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THE INFLUENCE OF OPERATIONAL RISK, CREDIT RISK, AND LIQUIDITY RISK ON FIRM PERFORMANCE

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Abstract

This study aims to test and obtain empirical evidence regarding the impact of operational risk, credit risk, and liquidity risk on firm performance. The independent variables used in this study include operational risk, credit risk, and liquidity risk. Firm performance is measured using return on assets (ROA) and Tobin's Q as dependent variables. The sample used consists of secondary data from the financial statements of non-financial sector companies published on the official website of the Indonesia Stock Exchange during the period 2018-2023, with a total of 606 data points. The sampling technique applied is purposive sampling, and the data analysis is conducted using multiple linear regression with the help of STATA software. The results of the study indicate that operational risk does not affect company performance (ROA) and has a negative effect on company performance (Tobin's Q), credit risk positively affects firm performance, and liquidity risk negatively affects firm performance.

Keywords: *Credit risk; Firm performance; Liquidity risk; Operational risk.*

Abstrak

Penelitian ini bertujuan untuk menguji dan memperoleh bukti empiris mengenai pengaruh risiko operasional, risiko kredit, dan risiko likuiditas terhadap kinerja perusahaan. Variabel independen yang digunakan dalam penelitian ini meliputi risiko operasional, risiko kredit, dan risiko likuiditas. Kinerja perusahaan diukur dengan menggunakan return on asset dan tobin's q sebagai variabel dependen. Sampel yang digunakan adalah data sekunder dari laporan keuangan perusahaan seluruh sektor non keuangan yang dipublikasikan di situs resmi Bursa Efek Indonesia selama periode 2018-2023, dengan jumlah data sebanyak 606. Teknik pengambilan sampel yang diterapkan adalah purposive sampling, dan analisis data dilakukan menggunakan regresi linear berganda dengan bantuan perangkat lunak STATA. Hasil penelitian menunjukkan bahwa risiko operasional tidak berpengaruh terhadap kinerja perusahaan (ROA) dan berpengaruh negatif terhadap kinerja perusahaan (tobins'q), risiko kredit berpengaruh positif terhadap kinerja perusahaan, risiko likuiditas berpengaruh negatif terhadap kinerja perusahaan.

Kata Kunci: Kinerja perusahaan; Risiko kredit; Risiko likuiditas; Risiko operasional.

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INTRODUCTION

In the dynamic landscape of global business, competition among companies has intensified, accompanied by rapid change and increasing levels of uncertainty. Evaluating financial performance becomes a critical instrument for measuring a company's success in achieving these objectives. Through the analysis and assessment of financial performance, companies can gain historical insight into their financial position and performance. (Hikmawati & Sutrisno, 2021). Company performance is significantly affected by the firm's ability to manage the inherent risks present within the company, including credit risk, liquidity risk, and operational risk, alongside additional challenges posed by the COVID-19 pandemic. The Central Statistics Agency (BPS) reported in 2020 that Indonesia's economic growth reached minus 5.32% in the second quarter of 2020, a sharp decline compared to the 2.97% growth achieved in the first quarter of 2020, and far less than the 5.02% recorded during the same period in 2019 (Rahmawati et al., 2023).

The post-COVID-19 era remains a challenging time for companies, generating risks and obstacles that must be confronted across various sectors. The impact of COVID-19 significantly escalated both operational risk and credit risk for companies, thus making risk management an essential element. Companies are compelled to control and mitigate the impact of operational and credit risks. The inability to manage these risks can result in substantial financial losses, revenue reduction, and even bankruptcy, as observed in several major companies worldwide. To ensure long-term stability and growth, companies must continuously reinforce their risk management practices and adapt to changing market conditions. (Kiptoo et al., 2021).

Risk management is a vital aspect of maintaining an organization's financial health and economic stability. However, disagreement persists in theory and practice regarding how risk should be assessed and managed from a strategic and long-term perspective. Although there has been an increase in risk management disclosure in recent years, research findings show varying views on the usefulness and adequacy of this information, including whether the risk information is specific or generic, and how consistent it is with more objective company risk measurements. Prior research indicates that risk management is a complex process with various dimensions, actors, models, and impacts that directly implicate the company, both internally and externally. The results of studies concerning the volume, nature, quality, and utility of risk disclosure also vary across countries and industries. Nevertheless, little is still known about the influence of operational and business risk disclosures, particularly across different companies and nations. (Lajili et al., 2020) It is crucial to address this information asymmetry, as operational and business risks can predict and exacerbate financial problems, which are typically easier to measure and verify due to stricter regulations regarding financial risk disclosure.

The downfall of Silicon Valley Bank (SVB) in March 2023, as reported by the Global Association of Risk Professionals (GARP), stands as a clear example of the serious consequences resulting from poor risk management, particularly within the financial sector. This bank, known for its strong ties to the technology industry, primarily failed due to a massive, panic-driven run on deposits, which was exacerbated by insufficient risk oversight and amplification through social media. SVB appears to have gravely miscalculated its liquidity risk by failing to anticipate the rate and speed at which depositors would withdraw funds. This mass withdrawal was triggered after news broke

that SVB was experiencing a "cash burn" that necessitated raising capital to cover losses stemming from the sale of investment securities held in the "available-for-sale" (AFS) section of their balance sheet. The announcement sent investors into a panic, causing the stock price to plummet and initiating one of the largest bank runs in history. The SVB case underscores the critical importance of effective risk management and the need for adaptive governance structures in an increasingly unstable financial environment (Rossi, 2023).

Similarly, PT Sri Rejeki Isman Tbk (Sritex), for years recognized as one of Southeast Asia's largest textile manufacturers, serves as a tangible example of risk management failure in the face of economic pressures and external environment changes. The company was officially declared bankrupt in early 2025 after failing to meet debt obligations totaling over Rp29 trillion. This situation was worsened by the collapse of its debt restructuring scheme through the Suspension of Debt Payment Obligations (Penundaan Kewajiban Pembayaran Utang – PKPU), alongside escalating operational burdens amid declining export demand and global supply chain disruptions (Prasetyo, 2025). Sritex's bankruptcy not only had severe financial repercussions for the company and its creditors but also generated a vast social impact, notably the mass layoff of over 10,665 employees. This situation illustrates that a failure in risk management is not merely an internal technical issue but also influences social and economic stability at both local and national levels. Furthermore, the case signals that even publicly listed companies (Tbk) are not immune to the threat of bankruptcy if their risk management is not executed comprehensively and adaptively toward external environmental dynamics (Rangkuti, 2025).

Risk and its management have become a paramount concern and a renewed challenge for companies, as risk is inherently present in every corporate activity aimed at achieving primary objectives. This includes operational risk (inherent in the firm's core activities), credit risk (arising from capital-raising activities through debt), and liquidity risk (stemming from the company's ability to survive in the short term). Operational risk, credit risk, and liquidity risk constitute the inherent risks faced by a company in conducting its business operations. Consequently, effective risk management stands as a critical pillar supporting corporate governance. Well-executed risk management directly impacts the firm's performance, thereby enhancing the company's valuation in the eyes of investors and influencing increased investor assessment.

Considering the importance of enhancing understanding regarding the effects, large or small, caused by inadequate control over operational, credit, and liquidity risks and their implications for corporate performance, particularly in the context of post-pandemic recovery, this research is crucial. Previous studies, such as those by (Kiptoo et al., 2021), (Hunjra et al., 2020), (Saleh & Abu Afifa, 2020) and the majority of earlier research, predominantly focused on the financial sector. Few studies touch upon other non-financial sectors, and even fewer discuss all three aforementioned risks concurrently. Therefore, this study specifically focuses on the non-financial sector and centers on operational, credit, and liquidity risks. This focus is justified because the economic implications associated with these three risks are significant, especially amidst the critical crisis triggered by the COVID-19 pandemic, which substantially heightened the effects of these risks and drove many companies close to bankruptcy. As a step toward mitigating these challenges, the findings of this research can be utilized by companies (Risk Owners) as a tool for formulating more focused and effective risk mitigation strategies through

optimal resource allocation. This will lead to improved corporate performance and the establishment of sound corporate governance (Good Corporate Governance). Furthermore, these research results provide current empirical evidence regarding the impact of these risks on corporate performance, serving as valuable material for evaluating changes in regulations, economic conditions, and the implementation of the latest risk standards in Indonesia.

LITERATURE REVIEW

Signaling Theory

In the field of economics, Signaling Theory describes how parties with information asymmetry, where one party possesses more information than the other, can interact and demonstrate their quality to the other party (Spence, 1973). Signaling theory explains the relationship between this concept and firm value, particularly concerning the information imbalance between management and investors. To mitigate this information gap, companies can provide annual reports that function as a signal to investors. This report is expected to enhance transparency and ultimately contribute to increasing the company's value, (LumbanGaol et al., 2021). Management reports containing positive information will be perceived as a good signal that has the potential to increase the company's value, thus influencing the decisions of investors, creditors, and other stakeholders. Investors, as recipients of this information, analyze the financial data in the report, both implicitly and explicitly. This is consistent with the information regarding risk disclosed by the company. High risk generally conveys a poor impression to investors, as companies with significant risk are judged to have a higher probability of bankruptcy. However, if the company can demonstrate that these risks can be minimized, this acts as a positive signal for investors.

Agency Theory

According to (Jessen, 1976), Agency Theory explains the working relationship established between the owner, known as the principal, and the manager, who acts as the agent in the management of the company. This theory highlights that when the owner and the company's manager are two separate entities, it can give rise to what is known as agency costs. These costs arise from the differences in interests and priorities between the two parties; owners typically focus on increasing the company's long-term value, while managers may prioritize personal objectives or short-term achievements that could enhance their personal gains. This divergence in interests often leads to conflict, which ultimately can add to costs in the form of oversight and additional incentives designed to align the manager's objectives with the owner's interests. The theory also assumes that each party acts in their self-interest, allowing for the possibility of a conflict of interest between the two. The relationship between principal and agent is interdependent. The capital owner or shareholder, acting as the principal, has the right to receive information from the company through the agent. Since the agent directly manages the company's operations, they have more complete and in-depth access to company activities compared to the principal (Hapsoro & Falih, 2020).

Information asymmetry often becomes a primary cause of inefficient investment. In a capital market where information is uneven, funding limitations can trigger underinvestment. Neoclassical economic theory, through the Modigliani-Miller model, states that investment decisions are based on the present value of a project. This assumption presumes a perfect market, where all participants have equal access to information and share similar expectations regarding future outcomes. As a result, investors may avoid investing or demand higher returns to offset the uncertainty risk, ultimately preventing companies from reaching the optimal level of investment expected. however, information in the capital market is often asymmetric (Chen et al., 2021). Therefore, information such as risk disclosure by management (the agent) should also be transmitted to the capital owners (the principal) so that they can make appropriate decisions aligned with their interests.

Firm Performance

The definition of corporate performance has continually evolved over time; in the 1950s, it was understood as organizational efficiency the degree to which an organization achieves its goals using limited resources and without requiring excessive effort from its members (Georgopoulos & Tannenbaum, 1949). Up to the early 20th century where it was assessed through a combination of financial and non-financial data, the interpretation of which depends on the stakeholders' perspective (Naibaho et al., 2024). However, prior research often equates corporate performance with financial performance, which is measured based on four main criteria: liquidity, solvency, profitability, and market value.

Consequently, corporate performance is influenced by operational risk and credit risk, as it is crucial to evaluate the potential impact of these factors within risk management to assess their effect on the company's future performance. (Ko et al., 2019) A company is considered to have good performance if it can enhance its firm value, and high firm value is more appealing to investors. This is because investors believe that a company with high value can provide substantial returns and possesses the capability to sustain business operations in the long term.

Operational Risk

Operational Risk arises due to errors in a company's operating activities. This risk can be experienced by all types of companies and is caused by various factors such as human resource error, system failures, ineffective internal procedures, and external factors. (Jahrotunnupus & Manda, 2021). Prior research conducted by (Kiptoo et al., 2021) suggests that operational risk refers to all forms of risk related to a company's day-to-day activities. This risk can cause both direct and indirect losses stemming from the failure or ineffectiveness of internal processes, systems, or human resource performance. Variation in performance among companies within the same sector is often influenced by differences in the resources they possess. To achieve competitive advantage, management must strive to integrate and utilize existing resources optimally, with the aim of increasing the company's competitiveness and creating sustainable added value.

Credit Risk

The theory concerning Credit Risk developed by Merton (1974) posits that default can occur due to changes or developments in assets. This theory argues that in favorable economic situations, borrowers might deliberately choose not to repay because this functions as a built-in put option inherent in the borrower. Companies operating in any

sector, whether financial or non-financial, can apply the principles of credit risk management by understanding the potential for opportunistic behavior from debtors in the future. Merton developed a credit risk theory demonstrating that a default event occurs due to a change in the firm's asset value, which is described through a diffusion process with fixed parameters. The Merton Model estimates a firm's credit risk by assuming the company has debt maturing at a future date. Default can be predicted when the firm's asset value falls below the amount of debt that must be paid at a specific time (Kiptoo et al., 2021).

Liquidty Risk

Liquidity risk is defined as the inability of a company to obtain sufficient cash to meet its obligations when they fall due (Kiptoo et al., 2021) Liquidity risk can arise if a company fails to meet its short-term obligations, making effective liquidity management essential to ensure the firm's long-term sustainability (Hunjra et al., 2020) Furthermore, liquidity risk can also occur due to an imbalance between the company's asset and debt structure and its cash inflows and outflows (Al-Yatama et al., 2020). The theory of liquidity, first introduced by Schumpeter & Keynes (1936), explains three main motives underlying the decision to hold assets: the speculative, precautionary, and transactions motives. The transactions motive suggests that a company prefers to hold cash to cover daily purchases when income is insufficient. The speculative motive indicates that a company maintains liquidity in the hope of capitalizing on advantageous financial opportunities in the future.

The precautionary motive states that companies tend to save cash to meet unexpected needs that may incur additional costs. Companies that extend credit may face the risk of debtor default, which can affect their liquidity. To mitigate credit risk, non-financial companies often implement mechanisms such as credit scoring and risk testing before engaging in transactions. This theory of liquidity preference is highly relevant in the context of investment in non-financial companies, primarily because their preference for liquidity can influence the credit risk they face. If liquidity is primarily utilized for speculation, the company could shoulder substantial credit risk, which may ultimately decrease financial performance.

The Influence of Operational Risk on Firm Performance

Previous research presents contradictory findings regarding the relationship between Operational Risk (OR) and corporate performance. On one hand, studies by (Sunaryo & Kurnia, 2021) dan (Sofie et al., 2020) and (Kiptoo et al., 2021), provide evidence that operational risk has a positive influence on corporate performance. These studies argue that operational risk is a fundamental component in enhancing the efficiency of business activity management. Effective operational risk management, supported by efficient operational management, can contribute to reducing operating costs. This cost saving then impacts the increase in the net premise ratio against total assets, ultimately strengthening the firm's financial performance. However, this result is inconsistent with research by (Ahmad et al., 2023) and (Dilla et al., 2024) which found evidence that operational risk has a negative impact on corporate performance. In these studies, high OR is deemed detrimental to performance due to the potential for human error or system failure, which adversely affects business efficiency and final outcomes. In the context of Signaling Theory, high operational risk that is not controlled sends a negative signal to the market regarding weak governance and internal controls. Furthermore, from the perspective of Agency Theory, a failure to optimally manage OR may indicate a misalignment of

interests, where managerial actions, acting as agents, fail to protect the principal's interests from losses arising due to operational errors. Based on these findings and considering the relationship between operational risk and corporate performance, the author formulates the following hypothesis.

H_{1a}: Operational Risk has a positive Influence on Firm Performance (ROA).
H_{1b}: Operational Risk has a negative Influence on Firm Performance (Tobin's Q).

The Influence of Credit Risk on Firm Performance

In addition to Operational Risk, Credit Risk also exhibits a complex relationship with corporate performance. Previous research by (Al-Yatama et al., 2020) and (Hunjra et al., 2020) successfully identified a significant positive influence between credit risk and corporate performance. This view is supported by the findings of (Mushafiq et al., 2021) who state that the Altman Z-score, used to measure financial health and credit risk, shows a positive correlation with the firm's level of financial efficiency. This Z-score model allows companies to forecast their financial efficiency for up to 2 to 3 years ahead, providing an overview of the potential sustainability of future performance and financial stability. This suggests that, under certain conditions, credit risk can play a role in enhancing corporate performance. However, these results are contradicted by studies from (Pracoyo & Ladjadjawa, 2020), (Mushafiq et al., 2021), (Saleh & Abu Afifa, 2020), (Wijayanty et al., 2024), and (Kiptoo et al., 2021) which demonstrate that credit risk has a negative influence on corporate performance. In this view, companies with a high ratio of non-performing receivables to total receivables generally experience a decline in performance and efficiency. High levels of credit risk, if not managed effectively, tend to negatively impact the firm’s value and performance efficiency. From the perspective of Agency Theory, high credit risk may indicate the potential for moral hazard by management, acting as agents, who neglect the principal’s interests by approving risky receivables. This risk sends a negative signal to the market, indicating the prospect of future losses and weak credit governance. Therefore, companies must have effective strategies to ensure sound receivables management, aiming to maintain financial stability and enhance overall performance. Based on these findings and considering the relationship between credit risk and corporate performance, the author formulates the following hypothesis.

H_{2a}: Credit Risk has a negative Influence on Firm Performance (ROA).
H_{2b}: Credit Risk has a negative Influence on Firm Performance (Tobin's Q).

The Influence of Liquidity Risk on Firm Performance

The relationship between Liquidity Risk (LR) and corporate performance continues to show mixed findings. Several studies, such as those by (Al-Yatama et al., 2020) and (Saleh & Abu Afifa, 2020) found that liquidity risk has no significant influence on corporate performance, suggesting that high or low liquidity risk does not directly impact the firm’s financial performance. On the other hand, (Hunjra et al., 2020) and (Kiptoo et al., 2021) demonstrated a positive influence between liquidity risk and corporate performance. They concluded that effective liquidity management enables companies to easily meet short-term obligations, maintain operational stability, and send a positive signal to the market regarding the company's financial health and stability. This positive signal can attract investors and support performance improvement. However, contrasting results were found in research by (Ahmad et al., 2023), (Andriyanti & Khuzaini, 2023), (Chynthiawati & Jonnardi, 2022), and (Komang Risa Widi Utami & Luh Gede Sri Artini,

2024). These studies indicate that excessively high liquidity can become a constraint for the company. Surplus idle cash can reduce productivity because capital is not optimally allocated to investments that generate profits. From the perspective of Agency Theory, this liquidity surplus can be viewed as managerial inefficiency by the agent, who holds liquid assets without clear justification, potentially violating the shareholders' (Principal's) interest in wealth maximization. Therefore, excessive liquidity, if not balanced with an effective fund allocation strategy, can have a negative impact on the overall corporate performance. Based on these contradictory empirical findings and considering the relationship between liquidity risk and corporate performance, the author formulates the following hypothesis.

H3a**:** Liquidity Risk has a negative Influence on Firm Performance (ROA).

H3b**:** Liquidity Risk has a negative Influence on Firm Performance (Tobin's Q).

RESEARCH METHOD

Data Collection Method

This study employs a secondary data collection technique through a literature review method, involving an in-depth analysis and examination of literature, including scientific journals and other sources relevant to the topic. This method follows a purposive sampling approach, specifically selected to support the research objectives. Additionally, this research integrates a literature review method, where data is gathered from various journals and previous studies that share similarities or relevance to the research topic. By referencing prior aligned research, this method provides a strong theoretical foundation and enhances the understanding of the research context through credible sources.

Variable Design

Dependent Variable

In this study, the dependent variable is firm performance (ROA), which uses the proxy of the percentage ratio between Net Income and Total Assets at the end of the period, following the previous research by (Kiptoo et al., 2021), with the formula

$$Return\ on\ Asset = \frac{Net\ Income}{Total\ Aset}\ x\ 100\%$$

Return on Assets (ROA) reflects a firm's performance; a high ROA indicates that the company's operations are running smoothly and productively, while a low ROA may indicate inefficiency.

Another method used to evaluate a firm performance is Tobin's Q. According to (Hapsoro & Falih, 2020) this ratio is considered to provide the best information as it includes all elements of a company's debt and equity, not just common stock and equity but also all assets owned by the company. By incorporating all company assets, it signifies that the company does not only focus on one type of investor but also on creditors, since operational funding sources come not only from internal assets but also from loans obtained from creditors. The formula for Tobin's Q is:

$$Tobin's\ Q = \frac{(MVCS + PS + BVD)}{Total\ Asset}$$

A high Tobin's Q value indicates that the market has positive expectations for the company's future growth prospects. Investors tend to be willing to pay a higher price for the company's stock because they see greater potential value in the company's assets

Independent Variable

Operational Risk

Operational Risk (ROp) is the independent variable tested in this study, following the measurement used by (Saad et al., 2023). which utilizes operational efficiency by comparing total sales with total assets owned by the company. The purpose of using this proxy is to highlight the importance of operational risk as a fundamental component in the efficient management of the company's business activities.

$$Operational\ Risk = \frac{Total\ Sales}{Total\ Aset}$$

Credit Risk

This study uses the Altman Z-Score as a credit risk measurement tool, which has previously been applied to predict the financial condition of companies and the potential for bankruptcy. Altman developed the Z-score model based on ratios. With the support of the Z-score model, it is possible to predict financial efficiency up to 2-3 years in advance (Mushafiq et al., 2021). Additionally, the Altman Z-Score has been proven to predict bankruptcy with an accuracy rate of 80% - 90% (ALTMAN, 1968). The Z-score is formulated as follows:

$$Z = 1.2X1 + 1.4X2 + 3.3X3 + 0.6X4 + 0.99X5$$

The explanations of the Altman Z-score formula are as follows:

1. X1 represents the ratio indicating asset liquidity relative to company size. In this context, working capital represents the difference between current assets and current liabilities. The value of X1 is calculated using the following formula:

$$X1 = \frac{Working\ Capital}{Total\ Aset}$$

2. X2 is the ratio that measures the accumulation of company profitability. This ratio is related to retained earnings, reflecting a history of significant gains or losses for the business's profitability over the period. In other words, lower retained earnings indicate that the company incurred a loss for that year. The value of X2 is calculated as:

$$X2 = \frac{Retained\ Earnings}{Total\ Aset}$$

3. X3 represents the ratio that indicates the company's core productivity. This ratio reflects the company's ability to manage its assets to maximize earnings before interest and tax (EBIT). The value of X3 is calculated with the formula:

$$X3 = \frac{EBIT}{Total\ Aset}$$

4. X4 is the ratio that shows the relationship between the capital market and the company's liabilities. This ratio is used to assess the company's asset value based on the market value of equity plus debt, up to the point where liabilities exceed assets and lead to bankruptcy. The value of X4 is calculated as:

$$X4 = \frac{Market\ Capitalization}{Total\ Liabilities}$$

5. X5 is the ratio that measures turnover within the company. This ratio measures the turnover of sales to assets, reflecting how efficiently the company utilizes its assets to generate optimal sales. The value of X5 is calculated with the formula:

$$X5 = \frac{Total\ Sales}{Total\ Aset}$$

The Altman Z-Score value generated based on these calculations will be interpreted as follows:

Tabel 1. Altman Z-Score Criteria

Zone	Score	Description
Experiencing Financial Distress	Z-Score ≤ 1.8	High Credit Risk
Area of Uncertainty	1.8 > Z-Score < 2.99	Medium Credit Risk
Healthy Financial Condition	Z-Score ≥ 2.99	Low Credit Risk

Sumber: Mushafiq et al., (2021).

Liquidity Risk

Liquidity Risk (RLi) as the independent variable in this study will use the proxy ratio of current assets to current liabilities, following previous research by Kiptoo et al., (2021). This proxy is used to measure the company's ability to manage its liquid assets to meet its obligations, thereby ensuring the continuity of its operations. This proxy is calculated using the following formula:

$$Current\ Ratio = \frac{Current\ Asset}{Current\ Liabilities}$$

Control Variable

In this study, the size of the company is proxied by the natural logarithm of its total assets. The use of the logarithm aims to reduce the impact of large differences between the companies being analyzed. This formula can be expressed as follows (Kiptoo et al., 2021).

The age of the company is calculated by subtracting the year of establishment from the year specified in the study (Kiptoo et al., 2021).

Companies that experience sustainable growth will have a favorable valuation for the future. Along with the company's growth, investor confidence will continually increase, ultimately providing benefits to the company (Salsa & Nugraha, 2022), Furthermore, corporate growth is calculated by comparing the difference between the current total asset value and the total asset value from the previous year.

The COVID variable is utilized as one of the control variables, considering that the research period encompasses the occurrence of the COVID-19 pandemic, thus reflecting the financial reporting periods within the study timeframe. The criteria for assigning the value is as follows: financial reports falling within the COVID-19 period (years 2020–2021) are assigned a value of 1, while financial reports outside the COVID-19 period (years 2018–2019 and 2022–2023) are assigned a value of 0.

Model Construction

The Regression Model is used to identify which variables are associated with firm performance. This paper uses the model below to examine the relation between operational risk, credit risk, and liquidity risk on firm performance to answer the hypotheses:

Model 1

$$ROA = \alpha + \beta 1ROp_{i,t} + \beta 2RKr_{i,t} + \beta 3RLi_{i,t} + \beta 4SZ_{i,t} + \beta 5AGE_{i,t} + \beta 6GRWTH_{i,t} + \beta 7COVID_{i,t} + \varepsilon$$

Model 2

$$Tobin's\ Q = \alpha + \beta 1ROp_{i,t} + \beta 2RKr_{i,t} + \beta 3RLi_{i,t} + \beta 4SZ_{i,t} + \beta 5AGE_{i,t} + \beta 6GRWTH_{i,t} + \beta 7COVID_{i,t} + \varepsilon$$

Description : ROA = Return on Asset, Tobin's Q = Firm Performance, α = Constant, β = Regression Coefficient, ROp = Operational Risk, RKr = Credit Risk, RLi = Liquidity Risk, SZ = Firm Size, AGE = Firm Age, GRWTH = Firm Growth, COVID = Dummy Variabel Covid-19, i,t = Firm Indicator i, and period t, ε = Error
This study conducted the two most frequently used tests, namely the Chow test and the Hausman test, to determine the appropriate panel data regression model. For both Model 1 and Model 2, all tests yielded a Prob > chibar2 value less than 0.05. Therefore, this research will utilize the Fixed Effect Model (FEM) for both models

Sample Description

Data from 429 non-financial companies in Indonesia listed on S&P Capital IQ were found. Of this number, 12 companies were registered after 2018, and 316 companies had incomplete financial statement data for the 2018-2023 period, making them unsuitable for the study. As a result, 101 companies were selected as the final sample, with a study period of 6 years, resulting in a total of 606 observation data samples. This data was used for descriptive statistical analysis, correlation testing, model determination, classical assumption testing, specification testing, and hypothesis testing.

RESULT AND ANALYSIS

Table 2. Descriptive Statistics

Var.	Obs.	Mean	Std. Dev.	Min.	Max.
ROA	606	0,00206	0,05771	-0,21082	0,20223
Tobin's Q	606	0,91808	0,33192	0,39055	2,35754
Rop	606	0,54670	0,40204	0,07999	1,88221
RKr	606	1,13298	0,89133	-1,22717	2,90160
RLi	606	1,50869	1,26542	0,24078	7,57799
Size	606	15,2556	1.66118	11,9315	18,4892
Umur	606	35,1040	15,0382	6	72
Growth	606	0,07988	0,33811	-0,59951	1,64747
Covid	606	0,33333	0,47179	0	1

This study presents the descriptive statistics in Table 2. The descriptive statistics show that the average Return on Assets is around zero. In addition, the average Tobin's Q for firm performance is 0.918, while the average value for Operational Risk (ROp) is 0.54, Credit Risk (RKr) is 1.13, and Liquidity Risk (RLi) is 1.5, which is still far from the minimum value of 0.24 and the maximum value of 7.58.

Tabel 3. Correlation Tabel

Variabel	roa	Tobins'Q	ROp	RKr	RLi
Roa	1				
Tobin's Q	0,074*	1			
ROp	0,113***	0,179***	1		
RKr	0,504***	0,089**	0,383***	1	
RLi	0,052	-0,163***	-0,129***	0,327***	1
Size	0,141***	0,010	-0,227***	-0,062	-0,052
Umur	0,068*	-0,122***	0,220***	0,089**	-0,049
Growth	0,311***	0,140***	0,112***	0,134***	-0,090**
Covid	-0,144***	0,057	-0,089**	-0,077*	0,015
Variabel	**Size**	**Umur**	**Growth**	**Covid**	
Size	1				
Umur	0,286***	1			
Growth	0,046	-0,057	1		
Covid	-0,004	-0,0002	-0,070*	1	

***, **, *, signifikan pada tingkat 0.01 (1%), 0.05 (5%), dan 0.10 (10%) secara berurutan

Table 3 shows the results of the Pairwise Correlation analysis among the variables in this study. Referring to these results, it can be seen that the correlation coefficient of Operational Risk (ROp) with Return on Assets (ROA) is 0.113, which is significant at the 0.01 (1%) level, while the correlation with firm performance (Tobin's Q) has a coefficient of 0.179, also significant at the 0.01 (1%) level. Meanwhile, the correlation coefficient of Credit Risk (RKr) with ROA is 0.504, significant at the 0.01 (1%) level, and its correlation coefficient with Tobin's Q is 0.089, also significant at the 0.01 (1%) level. Liquidity Risk (RLi) has a correlation coefficient with ROA of 0.052, which is not significant, while its correlation coefficient with Tobin's Q is -0.163, significant at the 0.01 (1%) level.

Tabel 4. Regression Test - Model 1

Variabel Dependen: ROA Periode: 2018 - 2023				
ROA	**Coefficient**	**std. err.**	**t**	**P>t**
ROp	0,0226194	0,0196108	1,15	0,251
RKr	0,0435945	0,0035322	12,34	0,000
RLi	-0,0018741	0,0013521	-1,39	0,169
Size	-0,0409458	0,0147824	-2,77	0,007
Umur	0,0019404	0,0007186	2,70	0,008
Growth	0,0271486	0,0063141	4,30	0,000
Covid	-0,0086971	0,00161	-5,40	0,000
_CONS	0,5003955	0,1910101	2,62	0,010

Tabel 5. Regression Test - Model 2

Variabel Dependen: Tobin's Q Periode: 2018 - 2023				
Tobin's Q	**Coefficient**	**std. err.**	**t**	**P>t**
ROp	-0,2855327	0,0336416	-8,49	0,000
RKr	0,2525639	0,0296179	8,53	0,000
RLi	-0,0871299	0,0159515	-5,46	0,000
Size	-0,2283184	0,0466342	-4,90	0,000
Umur	0,0031312	0,0015052	2,08	0,040
Growth	0,00542	0,0173476	0,31	0,755
Covid	0,0555767	0,0085537	6,50	0,000
_CONS	4,273749	0,775413	5,51	0,000

Table 4 presents the results for Operational Risk (ROp), showing a probability value of 0.251. When divided by two for the one-tailed hypothesis, the value becomes 0.125. This result is not significant at the 0.1 (10%) significance level, yielding a coefficient value of 0.022. This indicates that operational risk does not have an influence on ROA, therefore H1a is not supported. This finding suggests that there is no evidence that operational risk, as a fundamental component in the efficiency of business activity management for the sampled companies, significantly impacts performance. This result is consistent with prior research by (Wijayanty et al., 2024) which also found that operational risk has no influence on corporate performance. Conversely, this result contrasts with earlier studies by (Kiptoo et al., 2021), (Sunaryo & Kurnia, 2021), (Sofie et al., 2020) and (Saad et al.,2023) which found that operational risk positively influences corporate performance.

Meanwhile, Table 5 shows the results for Operational Risk (ROp) with a probability value of 0.000. When divided by two for the one-tailed hypothesis, the value remains 0.000. This result is significant at the 0.01 (1%) significance level, yielding a coefficient value of -0.286. This indicates that operational risk has a significant negative influence on Tobin's Q, thus H1b is supported. This finding is consistent with prior research by (Ahmad et al., 2023), and (Dilla Putri Wiyana, Anggita Langgeng Wijaya, 2024) which demonstrates that increasing operational risk, caused by anomalies, can significantly hinder corporate operational activities, thereby lowering performance. This condition indicates a management failure in handling operational risks that could potentially cause losses, which, in the context of Agency Theory, will be perceived by shareholders as a managerial failure. Furthermore, this decline in performance sends a negative signal to investors, suggesting that the company's internal controls and governance are considered weak, ultimately affecting the firm's market value.

Table 3 presents the results for Credit Risk (RKr), yielding a probability value of 0.000. When divided by two for the one-tailed hypothesis, the value remains 0.000. This result is significant at the 0.01 (1%) significance level, with a coefficient value of 0.043. This indicates that credit risk has a significant positive influence on ROA, hence H2a is not supported. Similarly, Table 4 shows that Credit Risk (RKr) yields a probability value of 0.000. When divided by two, the value remains 0.000. This result is significant at the 0.01 (1%) significance level, with a coefficient value of 0.2526. This indicates that credit risk has a significant positive influence on Tobin's Q, hence H2b is not supported. his finding suggests that the higher the company's credit risk value, the greater the increase in its corporate performance. Here, the financial health level, proxied by the Altman Z-Score, is used to assess a company's credit risk. High credit risk can arise from funding corporate activities through long-term debt.

The substantial utilization of borrowed funds will increase the scale and process of corporate activities, which significantly affects the improvement of corporate performance. This condition sends a positive signal to investors that the company is in an aggressive expansion phase and has strong confidence in its future growth prospects. Consequently, investors are willing to grant a premium to the company. These research findings are consistent with previous studies conducted by (Al-Yatama et al., 2020) and (Hunjra et al., 2020) which show a positive influence of credit risk on corporate performance. However, this result contradicts the findings of (Kiptoo et al., 2021), (Mushafiq et al., 2021), (Saleh & Abu Afifa, 2020), (Wijayanty et al., 2024), and (Pracoyo & Ladjadjawa, 2020) which indicate that credit risk negatively influences corporate performance. Those studies reveal that the greater the level of credit risk faced by a

company, the higher the probability of debtor default, which can cause significant losses and ultimately decrease corporate performance. This will be interpreted by shareholders as a fatal management failure, leading investors to receive this bad signal as a serious threat to the company's long-term prospects.

In Table 3, the results for Liquidity Risk (RLi) show a probability value of 0.169. When divided by two for the one-tailed hypothesis, the value becomes 0.084. This result is significant at the 0.1 (10%) significance level, yielding a coefficient value of -0.0019. This indicates that liquidity risk has a significant negative influence on ROA, therefore H3a is supported. Similarly, in Table 4, Liquidity Risk (RLi) shows a probability value of 0.000. When divided by two, the value remains 0.000. This result is significant at the 0.01 (1%) significance level, yielding a coefficient value of -0.0871. This indicates that liquidity risk has a significant negative influence on Tobin's Q, thus H3b is supported. These findings suggest that companies with high liquidity will be assessed as unable to maximize their operational activities due to the large amount of idle cash held by the company.

The suboptimal utilization of these assets leads to reduced generated profit, thereby lowering corporate performance. This condition can be viewed as a form of inefficiency and moral hazard by management, where the retention of excessive cash is done for personal interests rather than being invested for growth or returned to shareholders. This decision sends a negative signal to investors, suggesting that the company lacks high-quality investment projects or possesses weak capital governance. These research findings are consistent with previous studies conducted by (Ahmad et al., 2023), (Andriyanti & Khuzaini, 2023), (Chynthiawati & Jonnardi, 2022), and (Komang Risa Widi Utami & Luh Gede Sri Artini, 2024) which found that liquidity risk negatively influences corporate performance. Conversely, this result is inconsistent with previous research by (Kiptoo et al., 2021), (Hunjra et al., 2020), and (Bekele Tegene et al., 2023), which found that sound liquidity management can improve the ratio between current assets and current liabilities, ultimately contributing positively to corporate performance.

CONCLUSION

The research findings indicate that Operational Risk has no influence on corporate performance (ROA) but has a negative impact on corporate performance (Tobin's Q) for non-financial companies in Indonesia listed on S&P Capital IQ during the 2018–2023 period. These results are inconsistent with the author's hypothesis regarding performance measured by ROA but support the hypothesis concerning the relationship between operational risk and performance measured by Tobin's Q. Credit Risk has a positive influence on corporate performance for non-financial companies in Indonesia listed on S&P Capital IQ during the 2018–2023 period. These results are inconsistent with the author's hypothesis development. Liquidity Risk has a negative impact on corporate performance for non-financial companies in Indonesia listed on S&P Capital IQ during the 2018–2023 period. These results are consistent with the author's hypothesis development.

This research makes a significant contribution to the literature on Risk Management and Corporate Performance by offering new empirical evidence, particularly within the context of previous contradictory findings and the validation of theory in the Indonesian non-financial sector. The result regarding Operational Risk (ROp) (No influence on ROA

but Negative on Tobin's Q) validates that the capital market is demonstrably more sensitive to potential operational losses and weak governance compared to annual asset profitability. This implies that ROp is perceived as a future threat. The finding that Credit Risk (RKr) has a Positive influence indicates that the utilization of debt (credit risk), which results in expansion and performance improvement, sends a positive signal to the market. This demonstrates management's confidence in growth prospects and the ability to generate cash flow. The result that Liquidity Risk (RLi) has a Negative influence is consistent with Agency Theory. Excessive liquidity (idle cash) is considered managerial inefficiency, violating the principle of shareholder wealth maximization. This confirms that the greatest risk posed by liquidity is not fund shortage, but rather suboptimal capital allocation.

This study faces several limitations, many companies in Indonesia categorized under the non-financial sector on S&P Capital IQ during the 2018–2023 period did not meet the research criteria due to being listed during the research period or having incomplete financial statement data. The research sample was therefore limited to companies operating continuously over a 6-year period, from 2018 to 2023. The research models still contained issues related to classical regression assumptions for normality, heteroskedasticity, and autocorrelation tests. Although the data underwent Winsorized treatment, the results still showed that the data was not normally distributed. However, because the sample size exceeded 200, the data was assumed to be asymptotically normally distributed. The problems identified in the heteroskedasticity, and autocorrelation tests were addressed by employing Driscoll-Kraay regression with robust standard errors.

The author recommends several considerations to enhance the quality of subsequent research Increase the sample size and expand the scope of the study to include regions outside of Indonesia, Extend the research period to obtain a larger sample, which can yield more relevant results and better reflect real-world conditions, Consider adding more independent and control variables to better explain the dependent variables tested and more accurately represent real-world conditions.

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