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Analysis of Capital Structure and Non Performing Loans on Financial Performance in the Activity Management Unit (UPK) of Boyolali District in 2022-2023

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ABSTRACT

This research investigates how Debt-to-Equity Ratio (DER), Equity Ratio (ER), Non-Performing Loans (NPL), and Loan Loss Provision (LLP) impact the financial performance, as measured by Return on Assets (ROA), in Activity Management Units (UPK) located in Boyolali Regency. A method of purposive sampling was employed to choose 15 UPKs from various regions within the district. Data analysis employed classical assumption tests and hypothesis testing through F-tests, t-tests, and R-square analysis. Results reveal that while Debt-to-Equity Ratio and Equity Ratio individually do not significantly affect financial performance, Non-Performing Loans and Loan Loss Provision demonstrate significant individual effects. Collectively, all four variables significantly influence Return on Assets, explaining 40.2% of financial performance variation. The study suggests improving credit analysis quality and loan write-off processes while highlighting the need for future research with extended timeframes and broader geographic samples.

Keywords: Debt-to-Equity Ratio, Equity Ratio, Non-Performing Loan, Loan Loss Provision, Return on Asset

1. Introduction

In recent years, the development of information technology has driven significant transformation in the financial sector. One of the most prominent phenomena is the rise of online lending or fintech lending services. Online lending offers various advantages, such as faster processing, easier to fulfil requirements, and wider access for people who were previously underserved by traditional financial institutions. This phenomenon has changed the way people borrow funds and manage their finances. The use of technology in the financial system, such as online lending, creates new products, services, and business models that can affect the stability and efficiency of the monetary and financial systems, as well as the security and reliability of payment systems (Supriyanto, 2019).

In Indonesia, online lending has experienced rapid growth. Data from the Financial Services Authority (OJK) shows a significant increase in the number of registered fintech lenders, as well as the growing value of transactions. The following data on the development of the number of lender accounts (entity units) was released by OJK during 2022 and 2023. (www.ojk.go.id).

Table 1. Number of Loan Recipient Accounts in 2022-2023

Month	2022	2023
January	75.202.611	104.063.062
February	76.712.296	106.440.008
March	78.560.968	108.890.010
April	80.336.555	111.184.409
May	83.151.900	113.476.119
June	85.190.765	115.801.742
July	86.366.759	117.283.620
August	88.216.803	119.798.741
September	90.211.983	121.955.315
October	92.409.700	124.348.357
November	93.157.423	119.047.013
December	99.795.780	120.259.912

Source: LPBBTI Statistics, Year 2022 and 2023

People, especially the younger generation and micro, small and medium enterprises (MSMEs), are increasingly interested in using online lending services due to the ease of access it offers. However, behind this rapid growth, there are concerns that the rise of online lending could have a negative impact on traditional financial institutions, such as banks, cooperatives and Activity Management Units (UPKs).

One of the most visible impacts is the decline in public interest in borrowing funds through conventional financial institutions. Traditional financial institutions, which are usually stricter in terms of loan requirements and procedures, are starting to lose their market share. In this case, the Activity Management Unit (UPK) financial institution in Boyolali Regency has seen a decline in the number of borrowers, especially in more developed areas. More developed regions have human resources that adapt more quickly to technological advances, especially regarding loans made online. The impact that can be seen directly is the amount of current surplus, which tends not to increase every year, but decreases in several UPKs in several areas of Boyolali.

The waning interest could impact the economic results of conventional financial establishments, particularly by reducing profits. The financial health of a company can be evaluated using the financial indicator Return on Asset. This indicator is commonly referred to as Return on Investment. Among the various financial analysis tools, Return on Asset is frequently utilised as it can reveal a company's effectiveness in generating profits.

This research focuses on financial institutions UPK (Activity management unit) is a financial institution sourced from the government that budgets APBN and APBD funds to be channelled to *dasa* collective accounts in the District. The grant funds are then managed by the Inter-Village Cooperation Agency (BKAD) at the sub-district level through a financial management unit, namely the Activity Management Unit (UPK) as the implementer of the group business service transfer management programme. Traditional financial institutions play an important role in the economy, providing a range of financial services including savings, loans and investments. To maintain stability and sustainability, these institutions must have a solid capital structure and be able to manage credit risk effectively.

Capital structure refers to the ratio between debt and equity that an institution uses to fund its operations. A sound capital structure is necessary to ensure that financial institutions can cope with market fluctuations and operational risks. The relationship between capital structure and financial performance cannot be ignored due to the increased profitability required for the long-term survivability of the firm. Since debt interest payments become tax deductible, the addition of debt in the capital structure will increase the profitability of the company.

The Debt to Equity Ratio (DER) is a crucial metric used to assess the capital structure of a company. It demonstrates the connection between the company's debts and assets. A higher Debt to Equity Ratio typically signifies increased risk for creditors and investors, as it suggests that the company is heavily dependent on borrowing money rather than using its own funds to run its business. This can lead to increased financial risk

due to interest payments and potential liquidity challenges in times of financial trouble. Conversely, a low DER indicates a greater reliance on equity, which tends to be more stable but can be more expensive as equity typically requires a higher return.

The Equity Ratio is a crucial factor as it offers insight into the financial framework of a business by determining the share of assets funded by equity (Kasmir, 2019). To calculate this ratio, total equity is divided by total assets. A higher ratio suggests that the company relies more on equity than debt, indicating a conservative approach to financial management and potentially greater financial stability. However, a capital structure that focuses heavily on equity could mean a higher cost of capital, as equity usually requires a greater rate of return than debt.

In addition to capital structure, one of the main activities of financial institutions that is closely related to risk is lending, which occupies the largest portion of the financial institution's income composition through interest income. In distributing credit, financial institutions will face credit risk in the form of debtor failure to fulfil their obligations so that bad debts are an important indicator of the financial health of financial institutions, such as the Activity Management Unit (UPK).

Effective management of non performing loans is critical to maintaining financial stability and ensuring that financial institutions can fulfil their obligations and maintain profitability. To evaluate and measure the level of bad debts, several key financial ratios are used, each providing different insights into the credit quality and risks faced by financial institutions.

The Non-Performing Loan Ratio (NPL) is a critical metric that assesses the level of bad debts within a bank. It reflects the bank's capacity to handle loans that are not being repaid. Credit risk is a business risk faced by banks due to uncertainties in loan repayment by debtors. The NPL Ratio is determined by comparing total non-performing loans to total loans disbursed, showing the percentage of loans not being repaid on time. A high NPL Ratio suggests a significant portion of non-performing loans, indicating potential challenges in managing credit risk for financial institutions. A high NPL ratio can reduce interest income and increase the need for loss provisions, which in turn can affect the profitability and financial stability of the institution.

Loan Loss Provision is a fund set up by banks to account for potential losses stemming from investments in productive assets. This practice, known as loan loss provisioning, involves allocating a specific amount of money to handle potential loan defaults and safeguard the bank's profitability and capitalisation. To determine the capacity of financial institutions to set aside reserves for potential loan losses, the ratio of allowance for loan losses (LLP) to total loans is calculated. This ratio gives an indication of financial institutions' readiness to absorb losses from non-performing loans. A higher ratio suggests that the bank has adequately prepared for loan losses, thus helping to offset the adverse effects of non-performing loans on the bank's financial well-being.

Understanding the implications of capital structure and bad debt analysis in the context of the surge in online lending is critical for stakeholders in the financial industry as it enables them to adjust their strategies, optimise operational efficiency, and mitigate risks effectively to maintain sustainable financial performance in an increasingly digitalised financial ecosystem.

According to research conducted by Sari and Hidayat (2022) and Ulzanah and Murtaqi (2015) shows the result that DER has an influence on ROA. However, other studies conducted by Amanda (2019) show the opposite result, DER has no influence on ROA. In the Equity Ratio variable, according to research conducted by Susilawati et al. (2022) and Ekanayake and Premerathne (2016) the results show that the Equity Ratio has an effect on ROA. Unlike the results obtained by these researchers, research conducted by Hertina et al. (2021) and Desmon and Meirinaldi (2022) shows the opposite result, Equity Ratio has no effect on ROA. According to previous research on NPLs researched by Tangngisalu et al. (2020), Mandagie (2021) and Hadian and Phety (2021), it states that NPLs have an effect on ROA. Meanwhile, research conducted by Alshebmi et al. (2020) and Anggriani and Muniarty (2020) states that NPLs have no effect on ROA.

With the inconsistent research results above, it motivates researchers to re-examine these variables, namely the respective effects of the DER, ER and NPL variables on ROA. And researchers also want to consider the existence of credit risk reserves formed in the initial policy of the UPK entity established by testing the

effect of LLP on ROA which has not been studied in previous studies. This study aims to provide a better understanding of the evolving relationship between capital structure analysis and bad debts on the financial performance of Activity Management Units (UPKs) amidst the rise of online lending.

This study delves into the financial performance of Activity Management Units (UPKs) in Boyolali Regency over the course of 2022-2023 by exploring the potential impact of Debt-to-Equity Ratio (DER), Equity Ratio, Non-Performing Loans (NPL), and Loan Loss Provision (LLP) on financial performance. The research seeks to assess how each of these variables (DER, Equity Ratio, NPL, and LLP) individually affect UPK financial performance, as well as their collective influence on financial management in these community-based financial institutions.

2. Literature Review

2.1. Financial Management

Financial Management encompasses all organisational activities that aim to acquire, allocate, and utilise funds effectively and efficiently. In addition, financial management does not only focus on obtaining funds, but also on how to manage and utilise these funds optimally. According to KD Wilson (2020: 1) financial management involves raising funds and utilising them effectively with the aim of maximising shareholder wealth. According to Gatuhu (2013) credit management is one of the activities in financial management, bad credit will affect financial performance. High bad credit will hinder the turnover of assets owned, and increase costs, both provision costs and other costs so that financial performance will decrease.

Financial management involves the process of acquiring, allocating, and overseeing funds in order to enhance the efficiency of a company and increase its value (Chandra, 2013). The range of financial management involves overseeing management tasks to accomplish organizational objectives, encompassing funding decisions, investments, distribution of dividends, and preparation of working capital (Hasan, 2021).

The arrangement of working capital includes both debt and equity components on the balance sheet. Utilizing debt can help reduce taxes and improve the company's financial situation. However, excessive agency costs can result in high interest expenses, ultimately impacting the financial performance for shareholders when issuing debt (Komara et al., 2016). Analysis in financial management is based on benefit and cost analysis. All financial decision making will compare the amount of benefits that can be obtained from a certain number of sacrifices.

2.2. Theory of Planned Behavior (TPB)

Icek Ajzen developed the Theory of Planned Behaviour (TPB) in 1985 in order to understand and predict human behaviour based on their intentions. TPB expands on the Theory of Reasoned Action (TRA) by including elements of perceived behavioural control.

The concept of planned behaviour theory suggests that behaviour is determined by relevant information or beliefs about the behaviour. While individuals may hold various beliefs about a behaviour, only a select few become influential when a specific situation arises. These key beliefs play a significant role in shaping individual behaviour (Ajzen, 2005).

According to the TPB, a person's decision to take an action is influenced by three main factors, namely:

1) Attitude

Attitude is the measure of how favourably or unfavourably a person perceives a behaviour. If a person believes that an action will bring benefits or advantages, they are more likely to do it. A person's attitude towards online lending depends on the benefits and risks they perceive. If individuals focus more on the benefits, they are more likely to apply for an online loan, whereas if they are more concerned about the risks, they will probably avoid it.

2) Subjective norms

Subjective norms refer to the impact of societal expectations or the influence of individuals in their social circle, including family, friends, and the wider community. Individuals who feel that others expect them to perform a behaviour, they will be more encouraged to do so. If individuals are in an environment where the use of online loans is considered normal, such as friends or family who often use pinjol, they are more likely to follow suit. On the other hand, if people are surrounded by a negative attitude towards online borrowing, like disapproving family members or a community that views it as a financial ineptitude, they might be less likely to seek out a loan.

3) Perceived behavioural control

Perceived behavioural control indicates the level at which an individual believes they have the ability or authority to carry out a task. Someone who feels they have the resources and opportunities to carry out the behaviour is more likely to do so. However, low behavioural control, such as limited income, high interest rates, and ignorance of the long-term financial consequences, can cause a person to get stuck in the debt cycle.

These three factors together influence a person's intention, which ultimately determines whether the behaviour will be performed or not. The increase in the use of online loans is due to positive attitudes towards the convenience and speed of the service, supportive social norms such as the trend of using online loans in the neighbourhood, as well as the perception that online loans are easily accessible even though many individuals struggle to repay them. The theory of Planned Behaviour suggests that individuals can be influenced by more than just economic factors when it comes to credit-taking behavior and the possibility of facing financial difficulties. Factors such as personal attitudes towards credit, social influences, and feelings of control over financial decisions all contribute to the likelihood of experiencing bad credit.

2.3. Financial Performance

Performance refers to how well an activity, program, or policy has achieved the goals and objectives set by an organisation, which is influenced by the strategic planning of the organisation. When a company effectively manages its finances to achieve positive outcomes, it is considered to have good financial performance (Waddock & Graves, 1997). The financial performance of a company can be seen in its financial statements, which provide an assessment of how well the company is doing financially (Fahmi, 2015).

Various dimensions can be used to evaluate financial performance, such as profitability, liquidity, solvency and efficiency. Profitability involves examining net income, earnings per share, and profit margin to assess a company's profit-making capability. Liquidity focuses on the current ratio, quick ratio, and cash ratio to determine whether a company can meet its short-term financial obligations. Solvency looks at the debt-to-equity ratio and debt-to-asset ratio to gauge a company's ability to fulfil its long-term obligations. Efficiency refers to how well a company can utilise its resources to achieve its goals.

Effectiveness analysis includes analysis of asset turnover and inventory turnover to find out how optimally the company uses its resources (Purnama et al., 2020). Return on Asset (ROA) determines a company's ability to make money from its activities, while Return on Equity (ROE) measures the profit gained from the capital invested by the owner in the business. It is considered favourable if the profitability ratio is higher than the company's asset value for ROA and equity value for ROE. Typically, the standard for ROA is 5% and ROE is 20%. The company's ability to generate profits from its assets and equity is shown in these profit numbers. Public confidence is influenced by the profitability levels of financial institutions. Strong performance is shown in financial institutions with high profitability. Clients often prefer to deal with financial institutions that perform well and are highly profitable.

2.4. Return on Asset (ROA)

According to Friedlob and Plewa (1996) Return on assets (ROA), sometimes referred to as Return on Investment (ROI), is a metric that assesses a company's capacity to generate profits from its overall assets. This ratio demonstrates the effectiveness of all company assets in creating profits. A higher ratio indicates stronger company performance. As stated by O'sullivan & Abela (2007), ROA is a metric employed to evaluate the company's capability to produce net income relative to a specific asset level.

It can be inferred from the definitions mentioned above that ROA is a metric used to assess a company's efficiency in generating profits through the utilization of its assets. The calculation of Return on Assets (ROA) is detailed in the following formula (Hery, 2015):

$$ROA = \frac{\text{Total Income}}{\text{Total Asset}} \times 100\%$$

Description :

ROA: Return on Asset

Net Income : Net income after tax

Total Asset : Total Assets

2.5. Capital Structure

The concept of capital structure involves determining the balance between debt and equity when it comes to corporate funding, as stated by Jegers (2018). It refers to the mix of long-term financial resources, including debt, stock, and equity, used to finance a company's operations and investments. In simpler terms, the capital structure outlines how a company funds its activities through a blend of long-term sources like debt and equity. According to Vătavu (2015), capital structure is a breakdown of the financial composition of a company, specifically the proportion between long-term debt and shareholders' equity. This financing structure can be evaluated using financial ratios and other measures to comprehend how a company supports its operations and evaluates its financial exposure.

2.6. Debt-to-Equity Ratio (DER)

The Debt-to-Equity Ratio (DER) is a financial indicator used to evaluate how effectively a company utilizes debt and equity for its operations. It indicates a company's capacity to fulfil its financial responsibilities in relation to its investments. A high DER signifies greater financial risk as the company relies more on debt to support its operations. Comparing DER across companies in the same industry can reveal how they fund their activities. On the other hand, a low DER can improve financial stability, reduce the risk of bankruptcy, and appeal to investors. The Debt-to-Equity Ratio (DER) formula is outlined as follows:

$$DER = \frac{\text{Total Liabilities}}{\text{Total Equity}} \times 100\%$$

Description:

DER: Debt-to-Equity Ratio

Total Liabilities : Total Liabilities

Total Equity : Total Equity or Capital

2.7. Equity Ratio

The equity ratio is a financial tool that assesses the amount of capital a company relies on from its own funds to sustain its activities. A high equity ratio suggests strong financial stability as the company has a larger share of its own capital to back up its assets. Comparing the equity ratios of companies within the same sector can provide insights into how they fund their operations. Investors may utilise the equity ratio to determine the attractiveness of investing in a particular company. The calculation for the equity ratio is as follows:

$$ER = \frac{\text{Total Equity}}{\text{Total Asset}} \times 100\%$$

Description

ER: Equity Ratio

Total Equity : Total Equity or Capital

Total Asset : Total Assets

2.8. Non Performing Loan (NPL)

Non-Performing Loan is calculated as the proportion of total loans granted to debtors that are non-performing, according to researchers (Nikmah et al., 2023). Financial institutions with a high NPL are those where the number of non-performing loans exceeds the number of loans issued to debtors. When a financial institution has a high NPL, it leads to increased costs, including provisioning for productive assets and other expenses. Essentially, a higher NPL can negatively impact the performance of a financial institution. The presence of a high level of non-performing loans can result in delayed bank income, ultimately reducing the bank's profitability (Pinasti & Mustikawati, 2018).

The most unfortunate consequence of lending for financial institutions occurs when the loans provided end up being categorized as non-performing. This typically happens when the borrower fails to meet their repayment obligations for the principal loan amount and the agreed upon interest, as stated in the loan agreement (Lestari & Setianegara, 2020).

According to the rules outlined in Bank Indonesia Regulation Number 15/2/PBI/2013, banks must make sure that their Non-Performing Loan (NPL) ratio stays below 5% to avoid the possibility of going bankrupt. Non-Performing Loans (NPLs) are loans that are experiencing challenges in repayment because of factors outside of the borrower's influence. It is essential for the bank to handle non-performing loans effectively in order to impact its general efficiency. A higher NPL ratio indicates lower profitability, and having a significant number of non-performing loans could lead to substantial losses for the bank. According to SE OJK No. 9 of 2020, the calculation method for determining the Non-Performing Loan ratio is as outlined below:

$$NPL = \frac{\text{Credit Collectibility 3-5}}{\text{Total Loans granted}} \times 100\%$$

NPL: Non-Performing Loan

Collect 3: Sub-standard loan

Collect 4: Doubtful loan

Collect 5 : Bad debts

2.9. Loan Loss Provision (LLP)

Loan Loss Provision (LLP) is a reserve created by banks to account for potential losses that could occur if borrowers default on their loans (Ozili & Obiora, 2023). This fund is a key element of the risk management approach used by financial institutions to shield themselves from the negative impacts of loan non-payments. LLP is a practice observed by commercial banks in which they allocate a specific sum of money (reserves) to address the risk of loan defaults. The key goals of LLP include offering precise insights into the bank's future, cutting down on taxes through revenue management, managing regulatory capital, controlling revenue and profit fluctuations, and mitigating fluctuations in risk-weighted assets that can ultimately impact the bank's risk and profit levels (Alhadab & Alsahawneh, 2016).

In accordance with PSAK 71, banks set aside an allowance for impairment losses as a precaution against potential losses stemming from investing funds in income-generating assets. LLP consists of two types of elements, the first is Non-Discretionary element, this element is designed to cover expected losses due to loan defaults, assisting in accurate credit risk assessment. The second element is Discretionary element, this element is more flexible and used by bank management to achieve certain objectives, such as earnings management, capital management, and tax exemption. Broadly speaking, the establishment of LLP is deducted from income, which means it will reduce profit before tax. However, this also means that if the reserve is not fully utilised, it can be released back into future earnings. LLP also affects the net asset value of the bank, as it increases the liabilities in the balance sheet.

2.10. Research Hypothesis

- 1) The effect of Debt to Equity Ratio on Return on Asset at the Activity Management Unit (UPK) in Boyolali Regency.

The debt-to-equity ratio (DER), also known as the debt-to-equity ratio, is a financial measure used to evaluate how a company balances its use of debt and equity to fund its activities (Amanda, 2019). Companies with a higher DER are perceived as riskier because their debt outweighs their equity, leading to increased interest costs and decreased profits. Lower profits, in turn, result in a lower return on assets (ROA). Consequently, a rise in the DER will lead to a drop in the ROA (Ulzanah & Murtaqi, 2015). This concept is supported by studies conducted by Sari and Hidayat (2022) and Ulzanah and Murtaqi (2015), which demonstrate the adverse impact of DER on ROA. Therefore, the initial alternative hypothesis in this research can be formulated as follows:

H1 = Debt to Equity Ratio has a negative influence on Return on Asset

- 2) The Effect of Equity Ratio on Return on Asset at the Activity Management Unit (UPK) in Boyolali Regency.

Equity Ratio is a ratio that compares total capital and total assets. A high Equity Ratio indicates better financial health because the company has more of its own capital to support its assets so that it can improve financial performance. Greater use of equity allows companies to avoid interest costs, increase efficiency in generating profits from assets (Kipsha, 2013).

This theory is in line with research conducted by Susilawati et al. (2022) and Ekanayake and Premerathne (2016) which shows that Equity Ratio has a positive influence on ROA. Thus, the first alternative hypothesis in this study can be drawn as follows:

H2 = Equity Ratio has a positive influence on Return on Asset

- 3) The Effect of Non Performing Loan on Return on Asset at the Activity Management Unit (UPK) in Boyolalic Regency.

The non-performing loan ratio is calculated by dividing the total non-performing loans by the total loans provided to borrowers. Non-performing loans can negatively impact a bank's asset quality by failing to generate income for the institution. As a result, banks have to reserve more funds for expected losses from non-performing loans. This can reduce the bank's net profit, which directly impacts the decrease in Return on Assets (Suardana et al., 2018). Non-performing loans illustrate the high credit risk that must be managed by banks. The high amount of non-performing loans leads to delays in receiving expected bank income, ultimately lowering the bank's level of profitability. This also forces the bank to incur losses in its day-to-day operations, further impacting the overall profit margins. An increase in NPLs results in a reduced Return on Assets (ROA), indicating a decrease in the bank's financial performance according to a study by Balqis, Etty, and Santi in 2023. This finding is supported by previous research by Tangngisalu et al. (2020) and Mandagie (2021), highlighting the negative impact of NPLs on ROA. Therefore, it can be inferred in this study that high NPL levels are detrimental to a bank's financial performance.

H3 = Non-Performing Loan has a negative effect on Return on Asset

- 4) The Effect of Loan Loss Provision on Return on Asset at the Activity Management Unit (UPK) in Boyolali Regency.

Loan Loss Provision (LLP) is a financial buffer established by financial organisations to prepare for potential losses from loans that may not be repaid by borrowers. By setting aside funds for possible credit losses based on this provision, banks can at least mitigate the credit risks they face, ultimately improving their financial health. The connection between LLP and Return on Assets (ROA) is generally negative, as the allocation of CKPN as an expense reduces profits, leading to a decrease in ROA (Eramina & Muliasari, 2023). A higher LLP indicates a greater impact on a bank's profitability, usually resulting from poor lending practices that increase the likelihood of non-performing loans. This aligns with studies by Agabekova et al. (2023) and Alhadab and Alshawneh (2016) that demonstrate the detrimental effect of LLP on profitability. Therefore, the initial hypothesis for this research can be stated as:

H4 = Loan Loss Provision has a negative effect on Return on Asset

3. Methodology

3.1. Research Design

This study utilises quantitative methods to examine relationships between variables through hypothesis testing. The main factors studied are Debt to Equity Ratio, Equity Ratio, Non Performing Loan, and Loan Loss Provision, while the focus is on Profitability as the outcome variable. The research employs a quantitative approach as it deals primarily with numerical data.

3.2. Research Population

Population refers to the entirety of measurements, objects, or individuals under scrutiny. In this research, the population consists of all Activity Management Units in the Boyolali Regency for the timeframe of 2022-2023. There are a total of 19 UPKs in 19 different sub-districts within the Boyolali Regency that make up the population for this study. These sub-districts include Ampel, Andong, Banyudono, Boyolali, Cepogo, Juwangi, Karanggede, Kemusu, Klego, Mojosongo, Musuk, Ngemplak, Nogosari, Sambu, Sawit, Selo, Simo, Teras, and Wonosegoro. The sampling technique employed is known as purposive sampling, where samples are selected based on specific criteria. The criteria utilised in this study are:

- a. Activity Management Units located in Boyolali Regency.
- b. Activity Management Units that make Financial Statements for the 2022 and 2023 periods.
- c. Activity Management Unit with assets above Rp 2,000,000,000.00 (two billion rupiah).
- d. Activity Management Units that have been audited by the Public Accounting Firm for the period 2022 and 2023.

According to the criteria mentioned above, out of a total of 19 UPKs in 19 sub-districts eligible for sampling, 15 UPKs in 15 sub-districts with a 2-year observation period were selected, resulting in 30 samples for this study. The data utilised in this research are secondary in nature, specifically quantitative data, hence the documentation method was employed for data collection. The documentation method is to find data about things or variables in the form of newspaper notes, magazines, minutes, meetings, legends and so on (Arikunto, 2010).

3.3. Data Analysis Technique

This research employs SPSS for data analysis, beginning with classical assumption tests to ensure statistical validity. These include normality tests using Kolmogorov-Smirnov (K-S > 0.05 indicates normal distribution), multicollinearity tests examining VIF and tolerance values (problematic if VIF > 10 or tolerance < 0.10), heteroscedasticity tests using scatterplots and Glejser tests, and autocorrelation tests through Durbin-Watson, Breusch-Godfrey, and Ljung-Box methods.

Following these preliminary tests, multiple regression analysis is conducted using the equation $Y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$, where Y represents Return on Assets and X_1 - X_4 represent Debt-to-Equity Ratio, Equity Ratio, Non-Performing Loans, and Loan Loss Provision respectively. Hypothesis testing includes F-tests to assess collective influence (significant if $p < 0.05$), t-tests to evaluate individual variable impacts (significant if $p < 0.05$), and R-Square tests to determine the model's explanatory power (categorized as strong if > 0.67, moderate if 0.33-0.67, and weak if 0.19-0.33 according to Chin's 1998 criteria).

The study utilised the IBM SPSS 27 for Windows software for data presentation and analysis. The research employed the Classical Assumption Test, including tests for Normality, Multicollinearity, Heteroscedasticity, and Autocorrelation. Additionally, the Hypothesis Test was conducted using the Multiple Regression Analysis model, which included Simultaneous Test, Partial Test, and R square Test. .

4. Results and Discussion

4.1. Overview of Population and Respondents

1) Inter-village Cooperation Agency (BKAD)

The government has pursued various policies to alleviate poverty and improve the welfare of the Indonesian people. One of the policies that the government has issued is the Community Empowerment Trust Fund (DAPM), which is a poverty reduction programme based on community empowerment at the kecamatan level. DAPM is a continuation of the termination of the National Programme for Community Empowerment (PNPM) Mandiri Rural, which has been running since 2007. The government budgeted APBN and APBD funds that were channelled to the collective accounts of the *dasa* in the kecamatan. The grant funds are then managed by the Inter-Village Cooperation Agency (BKAD) at the sub-district level through the Activity Management Unit (UPK) as the programme manager of the group business service transfer.

The profit earned from the community business services managed by the UPK is partly allocated to the BKAD to support its activities and partly channelled as social funds to the community in the BKAD's operational area according to the percentage that has been determined in the Inter-Village Consultative Meeting (MAD), which is conducted annually in order to evaluate the performance of the Inter-Village Cooperation Agency (BKAD) and the Activity Management Unit (UPK).

Accountability reports from the Inter-Village Cooperation Agency (BKAD) and the Activity Management Unit (UPK) are presented separately at the Inter-Village Consultative Meeting and are supervised by the Village Administration Office. The Village Administration Office supervises and provides direction in relation to government policies relating to the Inter-Village Cooperation Agency (BKAD) and the Activity Management Unit (UPK).

2) Activity Management Unit (UPK)

The Activity Management Unit (UPK) is an institution formed by the community in the MAD forum prioritising proposals and functions to assist in the management of activities including the distribution of community assistance funds in PNPM Mandiri Rural. The UPK is responsible to the Inter-Village Consultative Forum (MAD) as the representative of the community in the villages. The Activity Management Unit (UPK) is an institution under the auspices of BKAD to manage revolving fund activities. The PNPM-MPd PTO explains that the UPK management structure consists of at least a Chairman, Secretary and Treasurer.

The accountability report of the Activity Management Unit (UPK) is presented in the form of a financial report that describes the financial condition of a period and can be an overview of the assessment of financial performance in managing grant capital obtained effectively and efficiently so as to generate optimal profits. The Activity Management Unit (UPK) financial report can be an illustration of the survival of the UPK and how the UPK can survive in an economic condition.

4.2. Research Results

This research utilises data obtained from the External Auditor's Report. The entire population under study consists of Activity Management Units (UPK) in Boyolali Regency. Boyolali Regency is home to 19 Activity Management Units (UPK) in 19 different sub-districts. The sampling method employed is purposive, focusing on Activity Management Units (UPK) that have produced Financial Statements for 2022-2023, possess assets exceeding two billion rupiah, and have undergone external audits during that period. The sample selection process based on predetermined criteria proceeded as follows:

Table 2. Sample Selection Process

Sample Qualification	Number of UPKs
Activity Management Unit (UPK) in Boyolali and financial statements for the period 2022-2023.	19
Activity Management Units (UPKs) that do not have assets above 2 billion rupiah in the Financial Statements for the 2022-2023 period and Activity Management Units (UPK) that do not conduct an external audit of the Financial Statements for the 2022-2023 period.	4
Sample obtained	15

Source: UPK External Audit Report in Boyolali

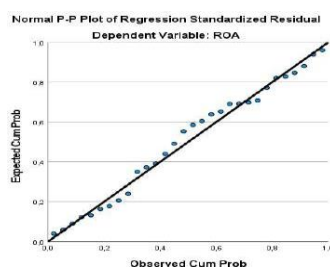
Based on this selection process, the number of Activity Management Units (UPK) that met the sample criteria was 15 UPKs in 15 sub-districts in Boyolali Regency. The number of samples was applied to two periods, namely the 2022 and 2023 periods so that the total sample studied was 30 samples. The following is a list of samples obtained:

Table 3. List of UPK Samples in Boyolali District

No.	Boyolali UPK List
1	Ampel Sub-District UPK
2	Andong Sub-District UPK
3	Cepogo Sub-District UPK
4	Juwangi Sub-District UPK
5	Karanggede Sub-District UPK
6	Kemus Sub-District UPK
7	Mojosongo Sub-District UPK
8	Musuk Sub-District UPK
9	Ngemplak Sub-District UPK
10	Nogosari Sub-District UPK
11	Sambi Sub-District UPK
12	Sawit Sub-District UPK
13	Selo Sub-District UPK
14	Simo Sub-District UPK
15	Wonosegoro Sub-District UPK

A. Classical Assumption Test

1) Normality Test

**Figure 2. P-Plot Graph**

The chart (Figure 2) indicates that the points are distributed close to the diagonal line, suggesting that the regression model follows a normal distribution.

2) Multicollinearity Test

Table 4. Multicollinearity Test Results
Coefficients^a

Model		Collinearity Statistics	
		Tolerance	VIF
1	NPL	,908	1,102
	DER	,132	7,593
	ER	,077	13,053
	LLP	,222	4,496

a. Dependent Variable: ROA

Source: IBM SPSS data processed, 2025

The image above indicates that the VIF values for the independent variables NPL, DER, and LLP are below 10, and the tolerance values for these variables are above 0.1. This suggests that there is no multicollinearity among the NPL, DER, and LLP variables. Conversely, the variable ER has a VIF value exceeding 10 and a tolerance value below 0.1, indicating the presence of multicollinearity symptoms in the independent variable ER.

3) Heteroscedasticity Test

Table 5. Heteroscedasticity Test Results
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6,811	406,090		,017	,987
	DER	,371	3,980	,819	,093	,926
	ER	-,051	4,062	-,106	-,013	,990
	NPL	-,047	,026	-,320	-1,825	,080
	LLP	-,511	,289	-1,191	-1,771	,089

a. Dependent Variable: abs_RES

Source : IBM SPSS data processed, 2025

The findings of the examination reveal that all the independent variables considered in the research have a significance level greater than 0.05, indicating that the regression model employed does not exhibit any signs of heteroscedasticity. Heteroscedasticity can also be assessed through the Scatterplot Test, where the absence of a discernible pattern in the random distribution of dots signifies the absence of heteroscedasticity.

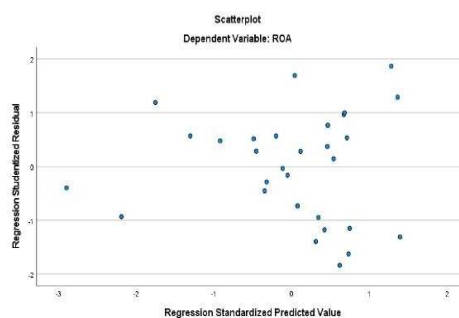


Figure 3. Scatterplot Graph

The diagram in Figure 3 above illustrates that the data points are scattered in a disorganized manner, with no discernible trend either above or below zero. From this observation, it can be inferred that there is an absence of heteroscedasticity in the regression analysis being conducted.

4) Autocorrelation Test

Table 6. Durbin-Watson Test Results

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,696 ^a	,485	,402	1,873%	1,391

a. Predictors: (Constant), LLP, NPL, ER, DER

b. Dependent Variable: ROA

Source: IBM SPSS data processed, 2025

From the table 6 above shows the DW value of 1.607. To be able to interpret with certainty, the dL and dU values are sought in the Durbin-Watson table with n of 30 and k of 4. The table shows the dL value of 1.1426 and the dU value of 1.7386. the value of $dL < DW < dU$, $1.1426 < 1.391 < 1.7386$, the results are in doubt for positive autocorrelation. And for negative correlation shows the value of $dU < (4-DW)$ with a value of $1.7386 < 2.609$ so there is no negative autocorrelation.

To be able to detect autocorrelation at a higher level that cannot be detected by the Durbin-Watson test, it can use the Breusch-Godfrey test based on data using lagged independent variables and Unstandardised Residual dependent variables on the basis of decision making probability value (p-value) or significance value. If the p-value or significance < 0.05 then there is autocorrelation and if the p-value or significance > 0.05 there is no autocorrelation.

Table 7. Breusch-Godfrey Test Results

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9,120	5	1,824	,535	,747 ^b
	Residual	78,373	23	3,408		
	Total	87,493	28			

a. Dependent Variable: Unstandardized Residual

b. Predictors: (Constant), LAG_RES, NPL, ER, LLP, DER

Source: IBM SPSS data processed, 2025

The data in the table shows a p-value of 0.747, indicating that the significance level is greater than 0.05. Therefore, it can be inferred that there is no autocorrelation present in the regression model being examined.

5) Multiple Regression Analysis

According to the data analysis conducted using IBM SPSS software, the findings of the multiple regression analysis are summarised in the table below.

Table 8. Regression Coefficient Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-801,278	902,335		-,888	,383
DER	9,124	8,843	7,778	1,032	,312
ER	8,101	9,026	6,453	,898	,378
NPL	-,263	,058	-,687	-4,561	,000
LLP	-1,357	,641	-1,220	-2,116	,044

a. Dependent Variable: ROA

Source: IBM SPSS data processed, 2025

Based on the table above, the regression equation model can be written as follows:

$$Y = -801,278 + 9,124 X_1 + 8,101 X_2 - 0,263 X_3 - 1,357 X_4 + \varepsilon$$

From the regression equation that has been compiled, it can be interpreted as follows:

- 1) The constant value is -801.278, this result shows that if all independent variables are zero (constant), then the dependent variable (Y) is worth -801.278%.
- 2) The regression coefficient value of DER (X₁) is 9.124, this result shows that if the X₁ variable increases by 1%, the Y variable will also increase by 9.124%, and vice versa.
- 3) The regression coefficient value of ER (X₂) is 8.101, this result shows that if the X₂ variable increases by 1%, the Y variable will also increase by 8.101%, and vice versa.
- 4) The regression coefficient value of NPL (X₃) is -0.263, this result shows that if the X₃ variable increases by 1%, the Y variable will decrease by 0.263%, and vice versa.
- 5) The LLP regression coefficient value (X₄) is -1.357, this result shows that if the X₄ variable increases by 1%, the Y variable will decrease by 1.357%, and vice versa.

Based on the above equation, it can be seen that the most influential independent variable is the DER variable with a coefficient of 9.124, then followed by the ER variable of 8.101 and the LLP variable of 1.357 and finally the NPL variable of 0.263.

B. Hypothesis Testing

- 1) Partial Regression Coefficient Test (t test)

Table 9. T Test Results Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-801,278	902,335		-,888	,383
DER	9,124	8,843	7,778	1,032	,312
ER	8,101	9,026	6,453	,898	,378
NPL	-,263	,058	-,687	-4,561	,000
LLP	-1,357	,641	-1,220	-2,116	,044

a. Dependent Variable: ROA

Source: IBM SPSS data processed, 2025

From the table of data processing results above, it can be seen:

a. Debt-to Equity Ratio Variable

The significance level obtained for the DER variable (X₁) through the t test is 0.312. Comparing this to the significance limit of 0.05 (α 5%), we can see that 0.312 is greater than 0.05. This indicates that the Debt-to-

Equity Ratio variable only has a minor impact on Return on Assets. Consequently, the original hypothesis (H1) suggesting a significant relationship between DER and ROA is not supported.

b. Equity Ratio Variable

The ER variable did not yield statistically significant results in the t-test, with a significance level of 0.378. When compared to the significance threshold of 0.05 (α 5%), the result of $0.378 > 0.05$ indicates that the impact of Equity Ratio on Return on Asset is insignificant. As a result, the hypothesis that ER significantly affects ROA (H2) cannot be supported.

c. Non-Performing Loan Variable

The t test results for the NPL variable (X3) showed a significance level of 0.001. By setting a significance threshold of 0.05 (α 5%), it is evident that 0.001 is less than 0.05, indicating that the Non-Performing Loan variable has a partial adverse impact on Return on Asset. Therefore, the original hypothesis (H3) suggesting that NPL significantly affects ROA has been validated.

d. Loan Loss Provision Variable

The results of the t test for the NPL variable (X4) obtained a significance level of 0.044. Using a significance limit or p-value of 0.05 (α 5%) shows $0.044 < 0.05$, which means that the Loan Loss Provision variable partially has a negative effect on Return on Asset. Thus the initial hypothesis (H4) which states that LLP has a significant effect on ROA is proven correct.

2) Simultaneous Test (F Test)

**Table 10. F Test Results
ANOVA^a**

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	82,594	4	20,649	5,883	,002 ^b
	Residual	87,749	25	3,510		
	Total	170,343	29			

a. Dependent Variable: ROA

b. Predictors: (Constant), LLP, NPL, ER, DER

Source: IBM SPSS data processed, 2025

The IBM SPSS tests revealed a significance level of 0.002, indicating that all independent variables in the study - Debt-to-Equity Ratio, Equity Ratio, Non-Performing Loan, and Loan Loss Provision - collectively influence Return on Asset.

3) Determination Coefficient Test

**Table 11. Determination Coefficient Test
Model Summary^b**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,696 ^a	,485	,402	1,873%

a. Predictors: (Constant), LLP, NPL, ER, DER

b. Dependent Variable: ROA

Source: IBM SPSS data processed, 2025

The results of the test indicate that the Adjusted R Square, which is the coefficient of determination (R²), is 0.402 or 40.2%. This suggests that the variables DER, ER, NPL, and LLP have a 40.2% impact on the variable ROA, with the remaining 59.8% influenced by unaccounted variables in the research model.

4.3. Discussion of Implications and Policies

Based on the results of the data analysis above, the proof of the hypothesis can be explained as follows:

1. The effect of Debt-to-Equity Ratio on financial performance as measured by Return on Asset at Unit Pengelola Kegiatan (UPK) in Boyolali Regency for the period 2022-2023.

According to the findings from the study on the variable DER (X1), a significance value of 0.312 was found. Since the significance value of 0.312 is greater than 0.05, the original hypothesis (H1) suggesting that DER impacts ROA is rejected. This implies that the debt-to-equity ratio does not have a significant impact on return on assets at the Activity Management Unit in Boyolali Regency from 2022 to 2023.

In the previous theory, it was stated that a debt to equity ratio that compares high liabilities to equity will affect financial performance due to high interest rates that can reduce profits and low profits will have an impact on lower ROA (Ulzanah & Murtaqi, 2015). However, the results of this study indicate that the effect of debt-to-equity ratio is not significant on return on assets. The effect is not strong enough or statistically significant to be concluded as a real relationship in the population. These results are in line with research conducted by Amanda (2019) which state that DER has no significant effect on ROA.

In the sample used in this study, the above theory was not proven correct. The initial capital of the UPK, which is the Grant Fund, has been able to fulfil all management operations. In contrast to other financial institutions that use debtor liabilities or deposits to be able to operationalise loan turnover, UPK has grant funds that can be managed without collecting deposits from the community that can be managed without collecting deposits from the community. However, some UPKs in Boyolali have made third-party loans to facilitate cash flow, third-party loans in this study are stated to have no significant effect on financial performance in UPKs. So that the presence or absence of third-party loans on the liabilities side of the financial statements does not make an influence on the smooth financial performance.

2. The effect of Equity Ratio on financial performance as measured by Return on Asset at Unit Pengelola Kegiatan (UPK) in Boyolali Regency for the period 2022-2023.

According to the findings of the study, the ER variable (X2) has a significance level of 0.378. As the significance level of 0.378 is greater than 0.05, the initial hypothesis (H2) suggesting that ER has a significant impact on ROA is refuted. This implies that the equity ratio does not have a significant influence on return on assets at the Activity Management Unit in Boyolali Regency during the period 2022-2023.

The equity ratio compares equity to total assets. Greater use of equity allows companies to avoid interest costs and increase efficiency in generating profits from assets (Kipsha, 2013). A strong ER can impact the financial performance of a company as it allows for operations to be funded internally, leading to improved profit generation. Despite this, findings from the study suggest that the correlation between equity ratio and return on assets is not pronounced. The influence is not sufficiently substantial or statistically significant to be definitively seen as a genuine connection within the larger population. These results align with previous research by Oppong (2020) and Hasanah et al. (2022) which suggests that ER does not have a significant impact on ROA.

Equity Ratio, like the Debt-to-Equity Ratio, is a component of capital structure that was found to have a minimal impact on financial performance at UPK Boyolali. UPK has a different capital structure from other financial institutions because the main source of funds for this institution is grants/donations. So that most of the UPK uses its own capital in the operation of the institution and the turnover of its productive assets.

3. The effect of Non-Performing Loan on financial performance as measured by Return on Asset at the Activity Management Unit (UPK) in Boyolali Regency for the period 2022-2023.

According to the findings from the study on the NPL variable, X3, a significance value of 0.001 was recorded. Since the significance value of 0.001 is less than 0.05, the original hypothesis (H3) suggesting that NPL has a notable impact on ROA is supported. This indicates that non-performing loans indeed have a significant influence on return on assets at the Activity Management Unit in Boyolali Regency from 2022 to 2023.

The NPL regression coefficient is negative 0.263 which indicates that NPL has a significant negative effect. NPLs can reduce the asset quality of financial institutions because they do not generate income for financial institutions, this can reduce the net profit of financial institutions which will have a direct impact on reducing ROA (Hamdillah et al., 2021). So if NPLs increase, ROA will decrease. From these results it can be seen that high NPLs will cause delays in income to be received, thereby reducing the level of financial performance at UPK in Boyolali Regency and causing UPK to bear losses in its operational activities. These results are in line with research conducted by Tangngisalu et al. (2020), Mandagie (2021) and Hadian and Phety (2021) and Anggriani and Muniarty (2020) which states that NPL has a significant effect on ROA.

4. The effect of Loan Loss Provision on financial performance as measured by Return on Asset at the Activity Management Unit (UPK) in Boyolali Regency for the period 2022-2023.

Based on the research results, the LLP variable (X4) obtained a significance value of 0.044. The significance value of $0.044 < 0.05$, so the initial hypothesis (H4) which states that LLP has a significant effect on ROA is accepted so that loan loss provision has a significant effect on return on assets at the Activity Management Unit in Boyolali Regency for the period 2022-2023.

The negative value of the LLP regression coefficient, which is -1.357, suggests a substantial adverse impact of LLP. The association between LLP and ROA shows a downward trend; the introduction of CKPN will result in expenses that lower profits, consequently leading to a decrease in ROA (Eramina & Muliasari, 2023). So if LLP increases, ROA will decrease. From these results it can be seen that the higher the LLP, the more costs it will incur to reserve its productive assets which will cause a decrease in profitability and disrupt financial performance at UPK in Boyolali Regency and cause UPK to bear excessive expenses. The findings align with studies carried out by Blair et al. (2009), Kusuma and Haryanto (2016), and Alfreda and Goo (2024) that highlight the noteworthy impact of LLP on ROA.

5. Conclusion

The goal of this research was to investigate the impact of capital structure metrics (namely Debt-to-Equity Ratio and Equity Ratio) and bad debt indicators (such as Non-Performing Loans and Loan Loss Provision) on the financial performance (specifically Return on Assets) of Activity Management Units in Boyolali Regency. An analysis of external audit reports using IBM SPSS 27 software revealed that while the Debt-to-Equity Ratio and Equity Ratio did not have a significant influence on financial performance individually (with significance levels of 0.312 and 0.378 respectively), Non-Performing Loans and Loan Loss Provision did show significant individual effects (with significance levels of 0.001 and 0.044 respectively). Collectively, all four variables significantly influence Return on Assets, explaining 40.2% of financial performance variation.

The study faces several limitations, including its brief two-year timeframe (2022-2023), geographic restriction to a single regency, and limited selection of independent variables that may not capture all potential influences on financial performance. To address these challenges, UPK management should improve credit analysis quality through staff training to reduce Non-Performing Loan levels and implement more rigorous loan write-off approval processes requiring proper identification of candidates and stakeholder approval. Future research would benefit from extended study periods beyond two years, broader geographic sampling across multiple regions, and exploration of additional variables such as geographical conditions affecting borrower behavior and staff education levels, which may reveal more significant determinants of UPK financial performance.

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