, while the increase of *CIR* adversely affects *ROA* (with a coefficient of -0.021, p-value < 0.01). *CIR* is the most variable that negatively influences all *ROA, ROE*, and *NPM*. Surely the increase of *NPLs* negatively influences the profitability, namely ROE and *NPM*. These findings are consistent with previous literature on the impact of *COVID-19* on bank profitability (Rahmi & Sumirat, 2021; El-Chaarani, 2023; Titko et al., 2015).

The findings from the research are crucial for providing valuable recommendations to financial institutions on how they can improve profitability. In light of the research findings, there is a need for the financial institutions in Bhutan to follow the rules and regulations that are part of the NPL resolution framework strictly to solve the problem of NPLs. Given the positive impact of the CAR on ROA, they should focus on strategies that can help them maintain adequate levels. Since it has a negative impact on the CAR, regular assessments and adjustments of capital adequacy requirements are necessary to balance financial stability and profitability. Despite the resilience shown by the financial institutions they must continue to improve risk management practices which include a regular stress test, robust credit risk assessment, and proactive measures to manage NPLs. In an emerging nation like Bhutan, it is essential to implement efficiency measures, such as process automation, and adopt technological advancements to automate processes wherever possible. Such measures will help streamline operations and reduce expenses. Although there is a marginal negative effect of liquidity on profitability, financial institutions still need to have enough liquidity to satisfy customers and meet requirements Thus, optimizing liquidity management is vital to find a balance between liquidity needs and profitability.

The findings from this study contribute to the theories. Contingency theory argues that the success of organizations relies on the harmonization of internal capacities with external environmental factors (Lawrence & Lorsch, 1967). The resilience exhibited by Bhutanese financial institutions amid the COVID-19 crisis, where they managed to sustain profitability despite the pandemic, accentuates the significance of adaptive strategies and flexible management approaches, which are fundamental to Contingency Theory. The empirical proof indicating that financial institutions effectively dealt with the pandemic by handling NPLs and upholding capital adequacy validates this theory by demonstrating the efficient alignment of internal assets with external hurdles. Dynamic capabilities theory (Teece et al., 1997) is also mirrored in the discoveries. The examination unveils those Bhutanese financial institutions were able to adjust to the disruptions caused by the pandemic, showcasing dynamic capabilities in their risk management methodologies and operational efficiencies. The substantial influence of internal factors like the CAR and CIR on profitability emphasizes the institutions' capability to restructure their resources to uphold performance, aligning with the fundamental principles of dynamic capabilities theory. The RBV theory (Barney, 1991), is corroborated by the findings that internal financial well-being and effectiveness are pivotal determinants of profitability. The beneficial effect of CAR and the adverse impact of CIR on profitability showcase how the efficient management of internal resources can propel performance. By concentrating on enhancing internal financial indicators and operational efficiencies, Bhutanese financial institutions utilized their internal capacities to sustain profitability, even amidst external disruptions such as COVID-19, thereby fortifying the RBV theory.

This study has some research limitations that need to be addressed in future research. The data collected from the seven financial institutions may fully represent the diversity of Bhutanese financial institutions which encompasses other banks, non-bank financial institutions, and microfinance entities. Therefore, the findings may not be completely applicable to the entire financial sector. Another limitation is the time frame from 2018 to 2022 which may not fully capture the impacts of COVID-19 on the financial institutions. Future researchers can address these limitations by increasing the sample size, and time scale. They are recommended to incorporate other financial variables and macroeconomic factors which are not incorporated in this study.

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