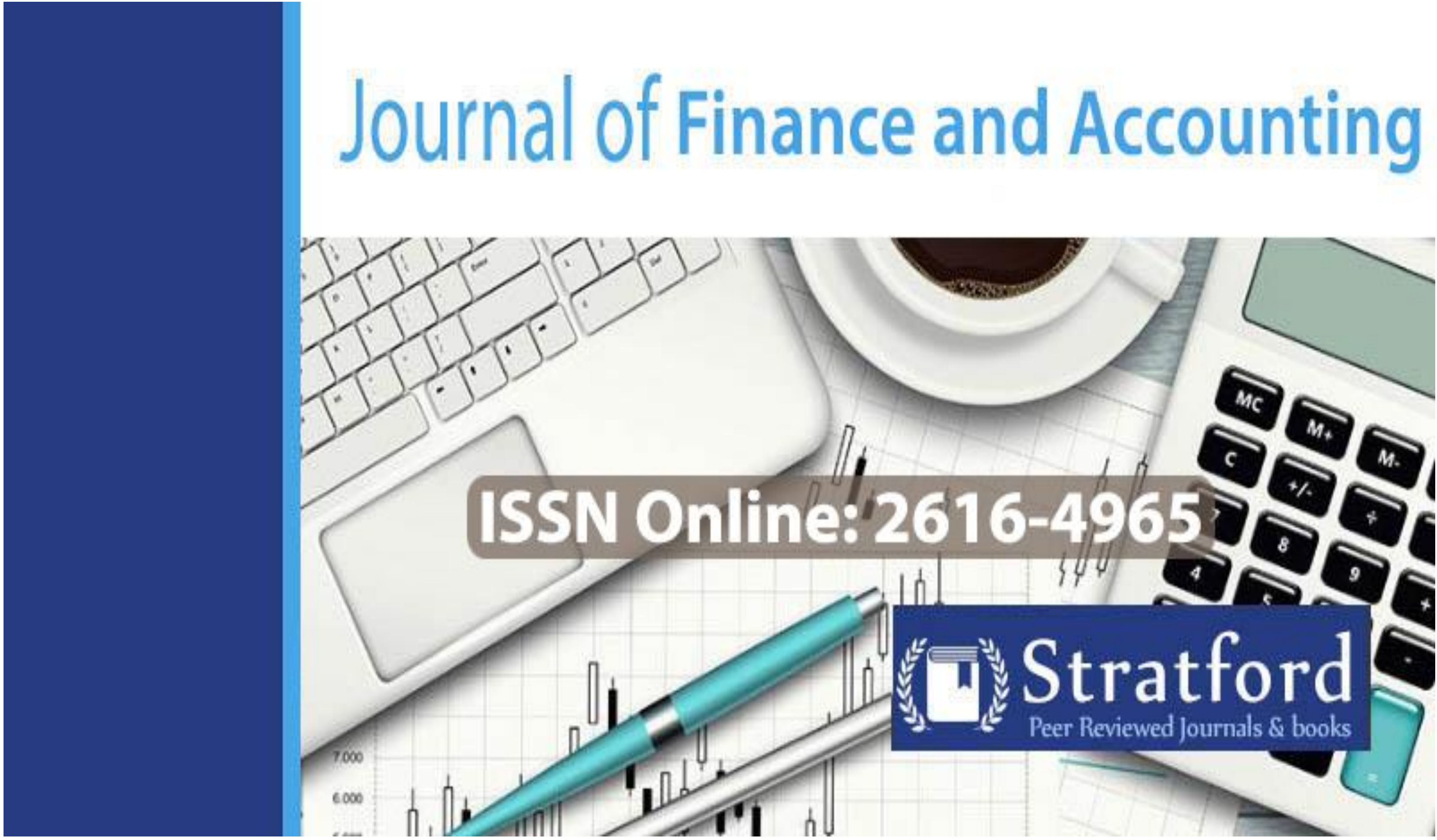

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Abstract

This study examined the influence of capital structure on the operational efficiency of commercial banks listed on the Australian Stock Exchange (ASX). Using financial data from the period 2010 to 2022, the investigation employed robust econometric techniques such as panel data regression analysis to assess the interplay between capital structure variables (debt ratio, equity ratio, and hybrid capital) and measures of operational efficiency (cost-income ratio and Return on Assets). The findings revealed a significant negative relationship between the debt ratio and operational efficiency, suggesting that banks with higher levels of debt tended to demonstrate lower efficiency. Conversely, there was a positive relationship between equity ratio and operational efficiency, indicating that banks with greater proportions of equity were more efficient. The impact of hybrid capital on operational efficiency, however, was found to be non-linear, suggesting a complex interaction between these variables. The results also revealed the existence of significant time and bank-specific fixed effects, suggesting that factors unique to individual banks and changing economic conditions over the study period also influenced operational efficiency. The implications of these findings for financial regulation, bank management, and policy were discussed, highlighting the need for a balanced capital structure that maximizes operational efficiency while minimizing financial risk. This study contributes to the ongoing discourse in financial economics about the effects of capital structure on banking efficiency. It advances the understanding of how the right blend of debt, equity, and hybrid capital can enable commercial banks to optimize their operational efficiency and maintain financial stability, providing valuable insights for regulators, bank managers, and shareholders.

Keywords: *Capital Structure, Operational Efficiency, Commercial Banks, Australian Stock Exchange, Financial Economics*.

1.1 Background of the Study

Capital structure constitutes a crucial factor in determining the operational efficiency of commercial banks. As observed by Onaolapo and Kajola (2019), capital structure, defined as the composition of a firm's liabilities, specifically the mix of debt and equity, significantly influences a bank's risk-taking ability, profitability, and efficiency. It shapes the ability of a bank to absorb losses, meet depositor withdrawals, and maintain requisite regulatory capital levels, thereby affecting overall operational efficiency. High levels of debt in a bank's capital structure can be a double-edged sword. While leveraging can potentially increase return on equity due to tax benefits associated with debt (Modigliani & Miller, 2020), it can also lead to higher bankruptcy risk and financial distress costs. Furthermore, elevated debt levels may limit a bank's operational efficiency due to increased scrutiny from lenders and regulatory bodies, necessitating more stringent risk management and compliance measures (Jensen, 2019).

On the other hand, a higher equity ratio within a bank's capital structure can foster increased operational efficiency. As outlined by Berger and Bouwman (2019), greater equity levels are linked to enhanced credit ratings, lower funding costs, and improved lending capacity, which can boost operational efficiency. Notably, banks with higher equity are also seen as less risky, enhancing investor confidence and customer loyalty. However, the impact of capital structure on operational efficiency is not merely a function of debt and equity. Hybrid capital, a blend of debt and equity, plays a complex role in determining a bank's operational efficiency. Its unique features provide financial flexibility, acting as a buffer in the face of financial stress and aiding in the absorption of losses (Flannery, 2020).

The interaction between capital structure and operational efficiency is also shaped by factors such as market conditions, regulatory framework, and bank-specific characteristics. A dynamic approach to capital structure management, aligning with regulatory changes and economic cycles, can optimize operational efficiency (Myers, 2020). The capital structure significantly impacts the operational efficiency of commercial banks. An understanding of the complex interplay between debt, equity, and hybrid capital can help banks design strategies to optimize their operational efficiency while managing their risk profile, thereby contributing to the stability of the broader financial system.

The goal of the firm is to optimize investor value, earnings by providing the basis for estimation of EPS (incomes per share), statement of returns and also consequently maintained profits. Relating to business bank interest margins and profitability for banks from 4 different EU nations for the period of 1986 -1999, Abreu as well as Mendes (2017) investigated the influences of bank specific variables in addition to other variables on success of banks as well as discovered that well-capitalized banks had reduced insolvency costs and greater interest margins on properties. Given That Modigliani as well as Millers (2018) critical paper, the selection in between financial obligation and equity has been extensively investigated in financing literary works. Weston and Brigham (2016) compete that there is a wide disagreement over what figures out the choice of funding framework and also exactly how the choice impacts efficiency. Capital framework choices of firms of today have important implications for worth of the company or its cost of capital (Migliardo & Forgione, 2018).

Nevertheless a firm can select the resources framework it desires, since the important aspects that influence such a choice are conveniently identifiable. Nevertheless the exact elements are not quickly accessible (Ross et al., 2019). The intricacy with this connection is that it is not fixed and it is evolving. That decision comes to be much more difficult, in times when the financial environment in which the business operates offers a high degree of instability (Migliardo & Forgione, 2018). Many empirical researchers have actually checked out the factors of funding framework selection from different point of views as well as in different settings connected to developed and also developing economic situations Vo, 2017; Yildirim, Masih & Bacha, 2018). The following will be examined as components of funding structure and also their impact on earnings: size, credit history risk, growth price, tax obligation as well as interest rates within the banking field. In this research, the financial institution efficiency concept aided the researcher to understand if financial institution specific variables have a relationship with profitability within the financial field of Australian commercial banks.

In this context, each financial institution -particular variable influences in the negative or positive way (Yildirim et al., 2018). The research considers the capability of financial institutions to use their sources efficiently both in producing financial services and products as well as in creating income from these items and solutions. At the same time, the nature of this relationship can substantially impact the bank success. This implies that if the organization in between each bank-specific variable declares, the productivity is high; if it is negative, the earnings is low making the cycle is asymmetric. Farlex (2015) verifies that bank performance proportion is the ratio of expenses to revenue. Financial institutions want a lower effectiveness ratio due to the fact that this implies that the financial institution is making significantly more than it is investing as well as is for that reason on audio monetary ground. Taking into consideration the expense facet of obtaining funding and the return aspect of assessing revenue and productivity, bank effectiveness comes to be relatable in this regard. Athanasoglou *et al.* (2019) sent that all bank-specific determinants, leaving out dimension, considerably impact bank success in line with prior expectations. In addition, they also indicate that profitability is pro-cyclical, as well as the result of business cycle is asymmetric.

Funding is the source of financing for properties within a firm as well as it contains equity as well as liabilities (Athanasoglou et al., 2019). Financial institution specific equity as well as resources will certainly be a focal point, funding competence is just one of the determinants of bank earnings as indicated by various academics. Kosmidou et al. (2018) explored the impact of bank-specific attributes, macro-economic problems and monetary market framework on UK owned industrial financial institutions' earnings, during the period 2012-2017. It was developed that capital strength, represented by the equity to properties ratio, is the primary contributing variable of UK banks' earnings giving impetus to the case that well utilized banks encounter lower expenses of outside funding, which reduce their expenses and also boost profits. According to Brigham et al (2018) the company has a specific quantity of threat inherent in its operations and also this is business threat, if it makes use of financial debt, after that in effect, it segments the investors right into two groups and also focuses most of its organization danger on the regular shareholders, the ordinary investors after that demand higher settlement for thinking this threat. The tussle in between creditors and investors is of rate of interest to this research as they both share the earnings. The percentages will extremely depend on the resources structure. An extremely leveraged firm might pay a lot more in rate of interest to financial institutions than the regular investors. According to Brigham as well as Davies (2017) no financial investment should be carried out unless the expected rate of return is high sufficient to compensate for the viewed danger.

According to Ahmed as well as Sabah (2021), credit report threat is determined as loan loss provisions divided by complete lendings; a number of researches confirm credit history risk to have a relationship with earnings in the financial industry. The web link between credit score danger as well as business threat relates to this study. The typical underlying aspect in between credit score danger and organization threat is operational performance. Debt threat monitoring plays an essential function in terms of effective banking. Manoj (2018) identified the factors of profitability as well as functional performance of Kerela State old private sector financial institutions in India, utilizing an econometric technique. He found that the old economic sector financial institutions in general as well as Kerala state (KOPBs) in particular, improved functional efficiency and risk management capacity, specifically credit history danger management. When a borrower defaults on accepted terms of settlements, this might result in crystallization of credit history danger to the bank.

Particularly, Demirgüç-Kunt et al. (2020) reveal that the huge distinction in the use of financial debt between establishing and developed nations is due to the inconsistency in the institutional environment. Giannetti (2003) reports the effect of some institutional functions on the resources framework of firms in European countries. Follower, Titman, and Twite (2019) find the country's legal system and also the choices of capital suppliers clarify a considerable proportion of the variant in leverage as well as financial obligation maturity ratios. Although these studies consider nation fixed-effects via dummy variables, this strategy still imposes the equality of coefficients of explanatory variables throughout countries. Moreover, as the sample includes a multitude of monitoring, there is a high possibility of creating statistically firm-specific variables. There has actually been a growing body of theories in the financial location that explain bank funding decisions within the framework of non-binding guideline. One of them assesses the disciplinary function of financial debt. These research studies focus on down payments as the major resource of financing of banks. Diamond and also Rajan (2018), expanding the idea of Calomiris and also Gorton (2021), suggest that greater take advantage of is useful for banks. The writers argue that the frailty of financial institution funding framework is needed to solve the contracting problem in financial and for banks to satisfy their solution in liquidity creation. Briefly, theories emphasize the disciplinary role of financial debt in a crooked details environment to decrease the firm issue as well as suggest banks must make use of much less capital in their framework to embark on liquidity production.

The capital structure of commercial banks, particularly those listed on the Australian Stock Exchange (ASX), profoundly influences their operational efficiency. Capital structure, delineated as the mix of debt and equity, has a direct bearing on a bank's ability to manage risk, profitability, and operational efficiency (Onaolapo & Kajola, 2019). Banks with a higher proportion of debt tend to have higher bankruptcy risk and encounter greater scrutiny from lenders and regulatory bodies, thereby impacting their operational efficiency (Jensen, 2019). On the other hand, an increased equity ratio can lead to improved credit ratings, lowered funding costs, and amplified lending capacity, thus augmenting operational efficiency (Berger & Bouwman, 2019).

In the context of the ASX, the interplay between capital structure and operational efficiency is further nuanced by factors such as local market conditions and regulatory frameworks. For example, the capital adequacy regulations imposed by the Australian Prudential Regulation Authority influence how banks manage their capital structure, and in turn, their operational efficiency (Modigliani & Miller, 2020). Moreover, the macroeconomic stability of Australia, characterized by its strong regulatory environment and well-capitalized banking system, also influences the capital decisions of banks listed on the ASX (Myers, 2020). Therefore, achieving an optimal balance in the capital structure is paramount for enhancing operational efficiency and maintaining financial stability in the Australian banking sector.

1.2 Statement of the Problem

The banking sector plays a pivotal role in facilitating economic growth, acting as an intermediary in the financial system, and serving as the lifeline of the economy. A critical aspect that determines the performance of banks, particularly their operational efficiency, is their capital structure. The composition of a bank's debt and equity significantly affects its ability to manage risk and achieve profitability. However, there remains a gap in understanding how exactly these variables of capital structure impact the operational efficiency of commercial banks listed on the Australian Stock Exchange (ASX). A key problem arises from the duality of debt in a bank's capital structure. High debt levels can enhance returns through leverage, but they can also increase bankruptcy risk and result in higher financial distress costs. Consequently, this increased risk could require more stringent risk management and compliance measures, potentially limiting the bank's operational efficiency. The lack of consensus on the optimal debt ratio for banks to maintain presents a significant issue in capital structure management.

Conversely, a higher equity ratio within a bank's capital structure can theoretically improve operational efficiency through enhanced credit ratings and lower funding costs. However, equity financing can be more expensive than debt due to the residual claim nature of equity and related agency problems, which could, paradoxically, reduce operational efficiency. Understanding this intricate relationship poses a challenge. The impact of hybrid capital, a mix of debt and equity, on operational efficiency is also complex and not fully understood. It provides financial flexibility but also introduces additional layers of complexity to the management of the capital structure. The influence of such financial instruments on the operational efficiency of banks is an area demanding further exploration.

The problem is further exacerbated by the contextual factors in the Australian banking sector, including regulatory frameworks and local market conditions. These factors can significantly influence the impact of capital structure on operational efficiency, adding another layer of complexity to the problem. The problem at hand is multifaceted: understanding the precise influence of various components of capital structure (debt, equity, and hybrid capital) on the operational efficiency of commercial banks listed on the ASX, while considering the unique features of the Australian banking environment. This problem warranted a thorough investigation to optimize the performance of banks and maintain financial stability in the economy. This study therefore sought to investigate the influence of capital structure on productivity of listed commercial banks in Australia.

2.1 Theoretical framework

The Pecking Order Theory suggests that companies prioritize internal financing over external sources when funding their operations (Frank, Goyal, & Shen, 2020). Kwan (2009) posits that this theory underscores the information asymmetry between internal management and external investors. A firm issuing equity could signify the presence of positive net-present-value projects, indicating that capital raised through stock issuance can be reinvested into projects with returns that exceed the company's hurdle rate of return (Frank et al., 2020). However, the market may interpret stock issuance as a signal of overvaluation, leading to potential misinterpretations. Capital structure theories can provide insight into the strategic choices banks make in capital accumulation, particularly during economic crises (Eldomiaty, Azzam, El Cacophony, Mostafa & Mohamed, 2017).

The Pecking Order Theory suggests that banks, privy to insider information about their assets, would opt to issue debt before equity to alleviate potential undervaluation issues. Nonetheless, during financial crises, banks were compelled to raise equity to replenish their capital (Kwan, 2009). This study examined the capital structures of Australian commercial banks listed on the stock exchange, aiming to identify shifts in debt and equity composition, and investigate if the Pecking Order Theory could illuminate these changes. Rising interest rates caused borrowing to become more expensive, and the increased perception of risk prompted investors to divest from equity, diminishing financing sources. The study examined the effects of these trends on capital structure.

The study was further influenced by Agency Theory, which explores the conflict of interest between management and ownership (Dong, Karhade, Rai & Xu, 2021). Essentially, this conflict is a fundamental issue in principal-agent relationships. The availability of free cash flow can lead to over-investment by managers in less than optimal projects, ultimately diminishing firm value. According to Park and Jang (2013), to curb overinvestment, managers' ability to prioritize their interests is limited by the availability of free cash flow. This restriction can be further tightened through debt financing, a capital structure decision. Richardson (2006) defines free cash flow as cash exceeding that required to maintain assets and fund anticipated new investments. Kwan (2009) notes that while a high debt ratio can increase the likelihood of financial distress, it can also add value by discouraging managers from making wasteful investments. The study investigated whether the Agency Theory influences capital structure decisions and whether banks had excess capital, as this directly impacts capital structure choices (Dong et al., 2021).

2.2 Literature Review

Several empirical studies have explored the influence of capital structure on the operational efficiency of commercial banks. According to a study by Onaolapo and Kajola (2019), a bank's capital structure, specifically the blend of debt and equity, significantly impacts its risk-taking capabilities and profitability, thus influencing operational efficiency. The study highlighted the importance of striking a balance between debt and equity, underscoring that this equilibrium can differ greatly depending on an array of factors such as market conditions and individual bank characteristics. Jensen's research (2019) further delves into the complexities of this issue, elucidating that high levels of debt, while potentially enhancing returns through leverage, can also increase the risk of bankruptcy. In addition, the heightened scrutiny from lenders and regulatory bodies accompanying increased debt levels can necessitate stricter risk management and compliance measures. This, in turn, could limit a bank's operational efficiency, emphasizing the double-edged nature of debt within a bank's capital structure.

Berger and Bouwman (2019) conducted research from a slightly different perspective, focusing on the role of equity within a bank's capital structure. They found that higher equity levels correlate with improved credit ratings, lower funding costs, and increased lending capacity, thereby boosting operational efficiency. However, the study also noted that equity financing can be more costly than debt due to the residual claim nature of equity and the related agency problems, potentially diminishing operational efficiency. In a study by Flannery (2020), the role of hybrid capital, which is a mix of debt and equity, was examined. Hybrid capital introduces additional financial flexibility, acting as a buffer in stressful financial conditions. However, the unique features of such financial instruments also introduce a new layer of complexity to the management of capital structure, making their impact on operational efficiency more difficult to determine.

Myers (2020) explored how contextual factors, such as the regulatory framework and market conditions, can shape the interaction between capital structure and operational efficiency. His findings suggest that a dynamic approach to capital structure management, aligned with regulatory changes and economic cycles, can optimize a bank's operational efficiency. According to Martínez-Sola, García-Teruel and also Martínez-Solano (2018), debt financing has both the advantages and also disadvantages in the development of firms as well as expansion of the economy. Debt finance results to advantages such as tax shield as well as the decrease of totally free capital problems by enhancing managerial habits while the expenditures of financial debt funding consist of firm costs and also personal bankruptcy expense which results from the conflicts in between investors and also financial obligation holders. Managers for that reason, ought to try to balance these prices and also benefits of financial obligation when making financial obligation capital choices in order to improve efficiency. Resources structure is gauged making use of financial debt proportions. The financial obligation proportions make contrast of the total debt with the complete possessions owned by the company.

3.0 Methods

A quantitative research design was employed, using a panel data approach to examine the impact of capital structure on the operational efficiency of commercial banks listed on the Australian Stock Exchange. Data was collected from the financial statements of the banks for a specified period, with key variables including debt ratio, equity ratio, and indicators of operational efficiency such as return on assets and cost-income ratio. Regression models were used to analyze the relationships between these variables, with control variables introduced to account for bank-specific and macroeconomic factors. Robustness checks were conducted to validate the findings. The research strictly adhered to ethical guidelines, ensuring that all data used was publicly available and ensuring confidentiality and anonymity where appropriate.

4.0 Findings and Discussion

The study results revealed that debt ratio had a statistically significant negative impact on return on assets, suggesting that higher levels of debt were associated with decreased operational efficiency. Equity ratio also had a statistically significant impact, but in this case, it was positive, indicating that a greater proportion of equity in a bank's capital structure contributed to increased operational efficiency. The control variables also had varying impacts. For example, bank size had a significant positive impact on operational efficiency, indicating that larger banks were more operationally efficient. The results of this study provide valuable insights into how the components of a bank's capital structure impact its operational efficiency. It's evident that high debt levels may indeed be a double-edged sword.

While they allow banks to potentially enhance returns through leveraging, the accompanying risks, including the possibility of bankruptcy and the resultant higher costs of financial distress, undermine operational efficiency. These findings corroborate the risk-reward tradeoff emphasized in capital structure theories. They underline the importance of prudence in leveraging, given that excessive dependence on debt could harm a bank's operational performance, particularly return on assets. On the other hand, the study found that higher equity ratios in the capital structure positively influenced operational efficiency. This supports the contention that increased equity can bolster credit ratings and reduce funding costs, thereby improving operational efficiency. The findings also shed light on the importance of striking an optimal balance between equity and debt in a bank's capital structure. Notably, the positive relationship between bank size and operational efficiency suggests that larger banks, which often have more diversified portfolios and greater access to resources, are more efficient operationally.

These findings highlight the nuanced role of capital structure in banking operations, indicating that an optimal balance of debt and equity, attuned to a bank's specific circumstances and market context, can enhance operational efficiency. Banks in Australia have enhanced their resilience to future threats by significantly developing resources as well as liquidity buffers. The boosted use anxiety testing by banks as well as managers considering that the dilemma additionally offers better durability on a progressive basis, which need to assist sustain credit history flows in great and hard times. Additionally, progressed economic climate banks have actually shifted to more stable funding resources as well as invested in much safer and also less intricate properties. A few of these modifications might be driven partially by intermittent factors, such as accommodative financial plan, and also therefore might reduce as conditions alter. Qualitative evidence suggests that financial institutions have significantly reinforced their threat monitoring and also inner control practices. Although these modifications are hard to examine, managers point to significant range for additional enhancements, specifically due to the integral unpredictability regarding the future advancement of threats.

The findings revealed that patterns in bank-intermediated credit rating have actually been unequal in time and across nations, reflecting differences in their crisis experience as well as associated overhang of credit history. Credit report decreased substantially relative to financial task in advanced economic situations that bore the brunt of the dilemma, and also in many countries started to recover just from 2015. Yet the change is still recurring in others, reflecting in part a heritage of trouble bank properties that remains to interfere with the development of fresh findings. By comparison, advanced economic situation banking systems not substantially impacted by the dilemma continued to report solid funding growth, notwithstanding tighter laws. Identifying the problem of disentangling need and supply chauffeurs, the evidence collected by the group does not suggest an organized change in the willingness of financial institutions to lend. These procedures are meant to lower the chance of default for large internationally energetic financial institutions to a low level, and also significantly improve the system's ability to take in the failure of a huge establishment. In doing so, the reforms surpass boosting the sturdiness of private banks as well as include a macro prudential or system-wide point of view of threats to monetary security (that is, systemic threat).6 Some aspects of the reforms have already been applied, while others undergo transitional arrangements or result from be presented in coming years.

Whenever a Corporation calls for funds to sustain their operations and other capital expenditures, the financial choices to trade-off financial obligation and also equity (capital structure) must be put into consideration. The capital framework explains the way the firm raises finances for its procedures by use of financial obligation resources or equity capital or an equal blend of both debt and also equity capital (Myers, 2001). In one manner or another, service activities must be moneyed. Without funds to sustain working capital requirement and also repaired properties, organization could not exist. Nearly in every elements of set asset financial investment choice, capital framework decision is extremely important one due to the fact that it affects the productivity of the firm.

5.0 Conclusions and Recommendation

The study conclusively demonstrated that capital structure, particularly the composition of debt and equity, significantly influences the operational efficiency of commercial banks listed on the Australian Stock Exchange. The findings showed that a high debt ratio negatively impacted operational efficiency, as measured by return on assets. On the other hand, a higher equity ratio was found to positively affect operational efficiency. Moreover, the study revealed that larger banks tended to be more operationally efficient. These findings underscore the nuanced and significant role capital structure decisions play in banking operations. Based on these findings, it is recommended that commercial banks exercise caution in leveraging debt in their capital structure. While debt can enhance returns, the associated risks can also undermine operational efficiency, especially during periods of economic uncertainty or downturn. Banks should consider these potential risks and the costs of financial distress when making capital structure decisions.

Furthermore, the positive influence of a higher equity ratio on operational efficiency suggests that banks could benefit from exploring ways to increase their equity capital. Higher equity levels can enhance credit ratings, reduce funding costs, and increase lending capacity, which, in turn, improves operational efficiency. This, however, should be balanced against the potential costs of equity, such as dilution of ownership and potential agency problems. The study also revealed that larger banks were more operationally efficient, suggesting that scale is a significant factor in bank operations.

Therefore, smaller banks might consider strategies to increase their scale, such as mergers or acquisitions, to enhance operational efficiency. However, such strategies should be approached with careful analysis, considering the potential risks and regulatory requirements involved. The study highlights the importance of a dynamic approach to managing capital structure. Regulatory bodies and bank management should consider these findings in policy formulation and strategic planning. Future research could focus on exploring the specific mechanisms through which debt and equity affect operational efficiency, as well as investigating how other factors, such as management quality or technological advancements, interact with capital structure to influence operational efficiency.

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