EXAMINING THE IMPACT OF LIQUIDITY AND SOLVENCY RATIOS ON FIRM'S PROFITABILITY: INSIGHTS FROM THE INDONESIAN TECH COMPANIES

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Abstract:

Background: Indonesia's technological landscape has undergone a swift transformation, marked by rapid innovation, digitalization, and a surge in technology companies seeking to capitalize on emerging markets and opportunities.
Purpose: This paper explores the relationships between solvency ratio, liquidity ratio, and profitability ratios (ROA and ROE) within the context of technology companies in Indonesia.
Design/Methodology: This quantitative study uses datasets of 35 technology companies in the IDX. The datasets were collected from OSIRIS and publicly available data relevant to the tech companies in Indonesia. The analysis period is from 2018 to 2022.
Results: Based on the data analysis, we found that solvency ratios correspond only to better profitability ratios. Therefore, the study fills a research gap by identifying a positive correlation between solvency ratios and ROA, indicating that moderate debt levels can enhance profitability through leverage. This study also highlights the financial characteristics of the tech sector, underscoring the importance of industry-specific analysis.
Conclusion: The research finds that the lack of a direct relationship between current ratios and profitability in Indonesian tech firms may arise due to the firms' capital-intensive nature, reliance on intangible assets, and prioritization of growth and innovation over short-term liquidity.
Originality: This study explored financial metrics in Indonesia's tech firms, highlighting their structures with high capital investment and intangible assets. Examining solvency and liquidity ratios' impact on profitability offers insights for stakeholders better to assess financial health in this fast-growing industry in Indonesia.

Keywords: financial performance, liquidity, ROE, solvency ratio, tech company, profitability

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INTRODUCTION

The technological landscape in Indonesia has undergone a swift transformation, marked by rapid innovation, digitalization, and a surge in the number of technology companies seeking to capitalize on emerging opportunities. Indonesia is ranked as the fourth most populous country in the world. In 2019, the World Bank (World Bank, 2021) reported that 62% of people in urban areas in Indonesia had internet access, while around 36% of individuals residing in rural areas had access. This data is a significant increase from 2011 when internet access rates were 20% in urban areas and 6% in rural areas. The exponential advancement of technology in Indonesia has opened up new possibilities for the country to cultivate a highly skilled and technologically advanced future generation. Furthermore, according to (ADB, 2020), Indonesia's economy could benefit from an additional USD 2.8 trillion through technology adoption by 2040. Due to this potential expansion, Indonesia's gross domestic product (GDP) growth would increase by 0.55% annually over the next decades. Hence, Indonesia's technological advancement will soon present a promising investment opportunity.

Indonesia's tech industry has seen significant growth, with startups like GoTo, Bukalapak, and various fintech companies making notable contributions to the economy (Aminullah, 2024; Rohendi et al. 2023). The companies are leading innovation in areas such as e-commerce, ride-hailing, and digital payment business, showcasing the increasing integration of technology across industries. The government's supportive policies and initiatives for the tech firms and industry further strengthen the ecosystem by fostering innovation and attracting investment. Consequently, Indonesia's technological development presents a promising investment opportunity and a platform for long-term economic transformation (Bernardus, Sufa, et al. 2024; Damuri et al. 2018).

The tech industry has significantly contributed to Indonesia's GDP and job creation. Firstly, the tech sector in Indonesia has been a driving force behind economic growth, contributing to the country's GDP through various sub-sectors such as e-commerce, fintech, software development, and digital services (Ariansyah et al. 2021; Pangestu and Dewi, 2017). Secondly, the rapid expansion of tech companies has created numerous job opportunities across different skill levels, from software engineers and data analysts to customer service representatives and logistics personnel (Gryseels et al. 2015). Thirdly, investments in digital infrastructure, such as internet connectivity and mobile networks, have supported the growth of tech companies and facilitated broader economic development (Teece, 2018). Fourth, adopting digital technologies by traditional industries (e.g., retail, finance, transportation) has enhanced productivity and efficiency, further contributing to GDP growth (Li et al. 2020). Fifth, the tech ecosystem in Indonesia has fostered a vibrant startup culture, encouraging entrepreneurship and innovation, which drives economic diversification and job creation (Bernardus, Arisa, et al. 2024; Supriadi et al. 2023). The tech industry's contributions to Indonesia's GDP and job creation underscore its pivotal role in driving economic growth and fostering employment opportunities across various sectors. As digital transformation continues to accelerate, these contributions are expected to strengthen further, paving the way for continued innovation and economic development in Indonesia (Junarsin et al. 2021).

In this changing environment, these firms' financial performance is crucial to their operations. Understanding the relationships between key financial metrics is essential for assessing a company's health and future performance in corporate financial management. One important area to explore is the relationship between solvency and profitability ratios, such as ROA and ROE. These metrics provide a clear picture of a company's financial strength, profitability, and operational efficiency. This paper aims to explore these relationships, examining the theoretical aspects and practical implications for business organizations to optimize their financial performance.

The extant literature in corporate finance highlights the limited research on capital structure and working capital management in Indonesian tech companies. Key theories, including liquidity theory, profitability theory, pecking order, and trade-off theories, frame the study's exploration of debt management and financial health. Solvency ratios like debt-to-equity play a crucial role, especially given the tech industry's capital-intensive nature. Past studies indicated that leveraging debt can enhance ROE and increase financial risk, underscoring the need for an optimal debt level to support innovation without compromising stability. Financial indicators such as ROE, ROA, solvency, liquidity, and profitability significantly shape corporate performance. Maintaining

a balance between liquidity (ensuring short-term stability) and solvency (supporting long-term growth) is essential in the tech sector. Therefore, this study aims to address these gaps in the literature by examining how key financial metrics influence the performance of Indonesian tech firms. Understanding this relationship is crucial for analyzing the sector's characteristics and the determinants of financial performance. In the technology sector, balancing liquidity and solvency is essential for financial health, as high liquidity ensures stability, while solvency supports long-term growth. This study explores key financial indicators in Indonesian tech companies, focusing on ROE, ROA, solvency, liquidity, and profitability. ROE measures the efficiency of generating returns from shareholders' equity, while ROA evaluates asset utilization and operational profitability.

Therefore, this paper examines the relationships between Indonesian technology companies' solvency, liquidity, ROE, and ROA ratios. We hypothesized that solvency ratios positively correlate with profitability indicators such as Return on Assets (ROA) and Return on Equity (ROE). Additionally, we explored the unique context of the technology sector, where liquidity ratios may not directly impact profitability due to the industry's capital-intensive nature and reliance on intangible assets. We examine these financial metrics to understand how these companies manage their finances, leverage their assets, and grow sustainably in a competitive industry. The relationships between solvency ratios and profitability in Indonesian technology companies are integral to understanding the financial dynamics of these firms. The random-effects estimator was applied to analyze the relationships among the financial ratios while controlling for firm-specific and time-specific factors.

As the technology sector in Indonesia experiences rapid growth and transformation, analyzing these financial metrics becomes crucial for investors, stakeholders, and analysts seeking insights into these companies' financial health and performance. Based on that argument, the objective of the study is to investigate the relationships between solvency ratios and profitability ratios, specifically ROA and ROE, in Indonesian technology companies. By analyzing these financial metrics, this present study seeks to understand how these firms manage their financial health, leverage their assets, and ensure sustainable growth in a competitive environment. The study will explore theoretical aspects, practical implications, and strategic considerations to provide insights for investors, stakeholders, and analysts on optimizing financial performance in the dynamic environment of Indonesia's technology sector.

METHODS

This quantitative study uses datasets of 35 technology companies in the Indonesian stock exchanges (IDX). Datasets were collected from the OSIRIS and publicly available data relevant to the tech companies in Indonesia. The analysis period of this study is from 2018 to 2022. Our model regression is a panel data regression with robust random-effects (REM) estimations to counter potential endogeneity (Wijaya et al. 2023). Panel data is a type of data that combines cross-sectional and time-series data, allowing researchers to observe the behavior of the same units over multiple periods (Pesaran, 2015). The research conducted the Hausman test to assess the suitability of fixed effects versus random effects models. The results of the Hausman test indicated a preference for the fixed effects model due to the significant difference between the coefficients.

Furthermore, the analysis found that the data does not follow a normal distribution, which was assessed through normality tests such as the Shapiro-Wilk test. Using the random-effects model is appropriate in this context because it assumes that the variation between individual units is random and uncorrelated with the independent variables (Clark and Linzer, 2015; Schmidt-Catran and Fairbrother, 2016). The primary justification for choosing random effects over fixed effects is the efficiency of the estimation and the ability to include variables that are constant over time but differ across individuals. Random effects offer more efficient and consistent parameter estimates when there is reason to believe that individual effects are not correlated with the predictors. Therefore, the use of the random-effects model in this panel data analysis is to capture the heterogeneity among technology companies in the Indonesian stock market while maintaining the validity of statistical inferences.

The random-effects estimator was applied after we conducted the Hausman test to choose the sui4dataset estimator (Bell and Jones, 2015; Wijaya et al. 2023) solvable with Mundlak's (1978a (see Figure 1 below).

Therefore, the general functional form of the panel data regression model is as follows:

$$\text{Profitability ratio}_{s,t} = \alpha_i + \alpha_1 \text{Solvency Ratio}_{i,t} + \alpha_1 \text{Current Ratio}_{i,t} + \alpha_3 \text{ Control variable}_{s,t} + \varepsilon_i$$

We conduct multicollinearity, autocorrelation, and homogeneity tests to ensure data reliability and robustness. After the Hausman test, the dataset was tested using the random-effects estimation with robust standard errors to correct for idiosyncratic, heteroskedasticity, and autocorrelation issues. Table 1 illustrates the results of the multicollinearity analysis of the dataset, indicating that the mean Variance Inflation Factor (VIF) is lower than 10. Based on these results, we conclude that there is no significant multicollinearity in the dataset. Descriptive statistics in Table 2.

Table 1. VIF tests

Variable	VIF	1/VIF
Model 1	12.48	0.080159
Log_asset	8.66	0.115502
Log_employee	5.75	0.173956
Solvency ratio	1.96	1.50918
Current ratio	1.15	0.869732
Mean VIF	6.000	
Model 2		
Log_equity	12.85	0.077816
Solvency ratio	7.59	0.131749
Log_employee	5.79	0.17257
Current ratio	1.84	0.54247
Profit margin	1.08	0.925489
Mean VIF	5.83	

Hypothesis development

Solvency ratios in technology companies

Literature reviews that discussed capital structure and working capital management in Indonesia are relatively limited, particularly studies focusing on technology companies (tech stocks) in Indonesia. Solvency ratio and financial performance are crucial to financial management and analysis. Understanding the relationships between solvency ratio, ROA, and ROE requires financial theories. The liquidity theory states that optimal working capital ensures liquidity for short-term obligations (Erdian et al. 2022; Knauer and Wöhrmann, 2013). Working capital management includes current and quick ratios, which show a company's financial health. The balance between current assets and liabilities and how working capital management affects a company's bottom line is key to profitability theory. Insolvency, the pecking order theory, explains company financing preferences (Frank and Goyal, 2008). Solvency ratios like the debt-to-equity ratio determine a company's internal versus external financing. The trade-off theory (see Modigliani and Miller, 1963; Serrasqueiro and Caetano, 2015) emphasizes the balance between holding excess working capital to prevent stockouts, payment delays, and costs. These theories are the foundation for studying working capital, solvency ratio, and ROE. Capital structure theories and perspectives explain this link. Due to the technology industry's capital-intensive nature, technology companies' solvency ratios have been extensively studied. The debt-to-equity ratio (DER) is a significant measure of solvency that offers valuable information about these companies' financial risk and stability.

Profitability in tech companies

Return on equity (ROE) measures how efficiently a company generates profits from shareholders' equity. It quantifies the profitability of a company relative to the investment made by its shareholders. ROE reflects a company's ability to generate profits for its shareholders, influenced by various interconnected factors. One such factor is the net profit margin, which indicates the portion of revenue converted into net income after deducting all expenses (Damodaran, 2007). A higher net profit margin enhances ROE by demonstrating effective cost control and revenue generation capabilities. Companies' profit retention or dividend distribution decisions affect ROE. Profit reinvestment can boost equity and ROE. In contrast, a high dividend payout may lower ROE and retained earnings. Capital allocation efficiency affects ROE. ROE can be increased by maximizing equity returns through smart investment and capital allocation. Therefore, ROE measures profitability, operational efficiency, capital structure, and financial strategy. Analysis of these interconnected factors provides an integrated assessment of a company's ROE.

Table 2. Descriptive statistics

Variable	Description	Obs.	Mean	Std. dev.	Min	Max
ROA	Return on assets (%)	95	0.585	20.733	-88.92	53.64
ROE	Return of equity (%)	95	0.503	52.544	-289.42	114.96
Solvency	Solvency ratio (%)	95	58.434	26.297	-25.04	97.54
CR	Current ratio (%)	95	3.801	5.345	0.11	36.22
Logasset	Total assets (log)	95	3.567	0.925	0	4.53
Profit margin	Profit margin (%)	95	4.400	21.692	-86.13	88.7
Employ	Total employees (log)	95	2.071	0.790	0	2.94

Past studies highlighted that while higher ROE is often associated with effective equity utilization, it can also be influenced by a company's financial structure (Damodaran, 2007). Technology firms may strategically leverage debt to enhance ROE, but this introduces a layer of financial risk that necessitates careful consideration. Moreover, a study by Ren and Dewan (2015) explored how investment in information and communication technology and regulations may impact profitability. The findings underscored the need for companies to balance innovation-driven strategies with financial prudence, acknowledging the intrinsic risks associated with high ROE in a rapidly evolving industry. ROE is a crucial financial indicator that quantifies a company's profitability in relation to the amount of equity held by its shareholders (Tutcu et al. 2024). It is also a metric that measures a company's capacity to generate profits for its shareholders (Ayaz et al. 2021). Multiple interrelated factors influence and contribute to the ROE, emphasizing the complexity of this metric. ROE is impacted by the net profit margin, which indicates the proportion of revenue converted into net income after deducting all expenses. A higher net profit margin positively impacts return on equity because it indicates effective control of costs and revenue generation.

A company's decision to retain profits or distribute dividends impacts ROE. Retaining earnings for reinvestment in the business can lead to increased equity and, as a result, higher ROE. In contrast, a generous dividend payout may reduce retained earnings and impact ROE. ROE is influenced by how effectively a company allocates its capital. Wise investment decisions and capital allocation strategies can boost ROE by maximizing returns on equity investments. Prudent risk management can help to ensure stable and predictable earnings, which improves ROE. Excessive risk-taking, on the other hand, may result in earnings volatility and a negative return on equity. ROE is a comprehensive metric that considers profitability, operational efficiency, capital structure decisions, and the company's financial strategy. Analyzing these interconnected factors provides a comprehensive understanding of the factors influencing a company's return on equity. In the Indonesian technology sector, where assets encompass intellectual property, research initiatives, and technological infrastructure, ROA reflects asset utilization efficiency (Nguyen and Nguyen, 2020). Past studies (see, for example, Medved et al. 2023 and Radonić et al. 2021) also indicated that technology companies focusing on innovation may exhibit higher ROA, driven by strategic investments in intangible assets. However, the relationship between solvency ratios and ROA remains critical, as effective asset utilization requires balancing leveraging assets for growth and maintaining financial stability.

Interrelationships between solvability, liquidity, and profitability of the tech companies

In the Indonesian tech industry context, the interrelationships between liquidity ratio, solvability, and profitability are crucial financial health and performance indicators. Liquidity ratios, such as the current and quick ratios, reflect a company’s ability to meet short-term obligations with available liquid assets. High liquidity ratios ensure operational stability and mitigate the risk of default, thereby supporting solvency by maintaining credibility with creditors and investors. Meanwhile, profitability ratios, such as net profit margin and return on assets, measure how effectively the company converts revenue into profits. Balancing liquidity with profitability is essential to optimize resource deployment and maximize financial performance. Strong solvency ratios indicate the company’s ability to meet long-term debt obligations, enabling strategic use of debt for growth opportunities that enhance profitability. Effective financial management in the tech sector requires maintaining

sufficient liquidity for short-term needs while leveraging solvency to drive sustainable profitability and long-term growth.

Hypotheses of the study

The Indonesian technology sector presents a unique set of challenges and opportunities. With a burgeoning middle class, increasing digital penetration, and supportive government initiatives, technology companies have experienced unprecedented growth. However, the industry has challenges, including intense competition, regulatory complexities, and the need for substantial investments in research and development. Therefore, an analysis incorporating industry-specific considerations is crucial to understand the financial dynamics comprehensively. The literature review highlights the complexity of relationships between technology companies' solvency ratios, ROE, and ROA, specifically focusing on the Indonesian context. The capital-intensive nature of the technology sector necessitates a delicate balance between leveraging debt for innovation and maintaining financial stability. The interplay between these financial metrics is influenced by factors such as regulatory frameworks, market dynamics, and the strategic vision of technology firms. Continuing with the analysis, it is clear that understanding these relationships is essential for stakeholders seeking to make informed decisions in Indonesia's tech sector. Thus, the hypotheses are:
H_1: Solvency ratio affects a firm's profitability ratio.
H_2: Current ratio affects a firm's profitability ratio

Figure 1 illustrates the framework of the study. The main variables are solvency ratio and liquidity ratios, and the study will test the influence of those ratios on firm profitability ratios. The controlling variables include the firm's assets, profit margin ratio, and employees.

RESULTS

Solvency ratios and ROA

Table 3 presents the correlation matrix. Next, the main findings of this study are shown in Tables 4-6. Table 4 presents our model's results that test the interrelationships between the solvency ratio and the firm's ROA. Models 1 to 4 demonstrate that solvency ratios positively affect ROA, supporting the acceptance of hypothesis 1. This suggests that better solvency ratios in tech firms contribute to enhanced profitability, aligning with the findings of Iqbal and Usman (2018). However, this result contradicts previous studies, such as those by Ayoush et al. (2021) and Isa and Mahardika (2022) which reported a negative relationship between higher solvency ratios and ROA in the Jordanian and Indonesian markets.

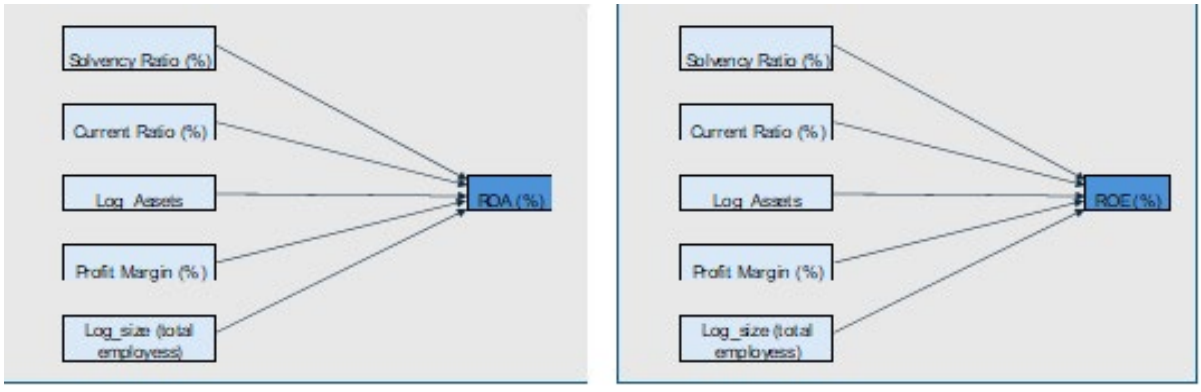

Figure 1. Research framework

Table 3. Correlation matrix between main variables

Var.	ROA	ROE	Solvency	CR	Logaset	Employ
ROE	0.4784*	1				
	0					
Solvency	0.2843*	0.1173	1			
	0.0063	0.2738				
CR	0.0618	0.0239	0.3680*	1		
	0.5584	0.824	0.0003			
Logasset	0.1646	0.0476	0.0065	0.1441	1	
	0.1169	0.658	0.9512	0.1683		
Employ	0.0353	0.0837	0.2249*	0.2666*	0.3143*	1
	0.7366	0.4354	0.0312	0.0098	0.0022	
Logequity	0.2457*	0.0206	0.3801*	0.2374*	0.1295	0.065
	0.0182	0.8478	0.0002	0.0219	0.216	0.536

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 4. Solvency ratios, current ratios, and ROA

Variables	ROA				
	(1)	(2)	(3)	(4)	(5)
Solvency	0.239**	0.195**	0.127**	0.112**	0.0919
	(0.110)	(0.0941)	(0.0629)	(0.0549)	(0.0564)
CR	0.146	0.0968	-0.249	-0.375***	-0.430***
	(0.346)	(0.363)	(0.157)	(0.135)	(0.129)
Logeqy		2.957	1.560	2.761*	2.845*
		(2.568)	(1.255)	(1.519)	(1.566)
Margin			0.251***	0.259***	0.275***
			(0.0858)	(0.0814)	(0.0907)
Employ					-1.811
					(1.651)
Year fix-effects	No	No	No	Yes	Yes
Constant	-14.80*	-22.73*	-9.131*	-17.25*	-12.81
	(8.436)	(12.61)	(5.309)	(9.774)	(10.16)
R-square	0.122	0.131	0.154	0.161	0.501
Observations	91	91	84	84	84
Number of firms	19	19	19	19	19

Description: Relationships between solvency ratios and current ratios with corporate's ROA. The model is tested with the REM estimator. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

In our test, the findings indicated a positive relationship between solvency and ROA. We argued that the Indonesian tech industry relies heavily on debts to finance its operation and capex. Our test findings indicate a positive relationship between solvency and ROA, suggesting that the Indonesian tech industry relies significantly on debt to finance its operations and capital expenditures. Several factors contribute to this positive correlation. First, the tech industry requires substantial investments in research and development (R&D) and cutting-edge technology, which can increase ROA in the short term. Solvency ratios, which measure a company's ability to manage long-term debt, are critical here, as effectively managing these ratios allows companies to boost their ROA through large capital expenditures (CAPEX).

Additionally, the role of intangible assets such as licenses, patents, and intellectual property is crucial. While these assets are often not fully captured in balance sheets, they play a significant role in a tech company's valuation and financial metrics. The reliance on tangible assets in traditional solvency measures may not accurately reflect the financial reality of tech firms.

In Indonesia, the tech firm's handling of these assets suggests that solvency positively influences ROA performance. Second, the rapid revenue and earnings growth typical of the firms may improve ROA, signaling better profitability. However, this growth may not directly impact solvency ratios unless companies take on additional debt (higher leverage) to finance their expansion. By managing debt effectively, tech firms can enhance profitability (ROA) while maintaining stable solvency ratios. Third, market valuation and investor expectations often prioritize potential growth, product innovation, and market share over traditional financial metrics like solvency. This emphasis can lead to strong ROA, driven by market confidence, even when solvency ratios remain relatively stable. Tech firms may also use higher debt levels to fund long-term projects to secure market dominance, influencing their solvency ratios due to the associated risk-taking.

Solvency ratios and ROE

Table 5 indicates no direct influence between the solvency ratio and ROE for tech stocks. This lack of correlation can be explained by the fact that a company may have a high ROE regardless of whether its solvency ratio is high or low, and vice versa. This finding differs from the results reported by Iqbal and Usman (2018). To summarize, the absence of a clear connection between solvency ratios and return on equity (ROE) emphasizes the necessity of thoroughly examining a company's financial performance. Management and investors should evaluate a company's performance and sustainability by considering a combination of financial ratios that consider both profitability and risk metrics.

The current ratio, ROA, and ROE

We examined the relationship between the current ratio, return on assets (ROA), and return on equity (ROE) as depicted in Tables 4 and 5. Regarding ROA, we found that the firm's current ratio negatively impacts the return on assets (see Models 4 and 5). We attribute this relationship to the tendency of these companies to prioritize long-term investments in R&D over short-term gains, intangible assets, and aggressive growth strategies over maintaining high levels of liquid current assets. This approach often reduces the current ratio while enhancing profitability, reflecting their focus on innovation and expansion rather than short-term liquidity.

Table 5. Solvency ratios, current ratios, and ROE

Variables	ROE				
	(1)	(2)	(3)	(4)	(5)
Solvency	0.500	0.503	0.0441	0.0213	-0.0110
	(0.433)	(0.434)	(0.178)	(0.175)	(0.168)
CR	-0.0327	0.0256	-0.465	-0.537	-0.666
	(0.711)	(0.774)	(0.580)	(0.590)	(0.588)
Logaset		-1.850	-5.461***	-4.884***	-3.722*
		(6.144)	(1.553)	(1.527)	(1.954)
Profit margin			0.907***	0.935***	0.918***
			(0.242)	(0.248)	(0.238)
Logemploy				-5.447**	-5.278**
				(2.724)	(2.628)
Year fix-effects	No	No	No	No	Yes
Constant	-31.58	-25.41	25.51**	36.34***	32.05**
	(32.86)	(51.14)	(12.88)	(12.72)	(12.49)
R-square	0.007	0.007	0.626	0.630	0.625
Observations	89	89	82	82	82
Number of firms	19	19	19	19	19

Description: Relationships between solvency ratios and current ratios with corporate's ROE. The model is tested with the Random Effects model (REM) estimator. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Regarding ROE, in Tables 4 and 5, we conclude that there is no evidence to suggest that the current ratio is correlated with the firm's ROE. Therefore, hypothesis 2 is rejected. This finding differs from previous studies that examined manufacturing companies in the Indonesian market (e.g., (Hermawan et al. 2023; Hertina and Al, 2021; Irsan and Rambe, 2021; Susilawati et al. 2022). The tech industry, including Indonesia, is known for its rapid growth and the significant reinvestment of earnings into research and development, market expansion, and other growth initiatives. Operational activities and investments that strain a company's assets can affect its current ratio but not its ROE. However, these investments may increase profitability and ROE over time. A company can have a high current ratio and be liquid without being profitable or efficient with its equity. A company with a low current ratio may have liquidity issues but a high ROE if its equity generates significant profits. Many Indonesian tech stocks reinvest their earnings in growth and expansion, which may take time to improve their liquidity (current ratio) but can significantly increase their profitability and ROE over time.

Investors in tech stocks often have a long-term perspective, focusing on growth potential and sustained profitability. They might be less concerned with short-term liquidity metrics like the current ratio if they believe in the company's growth story and its ability to manage its finances effectively in the long run. High ROE values attract investors because they indicate that a company effectively generates profits from its equity base (Jihadi et al. 2021). This efficiency can signify good management and promising growth prospects, key drivers of investment decisions in the tech sector. The tech sector is known for its innovation, scale economies, and, sometimes, rapid cash burn rates for growth. These characteristics imply that tech companies operate with lower current ratios than traditional, capital-intensive industries where liquidity is more directly tied to ongoing operations. Tech industry also often invests heavily in research and development, growth, and expansion (Intara and Suwansin, 2024). These investments may not immediately translate into current assets but can lead to significant long-term gains, impacting ROA without necessarily affecting the current ratio. Tech companies have a significant portion of their assets in intangible forms (such as software, patents, or goodwill), which may not directly impact their liquidity (as measured by the current ratio) but can significantly affect profitability and ROA ((Gharbi et al. 2014; Lantz and Sahut, 2005; Papadimitri et al. 2021). The efficient use of these assets can improve ROA without a corresponding change in the current ratio. A company's capital structure can influence ROA, affecting total assets over which returns are calculated. However, the current ratio does not consider the company's capital structure directly.

Robustness test

We also run a separate model testing the link between lagged values of the current ratio and the solvency ratio on profitability. Results are illustrated in Table 6. In Model 1, we found that the first lagged values of the current ratio negatively affect ROA. This finding indicates that a high current ratio (higher current assets over current liabilities) will hurt ROA, showing that tech firms must maintain relatively high short-term liabilities to acquire current assets and resources for operational and sales performance.

In Model 2, we found that the second-lagged values of the solvency ratio positively influence ROA; however, we did not find similar results for second-lagged values of the current ratio on ROA. Next, we test the model on ROE, as depicted in Models 3 and 4. Unfortunately, there is no solid evidence that CR and solvency ratios' first and second-lagged values affect a firm's ROE. We incorporate the firm's total assets and year-fixed effects in those models.

Managerial Implications

In conclusion, the interactions between financial metrics do not happen in a vacuum; they appear in businesses' everyday financial decisions. Using liquidity ratios to show how well a company manages its working capital lets it handle short-term money problems without getting expensive additional funding. Maintaining the right amount of working capital is especially important in industries where cash flows are unstable or demand changes with the seasons. As shown by the debt-to-equity ratio, the solvency ratio is the most important factor for companies to consider when making strategic financing decisions. Finding the best balance between the need for long-term financial stability and the desire to maximize returns for shareholders takes work (see Batrancea, 2021; Gryglewicz, 2011). Return on equity, the best metric to measure profitability, is a company's capacity to generate profits for its shareholders. How a business handles its working capital and decides whether to declare bankruptcy directly impacts ROE.

For example, effectively managing a company's working capital can help it use its resources more efficiently, increasing earnings and return on equity (ROE). Conversely, a business with high working capital may have lower profits because its resources are spent on non-profitable assets. The connections between working capital, solvency ratio, and return on equity greatly affect strategic decisions.

Understanding a company's industry dynamics, risk, and growth goals is important for making the best working capital policy. Stakeholders may feel more confident with higher liquidity reserves and a cautious approach to managing working capital, but potential returns may be lost. While an aggressive approach aimed at low working capital may increase returns, it also increases operational and financial risk for the company. While traditional financial metrics like solvency, liquidity, and profitability ratios are crucial, investors and analysts should also incorporate industry-specific factors and operational metrics when evaluating tech firms in Indonesia (Ayoush et al. 2021; Papadimitri et al. 2021). The characteristics of this sector, such as its capital intensity, reliance on intangible assets, and emphasis on innovation, require a comprehensive approach to financial analysis. Thus, stakeholders and investors can better understand a company's potential and make sound investment decisions in this dynamic environment (Intara and Suwansin, 2024). We conclude that stakeholders must understand these relationships to make good decisions in Indonesia's diverse and fast-changing technology industry. To address the issue, future research could examine how working capital, capital structure, and financial performance are connected.

Table 6. Robustness test: lagged explanatory variables

	ROA		ROE	
Variables	(1)	(2)	(4)	(5)
Lag1_solvency	0.0984*		-0.113	
	(0.0513)		(0.0780)	
Lag1_cr	-0.304**		-0.394	
	(0.129)		(0.270)	
Lag2_solvency		0.127**		-0.0680
		(0.0518)		(0.102)
Lag2_cr		0.0488		-0.343
		(0.234)		(0.255)
Margin	0.267***	0.296***	0.936***	0.889***
	(0.0894)	(0.0753)	(0.234)	(0.233)
Logeqy	3.263**	3.307**		
	(1.605)	(1.632)		
Employ	-1.802	-1.369	-4.952*	-3.978
	(1.573)	(1.673)	(2.732)	(2.854)
Logasset			-4.677**	-4.756***
			(2.023)	(1.790)
Year FE	Yes	Yes	Yes	Yes
Constant	-16.69	-22.46**	42.84***	39.43***
	(11.92)	(11.22)	(11.61)	(11.56)
R-sq	0.2046	0.1989	0.6250	0.6198
Observations	82	80	80	78
Number of firms	19	19	19	19

Description: Variables include lagged values representing first-order and second-order lagged values of current ratios and solvency ratios of a firm. Dependent variables are a firm's ROA and ROE. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This study investigates the links between the solvency ratio, current ratio, and the firm's profitability of the tech companies listed in the Indonesian stock market. This study examines the relationship between the solvency ratio, current ratio, and the profitability of technology companies listed on the Indonesian stock market. This study makes a valuable contribution to the existing literature by addressing a research gap in the limited number of studies on the financial performances of Indonesian tech companies. In contrast to previous research (Hertina and Al, 2021; Irsan and Rambe, 2021; Papadimitri et al. 2021; Susilawati et al. 2022), this study found a positive correlation between solvency ratios and return on assets (ROA). According to this finding, a moderate increase in debt relative to equity (targeted leverage) positively impacts the firm's ROA. This is due to the leverage effect, where using debt financing strategically allows a company to increase its investment in profitable projects without diluting ownership by issuing additional equity. If the returns on these investments exceed the cost of debt, the company's ROA can improve as it generates more income from its assets through effective leverage (Akhtar et al. 2022).

This study contributes to the empirical research on capital structure and liquidity management theories by demonstrating that the solvency ratio positively impacts ROA in Indonesian tech companies while emphasizing the influence of liquidity on profitability. It highlights the need for industry-specific financial analyses, revealing that traditional metrics may not fully capture the dynamics of the technology sector. Future research should explore the link between working capital, capital structure, and financial performance to develop new theoretical frameworks for this rapidly evolving industry.

Recommendations

The study emphasizes the relationships between solvency ratios, current ratios, and profitability in Indonesian tech companies. It highlights the need for a balanced strategy for debt utilization, working capital management, and strategic financing decisions. Key takeaways from the study include: (1) moderate debt levels can enhance profitability through the leverage effect, providing higher ROI over the firm's cost of capital; (2) efficient working capital management is crucial for managing short-term financial challenges and avoiding costly external funding, (3) companies must find the optimal balance between solvency and liquidity to ensure long-term financial stability, (4) understanding industry-specific factors, such as regulatory frameworks and market conditions, is essential for making strategic financial decisions. Based on these findings, future studies could explore the interconnectedness between working capital, capital structure decisions, and financial performance. It could also examine how these relationships evolve over time and under different market conditions, providing better insights for stakeholders in Indonesia's technology industry. Additionally, future studies could investigate the impact of digital transformation initiatives, such as AI and big data adoption, on the financial performance of tech companies, or conduct case studies on successful firms that have effectively balanced solvency, liquidity, and profitability.

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