

Profitability Stability and Liquidity Risk Mitigation: An Empirical Analysis of Indonesian Guarantee Institutions

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Abstract

This study examines the resilience of profitability (Return on Assets) within Indonesian Guarantee Institutions, specifically focusing on withstanding the stress testing triggered by the COVID-19 pandemic. Adopting a quantitative approach, this research analyzed monthly secondary data from the Financial Services Authority (OJK) spanning January 2016 to June 2022 to capture the complete crisis cycle, from the initial stability phase to the subsequent recovery. The data analysis utilized Multiple Linear Regression via the Ordinary Least Squares (OLS) method on 76 observations following data transformation. The empirical results revealed a "Solvency Paradox," wherein the Solvency Margin Ratio (SMR) exerted a significant negative effect on ROA, suggesting capital allocation inefficiencies stemming from overly conservative management policies. In contrast, the Liquidity Ratio and Capital Adequacy Ratio demonstrated significant positive impacts, functioning as essential pillars of financial resilience and primary shock absorbers during periods of volatility. Furthermore, the Incurred Claims ratio and Gearing Ratio yielded no significant effect; this reflects the efficacy of risk transfer mechanisms through reinsurance in insulating net profits from operational shocks. Managerial implications emphasize the necessity of strategic repositioning—moving beyond passive capital accumulation toward the optimization of liquid investment instruments to sustain an equilibrium between financial security and profitability.

Keywords: Guarantee Institutions, Return on Assets, Solvency Margin Ratio, Capital Adequacy Ratio, Enterprise Risk Management.

INTRODUCTION

National Guarantee Institutions occupy a strategic and indispensable position within the national financial architecture, serving as the primary instrument for credit risk mitigation in the real sector. As characterized by [Beck et al \(2010\)](#), partial credit guarantee funds globally function as a bridge to overcome market failures, specifically by expanding financing access for Micro, Small, and Medium Enterprises (MSMEs) that traditionally lack sufficient collateral. In the Indonesian context, this intermediation function is not merely an economic facilitator but a regulatory mandate. However, this critical role carries inherent risks, particularly a heightened vulnerability to liquidity pressures and solvency shocks during periods of unpredictable claim surges. Such vulnerabilities often stem from the unique risk profile of the guarantee industry, which

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differs significantly from conventional banking or insurance sectors in its operational and regulatory structure under SEOJK No. 18/SEOJK.05/2018.

The urgency of this study is underscored by the dramatic volatility observed in the national guarantee landscape during the COVID-19 pandemic. The dynamics of this period are evidenced in Table 1, which provides a longitudinal view of the industry's financial performance from 2016 to 2022.

Table 1.
Trends in Guarantee Volume Growth and National Incurred Claims Fluctuations (2016-2022)

(In billions of IDR)

Description	Des-16	Des-17	Des-18	Des-19	Des-20	Des-21	Jun-22
Net RGS revenue	1,650	1,862	1,411	2,205	2,892	4,734	2,700
Total Incurred Claims	892	1,051	1,229	1,804	2,201	3,539	2,093
Total Outstanding Guarantee	133,528	178,868	204,811	238,000	254,674	219,772	238,649
Claims paid	777	1,008	975	1,877	7,047	2,520	1,298

(Source: Processed data from OJK Non-Bank Financial Institution Statistics, 2026)

As shown in Table 1, the industry experienced a massive "stress test" in December 2020, where "Claims paid" skyrocketed to 7,047 billion IDR from a mere 1,877 billion IDR in the previous year. From a strategic financial management perspective, this volatility in Incurred Claims is not a mere operational dynamic; it represents a fundamental threat capable of eroding cash liquidity and destabilizing the long-term profitability of the institution. [Padil & Ruslim \(2024\)](#) emphasize that the inability to navigate such extreme operational shocks often serves as a primary determinant of declining performance in non-bank financial institutions. Furthermore, despite the strategic importance of this sector, financial literature remains heavily dominated by the banking and conventional insurance sectors ([Nursinta et al, 2025](#); [Saleh & Afifa, 2020](#)). Consequently, a distinct "population gap" exists in the empirical understanding of financial health dynamics specific to Guarantee Institutions, necessitating a focused analysis of their resilience.

Within the Enterprise Risk Management (ERM) framework, the management of financial ratios transforms from a passive regulatory compliance exercise into a strategic defense mechanism. The Solvency Margin Ratio (SMR) plays a vital role as a capital buffer to absorb unexpected losses. This paradigm aligns with Agency Theory ([Jensen & Meckling, 1976](#)) which implies that management holds a fiduciary duty to balance the risk-return trade-off. This study addresses a measurement gap by eschewing general solvency ratios, such as the Debt-to-Equity Ratio (DER), in favor of Early Warning System (EWS) indicators specific to the guarantee industry: the SMR and the Capital Adequacy Ratio. As argued by [Fadrul & Simorangkir \(2019\)](#), EWS indicators are more effective in providing signals regarding financial performance (ROA) than traditional metrics.

Despite the theoretical emphasis on risk mitigation, empirical literature reveals fragmented and inconsistent findings. For instance, [Tanujaya & Rochdianingrum \(2023\)](#) found that Incurred Claims significantly eroded profitability, yet noted that solvency had no significant impact on profit growth—a finding that contradicts the traditional view of solvency as a performance driver. Similarly, [Markonah et al \(2023\)](#) observed an anomaly

where claim risk transmission did not always follow theoretical expectations in joint insurance enterprises. Furthermore, while [Fridatien et al \(2023\)](#) theoretically linked the Gearing Ratio to regional guarantee institution (Jamkrida) sustainability, empirical evidence regarding its actual impact on profit remains elusive. By utilizing a unique time-series window from January 2016 to June 2022, this research captures two distinct economic cycles—pre-pandemic stability and the COVID-19 shock phase—providing an in-depth evaluation of risk mitigation effectiveness that purely annual or cross-sectional data cannot capture.

LITERATURE REVIEW

Integration of Agency Theory and Enterprise Risk Management

In modern financial management discourse, the relationship between risk mitigation and profitability is a manifestation of strategic governance rather than mere calculation. Agency Theory ([Jensen & Meckling, 1976](#)) dissects this dynamic as an implicit contract where agents (management) must balance bonding costs with value maximization. In the context of credit guarantee funds, [Honohan \(2010\)](#) argues that maintaining institutional stability requires a robust internal control structure. Enterprise Risk Management (ERM) serves as the synthetic instrument that transforms regulatory compliance into a capital optimization strategy. This is further reinforced by [Padil & Ruslim \(2024\)](#) who state that weak ERM integration in the non-bank financial sector triggers higher agency costs due to information asymmetry in operational risk reporting, which eventually erodes profitability.

Solvency Margin Ratio (SMR) as an Indicator of Resilience and Capital Efficiency

The Solvency Margin Ratio (SMR) is central to institutional resilience against long-term solvency risks. Historically, higher solvency was viewed as a positive signal for market confidence ([Barakat et al, 2022](#)). Indeed [Deyganto & Alemu \(2019\)](#) and [Wahyuddin & Mauliyana \(2021\)](#), found that solvency ratios significantly and positively influence financial performance. However, recent literature suggests a paradigm shift toward a "Solvency Paradox." Studies by [Hariyanto & Maryono \(2025\)](#) and [Baihaqi & Asih \(2025\)](#) found that in the banking and sharia finance sectors, high capital ratios (CAR/Solvability) can actually negatively impact ROA. This negative relationship, often attributed to [Amelia & Feriyanto \(2025\)](#), suggests that an excessively high SMR—as also highlighted by [Tanujaya & Rochdianingrum \(2023\)](#)—indicates over-capitalization where assets are trapped in low-yield "idle capacity," creating a massive opportunity cost that hinders profit maximization.

Capital Adequacy Ratio as the Foundation of Financial Resilience

In the resilience architecture of guarantee institutions, the Capital Adequacy Ratio represents the foundation of financial immunity. According to [Abebe & Abera \(2019\)](#), capital adequacy is the primary determinant of ROA, as it provides the necessary buffer to absorb external shocks. This aligns with [Utami & Pardanawati \(2016\)](#), who proved that asset management and solvency are critical for the performance of public companies in Indonesia. However, as noted by [Nursinta et al \(2025\)](#), the impact of capital on performance is often moderated by the institution's ability to manage its risk assets. While robust capital enables aggressive expansion, the study must examine whether this capital is actively channeled into productive assets or remains a static buffer that results in diminishing returns.

Incurred Claims Ratio as the Realization of Underwriting Risk

The Incurred Claims ratio serves as an objective reflection of underwriting quality. [Johny et al \(2020\)](#) that claim reserves and payments exert a significant negative impact on ROA in the general insurance sector. This postulate is reinforced by [Markonah et al \(2023\)](#) and [Tanujaya & Rochdianingrum \(2023\)](#), who concluded that rising claim expenses are the primary eroders of technical margins. [Suhartono et al \(2023\)](#) further emphasize that managing these comprehensive loss changes is essential for stabilizing earnings. However, a significant gap remains: if an institution employs effective reinsurance, as hinted at in the findings of [Markonah et al \(2023\)](#), the impact of Incurred Claims on final net profit might be effectively dampened, creating a disconnect between operational risk and financial outcome.

Liquidity Ratio as the Frontline of Volatility Mitigation

Liquidity functions as the primary guard against cash flow volatility. [Batool & Sahi \(2019\)](#) evidenced that during global financial crises, liquidity ratios were positive determinants of performance in both the US and UK. In the domestic sector, [Hariyanto & Maryono \(2025\)](#) and [Baihaqi & Asih \(2025\)](#) proved that maintained liquidity significantly boosts ROA by allowing managers to capture short-term investment opportunities responsive to interest income. Conversely, [Saleh & Afifa \(2020\)](#) warned that poor liquidity management, characterized by "forced liquidation" of assets, leads to catastrophic impacts on a firm's value. This study evaluates whether this frontline defense holds true for the volatile liabilities of Guarantee Institutions.

Gearing Ratio as a Controller of Expansion Capacity

As a barometer of risk appetite, the Gearing Ratio theoretically boosts guarantee fee income (IJP) through operating leverage. [Fridatien et al \(2023\)](#) predicted a positive relationship between gearing and performance in regional guarantee institutions. However, [Yoshino & Taghizadeh-Hesary \(2019\)](#) warn that an optimal gearing ratio must be calibrated against non-performance guarantee levels. If an increase in leverage is accompanied by escalating operational costs or poor underwriting, as suggested by [Batool & Sahi \(2019\)](#) regarding leverage in Western markets, the expansion may become an "illusion of volume" that fails to translate into net profit.

Return on Assets (ROA) as an Indicator of Strategic Sustainability

As the dependent variable, Return on Assets (ROA) is positioned as more than an accounting metric; it is an indicator of sustainability and the ultimate reflection of managerial efficiency. ROA represents the culmination of the entire orchestration of risk management strategies—ranging from the management of liquidity and solvency to underwriting quality. A stable and positive ROA amidst economic turmoil, particularly during crisis periods such as the pandemic, signifies management's success in transforming volatility challenges into persistent growth opportunities. As asserted in the financial literature by [Hariyanto & Maryono \(2025\)](#), the ability to maintain ROA above the industry average is a crucial signal to investors and regulators regarding an institution's credibility in navigating systemic risks.

METHOD

Adopting the methodological frameworks established in recent financial literature, as applied by [Tanujaya & Rochdianingrum \(2023\)](#) and [Baihaqi & Asih \(2025\)](#), a quantitative approach with an associative-causal design was employed. This approach was selected due to its proven robustness and objectivity in quantifying the sensitivity of micro-prudential risk variables to profitability performance. Unlike exploratory studies, a causal design was utilized to enable the measurement of the magnitude and direction of relationships between variables, thereby providing a rigorous empirical foundation for formulating managerial implications for the guarantee industry.

The research data consisted of secondary data sourced from official Financial Services Institution (LJK) Statistics published by the Financial Services Authority (OJK), with the national guarantee industry serving as the research population (saturated sampling). A monthly observation period from January 2016 to June 2022, yielding a total sample of 78 monthly observations derived from guarantee institution's aggregate reports. This timeframe was strategically significant as it encompassed two distinct economic cycles: the pre-pandemic stability phase and the external shock phase during the COVID-19 crisis. The time-series approach utilized for this specific window offered analytical advantages for testing the resilience of the guarantee business model, which might otherwise be obscured by short-term cross-sectional data or annual data that tends to smooth over fluctuations.

For inferential analysis, a Multiple Linear Regression model via the Ordinary Least Squares (OLS) method was applied. As recommended in financial econometrics standards and implemented in similar studies by Amelia and Feriyanto (2025), the OLS method was utilized to estimate the risk determinant coefficients—comprising the Independent Variables: SMR, Capital Adequacy Ratio, Incurred Claims, Liquidity, and Gearing Ratio—relative to profit stability (Dependent Variable: ROA). Model validity was ensured through rigorous classical assumption testing (normality, multicollinearity, heteroscedasticity, and autocorrelation) to guarantee that the resulting estimators functioned as the Best Linear Unbiased Estimator (BLUE). Consequently, hypothesis conclusions derived from the t-test, F-test, and R^2 were secured against statistical specification bias.

RESULT AND DISCUSSION

Descriptive analysis of the monthly data for the guarantee industry throughout the observation period revealed a financial stability profile that remained predominantly within the safe zone. Specifically, the Solvency Margin Ratio (SMR), Capital Adequacy Ratio, and Incurred Claims ratio consistently fell within the "Healthy" category for the majority of the observation period. Meanwhile, the Liquidity (LQD) and Gearing Ratio indicators demonstrated superior performance, dominated by the "Very Healthy" category; this reflected the industry's highly adequate liquidity capacity in responding to short-term obligations. Such consistency provides an initial signal that the industry possesses fundamental resilience against macroeconomic fluctuations, aligning with the financial health parameters outlined in SEOJK No. 18/SEOJK.05/2018.

During the econometric evaluation phase, initial detection indicated a violation of the autocorrelation assumption—a phenomenon commonly found in macroeconomic time-series data where current observations are influenced by prior values. To mitigate estimator bias and fulfill the Best Linear Unbiased Estimator (BLUE) criteria, data

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transformation via the Second Difference mechanism was conducted. This corrective procedure successfully stabilized the model's error variance without compromising the substantive information within the primary data. Following transformation, the regression model met all classical assumption test criteria rigidly. The structural validity of the model was confirmed through a Simultaneous Test (F-test) which yielded a significance value of 0.000; this proved that solvency risk, liquidity, and operational efficiency variables are valid predictors of profitability. The model's explanatory power, evidenced by an Adjusted R² of 0.881, indicated high precision in capturing the determinants of Return on Assets (ROA) within the guarantee industry. The results of the hypothesis testing summary are presented in Table 2.

Table 2.
Summary of Hypothesis Testing

Hypothesis	Explanation	Coefficient	Sig.	Result
H ₁	Solvency margin ratio affects ROA	-0.000648	0.0000	Accepted
H ₂	capital adequacy ratio affects ROA	0.108230	0.0173	Accepted
H ₃	Incurred claims ratio affects ROA	-0.003312	0.5490	Rejected
H ₄	Liquidity ratio affects ROA	0.002178	0.0311	Accepted
H ₅	Gearing ratio has affects ROA	0.000738	0.4679	Rejected

The Solvency Paradox: Capital Inefficiency and Opportunity Cost

The empirical findings reveal that the Solvency Margin Ratio (SMR) exerted a significant negative effect on ROA (Coefficient -0.000648; Sig 0.000), thereby accepting H1. While a high solvency level is traditionally viewed as a hallmark of safety and credibility—as argued by [Deyganto & Alemu \(2019\)](#) in the Ethiopian context—within the Indonesian guarantee industry, this phenomenon manifests as the "Solvency Paradox." The negative coefficient suggests that increases in SMR beyond an optimal threshold suppress the rate of return on assets.

This result implies a massive opportunity cost where capital, which should be optimized in high-yield investment instruments to drive comprehensive income [Suhartono et al \(2023\)](#), remains trapped as "idle capacity" to satisfy excessive solvency requirements. This finding directly supports the contemporary evidence from [Hariyanto & Maryono \(2025\)](#) and [Baihaqi & Asih \(2025\)](#), who detected that overly conservative capital ratios in the banking sector trigger operational inefficiencies. It further corroborates the "capital hoarding" theory where risk-averse management policies, while ensuring safety, erode the ability to generate competitive net profits [Amelia & Feriyanto \(2025\)](#). This result offers a critical correction to [Tanujaya & Rochdianingrum \(2023\)](#), who regarded solvency as a neutral factor; here, it is evidenced as a clear barrier to ROA growth when mismanaged.

Liquidity and Capital Adequacy as Pillars of Financial Resilience

In stark contrast to the SMR, the Capital Adequacy Ratio (TKD) and Liquidity Ratio showed significant positive influences on ROA, leading to the acceptance of H2 and H4. These variables function as the "Financial Immunity" of the institution. The positive significance of TKD aligns with [Abebe & Abera \(2019\)](#), who identified capital

adequacy as the primary determinant of financial performance in insurance firms. It suggests that a robust capital foundation enables aggressive yet safe business expansion.

The positive effect of liquidity (Coefficient 0.002178) confirms that actively managed current assets act as a catalyst for profit stability. As [Batool & Sahi \(2019\)](#) found in US and UK markets during financial crises, high liquidity prevents "forced liquidation" of investment portfolios at discounted prices. This operational efficiency is echoed by [Hariyanto & Maryono \(2025\)](#) and [Latifah et al \(2023\)](#), who concluded that healthy liquidity allows institutions to capture short-term investment opportunities responsively. Furthermore, from a Signaling Theory perspective, strong liquidity reduces information asymmetry between guarantee institutions and banking partners [Saleh & Afifa \(2020\)](#) thereby lowering the cost of funds and facilitating higher-quality guarantee volumes.

Operational Anomalies: Reinsurance Efficacy and Expansion Quality

The analysis of Incurred Claims and the Gearing Ratio yielded compelling non-significant results, leading to the rejection of H3 and H5. The non-significance of Incurred Claims suggests a high degree of "Risk Isolation" within the industry. While [Johny et al \(2020\)](#) and [Markonah et al \(2023\)](#) found that claim payments typically erode ROA in the insurance sector, the Indonesian guarantee industry appears to have successfully utilized risk transfer mechanisms. The impact of claim volatility—which was significant during the pandemic—was effectively dampened by reinsurance recoveries. This supports the thesis that a mature risk mitigation governance can decouple operational shocks from final net earnings [Suhartono et al \(2023\)](#), providing a notable contrast to [Tanujaya & Rochdianingrum \(2023\)](#), who identified claims as a primary profitability eroder.

Furthermore, the lack of significance for the Gearing Ratio (Sig 0.4679) indicates a "volume illusion" in business expansion. Increased leverage relative to capital does not automatically convert into improved ROA. This implies that profitability is driven by the quality of underwriting and investment yields rather than the sheer quantity of guarantee certificates. This finding provides an empirical rebuttal to the conceptual framework of [Fridatien et al \(2023\)](#), which assumed that increased gearing would spur performance. In reality, expansion without strict operational cost efficiency merely escalates risk exposure without contributing to net margins, a dynamic also noted by [Yoshino & Taghizadeh-Hesary \(2019\)](#) regarding optimal guarantee ratios in Asia.

Managerial and Policy Implications

Overall, these results necessitate a paradigm shift from static capital accumulation to dynamic capital management. Guarantee institutions must recalibrate their SMR levels to avoid the diminishing returns associated with idle funds [Utami & Pardanawati, 2016](#)). Financial managers should reallocate surplus solvency components into more productive, liquid investment instruments while maintaining the "frontline" defense of high liquidity ratios.

Moreover, since the Gearing Ratio does not significantly contribute to ROA, managerial focus should be redirected from aggressive volume growth toward strengthening asset quality and underwriting precision. The effectiveness of reinsurance must be maintained as a strategic "shield," ensuring that future claim volatility does not destabilize the profit structure. As [Nursinta et al \(2025\)](#) suggested for the banking sector, the equilibrium between capital, risk, and profit is only achievable through active, rather than passive, risk management.

CONCLUSION

Drawing from the comprehensive analysis of profitability determinants within the national guarantee industry during the observation period, this study summarizes several essential findings that contribute both theoretically and practically to the financial risk management architecture as follows:

1. **The Solvency Paradox and Capital Inefficiency:** This research uncovers the existence of a "Solvency Paradox," wherein excessive solvency levels act as a significant barrier to profitability. This phenomenon indicates capital allocation inefficiencies or the accumulation of idle funds resulting from overly conservative management policies. Capital hoarding beyond ideal thresholds creates substantial opportunity costs, as these funds are not effectively converted into high-yield productive assets.
2. **Liquidity as a Pillar of Financial Resilience:** The **Capital Adequacy Ratio** and **Liquidity Ratio** are confirmed as fundamental determinants in strengthening earnings resilience. The availability of liquid assets functions as a primary shock absorber that ensures operational continuity. Especially when facing extreme volatility, precise liquidity management enables Guarantee Institutions to meet short-term obligations without resorting to the detrimental liquidation of investment portfolios, thereby maintaining the stability of Return on Assets (ROA).
3. **Effectiveness of Risk Isolation Mechanisms:** The statistical insignificance of Incurred Claims and the Gearing Ratio relative to profitability highlights the industry's success in implementing risk transfer strategies. This evidence suggests that the reinsurance mechanisms and risk mitigation policies currently in place effectively isolate operational shocks and business volume fluctuations. These risks are absorbed at the technical level, preventing them from destabilizing the final net profit structure.
4. **Managerial Strategic Repositioning:** As a managerial implication, policymakers within Guarantee Institutions must recalibrate their capital management strategies. Management orientation should shift from passive capital accumulation—intended merely for regulatory compliance—toward the optimization of active and liquid investment instruments. Focusing on cash flow fluidity and investment portfolio diversification is key to maintaining the equilibrium between financial security and firm value maximization.

While the observation window of this study is focused on the period from 2016 to mid-2022, this timeframe was deliberately selected to capture a full-cycle stress test encompassing stability, the extreme pandemic crisis, and the initial recovery phase. The empirical lessons derived from this period provide a crucial prudential foundation for contemporary risk management architectures facing future economic uncertainty. Future research is recommended to extend the observation horizon post-implementation of recent regulations and to explore additional internal variables—such as operational cost efficiency—to further enrich the perspective on the sustainable profitability of the guarantee industry.

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