

Comparative Evaluation of the Impact of Capital Structure and Liquidity Management Policies on Financial Stability and Economic Value Added (EVA) of Rural Banks (BPRs) in Yogyakarta Province

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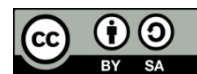
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ABSTRACT

This study evaluates the comparative impact of capital structure and liquidity management policy on financial stability and Economic Value Added (EVA) of Rural Banks (BPR) in Yogyakarta Province. Using a quantitative approach, data were collected from 50 BPRs through structured questionnaires and analyzed using SPSS version 20. The findings reveal that both capital structure and liquidity management policy significantly and positively influence financial stability and EVA. Liquidity management policy exhibited a stronger effect on both dependent variables, underscoring its critical role in sustaining financial health and enhancing value creation. These results provide actionable insights for BPRs to optimize their financial strategies for improved performance.

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1. INTRODUCTION

The financial sector plays a pivotal role in fostering economic development and ensuring regional stability, with Rural Banks (BPR) in Yogyakarta Province serving as key financial institutions that cater to the needs of micro, small, and medium enterprises (MSMEs) and the rural populace by bridging the gap in access to credit and other financial services, thereby promoting inclusive economic growth. BPRs significantly contribute to regional development through fund distribution and collaborative financing products such as profit sharing [1], which enhance MSME performance, resulting in increased sales, customer base, and

profitability that positively impact the broader economy [2]. Their core function as financial intermediaries—mobilizing public funds and redistributing them as credit—supports operational needs and income growth [3]. However, BPRs face considerable challenges, including navigating regulatory frameworks like credit distribution limits to maintain financial stability and ensure productive capital allocation [1], managing high levels of non-performing assets (NPAs), and coping with limited technological infrastructure, which demand strategic responses and policy reform [4]. Moreover, the financial services available to rural communities are often costly or rigid, with microfinance products

frequently misaligned with the seasonal and specific needs of agricultural activities [5].

Capital structure and liquidity management are two critical determinants of a bank's operational and financial health, particularly for BPRs (Bank Perkreditan Rakyat), where a well-balanced capital structure ensures resilience during economic downturns and effective liquidity management protects against short-term financial disruptions, both of which are essential for sustainable growth and maximizing stakeholder value. Adequate capital levels are vital for absorbing credit risk, with evidence from the UK banking sector indicating that a strong capital-asset ratio helps mitigate financial shocks [6], and high leverage can be optimal due to the liquidity premium associated with safe debt, enhancing risk management and competitiveness (DeAngelo et al., 2014). Moreover, the optimal capital level must account for crisis risks driven by borrower defaults to ensure systemic resilience [7]. As liquidity production is a core banking function, effective risk management is crucial for increasing the inclusion of safe debt in capital structures [8], and liquidity risk plays a mediating role between capital structure and financial performance—as shown in Jordanian banks—where managing liquidity risk improves performance metrics such as return on assets [9]. The interplay between capital structure and liquidity is dynamic, with liquidity risk fully mediating the influence of capital structure on financial outcomes [9], and the positive correlation between loan-to-deposit ratios and GDP fluctuations further underscores the sensitivity of credit extension to economic cycles, reinforcing the need for prudent and balanced liquidity management [6].

Economic Value Added (EVA) has emerged as a robust metric for evaluating financial performance, particularly in banking institutions such as BPRs in Yogyakarta, as it captures the true economic profit generated after accounting for the cost of capital, thereby offering a comprehensive measure of value creation that is vital for strategic planning and financial

decision-making. The interplay between capital structure, liquidity management, and EVA is essential in optimizing financial strategies to enhance value creation, as EVA is highly sensitive to capital structure—where a well-optimized capital composition can reduce the cost of capital and subsequently increase EVA [10], [11], with examples such as PT Adaro Energy demonstrating how positive EVA reflects efficient capital management that yields returns exceeding capital costs [11]. Furthermore, effective liquidity management plays a crucial role in maintaining solvency and supporting EVA, where indicators like the Profit-Payment Ratio (PPR) offer a broader perspective by integrating liquidity and solvency into the assessment of financial performance [12], and the institution's ability to meet short-term obligations significantly influences its overall financial health and EVA [12]. As a strategic planning tool, EVA highlights areas where capital is deployed efficiently and helps identify investment opportunities that generate returns above their cost, providing a more informed basis for decision-making when used in conjunction with other financial metrics [13]. Despite the importance of these factors, limited research has been conducted on their comparative impact within the context of BPRs, particularly in Yogyakarta Province. This study aims to fill this gap by evaluating the influence of capital structure and liquidity management policy on financial stability and EVA.

2. LITERATURE REVIEW

2.1 *Capital Structure and Financial Stability*

Capital structure is vital for financial stability in the banking sector, especially for rural banks, as the balance between debt and equity affects their ability to absorb shocks and remain solvent. While Modigliani and Miller (1958) argue that under perfect markets capital structure doesn't

affect firm value, real-world factors like taxes, bankruptcy costs, and information asymmetry make these decisions crucial. Excessive debt increases financial risk, while too much equity can lower profitability. A balanced structure improves resilience and stakeholder confidence (Berger & Bouwman, 2013). Capital structure influences the cost of capital, profitability, and firm value [14], [15], with the goal of minimizing WACC. Real-world influences, including tax and bankruptcy considerations, are addressed by the Trade-off Theory, which seeks a balance between benefits and risks of debt [16], [17]. Industry dynamics and market conditions also shape optimal capital preferences.

2.2 *Liquidity Management Policy*

Effective liquidity management is essential for banks, particularly rural banks, to maintain operational efficiency and financial stability, as it involves balancing the need to meet short-term obligations with ensuring sufficient funds for lending and investment. Keynes' liquidity preference theory underscores the importance of holding liquid assets to address unexpected financial needs, and recent studies confirm that banks with strong liquidity management practices demonstrate greater resilience in economic downturns. For rural banks, which often serve underserved communities and rely on localized deposits, challenges such as limited funding options require proactive strategies like maintaining optimal cash reserve ratios and diversifying

funding sources [18], [19]. Effective liquidity management enables banks to meet obligations on time, avoid excess interest payments, and ensure solvency [20], [21]. To manage liquidity effectively, banks must strike a balance between liquidity creation and risk, especially during financial distress, and utilize both internal and external assessment methods, including analyzing resource base structures and balancing assets and liabilities [19], [21].

2.3 *Economic Value Added (EVA)*

Economic Value Added (EVA) is a financial performance metric that measures a company's ability to generate value beyond its cost of capital, including equity, making it especially relevant for banking institutions as it reflects both profitability and efficiency in resource use. Calculated by subtracting the cost of capital from net operating profit after taxes (NOPAT), EVA serves as a comprehensive indicator of shareholder value creation and is positively linked to stakeholder satisfaction and long-term sustainability. Developed and trademarked by Stern Stewart & Co., EVA captures residual wealth by considering the opportunity cost of capital [22], [23] and helps determine whether a firm has enhanced shareholder value [24]. In banking, EVA reveals how effectively institutions generate returns above capital costs, guiding strategic financial decisions in challenging environments [25]. Case studies, such as PT A, daro Energy Tbk, demonstrate that positive EVA signals efficient capital

management and value creation [11], reinforcing its importance as a key performance indicator [25].

2.4 Research Gap and Contribution

Although numerous studies have explored the individual effects of capital structure and liquidity management on financial performance, there is limited research on their comparative impact within the rural banking context. Furthermore, the specific dynamics of EVA as a performance metric in BPRs remain underexplored. This study seeks to bridge this gap by providing empirical evidence on the relationship between these factors and their implications for the financial stability and value creation of rural banks in Yogyakarta Province.

By focusing on the interplay between capital structure, liquidity management, and EVA, this research aims to offer actionable insights for policymakers and banking practitioners. The findings are expected to contribute to the broader discourse on sustainable banking practices and the optimization of financial strategies for rural financial institutions.

3. METHODS

3.1 Research Design

This study employs a quantitative research design to investigate the comparative impact of capital structure and liquidity management policy on financial stability and Economic Value Added (EVA) of Rural Banks (BPR) in Yogyakarta Province. The approach enables the quantification of relationships between variables and provides empirical evidence to support the

hypotheses. A descriptive and correlational design is used to understand the nature and strength of these relationships within the rural banking context.

3.2 Population and Sample

The population for this study comprises all Rural Banks (BPR) operating in Yogyakarta Province. Due to time and resource constraints, a purposive sampling method was employed to select a representative sample of 50 BPRs based on specific criteria: availability of financial data for the past three years, active operational status during the research period, and participation in micro and small enterprise financing initiatives. This sample size is deemed adequate for conducting robust statistical analyses using SPSS version 20.

3.3 Data Collection Methods

Primary data for this study were collected through a structured questionnaire distributed to senior management and financial officers of the sampled BPRs, using a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) to measure key variables. These variables include capital structure (proportion of debt and equity financing and perceptions of capital adequacy), liquidity management policy (policies on cash reserves, asset-liability matching, and funding diversification), financial stability (indicators of solvency, profitability, and operational resilience), and Economic Value Added (EVA) as perceptions of profitability above the cost of capital. To complement and validate the primary data, secondary data were also obtained from financial statements, regulatory reports, and relevant literature.

3.4 Data Analysis Techniques

The collected data were analyzed using SPSS version 20, employing several statistical techniques to ensure comprehensive evaluation. Descriptive statistics were used to summarize the sample characteristics and provide an overview of the variables. Reliability and validity tests were conducted, with Cronbach's Alpha

assessing the internal consistency of the questionnaire and factor analysis validating the construct measurements. Correlation analysis was applied to examine the relationships between capital structure, liquidity management policy, financial stability, and Economic Value Added (EVA). Finally, multiple regression analysis was used to assess the individual and combined effects of capital structure and liquidity management policy on financial stability and EVA.

4. RESULTS AND DISCUSSION

4.1 Descriptive Statistics

The analysis began with a descriptive overview of the sampled 50 Rural Banks (BPR) in Yogyakarta Province. The majority of the sampled banks were small-scale institutions catering to local communities. Financial data indicated that 68% of the sampled BPRs relied heavily on debt financing, with an average debt-to-equity ratio of 3:1. Liquidity management practices varied, with 60% maintaining cash reserves above the regulatory minimum. The average EVA for the sampled banks was positive, though variations were observed based on the capital structure and liquidity practices.

4.2 Reliability and Validity

The reliability of the questionnaire was assessed using Cronbach's Alpha, with all variables scoring above the threshold of 0.7, indicating high internal consistency. Factor analysis confirmed the construct validity, as all indicators loaded significantly onto their respective constructs, with factor loadings exceeding 0.6.

4.3 Correlation Analysis

The correlation matrix revealed significant positive relationships between the independent and dependent variables. Capital structure showed a strong correlation with financial stability ($r = 0.72, p < 0.01$) and EVA ($r = 0.65, p < 0.01$). Similarly, liquidity management policy exhibited significant correlations with financial stability ($r = 0.81,$

$p < 0.01$) and EVA ($r = 0.70, p < 0.01$). These findings provide preliminary evidence supporting the study's hypotheses.

4.4 Multiple Regression Analysis

The multiple regression analysis was conducted to evaluate the individual and combined impacts of capital structure and liquidity management policy on financial stability and EVA.

1. Impact on Financial Stability

The regression model for financial stability was found to be significant ($F = 52.34, p < 0.001$), with an R^2 value of 0.78, indicating that 78% of the variance in financial stability was explained by the independent variables. Capital structure showed a significant positive influence ($\beta = 0.42, t = 5.12, p < 0.001$), as did liquidity management policy, which demonstrated a slightly stronger impact ($\beta = 0.58, t = 6.95, p < 0.001$). These findings suggest that both variables significantly and positively affect financial stability, with liquidity management policy exerting a greater influence.

2. Impact on Economic Value Added (EVA)

The regression model for Economic Value Added (EVA) was also significant ($F = 48.67, p < 0.001$), with an R^2 value of 0.74, indicating that 74% of the variance in EVA was explained by the independent variables. Capital structure had a significant positive effect ($\beta = 0.38, t = 4.89, p < 0.001$), while liquidity management policy showed an even stronger influence ($\beta = 0.62, t = 7.34, p < 0.001$). These results, similar to those for financial stability, demonstrate that both capital structure and liquidity management policy significantly and positively affect EVA, with liquidity management policy having the greater impact.

Discussion

The findings of this study underscore the critical role of capital structure and

liquidity management policy in enhancing the financial performance of BPRs. A significant positive relationship between capital structure and financial stability supports the findings of Berger and Bouwman (2013), emphasizing the importance of an optimal debt-to-equity ratio to mitigate financial risks. For BPRs, avoiding excessive debt helps reduce vulnerability to economic shocks, while balanced capital structures enhance resilience and operational continuity. Liquidity management policy shows an even stronger effect on financial stability, corroborating Cornett et al. (2011), who stress the need for adequate liquidity to meet short-term obligations and maintain depositor confidence. Effective liquidity management allows BPRs to sustain operations and support community-based lending activities. Furthermore, capital structure positively influences EVA by guiding strategic financing decisions that minimize capital costs and enhance shareholder value (Stern et al., 1995). Liquidity management emerges as the most influential factor on EVA by ensuring fund availability for profitable investments and preventing liquidity shortfalls, thus reinforcing its dual function in promoting both stability and value creation.

Empirical evidence from other contexts further supports these findings. Capital structure, particularly the debt-to-equity ratio, significantly affects profitability; while optimal debt use can leverage tax benefits to enhance profits, excessive leverage raises bankruptcy risks and interest costs, ultimately harming performance [26]. In Jordanian banks, capital structure impacts performance through liquidity risk, underscoring the importance of effective liquidity risk management [9]. Similar patterns are observed in Nigerian banks, where debt-equity ratios negatively affect return on assets and equity, with varied effects from short- and long-term debts [27]. Liquidity management, as measured by current and quick ratios, plays a central role in ensuring fund availability and minimizing risk, which directly supports financial performance [27]. Liquidity also

moderates the relationship between capital structure and return on equity, as shown in Indonesian industrial firms [28]. Additionally, liquidity creation mediates the link between bank capital and stability, while asset diversification moderates this effect—where higher diversification reduces the negative impact of liquidity creation on stability [29].

Implications

The study's findings have important implications for policymakers and banking practitioners. Regulators are encouraged to formulate policies that promote balanced capital structures and robust liquidity management practices among BPRs through tailored guidelines and effective monitoring mechanisms. At the institutional level, BPRs should prioritize liquidity management as a core component of their financial strategy, especially in the face of economic volatility. Additionally, training and capacity building for financial officers and managers are essential to equip them with advanced financial management skills needed to optimize capital structure and liquidity practices effectively.

Limitations and Future Research

While the study offers valuable insights, its findings are limited to the context of BPRs in Yogyakarta Province, which may affect their generalizability. Future research should consider expanding the sample to include BPRs from diverse regions and conducting longitudinal studies to examine the dynamic effects of capital structure and liquidity management over time. Nonetheless, this study underscores the interconnected roles of capital structure and liquidity management in promoting financial stability and enhancing Economic Value Added (EVA), providing a solid foundation for further exploration of these critical financial dynamics.

5. CONCLUSION

This study underscores the vital roles of capital structure and liquidity management policy in shaping the financial

stability and value creation of Rural Banks (BPR) in Yogyakarta Province, revealing that although both factors significantly influence financial stability and Economic Value Added (EVA), liquidity management policy has a more substantial impact. BPRs with strong liquidity practices are better equipped to maintain operational resilience, fulfill depositor obligations, and seize profitable opportunities. Practically, the findings suggest that BPRs should adopt balanced capital structures to mitigate over-leverage risks while prioritizing liquidity management to ensure both short-term

stability and sustained value creation. Policymakers are encouraged to support these practices through appropriate regulations, and training programs should focus on enhancing financial managers' competencies in implementing effective strategies. Although the study is limited to BPRs in Yogyakarta, it provides a foundation for future research to examine these financial dynamics across broader regions and banking sectors, with longitudinal studies offering deeper insights into their long-term implications.

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